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# INDIAN MEDICAL JOURNAL



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Vol. 41, No. 1  
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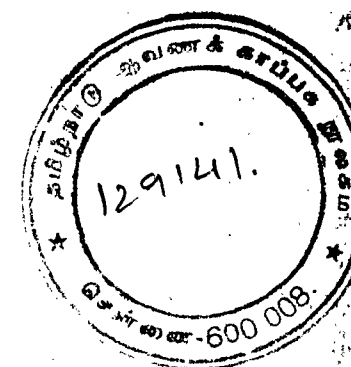
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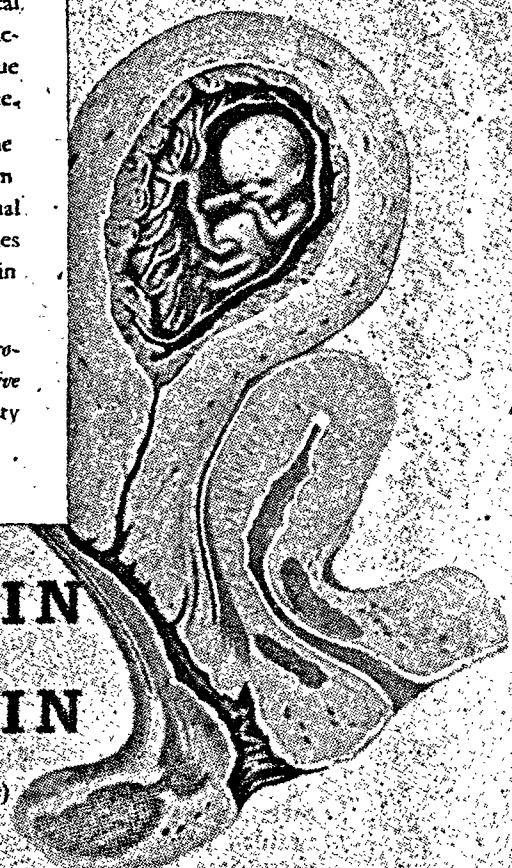
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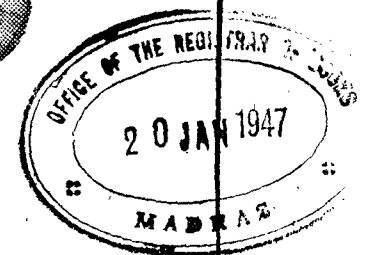


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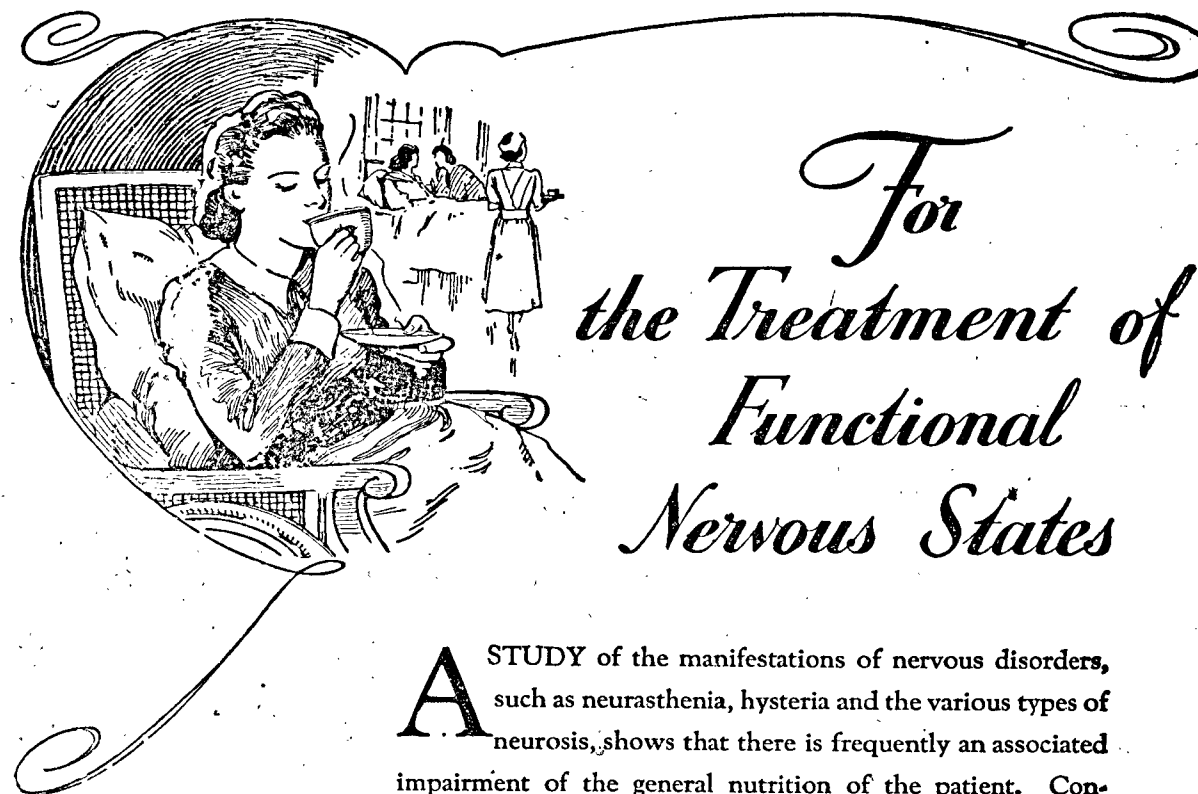
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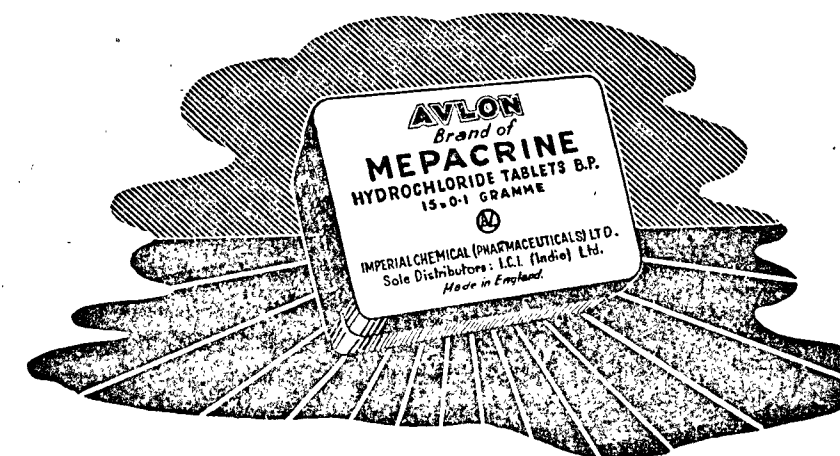
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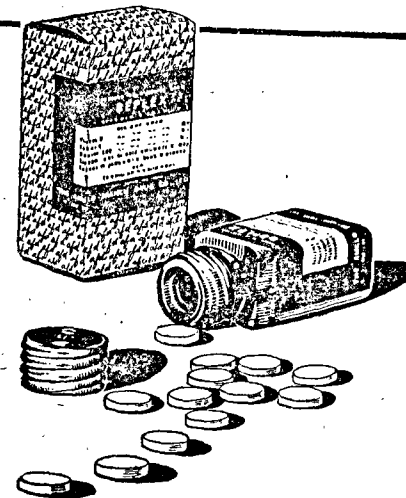
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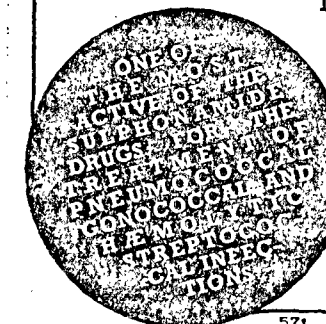
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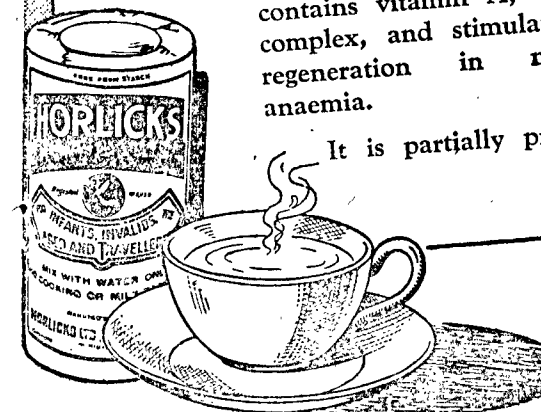
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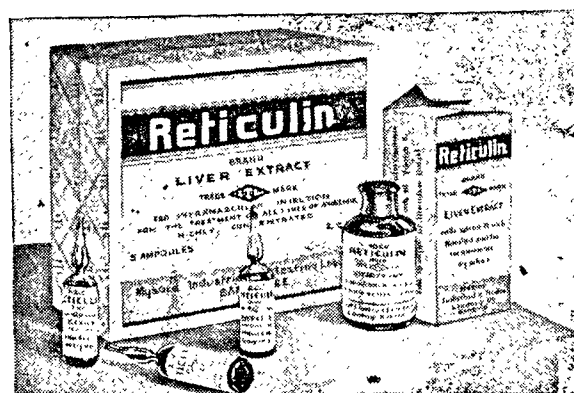


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| 23. | Dionine                 | 2 8                        | 1 8  | 55. | Scopolamine             | 3 0                        | 1 8  | 76. | Tyrothricine Cum        |                            |      |
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## Indian Medical Journal

(Journal of the All-India Medical Licentiates' Association)

Vol. 41. Madras: January 15, 1946. No. 1

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### OUR MONTHLY SURVEY

**The New Year:**—We offer to our readers and advertisers our sincere greetings for the new year. We are conscious that during the year gone by we have not been able to render full satisfaction to them. But that was due to difficulties beyond our control. The paper position was bad throughout the year and we were therefore not able to publish more than 20 pages of reading matter per issue, and had to refuse advertising space to our new advertisers. We are not sure whether the new year we are entering into would be better in this respect. Already Dr. John Mathai, Member-in-charge of Industries (Central) has warned that the newsprint supply is not likely to improve during the first six months of the year. We can understand the difficulty in respect of newsprint, as it is to be imported from abroad, particularly at a time when all the available ships are engaged in transporting food stuffs to India and other famine stricken countries. But what about Indian paper which seems to be scarcer than newsprint? Surely the War Department and the Government of India are not consuming so much paper as they did during the war. And yet Indian paper is scarcer now than during the War. We are wondering why it should be so. Is it to maldistribution or insufficient production? We think the paper policy of the Government of India needs review and revision.

The other difficulty we experienced during the last year was the paucity of print-worthy articles. Naturally therefore there were complaints that the Journal has fallen much below its old standard. We confess this is true to an extent. But what we can do in this matter? Our appeals to our readers and other members of the profession for contributions to the Journal have not had a reasonable response. The

standard of the Journal by way of publication of reliable and useful articles is, we submit respectfully, as much a responsibility of the profession in our country as it is ours. An editor is like a gold-smith, but gold and not iron or copper should be given to him if he is to show his craft-manship. We appeal again to the members of the profession to help the Journal by sending useful articles for publication which would serve their fellow practitioners. It is a highest form of service to medical science and medical fraternity.

Look at the foreign medical journals, particularly the American and the British, and see how the profession in these countries is making their Journals greatly useful and famous. Contrast this with the picture in our own country. We know personally all the medical editors of our country and in our contact with them we found that their experience has been the same as ours, viz., the lack or inadequacy of co-operation between the prominent members of the profession and the medical Journals. Let not the members of the profession in our country forget that they are, and would be, judged by other countries by the standard of our medical Journals. A good article is a credit to the author, a service to medical fraternity and enhances the prestige of the profession here and abroad.

**A Correct Decision:**—In the course of her address to the 13th Andhra Medical Conference held at Ellore on 16—11—46 Mrs. Rukmani Lakshminpathi, Minister for Public Health, announced that:

"The Government proposed to do away with the cadre of sub-Assistant Surgeons and amalgamate it with that of the Civil Assistant Surgeons and give the former the status and pay of the latter—the idea being to have one designation and name them as Medical Officers, the starting pay being the same. The question of increasing the subsidies given to Rural Medical Practitioners is being considered by the Cabinet and I hope they would be increased to a fairly appreciable extent."

This is indeed a correct and welcome decision and we hope that orders will soon be passed to this effect. There is no reason why other provinces should not copy the example of Madras and thus fulfil the just demand of the Association for an equitable treatment of licentiates in Service.

**Health Minister's Conference?**—The resolutions passed by this Conference held at Delhi on 10th and 11th October are published elsewhere and we heartily endorse the same. The first resolution unanimously accepted the objectives of National Health Planning proposed by the Bhoire Committee. The second resolution recommended the implementation of the Bhoire Committee's proposal for District Health organisation on as wide a scale as possible consistent with financial limitations. The third resolution agreed to review the training facilities for medical and ancillary personnel and to enlarge them as far as possible. The fourth resolution recommended the abolition of the Civil branch of the I.M.S. The fifth resolution states the policy of the Provincial Governments in respect of research and applications of the scientific method for the investigation of the indigenous systems of medicine and to absorb the practitioners of Ayurveda and Unani into the State Health Organisation by giving them further scientific training. The sixth resolution accepted the principle of amalgamation of Medical and Public Health depart-

ments. This was the only resolution that was not passed unanimously. The Madras and the Bombay Health Ministers dissented from this view—they thought co-ordination was better than amalgamation.

We are indeed very glad to note that the Provincial Governments have adopted the principles laid down by the Bhole Committee and announced their extended plans of medical relief as follows:

|         |                                                                                                                     |
|---------|---------------------------------------------------------------------------------------------------------------------|
| Madras: | 270 more rural dispensaries, 450 village centres and 45 group centres.                                              |
| Bombay: | 100 more subsidized medical practitioners' Centres.                                                                 |
| Bengal: | 500 new rural dispensaries.                                                                                         |
| U. P.:  | 500 additional dispensaries and an equal number of subsidized medical practitioners and 74 Travelling Dispensaries. |
| Punjab: | 375 Rural Dispensaries.                                                                                             |
| Bihar:  | 32 Rural Health Centres and one travelling dispensary in each division.                                             |
| C. P.:  | 60 new dispensaries and 100 subsidized medical practitioners.                                                       |
| Assam:  | 145 rural welfare centres with dispensaries attached.                                                               |
| Orissa: | 100 new dispensaries.                                                                                               |
| Delhi:  | Model health centres as proposed by the Bhole Committee.                                                            |

These plans will be given effect to from the next financial year. We hope that very soon the Provincial Governments will set up the Provincial and District and Village Health Councils and that, as far as possible, the line and content of extension of Health Service to the people would be as recommended by the Bhole Committee, the ultimate goal being to replace the old with the new organisation. Another point on which we would like to lay stress is the adequate remuneration of medical officers employed by the State and the maintenance of one type of medical service *without caste distinctions* and with equal opportunities for all men in service to raise to the highest.

## ADDRESSES AND ARTICLES

### Some Aspects of Clinical Malnutrition\*

BY

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The science of nutrition like other fundamental sciences has made long strides during last twenty five years. Towards the end of the first world war the victorious nations felt an immediate need to combat the various epidemics which were traced to have their origin in what is called 'Malnutrition' or more precisely 'Undernutrition', as regards certain essential nutrients.

Since then Science of Nutrition occupied a more prominent place in the research programmes of advanced countries in Europe. America joined hands

\* Paper read at the 34th Conference of the A. I. M. L. A. Poona on 20-10-46.

with other nations and in a few years time left them far behind in the race.

In spite of such wholesale attempts to know about the Science of Nutrition, we are still far away even from the fundamentals, pertaining to some elementary principles of nutrition. Thus our knowledge of energy requirement is fragmentary. This aspect which is dependent on number of factors is becoming more and more intricate as knowledge regarding these factors advances. Thus instead of reaching our goal, new fact and discoveries take us more away from it. Same could be said about the Basal Metabolism. The factors such as heredity and climate have not been so far extensively studied from the point of determining the basal energy requirements. Specific dynamic action of food stuff is still another unsolved phenomena to the student of nutrition.

If we go further and examine our knowledge of micro-nutrients we feel to be at sea. This aspect of nutrition is yet in its infancy and lastly it should be pointed out that vitamins and hormones are giving every day new headache for the proper understanding of their functions in the light of new discoveries; so called established facts again become hazy and perplexing.

Thus much about the physiological aspects of nutrition: we are faced with more findings which are not easily understood in the light of the present knowledge. It is known that fatty livers are found under variety of malnutritional conditions, and each type is relieved by a specific nutrient and not by any other. Yet the cure in each case is quite a problem so also the specificity of the remedy. Same could be said of anaemia or some other diseases due to vitamin deficiencies.

It is customary to ascribe many of the nutritional deficiencies to malnutrition or undernutrition. Both mean a faulty supply of a specific nutritional factor or factors. But in many cases it is found that even an optimum supply of such nutrient often fails to relieve the condition and an average medical practitioner rarely thinks in such cases about the possibility of the phenomena arising from quite a different etiological factor or factors.

These factors one may call collectively as the "conditioning factors" as against the usual 'deficiency factors' leading to malnutrition. The underlying idea of these conditioning factor is a conception that it is likely that malnutrition might arise even when a supply is adequate but the body on account of some unknown causes is unable to utilise it properly.

The importance of these conditioning factors as a cause of a deficiency disease has not been generally recognised; yet its knowledge forms an essential part of thorough understanding and treatment of a deficiency disease.

#### Recognition of Conditioned Malnutrition

Jalliffe and others (1942) have outlined the gross evidence and established methods of examination for the detection of malnutrition. But it is necessary to point out that with few exceptions the findings characteristic of malnutrition are non-specific. Some lesions attributed to malnutrition could also be

produced by other factors such as faulty blood supply, tissue deficiency and infection. It is also possible that these findings could also be caused by factors which have no direct relationship with malnutrition.

Xerosis conjunctivae is a lesion characteristic of vitamin A deficiency and responds to large doses of the vitamin. From this it cannot be deduced that all spots or elevations in eye ball are due to vitamin deficiency. Barliner (1942) has criticised the findings of Kruse (1941) in this respect and has shown that some eye lesions are due to simple senile changes and there are no indications of vitamin deficiency.

Corneal vascularity is undoubtedly associated with riboflavin deficiency. Several observers however have warned that all lesions could not be ascribed to a riboflavinosis. In this respect work of Youman's and Pattons (1942) is of great significance. They have shown the presence of considerable number of subjects with definite corneal vascularisation but without any other ocular symptoms or correlation between the intake of riboflavin or any dietetic factor. They were more or less seasonal and there is evidence that the causative factor is probably 'light.' To distinguish between the two conditions therefore one has to take into consideration history, the findings of the physical examination and the results of therapeutic trial. The Wernicke's Syndrome is due to B<sub>1</sub> deficiency but its characteristic symptoms namely central bilateral ophthalmoplegia, is also caused by syphilis, multiple sclerosis, and bacillary meningitis. Polyneuropathy occurs in chronic thiamine deficiency but clinically similar condition may be found due to various toxins such as those from heavy metals or by other multiple vitamin deficiency.

Mucous membrane lesions in and about the mouth present complex diagnostic problem so much so, that it was postulated that oral lesions are seen in almost all types of complex deficiencies. (Nutrition Review 1946). Some cases respond to Riboflavin (Sydenstricker 1941) others to pyridoxine (Ruffin et al 1940) and still other to liver extracts. Scarlet Fungiform papillae, at the tip of the tongue are earliest accepted signs of nicotinic acid deficiency, but the same could be produced even by pipe smoking. Vincent's gingivitis and stomatitis may occur due to vitamin C and nicotinic acid deficiency. (Jolliffe 1942).

These few examples show how the lesions of nutritional deficiencies have the possibility of causes more than one. The most plausible explanation would be that due to variety of causes the effective manifestation of the ailments are probably alike. Amongst these variety of causes some more important and hitherto not taken notice of are those known as 'conditioning factors'.

#### Conditioning Factors.

In table No. I are shown various factors which are responsible for the conditioned malnutrition as against the usually understood 'under-nutrition' or 'ill-balanced nutrition.' These will now be considered in sequence.

(1) *Interference with Ingestion*:—In table I (a), are summarised some of the factors which are responsible for the reduction of the ingestion of a specific nutrient. The aspect of faulty ingestion in

which less amount of nutrient are available from a foodstuff would come under the primary deficiency. But the interference with ingestion as is caused in certain diseases or habits or some anatomical abnormalities comes under the true 'conditioning factors.' Thus for want of teeth or habit of drinking alcohol or food allergy the patient in the hospital would not consume all the food that has been set aside for him or in some cases of anorexia the patient might develop a selective liking for foodstuff of less nutritive value. Yet in both cases on such diets almost any type of deficiency might develop. On some occasions diets prescribed for relieving certain conditions such as nephritis, hypertension, diabetes or colitis are such that they are prone to induce certain type of specific nutritional deficiency if continued for a long period. Slimming diets for example are often low in calories and as such continuous subsistence on such regime would cause serious malnutrition. These types of diets should therefore be prescribed with caution and if it all essential one should guard against introducing a vitamin deficiency by adequate supplement of these essential nutrients.

(2) *Increased Body Requirements*:—The second factor of importance is due to increased body requirements. In Table No. I (b) is shown some conditions which increase the nutritional requirements. Fever, strenuous exercise, hormonal imbalance or certain types of therapeutic agents often increase the body metabolism and consequently the food requirements. The B complex requirements have been investigated by Johnson and others (1942) who have shown that farmers, soldiers and other hard activity workers develop deterioration in physical fitness even when calorific requirements are adequate. However with an adequate supply of B vitamins the condition could be successfully prevented.<sup>22</sup>

Sunlight has been shown to be a specific conditioning factor for nicotinic acid deficiency. Some skin lesions, characteristic of this vitamin deficiency, are also found to be due to dirt, filth or chemical reagents. Riboflavin deficiency by destruction of corneal Riboflavin has been shown to be due to a prolonged exposure to sunlight (Sydenstricker et al 1940).

Coming to the effect of therapeutic reagents it is known that drugs such as thyroid extracts or di-tirophanols increase body metabolism (Patek et al 1941). Simple infusions of glucose may also increase thiamine and riboflavin requirements but without increasing body metabolism, since these vitamins form the prosthetic groups of coenzymes partaking in carbohydrate metabolism (Jolliffe 1943). This has been experimentally proved in rats by Bollman (1942). He showed that the rats depleted of B vitamins and maintained on dextrose lived longer if B vitamins were also administered. Spies (1938) has shown similar conditions in man.

Excessive carbohydrate consumption without adequate supply of vitamins of B group have been shown to be the conditioning factor for the induction of deficiency of B vitamins by various workers such as Stepps and Schroeder (1936) and Jolliffe and others (1943).

(3) *Interference in Absorption*:—The third factor is the factor of interference in absorption and some of the causes which interfere with absorption are shown



in table I (c). It is evident that food-stuffs will not be properly utilised if there is faulty absorption. This interference in absorption would therefore give rise to deficiency diseases in some cases. The factors which are responsible can be grouped in three categories. (1) Anatomical (2) Chemical and (3) Physiological changes.

In diseases like diarrhea, hypermobility plays an important role. The rapid passage of food leaves shorter time for digestion and absorption. In sprue, or chronic ulcerative colitis the reduced absorbing surface is also a causative factor. Workers such as Brease (1939) Clerk (1938) and Albright (1940) have shown deficiency of riboflavin, vitamin A or nicotinic acid in these conditions.

Low concentration of gastric hydrochloric acid is another factor which could interfere with proper absorption of vitamin C and thiamine. The condition of malnutrition is invariably found in patients with low acidity.

Other interesting factor is the role of vitamin deficiency in reducing intestinal absorption. Thus galactose (Leonaads et al 1942) or dextrose (Groen 1938) absorption has been shown to be dependent on proper supply of B complex. The condition has been experimentally proved in rats and dogs (Free and others 1942). According to Mc Lester (1943) gastro-intestinal surgery has long been known to produce macrocytic anaemia, and other deficiency syndromes. Liquid petroleum has been long recognised to reduce absorption of vitamins (Mc Collum).

(4) *Interference With Utilization* :—The factors for faulty utilization are extremely complex and arise from number of etiological origins. Some of these are shown in Table I (d). Amongst them come the diseases of the liver, diabetes, chronic addiction to alcohol, diseases of thyroid and in some cases effects of chemical therapy.

It is known that Carotene is utilised by body after it is converted into vitamin A. Thiamine must be phospho related to co-carboxylase or nicotinic acid should give rise to coenzymes. It is now recognised that majority of these changes take place in the liver and therefore hepatic dysfunction is in many cases a primary reason of malnutrition.

In some cases liver acts as a store house and if that capacity fails the organism has to depend on proper intake from day to day and in the event of faulty supply the deficiency is manifested—earlier than in normal persons (Sydenstricker 1941). The low vitamin-A-level in gastric cancer has been shown to be due to liver dysfunction (Abels and others 1941) and prevalence of abnormal dark adaption has been shown in cases of hypo-thyroidism (wohl et al 1939). Lastly, therapy of drugs of sulpha family have been shown to inhibit intestinal bacterial synthesis of vitamins (Draft and others 1942). Nicotinic acid deficiency could not be corrected by extra supplies of vitamin if sulphapyridin was also given (West 1941). However, raw liver was efficient even in the presence of this drug, showing that the toxic action of drug is restricted to probably conversion of nicotinic acid to coenzymes I and II. The importance of this finding was tested clinically. Five pellagra cases were placed on niacin deficient diet with

sulpha-pyridine, so that the level of blood was 8 to 12 mgm. per cent. Thereafter they were given 1 gm. of the chemical every 4 hours with large amount of nicotinic acid per day (400 to 1000 mgms). But with this much dose the pellagra could be cured even in the presence of sulphapyridine compound. It is likely that in these cases dose was large enough to mitigate the effect of sulpha drugs. Carcinogenic chemicals such as butter yellow have been shown to inhibit the formation of coenzymes in vitro (Rhoads 1942). Similarly radiation therapy was found to prevent formation of coenzymes from thiamine or nicotin (Webster 1934).

(5) *Increased Excretion is the Next Factor* :—The role of increased excretion of nitrogen in causing hypoproteinemia has been long recognised, however, the excretion studies have not been done in the case of a-vitaminosis. There are various factors which increase excretion of certain nutritional essentials from body as could be seen from Table I (c). In the case of vitamin deficiency however, this factor is not always the sole cause. But Cowgill's (1934) work on dogs goes to show that thiamine deficiency could be caused by excessive water drinking. The author admitted the condition produced to be due to increased excretion of the vitamin. If this is true then hypovitaminosis in diabetes mellitus and diabetes insipidus could be easily understood. Same would be said in lactation and in excessive sweating. However the last factor has not been so far investigated. In addition to these factors certain medications such as salicylates or forcing infusions for long time may cause excessive excretion of certain essential nutritional factors.

(6) *Lastly one should consider the factor of increased destruction* :—The factor of increased destruction as a causative one for malnutrition had not been recognised for long. But the recent work on sulpha drugs and their effect on bacterial synthesis of vitamins has thrown more light on this aspect of 'conditioned malnutrition'. Other factors which are prone to destroy vitamins in gastro-intestinal tracts have been shown in Table I (f). Thus enzymic destruction of thiamine by raw carp or biotine deficiency by egg white injury are also equally important. The former was shown to be true by Green (1941) and Coombes and others (1941). These authors have shown that cooking carp renders it inactive in destroying thiamine. The biotine deficiency has been induced by Sydenstricker and others (1942) by feeding egg white in large amounts.

The rule of gastric hydrochloric acid has been found to be limiting factor in induced deficiency in ascorbic acid and thiamine, as it is known that these vitamins are easily destroyed in alkaline range of pH (Alt, Chinn and former 1939). Other workers such as Kendall and Chinn (1938) are however, of the opinion that it is not the alkaline pH which is responsible but the pH gives rise to vitamin destroying bacteria in the intestinal canal.

The role of ascorbic acid and other vitamins in the process of detoxication is now generally accepted. Hence, if the process of detoxication lays a heavy demand on these vitamins without corresponding adequate supply it may cause a serious deficiency.

Such cases would arise in the case of lead poisoning or in sulpha compounds and similar chemical therapy. (Farmer and others 1940).

In conclusion it would be clear that various factors enumerated in the foregoing discussion are important from the point of view of proper understanding of clinical malnutrition and upon it would depend the success of subsequent therapy. It will not be too far from the truth if one could say that in an average patient the cause of malnutrition would be found much more correctly in some of these factors than in actual deficiency of supply of an essential nutrient.

TABLE No. 1.

## A.—Factors Interfering with Ingestion

1. Gastrointestinal disorders.  
Acute gastroenteritis, gall-bladder disease, peptic ulcers, diarrheal diseases and obstructive lesions of gastro-intestinal tract.
2. Neuropsychiatric disorders.  
Neurasthenia, neurosis, psychoneurosis, psychoses, migraine and neurologic disorders interfering with self feeding
3. Anorexia.  
Alcohol, operations, anesthesia, infectious diseases, congestive heart failure, thiamine deficiency visceral pain, pregnancy.
4. Food allergy.
5. Loss of teeth, or malignancy (oral).
6. (a) Therapy-Chemical.  
(b) Diets restricting ingestion of essential foods.

## B.—Factors Increasing Nutritive Requirement

1. Abnormal activity as associated with prolonged strenuous physical exertion, delirium and certain psychoses.
2. Abnormal environmental factors.  
Excessive high temperatures, as in the tropics, in deserts and in certain industries.
3. Fever.
4. Hyperthyroidism.
5. Pregnancy and lactation.
6. Therapy such as thyroid, alpha-dinitrophenol, ingestion of sugars, fever therapy.

## C.—Factors Interfering with Absorption

1. Gastro-intestinal diseases associated with hypermotility or reduction of absorbing surfaces.
2. Achlorhydria.
3. Biliary disease, especially obstructive jaundice.
4. Vitamin deficiency.
5. Therapy.  
Liquid petroleum, colloidal absorbents, severe catharsis, gastric or intestinal resections and short circuiting operations.

## D.—Factors Interfering with Utilization

1. Hepatic dysfunction, as in.  
Liver diseases, diabetes mellitus, cancer, alcoholism.
2. Hypothyroidism and malignancy (oral or digestive canal).
3. Therapy.  
Sulfonamide drugs, radiation therapy, phenytoin etc.

## E.—Factors Increasing Excretion

1. Polyuria, as in.  
Diabetes mellitus, diabetes insipidus.
2. Lactation.
3. Excessive perspiration.
4. Therapy.  
Long continued excessive fluid intake.

## F.—Factors Increasing Destruction

1. Achlorhydria.
2. Lead poisoning, trinitrotoluene poisoning.
3. Therapy.  
Alkalies, sulfonamides, arsenicals, etc.

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## Nutritional Requirements.\*

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Man is the combined product of environment and inheritance, and the environmental factor that influences his physical development is the food that he eats. Food builds and shapes his body, and through the gland hormones and nervous system, it modifies his mental and emotional make-up. All our foods are directly or indirectly derived from plants and the soil. Long before vitamins or minerals were discovered, various foods were known to cure or prevent certain diseases. Such food habits were developed by trial and error, over long periods, but there was one thing in their favour, that was, that the foods used were natural, wholefoods furnishing the essentials for human nutrition. But in the present days of commercialisation of production and distribution of foods, their easier transport and processing and refining, tradition and habit may no longer be safe guides to the selection of food; but the science of nutrition comes to guide this selection by supplementing the tradition and race experience, and correcting them wherever necessary by offering certain standards in terms of groups of common foods.

Foods, in addition to supplying energy, furnish the materials for building and repairing the body and regulating its many internal activities. A varied and well-balanced diet is necessary to furnish every being required for these innumerable and very complex functions. In addition to proteins, fat and carbohydrates, a wide range of minerals and vitamins are necessary. All this can be done by a well-balanced diet; that includes fresh fruits and vegetables, whole cereals, milk, meat and eggs. Failure to provide enough of any essential food element leads to impaired efficiency, poor growth, susceptibility to diseases and in severe cases, death. Moreover, it is possible to suffer from malnutrition without showing clear cut signs of any of the well known dietary deficiency diseases. Whether water is considered a food depends on the point of view. It is necessary for the body at any rate. Many foods are more than half water, and the body gets some water also from the burning of sugars fats and proteins.

In any planning of a national dietary standard, energy requirement is a matter of primary consideration. The actual amount of energy needed and therefore food required, together with the proportions of the proximate principles in the diet (*viz.*, the proteins, carbohydrates and fats) has been the subject of a large number of investigations. Our fuel requirements of the body vary considerably according to the nature of the occupations and a variety of other factors such as age, size and climate. With the present knowledge of basal metabolism and the means now available of estimating the added heat requirement for a definite amount of muscular work, including an additional allowance of energy exchange of approximately ten percent due to this specific dynamic action of food, it is now much possible to place such

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data as caloric requirement on a much more secure foundation. It has now been realized that children's need are out of proportion to their size. The figure 3,000 calories is now generally accepted as a sound average figure for the average man.

For working-class men engaged in a greater expenditure of energy, calories intake of more than 3,000 calories per day may be necessary. Aykroyd suggests the figure of 2,600 calories for an Indian adult. Most authorities agree that, for an adult, about 50 to 80 per cent of the food calories should be taken in the form of starches and sugars, about 20 to 30 per cent in the form of fat and about 10 to 12 percent in the form of proteins.

As regards the protein requirement, the Technical Commission of the Health Committee of the League of Nations recommended that an adult over 21 years should get about 0.45 g. of proteins per day per pound body weight or 1 g. per k. g. This works to about 70 g. for a 154 lb. man and about 60 g. for a 132 lb. woman. Allowance for pregnant women and children is greater. Aykroyd suggests 65 g. and 55 g. for an Indian adult man and woman respectively. It must be specified, however, that the protein should be derived from a variety of sources and a good part of it from animal tissues. The Advisory Committee of the British Ministry of Health recommended that 37 percent of the total proteins should be derived from animal products. We should bear in mind, however, that it is not the protein requirement that we should be interested in, but the amino-acids. Some day we may be able to state the actual amino-acid requirements and secure values for the amino acid content of all our food supplies. The essential amino acids—Arginine, Histidine, Isoleucine, Leucine, Methionine, Phenylalanine, Threonine, Tryptophen and valine—must be provided for and the proteins in milk, eggs, glandular organs, and meat are especially rich in those essential amino-acids.

Fats stored in the body are a reserve source of heat and energy and a protection against cold and injury around certain organs. Fats however do more than provide calories. They carry the fat soluble vitamins A, D, E, and K. Certain types of fat are essential parts of the body tissues, their unsaturated fatty acids being apparently necessary for good health.

Recent experimental work with fats in malnutrition suggests that they possibly help the body to use calcium under ordinary conditions, reduce the need for vitamin B, aid in the metabolism of milk sugar, and in the utilization of carotene by the body, and help to maintain a certain unsaturated fatty acid—linolic acid and arachidonic acid which has a bearing on the occurrence of eczema.

In the light of what is known at present, one fact has to be borne in mind that butter fat is of value to the diet as supplying some essential saturated fatty acids which may attain a place similar to that of certain vitamins and it is to be hoped that the nutritional experts should advise that a part of the calories requirement must come from animal fat such as butter. The question about the proportion of butter fat and the vegetable fat in the total fat intake (minimum fat requirement is also a vexed question) in an ideal diet is yet to be solved.

Of course, the choice of fat in human diet is governed by certain factors *e. g.*, production, availability, cost, personal choice, economic status etc. Even if we take the case of India a great variety of fats are consumed in the different parts of the country; the coconut, gingelly, sesame or tilgauch, the mustard oil etc., and some milk fat also. The diet of the well-to-do generally contains more of butter fat relatively. Recently the processed hydrogenated vegetable fats have come as a substitute for butter fats. As a cheap source of energy available to the poor, one need not object to the use of these products in terms of calories supply. But one has to see whether these hydrogenated products differ in regard to their digestibility and absorbability from the other natural fats and oils and consequent availability for nutritive foods.

Some American and Indian workers have shown that there is no difference in the digestibility between the hydrogenated fats and the natural fats and oils. Utilisation of the fatty acids of hydrogenated fat was a bit less than the butter fat in rats. It has also been observed that hydrogenated fat interferes with calcium absorption (Datta.)

No definite figures have been established for the fat content of human dietaries. However, it is usually considered that an intake of not less than 50 g. of fat per day is desirable. The actual intake of fat amongst people in various parts of world show wide variations. (Howe; Orrd. 50 g. to 125 g. in America, United Kingdom and Europe).

Among the people of some tropical countries and in the Far East it has been found that the standard of fat intake is extremely low, characterised by a very low fat intake. Their consumption of vegetable fat is low, that of animal fat is negligible. Aykroyd reported in the Health Bulletin, typical rice diet supplies less than 20 grams of fat daily. As to the actual intake of fat by an average Indian, we have very little reliable data available. But let us bear in mind the climate, locality, habits and work influence the intake of fat and consequently utilization of one particular standard for fat intake is not possible. Nevertheless it is necessary to consider the importance of establishment of an adequate intake of fat with our usual high cereal diets. Aykroyd suggests a fat intake of 45 to 60 g. Butter fat should form about 40 to 50 per cent of the total intake.

Carbohydrates form the greatest proportion of of the diet as it is the cheapest form of food. It has the advantage that it can be readily digested, absorbed and utilized for providing energy. It is usually recommended that carbohydrates should not account for more than 66 per cent of the total calories. Sufficient carbohydrate should be included in the diet to ensure complete oxidation of fat and prevent ketosis.

As to quality, any carbohydrate which gives glucose, or fructose or mannose on digestion can be utilized. The natural forms are preferable to purified form of carbohydrate because of the valuable adherents *e.g.*, vitamins and mineral elements. The cellulose gives the roughage.

Cereals have recently come under suspicion as interfering with normal calcification. This is due to

nearly 50 per cent of the phosphorus being present in the non-utilisable form—Phytin. But it is probably wise in our present state of knowledge, to mix our carbohydrates as well as other dietary constituents and not depend on only any one source. Recently the role of different celluloses on the absorption of carbohydrates has come into prominence. It has been shown that the amount and the type of cellulose present in a particular grain has got an effect on the absorption of carbohydrate present in it.

The minerals and inorganic materials that must be supplied by the diet include sodium, potassium, calcium, magnesium, iron, copper, manganese, sulphur, phosphorus, chlorine, iodine, cobalt, zinc and probably many other things in small amounts.

Calcium forms a large part of the bones and teeth, and it is necessary for normal blood clotting, the steady working of the heart and normal muscular activity. Phosphorus is also liberally used in the bones and teeth, and it plays a vital part in some of the delicate chemical activities of the body, notably those that release energy from foods. Beginning at birth, children need a generous supply of these two minerals to meet the needs of growth: Ca requirement: 0.8 g.; P requirement 1.3 g. per day. Recent researches have established a preference to a calcium phosphorus ratio of 1.2 to 1. Although this appears to be contradictory to the phosphorus requirement being held as higher than the calcium requirement it is really advantageous to have more phosphorus because some of the organic phosphorus may not be completely available. The phosphorus in phytic acid (from vegetable foods), now found to be available, is less efficient for bone production. It hinders calcium absorption and therefore it is necessary to use animal sources for phosphorus if need be.

Iron is necessary for the formation of haemoglobin in the blood. Copper in minute amounts must accompany iron for haemoglobin formation; perhaps also traces of cobalt and manganese. The daily iron requirement is 12 to 15 mg. The daily copper requirement is 2 mg.

Iodine is essential in the making of secretion of the thyroid gland, thyroxine, which helps to regulate the heat production of the body. The value generally given is 2 micro grams per kg. of body weight per day.

No requirements have been set up for the so-called trace elements as no special data are available. It must be recognised, however, that elements such as magnesium, manganese, zinc, cobalt are important in the diet.

Many of the vitamins so far discovered are known to be vital to the health, even to the life of human beings. Without sufficient vitamin A, the thin layer of epithelium, including the numerous membranes, that protect the organs of the body suffer disastrous changes: the teeth are affected, the eyes become less sensitive to dim light, growth is not normal. Without sufficient vitamin B, or thiamin, sugar is probably not properly oxidised in the body, there is a loss of appetite, a series of nervous disorders and a disturbance of the heart symptoms collectively known as beriberi or polyneuritis. Without sufficient Vitamin C, or ascorbic acid the materials between the cells of the body no longer function as it should, the teeth and the bones suffer, minute blood vessels become



fragile and other symptoms of scurvy develop. Lack of Vitamin D. spells rickets in children, this vitamin is necessary for the proper functioning of calcium and phosphorus in building up bones and teeth. Lack of vitamin C. or riboflavin in experimental animals results in cessation of growth, loss of hair, cataract of the eyes, skin disorders, etc. Lack of nicotinic acid (one of the B vitamins) is apparently the determining cause of pellagra. The newly discovered vitamin K is apparently necessary in bile and bile salts for normal blood clotting.

In animals vitamin E has been found essential for the promotion of late stages of growth and for reproduction. The only evidence we have of the functions of the vitamin E in human beings is that repeated abortions in women have been reported in a few cases to have been followed by normal pregnancies after administration of concentrated preparations of vitamin E from wheat germ oil. Vitamin E is so widely distributed in foods that it seems unlikely that a deficiency could be a matter of great concern to human nutrition.

Present knowledge as regards the daily requirement of vitamins is still unsatisfactory. Definite optimal figures cannot yet be stated and there is a marked tendency to recommend amounts providing a considerable margin of safety. Some scientific authorities have remarked that the maximum figures suggested by the vitamin research workers will perhaps help to produce superlative healthy human beings and are liable to help to encourage the use of drug-store vitamin adjuncts, which are generally costly. The mass of the population probably can maintain general good health on vitamin intakes much lower than the maxima recommended.

**Vitamin A:**—A value of 5,000 I.U. has been suggested on the basis that the average diet supplies one-third of the total activity in the form of vitamin A and two-thirds in the form of carotene. 2,000 units of vitamin A as such will undoubtedly meet the daily needs. Some day it may be advisable to set specific standards for the carotene and the vitamin A requirements, and to express the distribution of both these compounds in the food materials. The absorption of vitamin A from the intestinal tract is definitely related to the fat content of our diet, and the actual requirements may differ drastically, depending upon the presence of other materials in the diet.

**Vitamin B<sub>1</sub>:**—It should be noted in this connection that the vitamin B<sub>1</sub> requirement is definitely reduced by a high fat diet. Researches at the Banting Institute have suggested that high fat diets may eliminate all symptoms of B<sub>1</sub> deficiency except the changes that take place in the heart. Under these circumstances it is better to recommend a high B<sub>1</sub> intake level regardless of the fat content of the diet. A level of 1.5 to 2 mg. per day should be an adequate intake for most individuals.

**Riboflavin B<sub>2</sub>:**—3 mg. per day has been established as minimum requirement as a result of recent work on humans. It should be noted, however, that changes in the fat and carbohydrate ratio may alter the riboflavin requirement. Elvehjem found an increase in riboflavin requirement with an increase of fat in the diet.

**Nicotinic Acid:**—Tremendous difficulties have been encountered in attempting to determine the requirement of nicotinic acid. But recent researches made possible the use of a highly synthetic diet containing no nicotinic acid and the use of bacteriological methods of accurate determination. 15 mg. per day is generally taken as the nicotinic acid requirement. The nicotinic acid content of an average diet appears to be 15 to 20 mg. per day. There are no factors in the average diet which tend to alter the nicotinic acid requirement. Increased exercise has an effect on the requirement.

**Vitamin C:**—The chemist has been able to determine this vitamin not only in foods but also in blood, and this fact has enabled the establishment of the requirement of vitamin C. rather more definitely. 70 mg. per day is generally taken as sufficient to maintain the vitamin C levels of the blood at high levels. The question of importance is whether we should supply sufficient vitamin C to produce complete saturation of the blood stream or whether optimum health can be maintained at lower levels of saturation.

**Vitamin D:**—The requirement of this vitamin depends upon the total intake of calcium and phosphorus as well as their ratio, and on the fact whether the diet contains ample quantities of milk or not. It has been found safe to accept a value of 400 I.U. per day.

**Vitamin K and E:**—The very meagre information about these does not allow us to establish their requirement figures. Recent researches have shown, however, that sufficient vitamin K is synthesised in the intestinal tract.

One has to bear in mind the less known vitamins along with those mentioned above. The B<sub>6</sub> requirement of a human may be as important as any other B vitamins. But we cannot yet mention any sort of specific figures. It may be of the same magnitude as that of B<sub>1</sub>.

Panthenic acid (one of the compounds in the Vitamin B<sub>2</sub> complex) is certainly required by the humans, but one is unable to give any requirement figure. It has been observed that the panthenic acid apparently affects the requirement of some others in the B group of vitamins. Biotin, Inositol, Paminobenzoine collectively called as 'filiate factors' are coming into prominence as essential nutrients of the unknown members of the B complex in the animal.

**Choline:**—This has received a great deal of interest recently in animal work. The animal experiments suggest the importance of studies in the human dietary also. It has been noted that a variation in amino-acid content of our diet may affect the choline requirement.

'Digestibility' of the food is a factor of great importance in dietetics. A protein which contains all the essential amino-acids will be dietetically valueless if it is not broken down by the alimentary canal. The primary food—the proteins, carbohydrates and fat—must be of such a nature that they can be both digested and absorbed. 'Digestibility' in its dietetic sense is more concerned with absorbability than digestion in the strict biochemical sense. What we are more concerned with is to know what is the

amount that is finally absorbed and metabolised. For absorbability, one can get the required information by measuring the proportion of the given food in the excreted faeces. Such studies have revealed that fats and starch are in general mostly utilized. Animal proteins are more utilized (about 96 percent) than the vegetable proteins (about 76 percent generally).

Generally speaking, in a mixed diet where absorption is better, 78 to 91 percent of protein, 86 to 95 percent of fat and 93 to 97 percent of carbohydrate will be absorbed.

In conclusion, let us remember that nutritional requirements of man can be expressed in quantitative terms to an extensive degree. These values are of great importance in constructing adequate diets, provided we still obtain a considerable proportion of the nutrient from natural foods. The safest programme for the future involves the improvement of natural and processed foods through restoration and fortification. One must not add enriched foods to synthetic diets but to diets that are already fairly adequate. The fortification of a food that may be on a border-line state of adequacy makes it adequate and efficient.

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### Food\*

By

B. C. GUHA, Ph.D., D.Sc.

DR. GUHA emphasised the importance of biochemistry as a science and the contributions it has made towards the development of both pure and applied aspects of the science of food. After reviewing, in a general way, the fundamental studies made during recent years in our knowledge of the vitamins, particularly of the B-group, and also of the phenomena of transmethylation in the tissues and of the alternations in the amino-acid metabolism in moulds, etc., he endeavoured to focus attention on the applied science of food technology including the processing of foodstuffs in order to preserve or enrich them. In conclusion, he made thoughtful comments on the 'Food and Nutrition Policy' of India, a matter of vital importance to the members of the medical profession as well as to the public in general. These remarks are given below in *extenso* :—

#### Food and Nutrition Policy.

Researches on food and nutrition must consistently be applied to the practical problem of

improving the nutritional level of the people. All scientific work must have as its goal the increase of the sum of human happiness. Our country is pre-eminently one where hardly a fraction of accumulated knowledge has been applied in various fields of national welfare. Since nutrition is the first and basic element for life and health it should have the highest priority for consideration. It may be interesting in this connection to recall the experience of a British medical officer who found, curiously, that on removing certain working class families from slums to better hygienic quarters the health of their children deteriorated. This apparent anomaly was traced to the fact that these families had to spend a larger proportion of their income on the rent of their apartments than they had done before and consequently the money available for food was less. The deficiency in food was dramatically felt. As Gowland Hopkins once remarked, among all the environmental factors which determine health and vigour, nutrition was the most important. The aim of modern civilization should be to achieve the highest standard of health of which the individual is capable within the limits set by heredity.

The scientific principles of nutrition have been applied with a great measure of success during the recent war in some of the western countries. In the U. K. rationing has actually improved the nutritional level of the poorer sections of the population. In fact, it has been stated that the average stature of the British boy or girl of to-day is significantly higher than before the war. This is attributed to the fact that the whole organisation for nutrition in England has been run under effective scientific guidance. At the beginning of the War, the scientific organisation of the Ministry of Food carried out an estimate of the food production in calories, protein, etc., in normal times and compared it with the nutritional requirements of the people of Britain in respect of all the nutritive factors. The next question was to meet the deficit from increased home production and from imports. It was decided to stimulate production of energy-yielding foodstuffs like wheat and potatoes in Great Britain in order to save shipping space and to import largely concentrated and protective foods like dried egg powder, milk powder, orange juice, etc. Milk was first given to children and expectant and nursing mothers, who formed the priority groups, and then, if available, to adults. Milk was given free to tens of thousands of children and at cheap rates to other children and expectant and nursing mothers. A national flour was introduced, as has been mentioned earlier, which is richer in B vitamins, iron and calcium than the pre-war flour. Communal feeding was introduced (as had been done long ago in the Soviet Union) through factory canteens and through the so-called British Restaurants which catered for the public. Cheap meals, nutritionally balanced under scientific guidance, were provided in these communal feeding centres. Special capsules containing vitamins A and D were provided for expectant and nursing mothers. Rationing for different age groups was based on nutritional considerations and provided optimum nutrition according to

\* Summary of the Presidential Address before the section of Chemistry of the Indian Science Congress, 1946. (Courtesy: Calcutta Medical Journal).

modern accepted nutritional standards. Constant checks were kept on the nutritional status of different groups of the population produced by the rationing system and other food and nutritional measures. Periodic reports of this status regarding representative groups of the British population were regularly received by the Ministry of Food which examined these reports and kept their administrative measures in constant review in the light of these. A group of workers was appointed at the Oxford University to constantly look after the nutritional status of the people from the clinical point of view as affected by current rationing and other food measures.

The way that the Ministry of Food has handled food and nutrition problems of the U. K. during difficult times by taking and implementing scientific advice all along is an example to many other countries. All these scientific nutritional measures, however, could not have achieved much, had not the Government sought constantly to grow and import all the food materials that were needed. The production of food in the U. K. increased by over 50 percent in certain commodities. The policy which was principally responsible for both the success of the "Grow More Food Campaign" and the stabilisation of the prices of staple food-stuffs was the policy of direct subsidy to the food-growers including producers of wheat, potatoes, meat, milk, etc. In one year alone over two hundred crores of rupees have been given as direct subsidy to the food growers. The result has been that more food has been produced and the prices of none of the staple food-stuffs have risen higher than 25 percent above the pre-war level. Potatoes were sold in London at 1½ d. per lb. This could not have been achieved by private control decrees alone. Similarly constant attention was paid to the importation of concentrated food and protein food. The whole food position of the U. K. was under constant review and the Government made every effort to see that all the food required for the entire population, both civilian and army, on nutritional considerations was actually available to the people. The results have shown that the Government by its effort succeeded in this objective.

The nutrition policy which has achieved so much success in the U. K. can be followed with suitable modification in this country. The first task is to estimate the requirements of food by the people of India, in the light of optimum nutritional considerations. In an article published in March, 1944 (*Science and Culture*, Vol. IX, p. 375), I had given the following requirements for an adult which may be considered nearly optimum. The relative proportions of different ingredients of this diet may of course be varied within certain limits and also some variations in the nature of the cereals according to local supplies may be permitted;

|                                                        |     |            |
|--------------------------------------------------------|-----|------------|
| Unmilled or lightly milled rice                        | ... | 10 oz.     |
| Whole wheat                                            | ... | 6 oz.      |
| Pulses                                                 | ... | 4 oz.      |
| Sugar                                                  | ... | 2 oz.      |
| Milk and milk products                                 | ... | 10 oz.     |
| Fish and meat (or extra milk products for vegetarians) | ... | 4 oz.      |
| Non-leafy vegetables                                   | ... | 5 oz.      |
| Green leafy vegetables                                 | ... | 5 oz.      |
| Fats and oils                                          | ... | 2 oz.      |
| Fruits                                                 | ... | 3 oz.      |
| Eggs                                                   | ... | one or two |

Such a diet would supply roughly the following nutritive elements:

|              |     |         |
|--------------|-----|---------|
| Carbohydrate | ... | 470 g.  |
| Fat          | ... | 75 g.   |
| Protein      | ... | 96 g.   |
| Calcium      | ... | 1.1 g.  |
| Phosphorus   | ... | 2 g.    |
| Iron         | ... | 34 mg.  |
| Carotene     | ... | 4 mg.   |
| Vitamin A    | ... | 1.6 mg. |
| Thiamin      | ... | 2 mg.   |
| Riboflavin   | ... | 1 mg.   |
| Vitamin C    | ... | 90 mg.  |
| Calories     | ... | 2,780   |

This would entail an annual production in India of the following:

|                                       |     |                 |
|---------------------------------------|-----|-----------------|
| Cereal grains (mostly rice and wheat) | ... | 65 million tons |
| Pulses                                | ... | 16 "            |
| Sugar and "Cur"                       | ... | 8 "             |
| Milk                                  | ... | 40 "            |
| Fish and meat                         | ... | 16 "            |
| Non-leafy vegetables                  | ... | 20 "            |
| Green leafy vegetables                | ... | 20 "            |
| Edible oils                           | ... | 7½ "            |
| Fruits                                | ... | 12½ "           |
| Eggs                                  | ... | 15 billions "   |

Sufficiently accurate statistics are not available about the present production of many of these food-stuffs. But it is clear that increased production will be necessary in each of these items if these nutritional requirements have to be met. It should be stated that the diet indicated above does not in several respects come up to the standards laid down by the National Research Council of America, which however may be a little too high.

Regarding vitamins, owing to the great developments in their manufacture, it is now possible to provide synthetic or concentrated vitamins to large masses of the population at a reasonable price. The targets of the annual production of vitamins in India may be tentatively indicated as below:

|                         |     |          |
|-------------------------|-----|----------|
| Carotene                | ... | 300 tons |
| Vitamin A (concentrate) | ... | 150 "    |
| Riboflavin              | ... | 300 "    |
| Thiamin                 | ... | 300 "    |
| Nicotinic acid          | ... | 3,300 "  |
| Vitamin C               | ... | 7,500 "  |
| Calciferol              | ... | 1.5 "    |

Indian diets are also usually low in calcium and the following targets may be given for the annual production of assimilable calcium and phosphorus compounds calculated as calcium and phosphorus, 1.2 lac tons and 2 lac tons respectively.

The above would indicate the lines on which development should take place leaving room for readjustment of figures of production.

The provision of vitamins and minerals in tablets is no longer a subject for humorous comment but is already being practised in America and appears to be a diserable development from the standpoint of the improvement of the general level of nutrition. Calories and proteins are required in fairly large amounts but vitamins and minerals are required in relatively small amounts. The last two are also not often present in adequate quantities in the food we consume. It is possible to provide the vitamins and minerals in the form of tablets or capsules. If the major portion of the requirements of these food elements can be met from the manufactured materials, leaving the rest to be provided by the natural diet, it seems entirely

logical to adopt this system instead of leaving it to chance that the ordinary food would provide adequate quantities of these nutritive elements. This may entail a slight change in our food habits, but food habits have changed during centuries. It should, however, be stated that in spite of the synthetic vitamins, natural food-stuffs are still needed to provide probably still unknown vitamins. But there is no reason why we should not take more important synthetic vitamins daily thereby ensuring an adequate supply of these particular substances. The chief aim should, however, always be to provide adequate natural food to all people.

The problem of food before India and also other oriental countries is colossal. How ill-fed Asia and Africa are compared with other continents would be indicated from the following table taken from Marrack, which gives the distribution of world's food supplies among the different continents:

| Continents Food supplies       | Europe | Asia | North America | Latin America | Africa | Oceania |
|--------------------------------|--------|------|---------------|---------------|--------|---------|
| Cereals & other food-stuffs    | 41.2   | 24.6 | 24.4          | 5.8           | 2.5    | 1.6     |
| Meat                           | 45.7   | 5.6  | 29.7          | 11.9          | 3.4    | 3.7     |
| Per cent of world's population | 25.9   | 52.5 | 6.5           | 5.7           | 6.7    | 5.5     |

It will be noticed that the consumption of practically all food-stuffs in Asia and Africa is frightfully small compared with the consumption in Europe and America although Asia and Africa are far more populated than the other continents. This is indeed a shocking situation.

Science and technology have placed plenty within the reach of all the people of the world. The fact that hundreds of millions of people throughout the world are on a low subsistence level is a slur on our civilization which we can remove only by establishing a social and political order which will ensure that it is not the income of the individual but his physiological needs that will determine the food that he eats. Until this social change is brought about, humanity will continue to wander in the wilderness.

## Value of Soya-Bean.

BY

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The second world war has produced not only various destructive machinery but also some wonder drugs and other creative discoveries, though pessimistic opinion is that science is more progressing towards destruction than towards creative sides. Be that as it may, we think, it is high time for scientists to think internationally and act accordingly. World progress and future depend upon the unity of world's scientists than anything else.

Thanks to the modern scientists, Soya-Bean is no longer a neglected poor gram. It was known to

though rather underestimated by, the Asiatics, specially by the Chinese, thousands of years ago; and it is only recently, that the modern scientists of Germany and Japan did appreciate the full food value of it after a long laborious research.

Its high nutritive value specially with its superior type of protein renders it one of the most suitable adjuncts to food specially for orthodox vegetarians or poor and middle class people of India where medical profession are constantly facing abnormally high number of cases of multifarious type of gastro-intestinal disorders mainly resulting from low nourishment with high carbohydrate and comparatively protein-free diet. Moreover it has been definitely proved that the people of western countries and meat consuming provinces of India suffer less from such disorders and ailments of gastro-intestinal affections, being accustomed to high protein diet.

For the solution of the problem facing India of malnutrition and lowered resistance of general mass, we advocate Soya-Bean cultivation on extensive scale in various provinces of India. We think it is the first and foremost duty of our Interim Government to take up Soya-Bean cultivation work as an approved scheme of post-War reconstruction work, considering the sad state of lowered general resistance of Indian mass, so repeatedly brought to the notice of the Indian Government by the medical profession of India.

Glucine-Max is the botanical name for Soya-Bean and really speaking it is nothing new to us, it is an ordinary vegetable gram full of minerals and vitamins with about 30 to 40 per cent superior type of easily digestible protein while meat contains only 17 to 20 per cent Protein.

It can be used according to the choice of the consumers, but it is generally used as flour after mixing with the double quantity of wheat. Various food preparations can be prepared out of it according to the necessity, choice and taste of the consumers.

It is useful both in healthy and diseased states, equally beneficial to the adults and children. Oil extracted from Soya-Bean, delicious and nutritive as it is, will be an ideal and better substitute for mustard oil or any other vegetable oils of the market. Milk from Soya-Bean will also be highly appreciated by the mothers for the nourishment of their babies. Soya-Bean may be also used as coffee in the form of dry powder.

Now a days Soviet Russia and U.S.A. are taking keen interest in extensive cultivation of Soya-Bean and they are opening up Soya-Bean factories in large numbers to meet popular demands. Even recently the Government, of Baroda, Hyderabad and Central India started Soya-Bean cultivation and it has been found out that its cultivation is very easy and requires no special attention and machinery. Cultivation is equally possible in low marshy land as well as in high dry lands—hills and plains equally suitable.

Just a fortnight before the rainy season its seeds are to be sown after ploughing of soil. It is reported that each acre of land yields 500 Lbs. to 100 Lbs. of Soya-Bean. Better quality seeds are available from the Agricultural Department of Kashmir Government at the rate of about Re. 1/- per lb. Moreover it is reported that it will be cheaper than paddy too.

## Defects in the Present Public Health Propaganda

BY

DR. J. J. JOSEPH,  
Provincial Leprosy Officer, Madras.  
Paid a Pittance

Health propaganda work is not so simple and easy as many think, especially in a disease like Leprosy about which we know little and about which people have queer antiquated notions. My feeling is that a propagandist is usually 'not made, but born'. He must have sterling qualities to drive his propaganda home. I also feel that just as evangelisation is more difficult than pulpit preaching and practical demonstrations more difficult than lecturing, so also health propaganda work is more difficult than treatment work if the desired effect is to be obtained. But alas! the propagandists who are entrusted with such an important and responsible task, are paid a pittance with the result that the wrong type of persons are selected—uninterested, discontented and unimpressive.

### Verbose Leaflets

Another mistake noticeable in health propaganda is the over-indulgence in verbose leaflets and pamphlets and platform lectures. More often than not, the information in leaflets is in small print, with lengthy explanations and frightful and even indistinct illustrations. This attitude of the public towards public health is deplorable with the result that the attendance at lectures, unless presided over by a high official, is usually poor.

### Magic Lantern Lectures—a Failure

Magic lantern lectures have lost their "magic"—many a lantern failing to do the trick and propagandists are tired of giving the same lectures! As for films, their value is very great. They have to be changed, say every five years. I am disgusted with the leprosy films—the Madras film deals with a romance, while the Calcutta film shows that leprosy is a curse of God.

### Education of Adults through Children

Another mistake that is made is concentrating on educating the adults by lectures and literature. The adults are generally indifferent towards public health work because they are too busy to attend to this, and because they have ingrained ideas of their own about public health. The educated are more often greater defaulters than the uneducated as they have no proper health education. Education of any kind should be chiefly concentrated on children whose virgin mind is susceptible to impressions and receptive and who form the future nation. Apart from this, our contact with the adults being occasional, children by their constant and intimate contact with their parents and others near their house, can more easily persuade the adults to do the right thing. I advocate the education of adults, chiefly parents, through children.

### Teaching of Hygiene

There is hardly any health propaganda work done in schools, except hygiene which is taught theo-

retically only. It is not taught in the way to be of practical value in life. The condition of many schools, their teachers and their pupils will prove what value teaching of Hygiene has. Sanitary arrangements are poor and consequently the habits of the teachers and the pupils are far from desirable. This reminds me of the sanitary condition of a footpath between a medical college and a large hospital which face each other. Everyday one could see on this footpath rotten fruits, cooked foods and cool drinks exposed to dust and dirt, and sweetmeats full of flies, sold to public, apart from its being used as a urinal—Police, health Staff, professors of the college, doctors of the hospital pass by unconcerned!; This is indeed a fine demonstration to the medical college students after their lectures on Hygiene!!

### Suggestions

Preventive medicine is more important than curative medicine, depending mainly on the proper education of the public. To do this the machinery must be of a high efficient order and I would make the following suggestions based on my experience in this Presidency.

1. A Health Propaganda Board must be formed under the Public Health Department with specialists and experienced health officers (retired also) on it to organise and direct the propaganda work.

2. An Institute to train persons in Social Hygiene, practical propaganda, investigations, etc., should be established and only those who had completed a course here should be appointed as propagandists. It is a mistake to overburden a Health Inspector with this work.

3. Health propaganda through films: There should be at least one propaganda van for each district, which can also be used for such purposes as Prohibition etc., Every theatre should show short health films at every show.

4. A Provincial School Health Board under the Educational Department to attend to Medical Inspection, teaching of Hygiene, Physical Education, Propaganda and school sanitation should be formed; and a School Health Service (consisting of doctors with public health qualifications only—as others will think more in terms of private practice) under an Assistant Director of Public Health should be established.

5. Matter in leaflets should be concise, appealing, in bold type with plain and simple facts. These should be freely distributed in Medical Institutions to those who can read. Prescription tickets given to patients in medical institutions should have a short information about a disease on the reverse. Private practitioners may be advised to purchase this at a normal cost or supplied free of cost.

6. Posters should be hung in all medical institutions and public places and should be educative and appealing but not horrifying. There should be sets of posters and leaflets in readiness available for exhibitions, fairs and festivals.

7. Multiplication of work by having propagandists for each disease, must be avoided as it is waste of money. Allied diseases and epidemic diseases can be grouped together.

8. Home talks rather than lectures (the attendance at which is sometimes, if not often, grossly exaggerated) should be a special feature in villages.

9. No other organisation should be permitted to issue propaganda materials except with the approval of the Health Propaganda Board.

10. Propagandists should be well trained and well paid.

I look forward to the day when every Taluk Hospital becomes a Public Health Unit in charge of a Preventive Health Officer and when every medical officer, except the specialist, is also a qualified Preventive Officer. None can deny that a Medical Institution working independent of the Public Health Department does not contribute much to the advancement of society, community or nation, and that the Public Health Department cannot work efficiently without the co-operation of the Medical Department. In every piece of Rural Reconstruction Work, Public Health work should first be considered if it is to be complete and successful. Hence the necessity for the re-organisation of the Medical and Public Health Departments to put up a united and efficient front to attack and kill the enemies of humanity.

## CLINICAL NOTES

### A Case of acute Emetine Poisoning.

BY

CAPT. A. L. WAHL,  
Wahi St., Khusab, (Punjab).

A Hindu female of about 60 came under my medical care on 17-10-46. She complained of occasional frequency of stools with passage of mucus with slight quantity of blood. Duration 16 years.

Patient was of thin built and slightly anaemic. Right iliac fossa was tender and descending colon was also palpable and tender. No pain or tenderness in the hepatic region.

She was clinically diagnosed to be a case of chronic amoebiasis and I made up my mind to treat her with Emetine Hydrochlor I/M. followed by E.B.I. by mouth and then Carbarsone and Enterovioform.

On 18-10-46 morning, I gave her Emetine Hydrochlor 1 gr. I/M. By the evening she complained of slight itching on the palms and slight soreness on the tongue. On examination the tongue appeared somewhat hyperaemic but nothing abnormal could be seen on the hands. There were no other developments till next morning. So I gave her another 1 gr. of Emetine Hydrochlor I/M. By the evening the patient had a rise of temperature to 100° F. and her pulse rate was 120 p.m. She had severe itching of the palms and soles with hyperaemia. The glossitis also became worse and the patient became unable to swallow any solid or semi-solid food.

On 20-10-46 morning small vesicles could be seen on the palms, the tongue was covered with white

crust and the margins were very red. I gave her 10 c.c. of calcium (Sandoz) I/V. By the evening she had urticaria all over the body more marked on the face and neck and it caused her severe itching.

On 21-10-46 I gave her adrenaline 1 c.c. subcutaneously. Her urticaria disappeared for a day and then again appeared.

On 22-10-46 I put her on calcium lactate by mouth 40 grs. daily, divided in 4 doses and continued for another two days. Along with this I used Boro-glycerine paint for glossitis.

The response was not satisfactory. So I again gave her calcium I/V this time using CALCIBRONAT (Sandoz) 10 c.c. each day on 25th and 26th of October '46.

By the 25th the vesicles on the hands coalesced and formed big blisters which were snipped aseptically and clear serous fluid came out. After this she was given pot. permanganate bath for hands and feet.

On 26th afternoon her temperature went up to 103° F with a rigor and came down to 99° F on the 27th morning. She complained of severe pruritis of hands and feet as a result of which she felt very restless. She also had urticaria on face and neck. I called in another doctor who suggested I/M milk injection for urticaria. She was given 6 c.c. boiled milk by I/M injection. In the evening her temperature went up to 104° F. and came down to 101° F later on. On 28th morning her urticaria improved. Thinking that rise in temperature on 26th and partly on 27th was due to some underlying malarial infection I put her on Quinine by mouth for 6 days. Her temperature came down to normal on 29th. She was given another 10 c.c. of milk I/M on 1-11-46 after which itching disappeared. By now scabs had formed on her palms of hands and soles of feet.

On 5-11-46, the day of writing this note, her only symptom is pruritis of hands which I expect would disappear as the scabs fall off.

**Conclusions:**—A case of acute emetine poisoning is described whose chief features are as under:—

1. Two 1 grain I/M injections caused the toxic symptoms.
2. The main symptoms were urticaria, glossitis, tachycardia and vesication of palms and soles.
3. With calcium the patient showed general improvement but urticaria did not respond quickly.
4. Urticaria showed good response to I/M milk injections.

## LETTERS TO THE EDITOR

### Stigma on the Medical Services in India.

As a constant reader of your *Journal* and member of the All-India Medical Licentiates Association, may I request you to publish this letter and oblige:

The grave injustice that the licentiates in service are receiving at the hands of the Government Local Bodies, States and Tea Companies etc., is well known to all and needs no description here.

Our worthy president, Dr. A. L. Kapur, has addressed recently a memorandum to the Provincial Health Ministers urging them to do justice to the



Medical Licentiates in service. This is really a master-piece document. We want no favour but fairplay and justice. Our own people are now at the helm of affairs both at the centre and in the provinces. We hope they will immediately set matters right and remove this stigma on the medical services in India.

Justice and fairplay require that give the Government should give effect to the following:—

(1) All the medical licenciates be recognized by the Medical Council of India immediately and no further licentiate quilification be recognized after 31st December, 1951.

(2) The recommendations of the conference of the Administrative Medical officers regarding pay and designation be accepted from the 1st of January, 1947.

(3) There should be one designation in the service as medical officer for the graduates as well as for licenciates.

The Bhoze Committee has recommended provincialization of the all medical services in a province. This should be given effect to at the earliest possible time.

(5) Merit and efficiency should be the sole criterion for promotion to higher posts.

The removal of our grievances is long over due. Our patience is now exhausted. Of course we mean no threat. We don't want to embarrass our own people at the Government nor do we like to further increase the sufferings of our brothers and sisters in service. But it would not be out of place to mention that we are now losing patience.

M.O., Kessariya Dispy.,  
Champanan, (Bihar)

K. P. Varma.

#### THE SIND LEPROSY CONTROL BILL FOR DISEASED IMMIGRANTS

There has been much criticism levelled against this proposed Bill intended to control leprosy in immigrants to the Province by sterilisation. One must appreciate this move by the Sind Government as it aims at the prevention of the spread of leprosy by immigrants. What the incidence of leprosy is in this Province is not known, but whether it is high or low, prevention of 'foreign' leprosy will allow leprosy to become indigenous, weaker in potency and eventually to die out. The Sind Government, therefore, is to be congratulated for this measure to control leprosy in their Province, just as no foreigner with leprosy is allowed to land in Britain or one with leprosy is allowed to proceed to Ceylon, if he is detected with leprosy at Mandapam.

What is it that prompted the Sind Government to introduce this Bill? It may have been due to (1) the influx of diseased beggars, mostly advanced cases of leprosy, owing to the acute food problem in their places, or (2) prevent diseased immigrants from living with the local healthy residents and spreading the disease in the Province and from contracting marriages with local people.

With regard to the first, I have heard both lay persons and doctors in towns and cities say that the diseased beggars are spreading leprosy. It should be

remembered that house 'infection' whether intra-familial or extra-familial, is chiefly the cause of the spread of this disease. Beggars have no homes and so they are likely to spread the disease among their children only. So any measure to tackle leprosy among beggars, has to be taken up as 'The Beggars' Problem and not as a Public Health Problem.

Marriages between infectious immigrants and healthy local residents, is also a method by which the disease is spread, and is a grave menace to the society and community. It is erroneous to think that this disease is hereditary, as that old 'heredity theory' has been disproved. The chief danger lies in infection spreading from an infectious case to his children or others' children living with him in close contact. Sterilisation of a patient prevents birth of children and can be said to be useful only if the sterilised person does not live with children nor is in a position to communicate the disease to others. He will be like a sower with the seeds but without a soil to sow them.

Whatever prompted the Sind Government to introduce this Bill, it is to be remembered that only cases in the infectious stages of the disease are capable of spreading the disease and they only have to come under the purview of the Bill. Applying the Law indiscriminately to any case of leprosy, will cause all cases to conceal their disease, aggravate the dread for this disease which in 80 percent of the cases is non-infectious and innocuous, will increase the unjustifiable stigma attached to this disease, and will deplorably and adversely affect the leprosy control measures now in operation in India.

Coming to the point of sterilisation, it is a means generally adopted in the interests of the parents or of the off-spring. Leprosy being a disease not hereditary in nature and being one that is contracted by close and prolonged contact (house infection), sterilisation is futile. It has been found that the fecundity rate in infectious cases decreases as the disease advances in them, owing to pathological changes in their reproductive organs. Therefore, other more effective measures, such as compulsory segregation, notification by Law, annulment of marriages contracted with local residents, prevention of co-tenancy, and so on, should be introduced to tackle 'foreign leprosy.'

Another point that has to be considered is whether this Bill can work successfully. This Province adjoins Baluchistan, Peshawar, the Punjab, Rajputana and Bombay Provinces, and this allows easy entry of diseased immigrants into Sind unless there is effective control at all its borders. Any Law stating that diseased infectious immigrants will be segregated and dealt with according to Law, will be sufficient to prevent them from coming into the Province. Probably the idea of sterilising the immigrants was chiefly to frighten them.!!

I would also state that any State or Province cannot successfully work Leprosy Control Bills unless its adjoining States or Provinces co-operate, as these cases will move off from the 'declared' to a 'neutral' area. Therefore, such Bills should be on an All-India basis. It is presumed that the Government of India will soon take up this question of legislation in Leprosy and obtain the view points of the State and Provincial Governments as to its applicability.

J. J. JOSEPH, Provincial Leprosy Officer, Madras.

#### BOOK REVIEWS

*The Trematoda*, By Ben Dawes D. Sc. London, Cambridge University Press, 1946, Price 52s. 6d. net

The aim of the author is to bring into one single volume all available information about trematoda parasites. This book is bound to be very useful and valuable to the Indian Zoologist since we meet in this country various forms of trematodes. The way in which the subject is treated makes it useful not only to the research workers but also to the students and teachers. At the end of the book a list of literature concerning trematodes is given which appears to be very exhaustive. The set-up and printing is excellent. We heartily commend this publication to the attention of the zoologists in our country.

\* \* \* \*

*Chemo-therapy-Yesterday, Today and Tomorrow*: By Sir Alexander Fleming. Cambridge University Press, 1946, Price 2s. net.

Fleming's treatment of the subject is simple and straightforward. The book is a reproduction of his Linacre Lecture, 1946. We agree with him when he says that the current definition of chemotherapy is too narrow in that it is limited to cover those methods in which the chemical is administered in such a way that it gets into the blood and attacks the infecting microbes through the circulation in concentration sufficient to destroy them or modify their growth. He would like the definition of chemotherapy to cover any treatment in which a chemical is administered in a manner directly injurious to the microbes infecting the body and he thus brings local antiseptic treatment under chemotherapy.

The failure of antiseptics is due to two reasons: (1) They poison the tissues more than the bacteria. (2) They are unable to penetrate the infected wound walls. The failure of internal chemotherapy is due to the fact that the drug rarely reached the circulation in concentration inimical to the infecting organism. He thus records the reason for the failure of Mercury, Formalin, Eusol, etc.

The author then reviews the progress of Sulphamide and Penicillin therapy and how the latter came to be discovered in England. Penicillin, he says, has made medicine and surgery easier in many directions and in the near future its merits will be proved in Veterinary Medicine and possibly in Horticulture.

In the end he pleads for the establishment of a microbiological institute in England. "Had we had a micro-biological institute such as I have envisaged, penicillin could have developed here years ago, and this one substance could well have paid the cost of the institute over a long period of years."

We heartily recommend this book to the general practitioners. By going through it they will find described briefly what is chemotherapy and what is its future in medicine and surgery.

\* \* \* \*

*The Overseas Post-graduate Journal*: Price 7/6. Quarterly. Published by the Fellowship of Post-graduate Medicine, 1, Wimpole Street, London W. 1.

We heartily welcome this new quarterly intended for the benefit of the overseas post-graduate students. The nature of the publication is such that it is bound also to benefit all those who are dealing with medicine and surgery, the general practitioner, the specialist and the teacher. The object of the Journal is to give an epitome of medical knowledge and teaching on all matters of practical importance in the daily work of practitioners. And what is more welcome is that the general tone will always be clinical rather than academical and the presentation practical rather than theoretical, and illustrated profusely.

We have been a regular reader of the home edition of the monthly *Post-Graduate Medical Journal* for the last 15 years, and we may say with out any exaggeration that every one of the articles published in it was highly useful to our daily practice. There is no doubt in our mind that the Overseas Post-Graduate Medical Journal would faithfully endeavour to fulfil the high objectives outlined in its maiden editorial.

We are frequently receiving letters from our readers asking us to recommend them a good and useful foreign medical journal. To them we heartily recommend the Overseas Post-Graduate Medical Journal which would satisfy their thirst for knowledge and help them with practical hints at diagnosis and treatment.

\* \* \* \*

*Eye-troubles in Old Age*: By Dr. R. S. Agarwal, 15, Daryaganj, Delhi. Price Rs. 5.

Dr. Agarwal is well known to our readers as he has recently contributed a series of articles in the *Journal* on the Art of Seeing. He has evolved a system of practical treatment based on modern ophthalmology as well as the methods of Dr. Bates whose relaxation treatment, the author says, is unavoidable and indispensable in all cases even if it is necessary to perform operation or to prescribe glasses or medicine.

This is a thought-provoking book and we warmly recommend it to our readers, particularly to the eye specialists.

#### NEWS AND NOTES

##### Provincial Health Ministers' Conference October, 1946

*Inaugural Address by Pandit Nehru*: Health is basic problem which forms the foundation of a nation's edifice, and if the foundation is weak, the building is likely to collapse. This was stressed by Pandit Jawaharlal Nehru, Vice-President of the Interim Government inaugurating the Health Ministers' Conference.

Pandit Nehru said that various questions faced the country, some of which were controversial. But others were basic problems, health being one of them. The political and other matters might brook some delay, but problems like health which, if not given



proper attention to in time, could not be rectified. Hitherto not much attention has been paid by the State to problems like health and education. Lack of funds was the explanation.

He said: "If funds could be available for big wars, there was no reason why they should not be provided for to fight against health, which was like the enemy from within and weaken the nation. No doubt, it was a gigantic task, but it was one of those urgent questions which had got to be attended to if we were to avoid situations like the aftermath of the famine."

#### Preventive Measures

"So far attention had been paid more to the towns, whereas India lived in the villages. The producer of the country's wealth should be physically strong and expenditure on him should not be grudged. It is necessary to concentrate the preventive health measures rather than on huge buildings for hospitals," he said. Proceeding, Pandit Nehru said that there was no intention on the part of the Centre to compel the province to adopt a particular policy. They were free to chalk out their own measures, but in matters like health co-operation of the provinces and the Centre was essential.

In fact it was, he observed, really a matter of international co-operation; for, with modern transport, there was always a danger of disease spreading from one part of the world to another. Inside the country itself, if one part was in a bad state, it affected the other parts as well.

Pandit Nehru hoped that the mutual discussions which the Health Ministers were going to have on health problems would prove beneficial to the country.

*Sir Shafaat Ahmed Khan's Address:* Sir Shafaat Ahmed Khan addressed the Conference paying his due considerations to most of the points dealt with by the Health Survey, and Development Committee.

The Central Government, he said, proposed to implement the Bhoré Committee's recommendations by setting up a committee to advise the Government regarding the establishment of All-India Institute for training and research, providing facilities in Calcutta for licentiates from all parts of India to take their M.B.B.S. degrees and sending selected students abroad for training.

A nursing college has, he said, been opened which will provide a course for a university degree in nursing. The Malaria Institute of India will be expanded. Legislation for pharmacy, dental and nursing professions will be undertaken.

#### Health Information

He announced that the Government proposed to develop health advice and information services.

A bureau was being set up to collect information regarding the equipment of medical institutions and the question of collecting population and vital statistics was engaging the Government attention, he said.

The survey of health conditions in the country by the Bhoré Committee shows, observed the Health Member, "how serious the position is and how rudimentary and inadequate our services are, and health, like education, must become a function of the State. The State must create the conditions for

healthy living and provide as complete a health service as possible."

The Committee had rightly laid emphasis, he added, on the influence of conditions of living and environment on the health of the individual and the community. Thus the responsibilities of those concerned with the health of the people extended far beyond the hospitals, and "it is necessary that we should take an interest in all those Government or social activities which promote health or might be used to promote it."

#### Environmental Hygiene

Referring to the need for improvement of environmental hygiene and preventive measures stressed by the Committee, Sir Shafaat said. "Even in some of the largest towns the sanitary organisation is notoriously inefficient, while in the rural areas there has been in most provinces no systematic attempt to improve sanitary conditions. There is the question of priorities and planning means priorities. I think all will agree that an active programme for water supply and sanitation in our towns and villages is one of the most urgent of our needs."

In regard to preventive medicine's he said that science had placed within the people's reach powerful insecticides and drugs to fight diseases like malaria, the direct or indirect cause of tremendous mortality, and that the means for effective application of the knowledge made available had to be found.

A committee of experts had been set up to recommend what measures should be taken to avoid creating conditions favourable to the spread of malaria and its report was awaited.

He emphasised the need for more vigorous measures to check epidemics in the early stages and to provide treatment for those who had the misfortune to be attacked.

Regarding the provision of health services in rural areas, the Health Member agreed with the Bhoré Committee that it was only the outermost fringe of such public services and amenities as the country enjoyed that occasionally came with the orbit of the cultivator's daily life, and said: "The time has come to bring these benefits of modern medical science within the reach of the cultivator."

#### Health Centre

He endorsed the Committee's proposal for the development of a district health organisation with a primary health centre for every 40,000 people, a 30-bed hospital for every 200,000 and a secondary centre with 200-bed hospital for each district.

The training of personnel was, in the Health Member's opinion, a matter which should be given special attention in the early years of development. Other matters which required consideration were nutrition, the question of school children's feeding which has given such good results in other countries, maternity and child welfare services, industrial health services and health insurance.

Expressing his views on the question of expenditure Sir Shafaat said: "I have no doubt that if we are serious in our desire to build up the people's health and do not pay mere lip service to an idea we must devote a large part of the resources to health."

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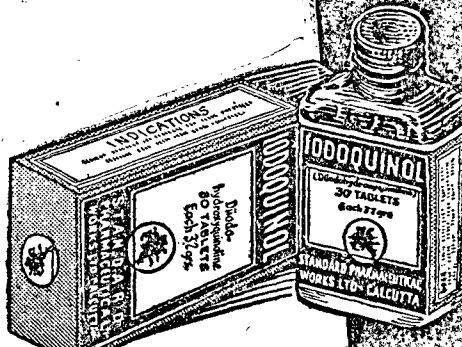
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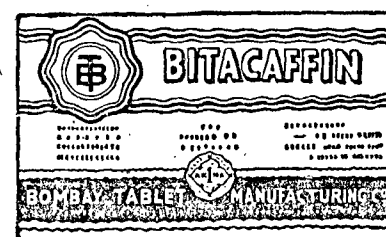
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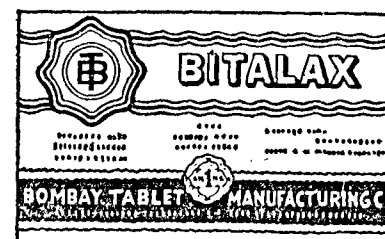
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NEWS & NOTES

17

### Resolutions

The Conference unanimously adopted the following resolution:—

The Conference endorses the objectives proposed by the Bhore Committee as objectives to be kept in view in formulating plans for a national health service.

"Among the objectives suggested by the Bhore Committee are that there should be adequate provision for the medical care of the individual in the curative and preventive fields, that special provision will be necessary for certain sections of the population, for instance, mothers, children, the mentally deficient and that no individual should fail to secure adequate medical care because of his inability to pay."

Health Ministers from seven provinces and a number of States attended the Conference.

The resolution on the abolition of the civil branch of the I.M.S. is as follows:—

"The conference for Health Ministers is of opinion that there should be no civil branch of the Indian Medical Service and requests that the Central Government may arrange to take back immediately the Indian Medical Service personnel in civil employ in the provinces, and post them on the military side to which they rightly belong."

The conference resolved that in accordance with the recommendations of the National Planning Committee, adequate provision should be made in the Centre and the provinces for research in and the application of the scientific method for the investigation of the indigenous systems like Ayurveda and Unani with reference to maintenance of health and prevention and cure of disease; for starting schools and colleges for training for diploma and degree courses in indigenous systems; and for post-graduate courses in Indian medicine for graduates in western medicine.

The conference further resolved to absorb the practitioners of Ayurvedic and Unani systems of medicine into the state health organisation by giving them further scientific training wherever necessary as health personnel, like doctors, physical training experts (ustads), sanitary staff, masseurs, nurses, midwives etc.

### Seven Resolutions Adopted

In all seven resolutions were adopted at last session dealing with various health matters. The conference accepted the principle of amalgamation of medical and public health departments and considered that the amalgamation should take place when a suitable opportunity occurred. The Ministers from Madras and Bombay dissented from this view, while the Minister from Madras considered that co-ordination between the two departments was preferable to amalgamation. The conference urged that a vigorous drive against malaria should receive priority in development programmes and that subject to adaptation to suit local conditions, anti-malaria organisation should follow the general framework of the organisation proposed by the Bhore Committee. Subject to review from time to time, it was agreed that quinine production should be continued and developed upto about 200,000 lbs a year.

It was agreed that boards of health and councils of experts should be constituted both at the Centre

and in the provinces. It was also resolved that an active programme for the improvement of water supply and sanitation in both urban and rural areas should be undertaken.

### Sir Shafaat's Address

Winding up the proceedings, Sir Shafaat Ahmed Khan, Health Member, assured the provincial Health Ministers that the Central Government would help them by giving substantial grants and enable them in every possible way to put their health plans into operation.

He emphasised that both the curative and preventive aspects of the health problem should receive proper attention and poor, as the rich, should have access to all medical facilities.

Following is the result of recent elections of the Provincial office bearers of the A.I.M.L.A. for the year 1946-47.

### Central Province and Berar:

|                               |     |                     |
|-------------------------------|-----|---------------------|
| President                     | ... | Dr. G. K. Kulkarni. |
| Vice-President                | ... | " G. V. Dawoo.      |
| Provincial Secretary          | ... | " D. B. Bhate.      |
| Joint Provincial Secretary... | ... | " N. B. Tembhekar.  |

### Madras:

|                            |     |                          |
|----------------------------|-----|--------------------------|
| President                  | ... | Dr. Y. Suryanarayan Rao. |
| Vice-President             | ... | " N. Suryanarayan Rao.   |
| Provincial Secretary       | ... | " D. V. Venkappa.        |
| Joint Provincial Secretary | ... | " D. Pichai Robert.      |

Dr. D. B. Bhate, thanks the electorate for having elected him as the Provincial Secretary, Central Province and Berar and urges on the Branches and Members of the Province to take active interest in the work of the Association. "There are a few" he writes "who complain that our Association has done very little for the licentiates. The reply to such objections is plain. If the Association cannot do much it is due to our own weakness. We do not support or co-operate with it. It is therefore our duty to join it and direct its activities to the best advantage of us all."

Dr. Gajanand Sahu has been elected as a member of the Medical Council, Central Province and Berar. He is an Assistant Health Officer and Member of the A.I.M.L.A.

The Government of Central Province has changed the designation of "Sub-Assistant Health Officer" to "Assistant Health Officer"—Vide P. H. Department Order No. 202-130-XV dated 12th January 1946.

Dr. V. Ramakamath, L.M.P., has been unanimously elected as the President of the Madras Medical Council.

Capt. P. B. Mukarjee has been elected as the President of the Indian Medical Association for the year 1947.

The members of the Central Province and Berar Provincial Branch Chhindwara of the A.I.M.L. Association are deeply mourned at the sad, and premature death of Dr. C. M. Jamdar, L.M.P., L.T.M., Pathologist, Amraoti. They fully and heartily sympathise with the bereaved family at this irreparable loss, and pray the Almighty to let his soul rest in peace.

The Government of Madras approves of the proposal of the Surgeon-General that two thirds of the total number of posts of Honorary Assistant Medical Officers sanctioned for the Government Royapettah Hospital, Madras may, as far as possible be allotted to Licentiates provided that suitable candidates and those who have undergone special training become available for the special departments such as Ophthalmic, Ear, Nose and Throat, etc., departments.

**University of Madras, Council of Post Graduate Medical Education:**—A course of Post-graduate lectures in (a) Medicine (b) Surgery (c) Obstetric and Gynaecology (d) Ophthalmology and (e) Oto-laryngology will be held from January to March. Each of these subjects will comprise 20 lectures, more particularly intended for those preparing for the Higher Degrees and Diplomas in Medicine.

A short Refresher Course in Modern Methods of treatment and diagnosis in (a) Medicine, (b) Surgery, (c) Obstetrics and Gynaecology and (d) Venereal diseases will also be held during

January to March 1947. The course in each subject will extend over a period of 2 weeks, except in Venereal Diseases which will extend over a period of one week, and will be held in the City Hospitals.

The Post-graduate and refresher courses are open to Registered Medical Practitioners of the allopathic system. Particulars regarding the courses can be had from the Secretary to the Council of Post-graduate Medical Education, University Buildings, Chepauk, Madras.

## RESOLUTIONS OF THE 34th POONA CONFERENCE

### Resolution No. 27 of the 34th Poona Conference of the All-India Medical Licentiates' Association

#### REVISED BUDGET OF INCOME AND EXPENDITURE FOR THE YEAR 1945-46

| Particulars.        | Actual<br>1944-45.                     | Budgeted<br>1945-46.                   | Actual<br>1945-46.                     | Particulars.             | Actual<br>1944-45.     | Budgeted<br>1945-46.   | Actual<br>1945-46.     |
|---------------------|----------------------------------------|----------------------------------------|----------------------------------------|--------------------------|------------------------|------------------------|------------------------|
| Opening Balance ... | £ 157 17 10<br>Rs. A. P.<br>81,251 9 7 | £ 157 17 10<br>Rs. A. P.<br>93,269 7 7 | £ 157 17 10<br>Rs. A. P.<br>93,269 7 7 | Establishment ...        | Rs. A. P.<br>7,062 0 0 | Rs. A. P.<br>8,904 0 0 | Rs. A. P.<br>9,071 5 0 |
| Subscription ...    | 20,016 14 0                            | 20,000 0 0                             | 18,898 9 0                             | Postage ...              | 2,652 14 0             | 3,600 0 0              | 3,331 7 0              |
| Advertisement ...   | 27,198 2 5                             | 28,000 0 0                             | 39,898 15 7                            | Stationery ...           | 380 0 0                | 435 0 0                | 354 4 2                |
| Interest ...        | 1,075 9 0                              | 1,200 0 0                              | 955 4 0                                | Rent ...                 | 1,120 0 0              | 1,440 0 0              | 1,440 0 0              |
| Miscellaneous ...   | 115 0 0                                | 100 0 0                                | 10 5 0                                 | Miscellaneous ...        | 1,626 9 2              | 2,191 0 0              | 2,179 9 10             |
|                     |                                        |                                        |                                        | Travelling Allowance ... | 8,600 0 0              | 8,000 0 0              | 4,020 11 0             |
|                     |                                        |                                        |                                        | Furniture ...            | 146 0 0                | 300 0 0                | 158 8 0                |
|                     |                                        |                                        |                                        | Printing I. M. J. ...    | 9,381 15 1             | 12,000 0 0             | 12,151 5 7             |
|                     |                                        |                                        |                                        | Audit Fees ...           | 170 0 0                | 420 0 0                | 240 0 0                |
|                     |                                        |                                        |                                        | Other Printing ...       | 1,289 7 10             | 900 0 0                | 1,287 11 11            |
|                     |                                        |                                        |                                        | Propaganda ...           | 175 13 0               | 2,200 0 0              | 674 11 9               |
|                     |                                        |                                        |                                        | Other Contingencies ...  | 55 0 0                 | 200 0 0                | ...                    |
|                     |                                        |                                        |                                        | Branches ...             | 2,497 13 9             | 6,090 0 0              | 2,793 8 6              |
|                     |                                        |                                        |                                        | S. R. Committee ...      | 128 15 0               | 600 0 0                | ...                    |
|                     |                                        |                                        |                                        | Omera Gold Medal ...     | ...                    | 80 0 0                 | ...                    |
| Total ...           | 48,405 9 5                             | 49,300 0 0                             | 59,763 1 7                             | Total ...                | 35,286 7 10            | 47,360 0 0             | 37,703 2 9             |
| Grand Total ...     | 1,29,657 3 0<br>£ 157 17 10            | 1,42,569 7 7<br>£ 157 17 10            | 1,53,032 9 2<br>£ 157 17 10            |                          |                        |                        |                        |

#### Profit and Loss Account for the year 1945-46

|                      |            |
|----------------------|------------|
| Net Income ...       | 59,886 1 7 |
| Less Expenditure ... | 40,610 0 5 |
| Net Surplus ...      | 19,276 1 2 |

#### BUDGET OF EXPENDITURE FOR THE YEAR 1946-47.

| Particulars.                        | Actual<br>1943-44. | Actual<br>1944-45. | Actual<br>1945-46. | Total<br>for three years. | Average.    | Budgeted<br>for the year<br>1946-47. |
|-------------------------------------|--------------------|--------------------|--------------------|---------------------------|-------------|--------------------------------------|
| Establishment ...                   | 5,939 9 0          | 7,062 0 0          | 9,071 5 0          | 22,072 14 0               | 7,357 10 0  | 16,824 0 0                           |
| Postage ...                         | 2,903 12 9         | 2,652 14 0         | 3,331 7 0          | 8,883 1 9                 | 2,962 11 3  | 4,020 0 0                            |
| Stationery ...                      | 289 13 8           | 380 0 11           | 354 4 2            | 1,024 2 9                 | 341 6 3     | 486 0 0                              |
| Rent ...                            | 909 0 0            | 1,120 0 0          | 1,440 0 0          | 3,469 0 0                 | 1,156 5 4   | 1,920 0 0                            |
| Miscellaneous ...                   | 1,452 14 1         | 1,626 2 4          | 2,179 9 10         | 5,259 1 3                 | 1,753 0 5   | 2,230 0 0                            |
| Travelling Allowance ...            | 2,140 13 0         | 8,600 10 0         | 4,020 11 0         | 14,762 2 0                | 4,920 11 4  | 10,000 0 0                           |
| Furniture ...                       | 132 0 0            | 146 0 0            | 158 8 0            | 436 8 0                   | 145 8 0     | 300 0 0                              |
| Printing Indian Medical Journal ... | 11,433 5 8         | 9,381 15 1         | 12,157 5 7         | 32,972 10 4               | 10,988 14 1 | 14,000 0 0                           |
| Audit Fee ...                       | ...                | 170 0 0            | 240 0 0            | 410 0 0                   | 136 10 8    | 540 0 0                              |
| Other Printing ...                  | 343 5 6            | 1,289 7 10         | 1,287 11 0         | 2,920 8 4                 | 973 8 1     | 1,400 0 0                            |
| Propaganda ...                      | 213 4 0            | 175 13 0           | 674 11 9           | 1,063 12 9                | 354 9 7     | 5,000 0 0                            |
| Other Contingencies ...             | 40 9 10            | 55 0 0             | ...                | 95 9 10                   | 31 13 11    | 500 0 0                              |
| Branches ...                        | 1,915 8 9          | 2,497 13 9         | 2,793 8 6          | 7,206 15 0                | 2,402 5 0   | 5,800 0 0                            |
| S. R. Committee ...                 | Nil.               | 128 15 0           | ...                | 128 15 0                  | 42 15 8     | 1,200 0 0                            |
| Omera Gold Medal ...                | Nil.               | Nil.               | Nil.               | Nil.                      | Nil.        | 80 0 0                               |
| Electric Charges ...                | Nil.               | Nil.               | Nil.               | Nil.                      | Nil.        | 72 0 0                               |
| Telephone Charges ...               | Nil.               | Nil.               | Nil.               | Nil.                      | Nil.        | 300 0 0                              |
| Fan ...                             | Nil.               | Nil.               | Nil.               | Nil.                      | Nil.        | 300 0 0                              |
| Typewriter ...                      | Nil.               | Nil.               | Nil.               | Nil.                      | Nil.        | 98 0 0                               |
| Total ...                           | 27,714 0 3         | 35,287 2 11        | 37,709 1 10        | 1,00,710 5 0              | 33,568 1 7  | 65,952 0 0                           |

#### BUDGET OF INCOME FOR THE YEAR 1946-47.

| Heads.              | Actual<br>1943-44.                       | Actual<br>1944-45.                       | Actual<br>1945-46.                       | Total of<br>3 years.                       | Average.                                   | Budgeted.<br>1946-47.                      |
|---------------------|------------------------------------------|------------------------------------------|------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|
| Opening Balance ... | £ 157 17 10d.<br>Rs. A. P.<br>70,872 9 6 | £ 157 17 10d.<br>Rs. A. P.<br>81,251 9 7 | £ 157 17 10d.<br>Rs. A. P.<br>93,269 9 7 | £ 473 13 6d.<br>Rs. A. P.<br>2,45,393 12 8 | £ 157 17 10d.<br>Rs. A. P.<br>81,797 14 10 | £ 157 17 10d.<br>Rs. A. P.<br>1,12,545 8 9 |
| Subscription ...    | 17,888 10 6                              | 20,016 14 0                              | 18,898 9 0                               | 56,804 1 6                                 | 18,934 11 2                                | 22,000 0 0                                 |
| Advertisement ...   | 19,858 5 7                               | 27,198 2 5                               | 38,898 5 7                               | 86,955 7 7                                 | 28,985 2 6                                 | 45,000 0 0                                 |
| Interest ...        | 1,080 5 6                                | 1,075 9 0                                | 955 4 0                                  | 3,111 2 6                                  | 1,037 0 10                                 | 1,000 0 0                                  |
| Miscellaneous ...   | 3 6 0                                    | 115 0 0                                  | 10 5 0                                   | 123 11 0                                   | 42 14 4                                    | 100 0 0                                    |
| Total ...           | 1,09,703 5 1                             | 1,29,657 3 0                             | 1,52,032 1 2                             | 3,92,388 3 3                               | 1,30,797 11 8                              | 1,80,645 8 9                               |
|                     | £ 157 17 10d.                            | £ 157 17 10d.                            | £ 157 17 10d.                            | £ 473 13 6d.                               | £ 157 17 10d.                              | £ 157 17 10d.                              |

#### BUDGET ALLOTMENT FOR DIFFERENT OFFICES FOR THE YEAR 1946-47.

| Particulars.             | General<br>Secretary.  | Managing<br>Editor.    | Honorary<br>Treasurer. | Finance<br>Secretary. | President.             | Total                   |
|--------------------------|------------------------|------------------------|------------------------|-----------------------|------------------------|-------------------------|
| Establishment ...        | Rs. A. P.<br>3,900 0 0 | Rs. A. P.<br>7,500 0 0 | Rs. A. P.<br>3,000 0 0 | Rs. A. P.<br>864 0 0  | Rs. A. P.<br>1,560 0 0 | Rs. A. P.<br>16,824 0 0 |
| Postage ...              | 500 0 0                | 1,500 0 0              | 1,920 0 0              | 50 0 0                | 50 0 0                 | 4,020 0 0               |
| Rent ...                 | 600 0 0                | 720 0 0                | 240 0 0                | 120 0 0               | 240 0 0                | 1,920 0 0               |
| Stationery ...           | 200 0 0                | 100 0 0                | 150 0 0                | 16 0 0                | 20 0 0                 | 486 0 0                 |
| Miscellaneous ...        | 0 0 0                  | 1,460 0 0              | 400 0 0                | 150 0 0               | 100 0 0                | 2,230 0 0               |
| Travelling Allowance ... | ...                    | ...                    | 10,000 0 0             | ...                   | ...                    | 10,000 0 0              |
| Furniture ...            | 200 0 0                | ...                    | 100 0 0                | ...                   | ...                    | 300 0 0                 |
| Printing I. M. J. ...    | ...                    | 14,000 0 0             | ...                    | ...                   | ...                    | 14,000 0 0              |
| Audit Fee ...            | ...                    | 240 0 0                | 300 0 0                | ...                   | ...                    | 540 0 0                 |
| Other Printing ...       | 500 0 0                | 500 0 0                | 400 0 0                | ...                   | ...                    | 1,400 0 0               |
| Omera Gold Medal ...     | ...                    | ...                    | 80 0 0                 | ...                   | ...                    | 80 0 0                  |
| Electric Charges ...     | 72 0 0                 | ...                    | ...                    | ...                   | ...                    | 72 0 0                  |
| Telephone ...            | 100 0 0                | 200 0 0                | ...                    | ...                   | ...                    | 300 0 0                 |
| Typewriter ...           | 680 0 0                | ...                    | ...                    | ...                   | 300 0 0                | 980 0 0                 |
| Fan ...                  | 300 0 0                | ...                    | ...                    | ...                   | ...                    | 300 0 0                 |
| Total ...                | 7,172 0 0              | 26,220 0 0             | 16,590 0 0             | 1,200 0 0             | 2,270 0 0              | 53,452 0 0              |

|                         |            |           |                 |            |
|-------------------------|------------|-----------|-----------------|------------|
| Propaganda ...          | ...        | 5,000 0 0 | Grand Total ... | 65,952 0 0 |
| Other Contingencies ... | ...        | 500 0 0   |                 |            |
| Branches ...            | ...        | 5,800 0 0 |                 |            |
| S. R. Committee ...     | ...        | 1,200 0 0 |                 |            |
| Total ...               | 12,500 0 0 |           |                 |            |

#### DETAILS OF BRANCH EXPENSES.

| District Branches.      | Establishment. | Postage.     | Miscellaneous. | Stationery. | Total.       |
|-------------------------|----------------|--------------|----------------|-------------|--------------|
| Provincial Branches ... | Rs.<br>2,700   | Rs.<br>1,000 | Rs.<br>150     | Rs.<br>150  | Rs.<br>4,000 |
| District Branches ...   | 600            | 800          | 200            | 200         | 1,800        |
| Total ...               | 3,300          | 1,800        | 350            | 350         | 5,800        |

#### Resolution No. 27 (a) of the 34th Poona Conference of the A. I. M. L. A.

The following were elected as office-bearers and members of the Standing Committee of the Association.

##### President:

R. S. Dr. Monoharlal Kapur, 153, B, Block, Model Town, Lahore

##### Vice-President:

Dr. M. D. Pustake, Jyaji Bazaar, Lashkar, Gwalior, C. I.

##### General Secretary:

Dr. V. D. Sathaye, 502, Narayanpeth, Poona City.

##### Jt. General Secretary:

R. S. Dr. Hardeo Singh Verma, M. O., Civil Hospital, Mawana (Meerut).

##### Treasurer:

Dr. Khan Chand Wohra, Post Chichawatni, Dt. Montgomery, Punjab.

##### Managing Editor:

Dr. A. Viswanathan, 32, Sullivan's Garden St., Mylapore, Madras, 4.

##### Finance Secretary:

Dr. G. K. Kulkarni, Congress Nagar, Nagpur, C. P.

Secretary, Scientific Research Committee:

Dr. A. N. Roy, 27, Dixon Lane, Calcutta.



## STANDING COMMITTEE

## Office Bearers.

## President:

R. S. Dr. Manoharlal Kapur, 153, B. Block, Model Town, Lahore

## Vice-President:

Dr. M. D. Pustake, Jyaji Bazaar, Lashkar, Gwalior C. I.

## General Secretary:

Dr. V. D. Sathaye, 502, Narayanpeth, Poona City.

## Jt. General Secretary:

R. S. Dr. Hardeo Singh Verma, M. O., Civil Hospital, Mawana (Meerut).

## Treasurer:

Dr. Khan Chand Wohra, Chichawatni Post, Dt. Montgomery, Punjab.

## Managing Editor:

Dr. A. Viswanathan, 32, Sullivan's Garden St., Mylapore, Madras, 4.

## Finance Secretary:

Dr. G. K. Kulkarni, Congress Nagar, Nagpur, C. P.

## Ex-Presidents.

Dr. U. B. Narayan Rao, Damodar Mansions, Girgaum, Bombay.  
Dr. A. D. Mukherji, 27 C, Upper Circular Road, Calcutta.  
R. B. Dr. Hari Ram, 1684, Nicholson Road Delhi.  
Dr. Joseph Benjamin, Dehelgarwada, Ahmedabad.  
R. S. Dr. Ram Narain Lal, Ram Nivas, Mussorie Post, U. P.  
Dr. U. Rama Rao, 323, Thambu Chetty St., Madras, 1.  
Dr. D. V. Venkappa, Dayal Bagh, 3, Deenadayalu St., T. Nagar, Madras.

## Provincial Secretaries.

Dr. S. P. Nath, Police Hospital, Post Silchar, Dt. Cachar, (ASSAM).  
Dr. B. Chaudhury, Chowdhury Pharmacy, Mymensingh, (BENGAL).  
Dr. N. C. Banerjee, M. O., Manpur Dispy., Manpur, Dt. Manbhum, (BIHAR).  
Dr. B. Sahaya, Post Bharathna, Dt. Etawah, (UNITED PROVINCES).  
Dr. V. G. Paranjape, 20, Sukravarpeth, Poona, 2 (BOMBAY).  
Dr. D. V. Venkappa, Dayalbagh, 3, Deenadayalu St., T. Nagar, (MADRAS).  
Dr. D. B. Bhate, Chhindwara, (CENTRAL PROVINCES).  
Dr. R. A. Bhagwat, Murai Mohalla, Sanyatigunj, Indore, (CENTRAL INDIA).  
Dr. S. A. Bukhary, Asst. Surgeon, Wellington Hospital, New Delhi, (PUNJAB).

## Members.

**Assam:—** Dr. L. K. Baruah, Madhab Dewa Medical Hall, Nowgong, Assam.  
Dr. K. Purkayastha, Alagapur Dispensary, Kalibari Bazaar, Assam.  
**Bengal:—** Dr. A. C. Sen Gupta, Radiologist, Railway Hospital, Post Lalmonirhat.  
Dr. N. Bhattacharyya.  
**Bihar:—** Dr. B. N. Sinha, Medical Officer, Bakhari Leper Clinic, Post Pathahi, Dt. Champaran, Bihar.  
Dr. A. R. Kundu, Post Chaibasa, Dt. Singhbhum.  
**United Provinces:—** Dr. B. B. Lal Dixit, V. C. Hospital, Chanousi Post, Dt. Moradabad, U. P.  
Dr. Y. B. Mate.  
**Bombay:—** Dr. B. G. Modak, Saraswathi Maternity Home, 1286, Jungli Maharaj Road, Shivaji Nagar, Poona 5.  
Dr. A. D. Mastakar, 262, Girgaon Road, Bombay, 4.  
**Madras:—** Dr. P. B. Anangarachari, Municipal Councillor, Mohd. Usman Road, T. Nagar, Madras.  
Dr. C. Nathamuni Naidu, M. O., L. F. Hospital, Post Ambur, N. Arcot Dt.  
**C. P. and Berar:—** Dr. P. H. Sant, Medical Practitioner, Bilaspur C. P.  
Dr. N. B. Tembhekar, D. T. M. Barkui Hospital, Pench Valley Coal Co. Ltd., Parasia, C. P.

C. I. & Rajputana:— Dr. S. N. Kalkar, 55, Ada Bazaar, Indore City.

Punjab:— Dr. N. P. Singhal, Lashkar, Gwalior, C. I.  
Dr. Lokanath, Physician and Surgeon, Chichawatni, Dt. Montgomery.  
Dr. S. M. Yashin.

## PUBLICITY COMMITTEE

Dr. M. L. Kapur, (President).  
Dr. V. D. Sathaye, (General Secretary).  
Dr. V. G. Gokhale.  
Dr. H. K. Chaudhury.  
Dr. S. P. Nath.  
Dr. S. A. Bokhary.  
Dr. Khandekar.

## SCIENTIFIC COMMITTEE

Dr. Rajaram, (Chairman).  
Dr. A. N. Roy, (Hony. Secretary).  
Dr. B. M. Pal.  
Dr. S. M. Yasin.  
Dr. K. B. Joyia.  
Dr. P. H. Sant.  
Dr. R. Nag.  
Lt. N. B. Moghe.

## PROPERTY COMMITTEE

Dr. M. L. Kapur, (President).  
Dr. V. D. Sathaye, (General Secretary).  
Dr. K. C. Wohra, (Treasurer).  
Dr. G. K. Kulkarni, (Finance Secretary).  
Dr. B. B. Lal Dikshit.

The following resolution was also unanimously passed in the 34th Poona Conference of the A.I.M.L.A.

"Unanimously resolved that the Treasurer, A.I.M.L.A. be authorised to deduct Rs. 5/- as delegation fee from the Travelling Allowance of all delegates, who attended the Conference excepting members of the Reception Committee and pay the amount to be so deducted immediately to the Secretary, Reception Committee of the 34th Conference of the All-India Medical Licentiates Association".

## ASSOCIATION NOTES

Central Province and Berar:—Resolutions passed in the 2nd District Conference held at Badkui-Parasia on the 25th and 26th May 1946.

1. It is resolved that the status and pay of the Licentiate I.A.M.C., officers after their release from the army should be raised to that of the Provincial Gazetted Medical Officers Grade.
2. It is resolved that the licentiate I.A.M.C., officer who holds a lien in Central Province Government service after his release from the army service should be allowed to retire with pension in proportion to his service, if he voluntarily elects to do so.
3. It is resolved that the pay of the licentiates in railway service should also be in accordance with the scale proposed by the A.M.O.'s Conference, i.e., from Rs. 150/- to Rs. 450.
4. It is resolved that those licentiates who hold the D.P.H. and Hy. qualification should be directly recruited to the post of the district health officer and that there should be no discriminations.
5. It is resolved that the licentiates who have worked for at least five years as assistant health officer or health officer in any of the Municipal Committee, may be eligible for the direct appointment as District health officer.
6. It is resolved that a health Board of mines be established for coal and manganese and other mines in Central Province and Berar to direct and supervise the health welfare problems in mines. Such a Board to be constituted by election from among the Medical and the Educational staff in their respective areas.
7. It is resolved that the Authorities concerned should be requested to give the following facilities to the licentiates employed in the mining services.
  - (i) That the initial pay of the licentiates employed in the mining service should be Rs. 150 with a scale as below:—  
Rs. 150-10-200-15-300-20-450.
  - (ii) Seniority of the individual, experience and service should be considered at the time of fixing the initial pay.

(iii) Licentiates should be given privilege leave of one month after completion of 11 months' service, and the leave may be allowed to accumulate upto 90 days at the choice of the doctor. The licentiate should have a casual leave for 20 days in a year.

(iv) There should be regular scheme for Provident Fund or Pension.

(v) In view of the fact that it is very essential particularly in the medical line to keep the knowledge and efficiency up-to-date a study leave should be given to every Doctor, upto six months ordinarily after the completion of 10 years' service.

(vi) Every dispensary must always have a standard magazine subscribed as a part of the equipment.

(vii) Stability of service must be guaranteed to every doctor. There should be three months' notice on either side for the termination of the services.

(viii) There should be no interference in the management of the hospital and other administrative affairs by the non-medical personnel.

(ix) Every dispensary should be properly equipped with wards for emergency purposes, cases and epidemics with sufficient staff for medical and sanitation works. This staff should be solely under the doctor in charge of the dispensary.

(x) Every Medical man—"the Doctor"—should be given all the other facilities of servants, furnished houses, water, fuel, lighting and bonus etc., as are given to other superior staff.

Bilaspur (C. P.):—The meeting of the above branch was held at Dr. B. P. Moorsarkar's place on 28-4-46 at 5 p.m., 10 Doctors were present.

Circular No. 11 from General Secretary together with that of the Provincial Secretary were read and put for discussion.

It was resolved that the provincial president be authorised to press on the Government and other employing services for the immediate abolition of the subordinate class of service A.M.O., A.H.O., S.A.S., and establish a uniform class of medical service with a rate of pay 150—450 per mensem.

It was resolved that the provincial branches also should arrange directly with licentiates newly passed and those discharged from military service and private practitioners not to accept any employment at any rate less than Rs. 150—450 p.m., and in any grade except provincial grade.

The provincial president is further requested to request the mother Association to exert itself to persuade other provinces for an All-India Strike simultaneously on similar lines as early as possible.

The members of the district branch Bilaspur are prepared to go in for any step resolved by the provincial president in this connection.

It is hereby further resolved that there should be rotation of licentiates (private practitioners and those in service) as examiners in physiology and hygiene at the High School certificate examinations and the provincial secretary should move in this matter.

Regarding the thesis, it is further resolved that the matter received should be sent to Dr. G. Sahu, Nagpur, for scrutiny and report.

Chhindwara (C. P.):—Proceedings of the meeting of the district branch Chhindwara held on 21st June 1946. 6 members were present. The following resolutions were passed.

1. Dr. B. L. Shrivastav, Dr. B. G. Kathale, Dr. Rameshwar Prasad Verma and Dr. G. K. Kaley have been enrolled as members of the Association.
2. Dr. G. J. Kaley is proposed for the presidentship of the branch by Dr. Kathale and seconded by Dr. Rameshwar Prasad Verma (Dr. Sahu who was the president of this branch has been transferred to Amraoti) was elected unanimously.
3. Dr. B. G. Kathale has been elected as member of the Provincial Standing Committee from this branch in place of Dr. Sahu who has been transferred.
4. A letter of congratulation should be sent to Dr. P. H. Sant for the honour of Rao Saheb bestowed on him on the occasion of King's Birth-day.
5. This branch nominates R. S. Dr. M. L. Kapur, the present all India President and Dr. A. D. Mukherjee of Calcutta, for the presidentship of the 34th Annual Conference to be held at Poona.

Chhindwara Branch:—Meeting held on 14th July 1946, to consider letter No. 15 from the General Secretary, A.I.M.L.A., 7 members were present.

D

1. Report of the Bhoze Sub-Committee appointed by resolution No. 10 of the Standing Committee of the A.I.M.L.A., held at Delhi on 4th and 5th March, 1946, and the sub-committee met from 12th to 15th June 1946 at Calcutta was read and approved.

2. Memorandum by the A.I.M.L.A., vide letter 2150—2550 dated 28th June 1946, from R.S. Dr. M. L. Kapur, President, A.I.M.L.A., to the Hon'ble Minister of Medical and Public Health Services were read and approved.

3. Proceedings of the Ex-I.A.M.C., Officers' Conference held under the auspices of the A.I.M.L.A., at Calcutta on 15th and 16th June 1946, were read and all the members of this branch strongly endorsed the resolutions passed in the aforesaid proceedings.

4. This meeting fully agrees with the view expressed by some of the members of the branches of the A.I.M.L.A. Association that no further time be wasted in negotiating with the Government as regards amelioration and improvement in the conditions of pay and status of the licentiate medical practitioners and Ex-I.A.M.C. Officers in civil employment, and further suggests:—

1. That the Government in each province be given a time limit say for two months for the consideration as regards the pay and status of the Medical Licentiates. The date of the time limit of the ultimatum to be fixed by an urgent and immediate meeting of the provincial standing committee. The demand as already put by the A.I.M.L.A., is, that all the licentiate Medical Practitioners hitherto serving as Sub-Assistant Surgeons or Assistant Medical Officers be forthwith taken in the provincial Medical Service, as Gazetted Officers and the subordinate Medical service be abolished.

2. That all the licentiate medical practitioners be forthwith taken on the register maintained as per Schedule I of the I.M.C. Act.

3. That if by the end of the term of the ultimatum no satisfactory reply is received by the A.I.M.L.A., the following action be taken.

(a) All licentiate medical doctors should refuse to accept the miserly pay from the date of the expiry of the time limit given to the Government. They should "stick to their guns" and continue to serve the public as usual and thus observe the professional ethics and etiquette.

(b) If any licentiate doctor requires financial help after refusing to accept the pay in these hard-up-days he should apply to the nearest branch secretary of the A.I.M.L.A. The parent body of the A.I.M.L.A., should start raising funds for this purpose.

(c) A cut motion be brought in Provincial and Central Assemblies through M.L.As. in sympathy with the cause of the "Doctor of the poor people".

5. This branch elects Dr. R. P. Verma and Dr. G. J. Kaley as delegates for the 34th Annual Conference of the A.I.M.L.A., to be held at Poona in the coming October. In case any of the above members fail to attend, Dr. B. G. Kathale is elected to represent in his absence.

6. Resolved that the copies of the proceedings of this meeting to be sent to (1) Provincial Secretary, Chhindwara, (2) General Secretary, Calcutta (3) President, Delhi, (4) President, Provincial Branch of C. P. and Berar, (5) Editor, Indian Medical Journal for publication.

7. Resolved that the provincial secretary C. P. and Berar branch be requested to give wide publicity to these proceedings, and send copies to all the branch secretaries of the province for their opinion and suggestion.

At a special meeting of the A.I.M.L.A., District branch, Chhindwara held on Wednesday the 17th July at the residence of Dr. D. B. Bhate, L.M.P., it is resolved that:—

In the press note dated the 4th July 1946, which appears in Amrita Bazar Patrika, the Post and Telegraphs Department, while describing certain measures, taken to meet postal strike have given certain procedure and facilities to parcels containing medicines and sera. The press note, however adds that such parcels should be superscribed as such and should have a certificate to that effect from a medical officer not below the rank of an Assistant Surgeon.

This Association strongly protests against the discrimination that has unnecessarily been made between a graduate and a licentiate in petty matters like this, particularly when this Association has always represented that the medical qualifications of the licentiates are never inferior to those of the graduates.

This Association repeats the fact that the number of the licentiates in the profession is just the double of the graduates and hold responsible posts. This Association therefore requests the Government of India to remove the uncalled for distinction and substitute the word "Registered Medical Practitioners" for the word "a medical officer" not below the rank of an Assistant Surgeon in the said press note.

Copy of the resolution to be sent to the Provincial Secretary, Chhindwara, to the President, Delhi, to the General Secretary, Calcutta, and to the Editor, I.M.J., for publication and necessary action.

**Chhindwara Mining Area Branch: C. P.**—Meeting held on 16th June 1946 with Dr. Banerjee, the president in the chair. The following resolutions were passed.

(1) Accounts of the 2nd Chhindwara District and C. P. Mining Area Medical Conference were read and passed.

(2) Copies of the resolutions pertaining to the Mining Area should be sent to the Coal Committee and the various proprietors of the coal, manganese and other mines in C. P. and Berar.

(3) This meeting nominates Dr. A. D. Mukherji of Calcutta for the Presidency of the ensuing 34th Annual Conference of our Association to be held at Poona sometime in October.

(4) That Mining Area Medical Association be formed for C. P. and Berar and Central India of all the Licentiates working in Coal, manganese and other mines of C. P. and Berar and C.I. under the All-India Medical Licentiates' Association.

**Raipur (C. P.)**—Resolutions passed by A.I.M.L.A., Raipur Branch at S. I. Hospital meeting on 10-6-46 at 5-30 p.m.

(a) Proceedings of last meeting dated 14-5-46 were read and confirmed.

(b) Dr. K. C. Baghel, L.M.P., was congratulated on his election to Provincial Assembly for Raipur District.

(c) Capt. Ramadwar, is elected unanimously to represent I.A.M.C. Officers grievances at Calcutta.

(d) Adjourned subjects of last meeting 14-5-46:

(1) To wait on the Minister in charge of Public Health to formulate the policy of demobilised I.A.M.C. officers.

(2) To nominate a seat in Raipur Municipal Committee one senior member of medical profession to advise the committee regarding Public Health and Sanitation.

**Rewa:**—After a long negotiation, the provincial President and Honorary Secretary of the Rewa Branch of A.I.M.L.A., on receiving the permission from the State Authorities for the Licentiates of Rewa Medical Service to join the A.I.M.L.A., vide State Council order No. 547, dated 24-1-46, have called the meeting of the Branch Association on 13-4-46 and passed the following resolutions.

(1) Thanks to Rewa Authorities for their kind permission to open a branch Association of A.I.M.L.A., at Rewa permitting thereby all licentiates in State service to join it.

(2) Resolved the following office bearers of the Branch Association be elected for this year.

Dr. Rai Saheb Vindheshri Prasad *President*,  
Dr. K. D. Garb *Honorary Secretary*,  
Dr. P. N. Banerjee *Joint Secretary and Treasurer*.

Members of the Managing Committee:—

(1) Dr. R. K. Singh. (2) Dr. Jagannath Prasad.  
(3) Dr. Rajhobhan Singh.

(3) Resolved to approve the reply of the Branch Secretary to the Provincial Secretary Indore, of his circular No. Nil, dated 8-2-46 thereby electing Dr. R. A. Bhagwat of Indore as Honorary Secretary of the Provincial Association C.I. and Rajputana (copy of the letter attached). Dr. M. D. Pustake as Honorary President.

(4) Resolved that a budget estimate of the Branch Association be put up before the Provincial Secretary for consideration. For the present to run the branch activities. Rs. 11/- may be asked from each member and for which every one is to be requested to remit this sum to the Secretary Rewa Branch (Dr. K. D. Garb).

(5) Resolved to hail the Provincial deputation from Indore recently to wait on Chief Minister, Minister in charge, Medical Portfolio and D.M.H.S., of Rewa State to represent the general demands of the licentiates and also the difficulties and grievances of the local licentiates.

(6) Resolved to appoint Rai Sahib Dr. Vindheshri Prasad Dr. Jagannath Prasad and Dr. K. D. Garb to join the deputation from Indore when it arrives at Rewa as asked for by the Provincial Secretary in his letter No. 196, dated 31-3-46 (copy attached) to represent the demands.

(7) Resolved after discussing the local grievances of Rewa licentiates as follows:—

(a) that the private practice fees should be raised to Rs. 4/- within station.

(b) that the fees should be charged from the state officials drawing Rs. 1,000/- or more annually.

(c) maximum grade of the licentiates to be completed in ten years as with other State Servants. This has been a general fundamental rule in relation to fixing of grades.

(d) that as we are poorly housed, the family quarters of the department for licentiates should improve and made comfortable. If no quarter is provided, sufficient compensation in lieu of should be granted or they should be exempted from duties other than hospital hours.

(8) Resolved that every licentiate in the State should be a member of the All-India Medical Licentiates Association.

(9) Resolved that every member of the Association should send his roll number which is given in Indian Medical Journal supplied to him by the Association, to the Honorary Secretary, Rewa Branch, so that he may be able to keep a record of the strength of the members of the Association.

(10) Resolved that the branch Association should meet every month at Rewa.

**Proceedings of the 1st Bihar Provincial Conference held on the 27th and 28th January, 1946 at Chaibassa.**

14 Delegates and 29 Visitors were present.

1. Dr. Nikhil Chandra Banerjee requested Dr. N. C. Majumdar, Civil Surgeon, Singhbhum, to open the Conference and was seconded by Dr. Radharaman De.

2. Dr. N. C. Majumdar, Civil Surgeon, Singhbhum, declared the conference open and read his address.

3. Dr. D. P. Dhar, the sitting President had to preside over the conference, but due to unavoidable circumstances he could not attend. Dr. D. N. Mukharjee of Jamshedpur was proposed by Dr. Nikhil Chandra Banerjee to preside over this conference till election of the permanent President and was seconded by Dr. P. C. Sen and was unanimously carried.

4. Dr. Radharaman De the Secretary of the Reception Committee, read over his welcome address.

5. Due to unavoidable circumstances Dr. R. C. Prasad, the sitting Provincial Secretary could not attend the conference. His report was read out by Dr. P. C. Sen.

6. Address read by Dr. N. C. Banerjee.

7. Address by Dr. H. N. Chandra, Secretary, Jamshedpur Branch.

8. Presidential address.

**Scientific Section:**—The Scientific Section was presided by Dr. A. Kumar Mitra. The following articles were read.

1. Maternity and Child Welfare by Dr. L. Israil, Lady Doctor, Tinplate Company, Golmuri.

2. "Infant feeding" by Dr. D. N. Mukharjee, L.M.F., Assistant Medical Officer, Tata Iron and Steel Co. Ltd., Jamshedpur.

3. "Leprosy" by Dr. A. T. Roy, L.M.F., Medical Officer, Leper Asylum, Purulia.

4. "Tropical Ulcer" by Dr. Radharaman De, L.M.F., Second Medical Officer, Sadr Hospital, Chaibassa.

5. "Inguinal Hernia" by Dr. K. Dalleppa, L.M.F., Demonstrator, Darbhanga Medical School, Laheriasarai.

6. "Penicillin" by Dr. Danrilal, L.M.P., Demonstrator, Darbhanga Medical School, Laheriasarai.

Comments by Dr. B. N. Mazumdar on the papers read.

**Proceedings of the Subjects Committee:**—Dr. D. N. Mukharjee was on the chair. All the delegates excepting Dr. K. R. Dalleppa and Dr. L. C. Sinha were present during the first day's sitting. On the 2nd day's sitting all the delegates as named were present.

The list of business was put up, discussed and passed as follows:—

1. Resolved that 50% of the vacancies under Government Local Bodies, District Boards, Native States, Private institutions and Railways be given to the demobilised army medical men and 50% to the civil medical men.

2. Considered the question of position and scale of pay for demobilised I.A.M.C. officers and resolved that the officers (Licentiates) demobilised from the I.A.M.C. should be absorbed in the services with same pay and status as those of the demobilised medical graduates (I.A.M.C.).

3. Resolved that in the Government service, the scale of pay and status of the licentiates should be similar to that of graduates in the same service; and in case of other institutions,

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I. M. J. ADVERTISER

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a.B. Local Bodies, Private institutions and Native States and Railways, the scale of pay of the Licentiates should not be less than that of the graduates serving under the Government.

4. Resolved that Government be moved to abolish the subordinate medical service and maintain one uniform Provincial Medical Cadre.

5. That in view of the fact that Government have already decided to abolish the Darbhanga Medical School and to raise it to a Medical College, it is resolved that Government be requested to expedite the same.

It is further resolved that the Licentiates in general should be allowed to undergo a compartmental course not exceeding two years to complete degree course.

Also that at least a minimum of 50% seats be reserved, in both the Medical Colleges in Bihar, which is to be filled up by the Licentiate candidates.

6. The item regarding moving Government for the abolition of the designation of Sub-Assistant Surgeon was deleted out by the house.

7. (a) Resolved that the medical officers who may be requested to do the epidemic works from time to time should be given a compensatory allowance for doing their extra duty as per instruction of Government and the Government be approached to see that the instruction guiding the same is enforced on the employees concerned who may require the services of the medical officers for epidemic duty.

(b) Resolved that the doctors engaged in Public Health Departments either under Government or under the Local Bodies, or Railways and who are debarred from private practice should be given a substantial compensatory allowance in lieu of private practice.

8. The agenda regarding deputation of I.A.M.C. officers for higher studies in foreign countries was deleted by the house.

9. Resolved that Government be approached for the appointment of Licentiates also, as Personal Assistant to the Inspector General of Civil Hospitals, Bihar.

10. It is resolved that the following members do form a Committee to await on deputation to the Inspector General of Civil Hospitals, Bihar, and the Agent, The Tata and Iron and Steel Co. Ltd., Jamshedpur for putting up grievances of the Licentiates.

1. Provincial President.
2. Provincial Secretary.
3. A member from Jamshedpur Branch.
4. Dr. K. N. Dalippa (Provincial Subordinate Medical Service).
5. A member serving under the Local Body of this Province.
6. Dr. D. P. Dhar—Ex-Provincial President, will be the Chairman of Deputation.

11. Considered the question of amalgamation of this Association with the Indian Medical Association.

Resolved that the matter may be left with the Parent Body and the Sub-Committee formed by them for considering this particular question.

12. Resolved that Orissa, if so likes, can have their own Provincial Organisation to administer their own branches.

13. Resolved that Government be approached to nominate a medical man in the Provincial Assembly to ventilate the grievances of the medical profession of the Province in the Assembly and the Council.

14. Resolved that authorities be approached for reducing the period of training to Licentiates as Post-Graduate course in the Darbhanga Medical School from three months to two months as has been done in the case of the graduates.

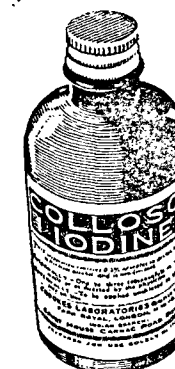
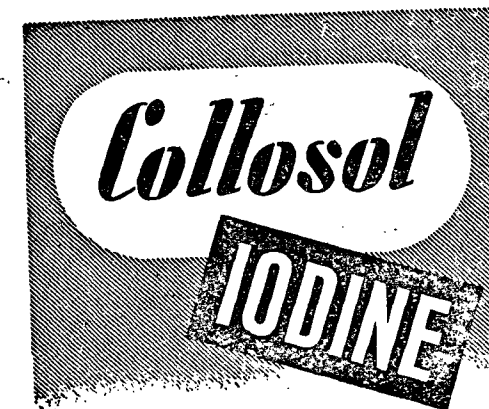
15. Resolved that Government be requested to exempt the Registered Medical Practitioners from obtaining a Purchaser's License under the Drugs Control Order, 1943.

16. Resolved that the Inspector General of Civil Hospitals, Bihar and the heads of the Local Bodies, Private companies, Railway boards and Native States, be requested to grant special leave to doctors serving under them for attending the Conference of the Association.

17. It is resolved that the Government be requested to provide the Licentiates with higher qualifications like, D. T. M., and D. P. H., and in the Provincial Medical Service.

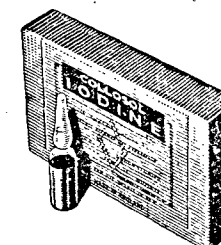
Open session was attended by all the Delegates and members. All the 17 resolutions were read and unanimously passed.

To be continued in the next Issue.

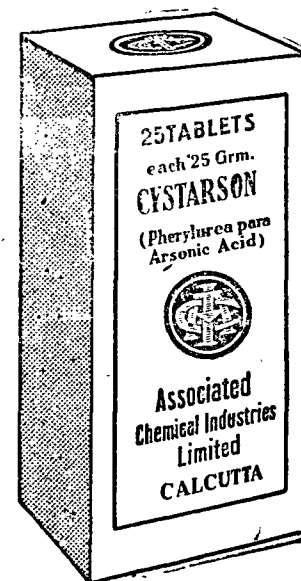


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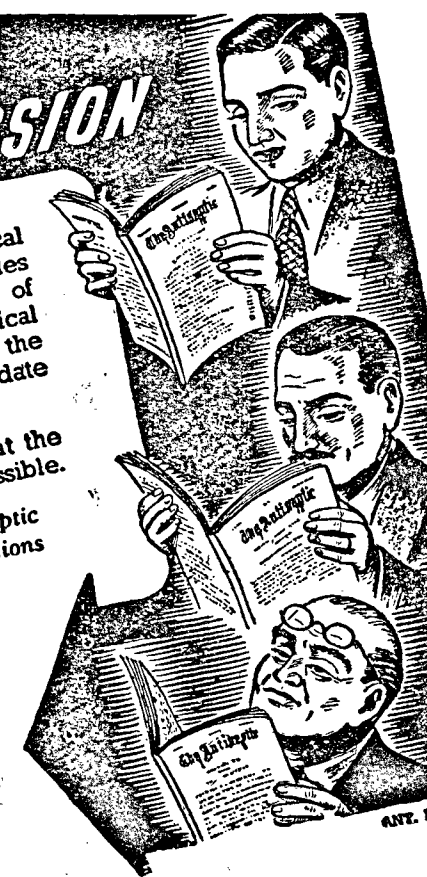
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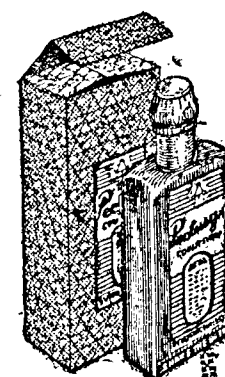
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\* Colebrook, L. (1933) *J. Obstet. & Gynaec.*, 40, 977.

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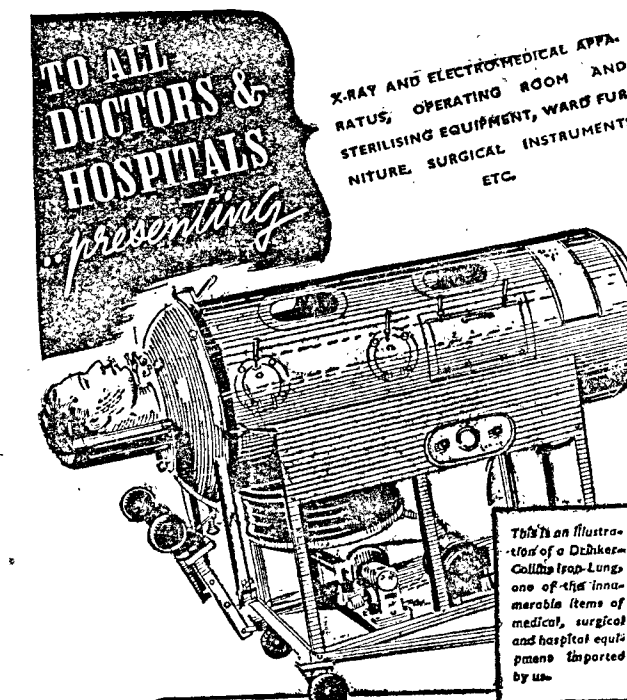
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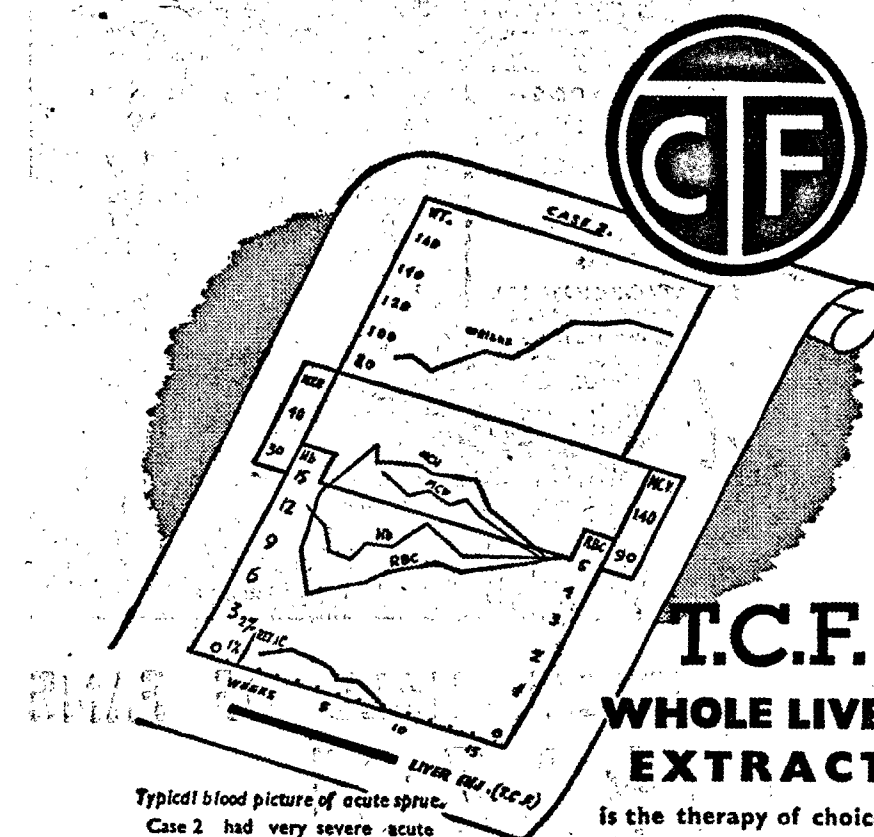
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# INDIAN MEDICAL JOURNAL



Journal of the All-India Medical Licentiates' Association with which the Agra Medical Club Journal is incorporated,

Vol. 41, No. 2  
February 15, 1947

Editorial and Publishing Office  
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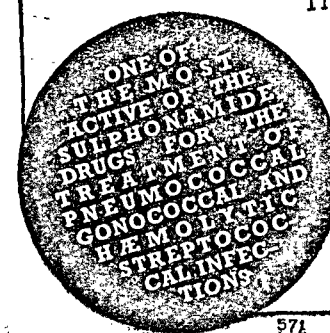
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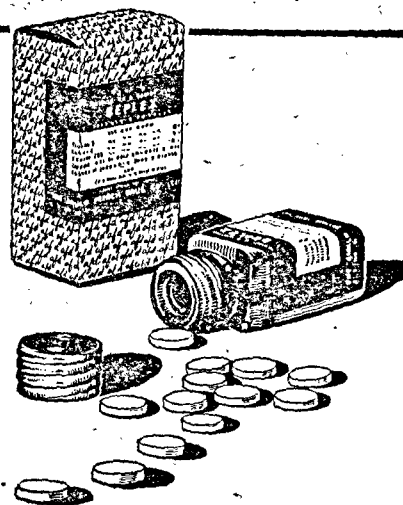
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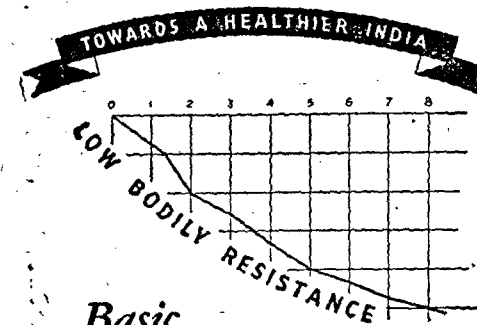


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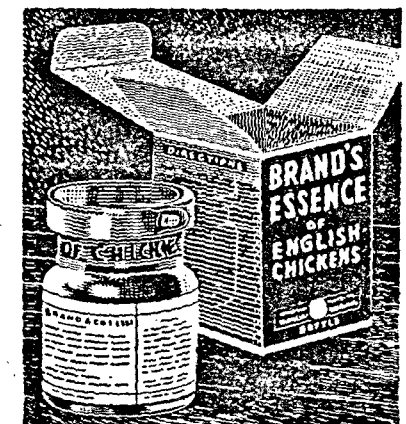
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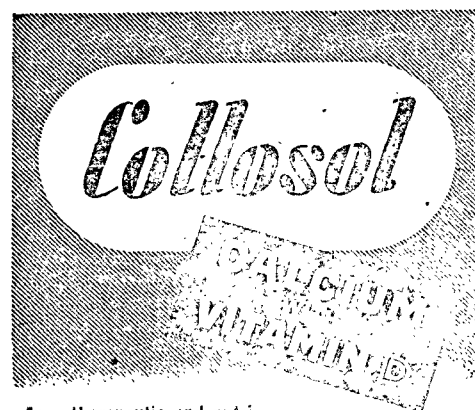
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| Liver extract equivalent to 12 grams of fresh liver.      |              |
| Liquid extract of yeast                                   | 2.5 oz.      |
| Vitamin B <sub>1</sub>                                    | 1650 I. U.   |
| Vitamin B <sub>2</sub>                                    | 500 S. B. U. |
| Vitamin B <sub>3</sub>                                    | 25 mg.       |
| Vitamin B <sub>6</sub>                                    | 10 mg.       |
| Niacin                                                    | 50 mg.       |
| Niacinamide                                               | 25 mg.       |
| Ferrous Chloride (equivalent of Ferrous Ammonium Citrate) | 16 grains.   |
| Caffeine                                                  | 1 grain.     |
| Manganese Citrate                                         | 0.3 grains.  |

**Garutman Laboratories**

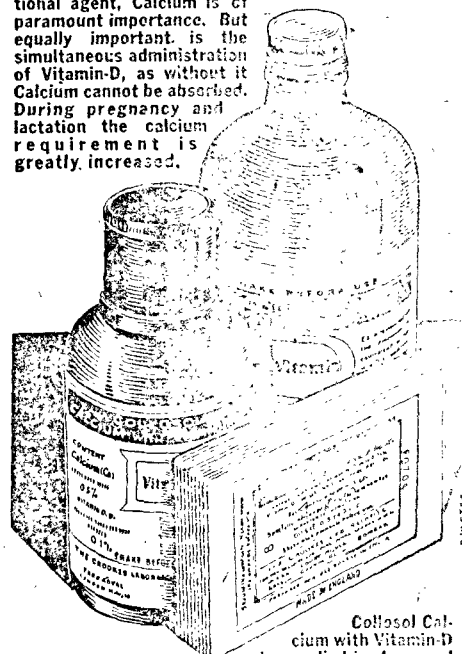
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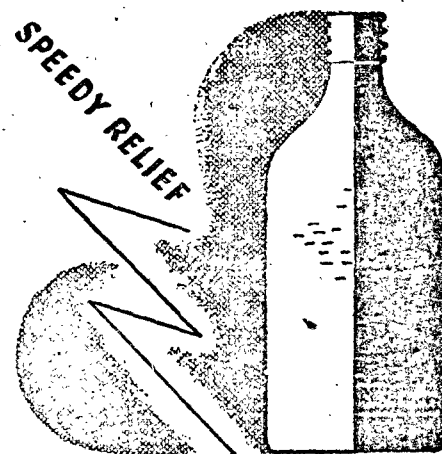


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Tinct. Belladonna 5/8 Min.  
Tinct. Euphorbia 1½ Min.  
Tinct. Ephedra Vulgaris 20 Mins.  
Syrup Vasaka 30 Mins.  
Liq. Ext. Kuth 8 Mins.  
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Borax ... ½ Gr.

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**Doses:** **Liquid:** 1-4 Teaspoonfuls 3 times daily with water, not constipating.

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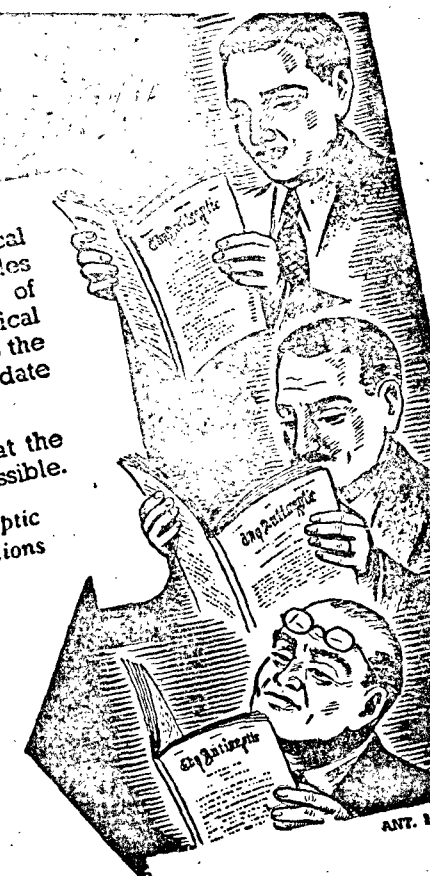
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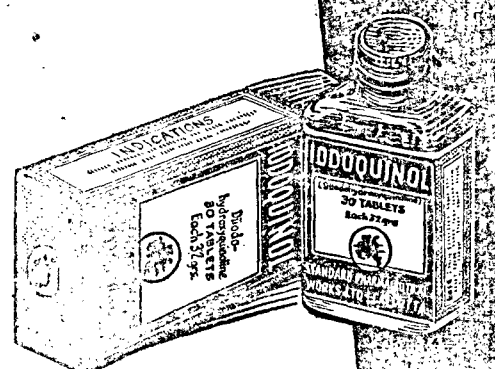
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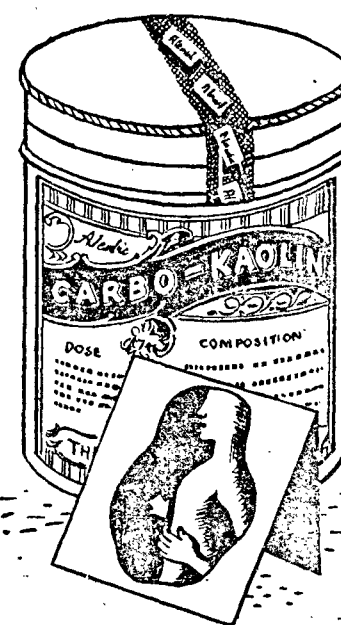
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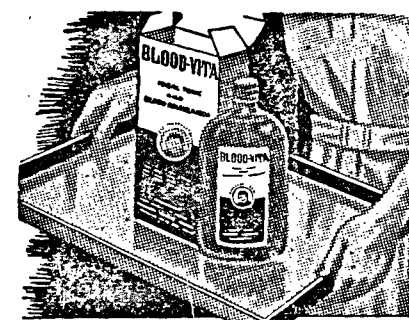
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## Indian Medical Journal

(Journal of the All-India Medical Licentiates' Association)

Vol. 41. Madras: February 15, 1947. No. 2

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Vol. 41. Madras, February 15, 1947 No. 2.

|                                                                                                                |
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### President's New Year Greetings.

*I wish all the members of our Association and the Medical Licentiates of our country a happy and prosperous New Year.*

*May I take advantage of this occasion to appeal to such of the medical licentiates who have not yet become members of the A. I. M. L. A. to enlist themselves at the earliest possible time, and thus increase the strength and power of the Association?*

*Many of you might have read the proceedings of the 34th Conference of our Association held at Poona during last October, published in the December 1946 and January 1947 issues of the Indian Medical Journal. Doubtless you would find in these proceedings the main trend of thought and work of the Association as a whole, and in my presidential address the gist of our problems and the solution thereof. Our main demands to-day are: abolition of subordinate medical service, institution of one composite medical service to which all registered practitioners should be made eligible, and recognition of the Medical Licentiates' qualification by the Indian Medical Council under schedule I of the I. M. C. Act. Our main motto is to serve the sick in all possible ways, and with this end in view to advise the Government to improve and extend the organisations for medical relief and Public Health.*

*I appeal to all the Branch and the Provincial Secretaries to enhance the activities of their regional branches, to influence public opinion in the best interests of the licentiates and to be in touch with the Local Authorities so as to gain their goodwill and co-operation in the achievement of our Association's objectives.*

*The justness of our cause is a guarantee of our success. What is needed is sustained effort and planned work on our part.*

Model Town, }  
1-1-1947. }

MANOHARLAL KAPUR,  
President, A. I. M. L. A.

### OUR MONTHLY SURVEY

**Malaria Institute of India.**—The Report of its activities for the year 1945 shows some outstanding achievements to its credit. The low incidence of malaria in the Delhi Urban area, during 1945, is attributed to the initiation of vigorous anti-mosquito measures, such as systematic spraying of D. D. T. throughout a belt extending along the eastern and southern periphery of the urban area and also from aircraft in the riverian section. The research activities of the Institute were unfortunately restricted owing to war conditions, but training in Malariaology was imparted to a large number of persons. Six intensive courses, each of four weeks' duration, were held during 1945 for medical officers and antimalaria assistants. Shorter courses were also given for a number of other workers and officers from India and abroad.

**Paludrine In Malaria.**—This is a synthetic drug prepared by the Imperial Chemical Industries Ltd.. The Institute experimented with this drug on S. Rheus monkeys infected by direct inoculation with P. Knowlesi and P. Cynomolgi. The treatment commenced as soon as from 4 to 10 parasitised red cells were observed per microscopic field of peripheral blood. The drug was administered orally in a single daily dose of 50 mgm. for 14 days. During these experiments 6 monkeys out of 30 treated with Paludrine died either during treatment or soon after its completion. Three died as a result of heavy infection whilst the other three were presumed to have died from the toxic action of the drug. Post-mortem examination revealed in these cases acute congestion of the spleen, liver, and small intestines, and massive deposition of pigments. Relapses were rare after seven days of treatment and sub-inoculation in each case was negative. The report therefore draws the conclusion that Paludrine appears to be superior to mepacrine in the treatment of P. Cynomolgi infections, while in P. Knowlesi infections Paludrine has a more powerful action in causing parasites to disappear at the height of the attack. It may be noted in passing that Nearsphenamine and other organic arsenicals have been found of little value in the treatment of simian malaria.

**D. D. T. Emulsion.**—Work on D. D. T. Emulsion concentrate prepared with oil of turpentine and Kerosine extract was continued during the year under review. Many other emulsions were also studied. Emulsion containing turpentine proved superior to any other as larvicides. The application of D. D. T. emulsion from aircraft does not appear likely to prove a suitable method for the destruction of mosquito larvae. D. D. T. emulsion can be used conveniently and effectively for both in-door and out-door spraying.

**Malaria Institute for every Province.**—Although the Malaria Institute of India has been doing excellent spade work in respect of various problems of malaria control and therapy, since its inception in 1927, yet owing to universal prevalence of malaria in our country, similar institute in each province is a desideratum. We are glad to note that

the provincial governments have accepted the suggestions of the Bhoire Committee for the establishment of anti-malaria organisations, and we hope that they would ere long establish such organisations, and thereby help to eradicate the menace of malaria from our country. The toll which malaria levies on our people is so great that money spent on its prevention will prove a profitable investment and pave the way, as no other single measure could do, for our nation's health and prosperity.

## ADDRESSES AND ARTICLES

### A General Survey of Leprosy\*

BY

Dr. A. T. ROY,

Medical Officer, Purulia Leper Home and Hospital, Purulia, Bihar.

Leprosy is a very old disease. It has been described, though not very definitely, as far back as 1400 B. C. as Kustha in Vedas, but definite cases of leprosy were described by Aristotle in 345 B. C. in Europe. Leprosy is a disease of skin and nerves. Its connection with syphilis is erroneous. Its development may be enhanced by any condition which debilitates the man.

**Types.**—I have already mentioned that the disease is confined to skin and nerves. The causative organisms, no doubt, infest visceras but do not produce any pathological conditions. Much has been the discussion to put the correct symbol for the two types. First of all it was 'A' (anaesthetic) and 'B' (bacillary) types and then 'A' to 'N' (neural) and 'B' to 'C' (cutaneous) and finally to 'N' and 'L' (lepromatous). 'N' is the closed case where no bacilli can be shown by ordinary routine method of examinations and 'L' is the open case where the bacilli can be found by the routine method of examinations. The former is called non-infectious and the latter as infectious case. This difference of typing was due to the lack of knowledge of pathological condition of the infection. As the study of the pathological condition is almost perfect now, the present international typing gives us almost accurate idea of the spread of the disease in a particular individual. The following is the gist of present classification.

Open cases or infectious cases or 'L' type, where Hansen's bacilli can be recovered by ordinary routine method of examinations. It is in three grades L-1, L-2, L-3.

Closed cases or non-infectious cases or 'N' type, where Hansen's bacilli cannot be recovered by ordinary routine method of examinations. It is also in three grades, N-1, N-2, N-3.

A sub-type under the 'N' type has been shown by the strength of pathological condition which may be an open or closed case. The difference will be shown more distinctly while I shall discuss its pathology.

\* A paper read at the Bihar Provincial Conference of the A. I. M. L. A., on 27-1-1946.

**Morphology.**—Morphology of Hansen's bacilli is very much different from that of T. B. These are short, bent and almost always in groups. These differences are not enough to give a definite opinion. Cultures and inoculation in G. pig are the only guides for a definite opinion. It is acid fast but T. B. is alcohol and acid fast.

**Pathology.**—The mode of entrance of H. Bacilli into the body is yet unknown. Whether by local inoculation or through lymphatic spread from a deep seated focus, the bacilli invade a certain area of dermis. Then there is a mild inflammation and there ordinary inflammatory cells and round cells are mobilized. If the lesion is progressive, the characteristic cell of chronic inflammation, the macrophage appears. The mobilization of these cells vary greatly according to the response of the individual tissue resistance.

Firstly if the tissue resistance is high there is a tendency to focalize the inflammatory process and there is development of epithelioid and giant cells. These cells cease to be wandering cells and become fixed tissue cells. These cells are characteristic of Neural type's Subtype Tuberculoid type. Here the process shows its predilection for the nerve tissue and the smaller nerves in the skin become invaded. If the resistance is very high there is tendency for the necrosis of nerve with an ultimate result of nerve abscess. So, in a case with tissue resistance or in a neural case we find round cells, epithelioid cells and giant cells. Secondly, if there is no tissue resistance, instead of an attempt to shut the bacilli off by focalisation and the formation of epithelioid and giant cells, the bacilli multiply rapidly and the macrophages become active cells and phagocyte the bacilli. The process develops centrifugally and is seen uniformly distributed underneath the epidermis. Here there is no tendency to invade the subcutaneous nerves. These stand out more prominently as there is some proliferation of perineurium. Bacilli are seen in nerve sheath but do not give rise to active reactions as in the neural cases.

So, in a case with a little or no tissue resistance there is almost complete absence of characteristic cells of inflammation. No focalisation of granuloma; lepra cells or wandering macrophages are seen in plenty and the subcutaneous nerves become prominent. These wandering cells at the late stage of the disease become vacuolated and become fixed tissue cells. These cells are called Foamy Cells.

Lepra bacilli infest almost all the internal organs and bone marrow. But no microscopical lesions however are found in these organs, the bacilli occupying the wandering cells without giving rise to any pathological change. An elaborate description of Tuberculoid type and Inter-mediate type has been published in I.M.J. which was read by me at the Bihar Provincial Conference and published in I.M.J. Vol. 40 No. 5, 1946.

**Signs and Symptoms.**—These have been mostly described in many books. Depigmentation due to avitaminosis is a recent observation which can be mistaken for the depigmentation of leprosy. Of the three cardinal signs, thickened nerves, presence of bacilli and anaesthesia, at least one must be present to diagnose a case of leprosy.

**How the Disease Spreads.**—The idea that the disease in some way was transmissible from man to man has been uppermost in the minds of general public from the earliest times. Though various authors in the latter part of 19th century believed in the hereditary and fish theories it is now generally accepted as a contagious disease transmitted by close contact by diseased individuals with the healthy members of the community. The leprologists also think that the disease can only be contracted coming in contact with open cases only where L. bacilli can be demonstrated by ordinary method of routine examination. Closed cases cannot give the disease to others. This latter idea is doubted by some workers of Philipines.

Again age is a very important factor. While children can seldom avoid the disease if they come in contact with infectious cases, the adult specially after 30 seldom contract the disease even if in contact with open cases. Examples of marital life, one suffering from infectious type of leprosy and the other escaping from it, is not very uncommon. Similarly child at birth if separated from infectious mother can be protected. Adult cases even after 60 can develop the disease. By this it is difficult to prove that they did not contract the disease at an early age. There is no incubation period. We have seen a child developing leprosy as early as 3 months and also an old man at as late as 60 years. So it is more correct to refer to the *Latent Period*. The shortest latent period is 3 months and the longest 40 years and some time 60 years and it may be mentioned that in my experience I have come across only one such instance of the latter case.

**Immunity.**—This is a difficult subject and not a completely understood one. Being exposed to an open case some may develop the disease while others can escape. Again some may develop it badly while others may develop it slightly. Individual tissue resistance plays the most important part. This resistance may be termed as allergy or anergy. A contact having strong allergy may avoid the development of the disease fully or may develop the disease slightly e.g., the tuberculoid cases. Acute at first, it however comes to an end in a very short period in contrast with the diffuse lepromatous cases where energy or lack of tissue resistance takes the upper hand. This allergic state can be estimated by Mitsuda's Lepromin test. It is positive in those who will not develop the disease or who will only develop the neural type of leprosy.

**Treatment.**—Chaulmoogra or Hydnocarpus oil has long been known as a remedy for leprosy in India and other countries. Its history can be traced as far as 3400 years back. It was then only used by mouth and inunction. During the last 25 years better results have been obtained by injection. If the oil expressed from fresh ripe seeds is injected it does not produce any irritation and no admixture with creosote and iodine is necessary. The admixtures are indicated only to allay the irritation and not for any therapeutic value. With the out-break of war when creosote was not available various workers specially Drs. Dharmendra and Santra recommended iodine as a substitute for creosote. We found 75 per cent

carbolic acid was a better substitute than iodine. The process of mixing it with the oil was much easier too than the iodine. The oil is injected once a week subcutaneously in the extensor surface of arms and thighs. Dose 2 to 10 c. c. It is also given intradermally in the patches.

Hundreds of other medicines have been tried throughout the world but results better than those from the use of the Hydnocarpus oil have not yet been obtained.

**Promine.**—It has been tried by Faget and his colleagues in U.S.A. It is a sulfonamide drug. Favourable results have been obtained at least up to a point in leprosy. It is not claimed that Promine is a specific for leprosy but probably it is an advance in the right direction in the therapy of this disease.

**Diasone.**—It is a white powder. It may be given by mouth, also can be injected intravenously when dissolved in normal saline. The most marked results are in advanced lepromatous cases. In less advanced cases nodules become flattened or liquify, burst and dry up rapidly. No cases have so far become bacteriologically negative. It is not yet available for general use.

**Asiaticoside.**—After Dr. Grimes and Dr. Pierre in 1938, Dr. Boiteau isolated a new glucoside from the plant *Hydrocotyle Asiatica* growing in Madagascar and named it Asiaticoside. It is soluble only in Pyridine and can be injected. Good results have been reported specially in lepromatous cases. Anaesthesia and neural lesions take long time to improve. He considers that the glucoside probably act by dissolving waxy capsule of the lepra bacilli, thus exposing them to attack by defensive agents of the body and by other drugs.

**Penicillin.**—Sodium salt of penicillin has been used in three doses 100,000; 200,000; and 400,000 units. Even in 400,000 units it is not bactericidal to *Mycobacterium Lepra*. It is of definite value in the complications of leprosy. It improves the patients physically, while it has no effect on the bacilli.

**Streptomycin.**—It has been tried in leprosy with indefinite results.

**Preventive work.**—I do not like to discuss this here. But I must say that to stop spreading of the disease great care should be taken to protect the children. If they are not protected it will probably be impossible to check the disease in the absence of a better curative medicine.

## Management of Asthmatic Cases

BY

Dr. S. N. GANGULY, L.M.F., L.T.M., (Cal.)  
Burma lines, Tatanaagar.

Asthma may be defined as a manifestation of paroxysmal expiratory dyspnoea brought about by the reaction of the hyperexcitable bronchial mucous membrane, in the patients generally of neuropathic inheritance due to excessive vagal discharges, and in those sensitive to any foreign protein or other factors related to physical, nasal, toxic, endocrine, or environmental conditions.



The etiology as a rule is multiple and the majority of the cases take several types.

Heredity plays an important part in this disease. It runs in certain allergic families; more prevalent among whites than coloured races. Transmission through the mother is twice as frequent as through the father.

It may occur at any age.

Twice frequent in males than females. Specific anaphylaxis may be brought about by:

**Inhalation:** e.g., animal emanations, dusts, moulds, fungi, etc.

**Ingestion:** e.g., foods, drugs etc.

**Injection:** e.g., sera, drugs, bites, and stings.

**Infection:** e.g., bacteria, worms, teeth, tonsils, gall-bladder, appendix and other organic infections.

If for any reason (specific sensitising agent) the body resistance becomes lowered, any nonspecific factor e.g., psychic, endocrine, nasal, toxic, dietetic, or environmental may cause asthma.

These act like catalysts and explain why a person is more prone (idiosyncratic) to cold and to catch asthmatic attack than others.

By the repeated spasms of the bronchial musculature, mucous membrane of the bronchus swells up and hypertrophies. The impulses of the spasm are most probably transmitted by broncho-constrictor fibres of the vagus. Gradually hyperplastic changes of the bronchial mucous glands occur with hypertrophy, metaplasia sacculization of the epithelium of the bronchii. Air passages become plugged with viscid secretion. Sometimes eosinophiles may be seen in bronchial and peribronchial musculatures.

In chronic cases, changes occur in lungs, thorax, heart, and their attachment e.g., overdistension of the lungs, pigeon chest, kyphosis of the spine and hypertrophy of the right heart.

By examination of the sputum Crushman's Spiral, Charcot Leyden crystals and Laennec's 'pearles' can be found.

The following organisms can be found in sputum in order of their frequency: streptococcus, micrococcus catarrhalis, diphtheroid bacilli, pneumococcus, staphylococcus and sometimes eosinophils.

In eosinophilic sputum a gram negative bacilli can be cultured. It has been suggested that they secrete histamine-like substance which can cause spasm of the bronchi.

On the other hand foreign protein produces spasm by inducing vagotonicity.

**Symptoms.**—Asthmatic attacks generally have a tendency to occur in early hours of the morning but in children the attack generally occurs before midnight or at day time. The patient can foresee the attack by the premonitory symptoms of restlessness, irritability, anxiety etc., and sometimes polyuria or coryza.

The patient wakes up from sleep with a feeling of suffocation, sits up in bed, opens doors and windows for air and begins panting and leaning forward keeping the whole of his bodyweight upon his stretched hands. Breathing becomes difficult, respiration laboured, inspiration is short and expiration is pro-

longed with a wheezing sound which can be heard without putting the stethoscope on the chest.

Face becomes pale, lips cyanosed, alae nasae working, jugular veins distended, marked sweats and accessory muscles of respiration seen working forcibly; with each inspiration the superclavicular muscle and muscles of the lower costal regions go inside. On percussion hyper-resonant sound can be found practically all over the chest. Areas of cardiac and liver dullness become shortened.

On auscultation, inspiration is short and expiration prolonged with a wheezing sound. Both sibilant and sonorous ronchi may be heard and also bubbling rales at the base.

Pulse is usually small, quick, weak, and irregular.

**Clinical types.**—There are many clinical types of asthma. Sometimes an asthmatic patient becomes free from asthma when he goes to sea-side for a change or to an altitude over 4000 ft. If a child can be kept free from asthma for two years he may remain free from attack probably for the rest of his life.

Asthma in children may be congenital, psychological, or anaphylactic. The asthmatic children are over-intelligent and over-anxious but generally lack in self confidence.

In many cases asthmatic attack occurs after cold or acute bronchial infection either from increased permeability of the respiratory mucous membranes to allergens or from bronchial spasms by a short or long vagal reflex. Distension of the stomach or rectum can also cause reflex attacks of asthma, but alimentary toxæmia is never responsible.

Psychological factors such as expectation, annoyance, excitement and anxiety are also predisposing causes.

In infancy nothing but catarrh with or without sneezing and with bronchitis of the finer tubes can be seen. Then suddenly dyspnoea supervenes. There may be slight temperature with persistent cough and cyanosis. Prostration causes some alarm to the parents. The symptoms may not last long or may turn into bronchitis up to the next attack.

**Asthma in childhood:**—(a) *Hereditary.*—Generally such children suffer from eczema, pruritis etc., in their early life. They sit up in bed during the attack. Expiration is more prolonged with wheezing sound than inspiration which is practically inaudible. No temperature, pulse quick, weak and irregular. The boy exhibits all the characteristics of asthma of aged person with well marked hypochlorhydria.

(b) *Anaphylactic.*—It occurs specially in warmer months with conjunctivitis, itching of the nose and eyes, profuse watery nasal discharges, frequent sneezing brought about by a special sensitivity to pollen grains, animal emanations, feathers and dusts, chocolates, fright, anxiety etc., etc.

**Asthma in adults:**—Generally two varieties can be seen in adults. Paroxysms of asthma with free intervals. Paroxysms with no intervals, always a constant wheezing sound is audible over the chest.

**Course and Prognosis:**—The attack comes at a definite hour in day time as well as in night. It may last for some minutes or hours. At first it

does not bring any change in physique but later on, in chronic cases, the patient becomes thin and emaciated with shallow complexion, anxious expression and irritable temperament, later on emphysema; secondary bronchitis develop with permanent oedema of the base of the lungs; engorgement of the right heart, tricuspid regurgitation, venous stasis, ascites etc.

**Diagnosis:**—Asthma is sometimes very easy to diagnose and sometimes it is very difficult. It may be mistaken for recurring bronchitis, cardiac and renal dyspnoea, mediastinal new growth, thoracic aneurysm, thymic asthma, laryngeal affections, foreign bodies in the air passages, syphilitic affection of the bronchus, hysteria, hay asthma etc., etc. To diagnose a case the following method may be adopted:

1. History for heredity and previous attacks and relation to physical factors, any foreign protein food etc.

2. X-ray examination of the chest to exclude aneurysm and growth.

3. Skin test with peptone for sensitiveness to any protein.

4. Differential W. B. C. count.

5. Examine larynx and vocal cord.

6. Examine heart for angina. Examine retina and urine for uraemic affection.

7. Sputum for Crushmann's spiral, Charcot-Leyden crystals and Lannec's pearles.

8. Blood pressure:—Low B. P. in an asthmatic indicates pulmonary T. B. and high blood pressure with urinary changes indicates uraemic dyspnoea.

All cases may be classified as allergic or non-allergic.

| Allergic.                                                               | Non-Allergic.                                                                   |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| 1. History of inheritance.                                              | 1. History of pneumonia and Ch. Bronchitis.                                     |
| 2. Onset—early in life.                                                 | 2. After puberty.                                                               |
| 3. Seasonal incidence                                                   | 3. No.                                                                          |
| 4. Attack related to place and food.                                    | 4. No.                                                                          |
| 5. Pets—poultry, feather, horses, cows, dusts etc.                      | 5. No.                                                                          |
| 6. High eosinophil with Arneth index below 70.                          | 6. Low eosinophil with Arneth index above 70.                                   |
| 7. During attack subcutaneously 1/150th gr. atropin produces no effect. | 7. Relieves the spasm.                                                          |
| 8. 0.3—0.5 c. c. Adrenalin relieves the attack.                         | 8. Relieved but not so much                                                     |
| 9. Subcutaneously 1/20th gr. pilocarpine—no response.                   | 9. Increased salivation, feeling of warmth—perspiration, flushings of face etc. |

**Treatment.**—The drugs which are at our disposal now for the treatment of an asthmatic attack are Theophylline with ethylenediamine (Cardophyllin), Nicotonic acid, Epinephrine, Ephedrine sulph., besides the old remedies iodides, stramonium (liquid and smoke) lobelia, arsenic morphia, etc. There are many who discard much of the old remedies. The difficult task on the part of a physician in treating an asthmatic patient is "Status Asthmaticus".

To relieve this, adrenalin is the best drug. It stimulates the sympathetic nerve endings and dilates bronchial muscles and thereby relieves spasms but unfortunately its effect is very short.

Atropine paralyses the vagal endings and has a stimulating effect on the respiratory centre. When this fails, some advocate the following combination.

Morphine sulph- $\frac{1}{4}$  gr.

Atrophine sulph 1/100th gr.

Adrenalin 10 m. (1 in 1000)

one minim to be injected every 5th minute, instead of adrenalin alone and the treatment should be continued upto 10 minims until the spasms subside, keeping the needle in position in the patient's deltoid.

More recently Bray suggested Bencard's adrenalin gelatin mixture (1 in 500)  $\frac{1}{2}$  to 1 c. c. hypodermically. Gelatin slows the action of adrenalin.

Electrophoresis of adrenalin is suggested by Abramson. It gives immediate relief.

A. Kennedy suggests adrenalin with ascorbic acid; by the use of this action of adrenalin is delayed. It is useful in chronic bronchitis.

E. A. Brown suggests capsule containing half gr. ephedrine sulphate,  $\frac{1}{2}$  gr sodium phenobarbital and 3 gr. theophylline sodium acetate. An enteric coated tablet or a capsule will assure a full night's sleep.

Sedatives have advantages as well as disadvantages. Therefore great discrimination in their use is necessary. Aspirin helps in many cases but it causes allergic reactions in many, such as angioneurotic oedema, urticaria etc. Barbiturates have also some drawbacks. Morphia should never be used as it diminishes the cough reflex, proper aeration is prevented, expectoration is diminished and causes cyanosis and even death.

3 oz. ether emulsified in 3 oz. of olive oil is the best sedative for the night. It should be given per rectum. Aminophyllin  $7\frac{1}{2}$  gr. dissolved in 2 c.c.m of distilled water with 18 c.c.m of a 50 percent sterile dextrose sol. given intravenously is effective. It is a caffeine derivative—a vasodilator—relieves depression and spasm. In some cases it produces toxic reactions such as dizziness, nausea, vomiting, 'pounding of the head', pain in the chest. These seldom last for long time and generally unaccompanied by any cardiac or renal lesion.

According to Maisel and Somkin (1942) nicotinic acid relieves spasm by vasodilatation.

It is not known whether nicotinic acid acts by relieving bronchospasm or by affecting pulmonary vessels, or whether it is converted into or liberates another substance, which is physiologically active agent (Melton).

It is given intravenously 50 mg. in 10 c.c. It is injected very slowly followed by oral dose of 50-100 mg. One injection gives definite relief with minor reactions. Flushing of the face, tingling and feeling of heat may be perceived by the patient but these are transient and not harmful. Enteric coated tablets can be taken at bed time to prevent asthmatic attack that occurs in the morning. The patient experiences relief within a short time and breathes freely. It may be used as an adjuvant in the therapeutics of asthma. It may also be used as a substitute when ephedrine or ephedrine fails to give relief.

Asthmatics vary widely in their response to drugs as they do in regard to asthmogenic causes,

So it is impossible to foretell which drug will be more effective to a particular patient. The physician should exercise his own discrimination in selecting the remedy.

Inhalation of adrenalin (1 in 100) from a fine spray may prove useful. The continuous or intermittent inhalation of 100 per cent of oxygen or of 80 per cent helium and 20 per cent oxygen is a sound measure against cyanosis. Coffee relieves spasm to some extent. Smoking of stramonium cigarette, inhalation of nitre pepper and amyl nitrite (capsule) should be discarded because they do more harm than good in bronchitic cases. Actions of the drug are temporary and at the same time they have some extremely irritating effect on the bronchial mucus membrane and these in turn increase the liability of further attacks.

I generally prescribe:—

|                 |        |
|-----------------|--------|
| R/ Pot. Iodide  | gr. 4  |
| Pot. Bicarb     | gr. 10 |
| Tr. Stramonium  | m. 10  |
| Tr. Lobelia     | m. 10  |
| Tr. Ephedra, V. | m. 15  |
| Spt. Amm. Arom  | m. 15  |
| Aq. ad.         | oz. 1  |

Every four hours with some hot milk with each dose

Purgatives at the beginning: calomel powder followed by saline purge.

When due to undigested food-carminative mixture.

Fluids, glucose sol., tea, coffee, brandy etc., should be given when necessity arises.

In hypochlorhydria-acid hydrochloric dil.

**During Intervals:**—If possible, one may try to find out the specific allergin which causes the attack and then desensitise the patient. Otherwise Witte's "Peptone special 30" may be given subcutaneously in 7.5 percent solution beginning with 0.2 c. c. twice weekly upto a dose of 2 c. c.

Some use tuberculin, milk, proteose, liver extract, vaccine etc. for the purpose of desensitisation. If there is focal infection such as enlargement of tonsils, sinuses etc., they have to be treated properly.

Arsenic may be added in the above mixture or given by injection in the form of soamin or sodium cacodylate. It is useful particularly where there is high eosinophilia.

Extract of kuth is also a good adjuvant to the above mixture.

As a linctus for nocturnal cough the following may be prescribed.

|                     |       |
|---------------------|-------|
| R/ Pseudo Ephedrine | gr. 1 |
| Tr. Stramonium      | m. 15 |
| Syp. Codeine Phos.  | dr. 2 |
| Syp. Virg-Prun.     | dr. 2 |

For loss of sleep bromide or luminal may be given or ether per rectum. Hypochlorhydria must be corrected. Endocrine hormone should be prescribed in dysfunction of any endocrine glands.

Electrotherapy may be effective in some cases.

Diet requires careful adjustment. Any article of diet to which the asthmatic is susceptible should be discarded. Only assimilable diet should be judiciously allowed. Avoid fasting and fatigue. Wheat, eggs, milk, chocolate, potatoes and beans are better avoided. Change of climate may prove advantageous.

Infants and children of an allergic family should be protected from dusts, pollen grains and dietetic

antigens. They should not be allowed to mix with domestic dogs and cats. Excessive use of nuts and chocolates should be curtailed, if possible should be banned. They should not be forced to eat what they dislike nor should they be allowed to overeat.

Status Asthmaticus is not common in children. If it occurs adrenalin 1-2m may be injected. It may be repeated every 15 minutes. Too much use of adrenalin spray causes desquamation of the tracheal mucus membrane. Ephedrine sulph. gr. 3/8th with sodium phenobarbital gr. 1/4th may be given. Theophyllin with ethylenediamine 3½ gr., or a fraction of it according to age in glucose solution may be tried in severe types. Morphine should never be used as it suppresses cough reflex, depresses respiratory centre, hampers aeration and helps obstruction of throat by phlegm. It may lead to fatal consequences.

Ether in olive oil (30 c. cm. of ether in 60 c. cm. of olive oil) may give relief for the night.

Change of climate, specially to high altitude is useful. Special attention should be paid to the improvement of the general health of the child.

During the quiescent period, attempts should be made to trace the cause of asthma and to eradicate it.

## Treatment of the Diabetic Patient\*

BY

RAO SAHEB DR. P. H. SANT,  
Bilaspur, (Central Provinces).

### The need for Early Treatment.

Having once confirmed the diagnosis of diabetes mellitus and the severity of malady in a particular case before us, we are expected to treat the case efficiently. Efficient treatment of diabetes mellitus means treatment of the patient as a whole and not merely the glycosuria and other symptoms. The nutrition of the patient has to be maintained by helping him to assimilate more starchy portion of the food, remembering that the starches happen to be the fuel part of the food without which the proteins and the hydrocarbons will not burn and consequently enough energy to keep the body mechanism going and to resist the several infections to which he is always exposed will not be produced.

We must always endeavour to treat the patient himself who may or may not exhibit the usual signs and symptoms of diabetes. Symptoms such as frequency of micturition, polyuria, pronounced thirst, unhealing skin affections and others are invariably some of the indications of the disease as having been much advanced. The absence of such pronounced symptoms should not however lead us to suppose that the patient does not need any treatment. I wish particularly to stress this point because I have observed the general tendency among practitioners to advise the patients no treatment on the ground that they have not yet developed the more serious symptoms.

\* Summarised from his paper read at the Annual Conference of the A. I. M. L. A., Poona on 22-10-46.

### Educating the Diabetic Patient.

As real diabetes of pancreatic origin invariably comes to stay, it is but proper that the patients must know all about the disease and the method of its treatment.

The patient has to be taught the danger of excessive and indiscriminate eating and also the injuriousness of repeated and overlapping meals. Proper control over carbohydrate articles of food by restriction and judicious selection is essential. With those restrictions, the patient can be allowed a liberal list of articles with various alternatives. This will make his life bearable and pleasant.

Another important change which we are expected to bring about in a diabetic patient is to establish an optimistic outlook towards his disease which by its constant association should ease to be his enemy. The patient should be taught that if he follows a regulated diet and observes the medical advice, he need not at all be afraid of the disease.

It is always better and convenient to train the patient to examine a sample of his own urine and to correctly read the results of his own examination in respect of sugar content and presence of albumin.

The patient should be impressed with the advisability of getting his blood examined for the blood sugar level three or four times a year.

The last and the most important thing is to educate the patient in the technique of self-injection of insulin. This he could learn from the attending physician after he has built up the correct dose by watching the progress of the patient from time to time. The time of insulin injection in relation to food and the symptoms of hypoglycemia, should they appear, must be explained to the patient in full detail. The patients must be advised against patent nostrums.

### Diet and Insulin.

The maxim—no symptoms no treatment—is too dangerous to be followed. Symptoms in diabetes take a pretty long time to establish themselves. To wait till such time is to invite disaster to the patient. If diabetes can be detected early and properly treated, it can be cured.

The treatment of diabetes can be summed up in two words: Diet and Insulin. No other drug has been found of any utility either to prevent or cure the disease than insulin. The several proprietary preparations put up in the market have all been found useless—Diabetoc, Pancreptin, Panmellitus, solid and liquid extracts of pancreas, herbal cures etc. Some of the Ayurvedic medicines like Shilajit, Vasantakusmakar and others are no doubt found to give a certain satisfaction to the patient by lowering the percentage of urinary sugar, but they have enhancing effect on the blood-sugar. Among some of the popular remedies is what is known as "good mar"—its botanical name is *Gymnema Sylvestry*. Raw leaves of this plant when chewed possess the peculiar property of deadening the sense of sweetness on the tongue. On account of this the popular belief has grown that it is an efficacious remedy for diabetes. But experiments done on this plant by me and also by the Tropical School of Medicine have proved its inertness in bringing about any change in the sugar content of urine or of blood.

Much has been said about the diet in the old text books and many people have made their name promi-

nent as the so called diets go by their names. But as the modern idea of keeping up the nourishment of the patient by allowing him the necessary component parts of diet in a balanced form has come to be appreciated, the old dietary should rather be deleted from the text books. The only thing that we have to remember is that the patient must get sufficient number of calories to enable him to do the exertion demanded by his avocation. The number of calories to be allowed are of course to be determined for light and heavy muscular work the patient is required to do. A patient doing very light muscular work in advanced age unassociated with any other disease can easily go on with thirty calories per kilo of his body weight. Growing adolescents, labourers, and pregnant women will have to be allowed up to forty calories per kilo of body weight. The proportion of the component parts of diet is determined by a very easy formula. Patient's weight divided by 2.2 will give us his weight in kilo figures. His weight in kilos multiplied by the number of calories allowed per kilo will give us his caloric requirement. This caloric requirement divided by sixteen will give us the number of grammes of fats and carbohydrates to be allowed and when divided by twenty will give us the number of proteins required by him. All standard text books have given protein, fat and carbohydrate contents of each article of diet from which it is quite easy to prepare a diet chart for the patient's use. The kind and quantity of each diet-article being thus determined we have just to divide them into three portions to fix up patients' breakfast, lunch and dinner.

In order to determine the tolerance of the patient to assimilate carbohydrates, and to decide whether insulin is to be given or not in a particular case, we have to put him on what is known as basal or the minimum diet for a week. Basal diet is to be calculated at the rate of 25 calories per kilo of his body weight. The proportion of fats and carbohydrate and proteins are calculated by the help of the same formula of dividing the caloric requirements by the figure of sixteen and twenty. Total quantity of sugar excreted by him in twenty four hours every day is calculated from which the available glucose in the diet is subtracted. The resulting figure gives us his carbohydrate tolerance. Available glucose in diet is calculated as follows:—Carbohydrate contents of diet give him hundred per cent, proteins 58 per cent, and fats 10 per cent. When put on basal diet an average diabetic of mild type becomes sugar free in four days and his blood sugar comes to normal in about eight days. Then the carbohydrates and fats of his diet should be gradually increased until sugar again appears in the urine. If the patient is able to assimilate five hundred calories over and above the basal diet without any reappearance of sugar the case should not be treated by insulin but by very gradual and judicious building up of his diet. Otherwise insulin should be started.

Having decided to start insulin, we have to decide how much insulin is to be given in a particular case. After having put the patient on the basal diet and having known his carbohydrate tolerance by examination of urine and blood sugar the dose of insulin is to be adjusted in such a way that he can maintain best vigour and energy by assimilating the number of

grammes of carbohydrate essential for that purpose. The number of grammes of carbohydrate essential over and above the limit of his tolerance must be covered by insulin. It has been found that one unit of insulin causes one to two grammes of carbohydrates to be utilised in a moderately severe case of diabetes. In mild cases carbohydrate utilisation per unit of insulin is a little more. Having ascertained the number of grammes of carbohydrates required by the patients to maintain the daily activities of his life and knowing roughly that one unit of insulin will enable him to utilise two grammes of carbohydrates we know how much insulin he is going to require every day. The meals are to be divided into three portions every day—breakfast, lunch and dinner. Major portion of the carbohydrate content should be given for the lunch and the dinner and the dose of insulin prior to these two principal meals can be easily ascertained according to grammes of carbohydrates available to the patient for these principal meals. The most modern thought on the diet of a diabetic is fortunately not so intricate and confusing as it was before. The chief guiding factor is to enable the patient to maintain vigour and energy as opposed to treating glycosuria.

Dr. Micks\* has found in all his cases that the maximum attainable health and vigour can be maintained despite a persistently high blood sugar without undue restrictions in diet. The chief aim of treatment therefore seems to be not sugar free urine or low blood sugar, but maintenance of health and vigour. This can be accomplished in severe diabetes only by insulin. The object of regulating meals should be not maintenance of carbohydrate balance, but avoidance of hypoglycaemic attack. Abundant glycosuria is not incompatible with sustained health and vigour. Above all rules should be the maxim that the right treatment is that on which the patient is best able to maintain health and vigour over a prolonged period.

Insulin in solution is usually given in preference to insulin in suspension, chiefly because it demands less complicated instructions for preventing hypoglycaemic attacks. In most cases of severe diabetes in adults two injections daily are found sufficient but in most children a third (evening) injection is required to prevent morning ketosis. The total dose varies in different cases from 10 to 60 units. If the dose is too low polyuria will attract the patient's attention, the urine at some periods of the day will contain ketones, and weight will fall. If the dose is too high, hypoglycaemic attacks will occur though the patient is eating freshly and frequently.

Insulin should always be started in a small dose and should be worked up to the required quantity by increasing one to two units every day. And when it is to be reduced the same procedure should be followed.

You will excuse me when I say that some of us are afraid to push up insulin to the dose really required by the patient. My allegations are not imaginary. My most recent observation had been in a case of a young man of twenty-two who is being treated in a sanatorium for tuberculosis. He is given

\* B.M.J., 1943.

insulin five units b.d. and told that more is not needed as it might make him put on unnecessary weight though his blood sugar is pretty high. The patient cannot be called to be fat in any way. If enough insulin is given with proper precaution and consideration to the carbohydrate tolerance of the patient and to the amount of carbohydrate in grammes available in the diet, there should be no apprehension of causing hypoglycaemia by insulin injection.

I have so often heard of patients' intolerance to insulin. I have not come across with such a mishap in my practice. Having no experience, I abstain from saying anything about it, except that it may be one of the idiosyncrasy of the patient or at the most in some cases it may be an indication of anaphylactic shock as insulin is a sort of non-specific protein. If it happens to be the latter, probably intensive calcium treatment prior to insulin might be useful.

It is suggested by some that insulin establishes a habit of its own but as it is not a narcotic it cannot possibly establish any craving for it. Patients placed in most unfavourable circumstances sometimes have to face a transitory break in the insulin life and have not suffered any way as a result of such a break in treatment. Nor is it a cardiac poison as is supposed by some workers.

Some confirmed diabetics, even in the advanced stage of the disease, are found to take insulin by fits and starts, taking it for month or so and restarting it after a gap of a month or two. I don't think there is any sense in alternately nourishing and under-nourishing the system.

It has been found that exhibition of vitamins B<sub>1</sub> and C helps to stabilise the effect of insulin in some cases. It is therefore advisable to combine these vitamins parenterally along with the insulin.

I have been using aqueous insulin in preference to zinc insulin. My observations, therefore, refer only to the former.

## CASE NOTE

### An Interesting Case of Monster Weighing 18 Lbs.

BY DR. M. C. GANGULY,

Medical Officer, B.A. Railways, Lumding, Assam.

On the 30th October 1946 at about 10 P.M. I was called in by one of my colleagues to attend a case, and I did so immediately.

It was a labour case and the patient was carrying 12 months. The patient was pregnant for the 3rd time and was in normal labour pain.

**Past History:**—In her first pregnancy she had a mis-carriage. Second pregnancy was quite safe and normal, only there was a tear in the perineum. There was no history of any V. D. or any serious illness in the past.

**Present History:**—Normal labour pain started at about 4 P.M., of 30-10-46 and reached its maximum by 9-30 P.M. The membrane was ruptured by 8 P.M. My colleague made both internal and external examination and told me all his findings which were corroborated by my own examination. The findings are given below:—

**Inspection.**—The abdomen looked apparently larger than what it should be in full term pregnancy.

**Palpation**—Fundal grip } All the exact findings that  
Lateral grip } we generally have in L.O.A.  
Pelvic grip } position.

**F. H. S.**—Absent from the beginning.

**P. V. Examination:**—

(1) Os. fully dilated.

(2) Membrane—ruptured previously.

(3) Three irregular masses of different consistency, somewhat suggestive of face though not actually corroborating with all its features, were felt by the examining finger. From the peculiar character of the masses with absence of typical features of face presentation tentative diagnosis of monster was made.

We were awaiting in the other room to the termination of labour but in the meantime I noticed the uterine contractions gradually diminishing in character and ultimately ceased at about 2 A.M. In that condition of maternal exhaustion we thought of the necessity of hospitalisation of the patient and accordingly she was brought to hospital.

A thorough examination with light general anaesthesia was made again. No further interference was done, only the symptomatic treatment was rendered to her. The contraction began again at 11-30 A.M., next day when a male still-born gigantic monster was delivered with very little manipulation except that the tumours on the scalp were punctured when there was crowning of the head. The mother is keeping good health now.

**Some interesting points:**—

(1) Weight of the foetus—18 lbs,

(2) 3 irregular hard and soft tumours on its scalp.

(3) Almost full set of temporary teeth were present.

(4) Head covered with fully grown hairs.

(5) Although F. H. S. was never heard at any time at any stage, yet the mother felt movements right through the pregnancy.

(6) From the history of the case, the term was of 12 months.

**Points for elucidation:**—

(1) The mechanism by which this gigantic foetus was delivered through a normal pelvis without any difficulty or surgical interference.

(2) The causes leading to the development of this monster when both husband and wife are normal individuals, and neither have a family history of abnormalities.

(3) Causes of the post-maturity.

I have to thank Dr. Ghosal for giving me the opportunity of conducting the above interesting case although the major portion of the delivery was effected by him.

## SELECTED ARTICLES

**The Treatment of Suppurative Otitis Media**  
By S. E. BIRDSALL, F.R.C.S., From "The Post-Graduate Medical Journal," May 1946.

My subject deals with suppurative otitis media, acute or chronic, and from the clinical aspect it comprises the majority of patients who present themselves to the practitioner with discharging ears.

It is the practitioner's first duty to decide whether the discharge is from the external meatus or from the middle-ear, and it is obvious that no treatment can logically be prescribed until this distinct point has been settled.

Confronted with a patient who has a discharging ear, it is essential to know the origin of the discharge; is the diagnosis one of otitis externa or of otitis media? The distinction may be difficult. The following points may be helpful.

**First.**—In otitis externa, tenderness is marked, and pain may be slight. In otitis media, pain may be very severe, and tenderness of the pinna is invariably absent. Mastoid tenderness may be present in either condition.

**Secondly.**—The character of the discharge affords valuable evidence. In amount, it is more copious in otitis media. All discharge must first be removed by mopping or syringing. If it rapidly re-appears, then we are probably dealing with otitis media, in which the secretion in the meatus is the overflow from an infected cavity lined with mucous membrane. In otitis externa, the secretion is derived from the skin lining the meatus, and it will not be replaced in a shorter time than an hour. If the discharge contains mucus, then it must come from the middle-ear, as there are no mucous glands in any skin. The discharge in otitis externa is often bright yellow, as though stained with flavine.

**Thirdly.**—The meatus is usually healthy in otitis media. In otitis externa there is usually some stenosis and the meatus may be very narrow owing to swelling of the lining skin, which either itches or is acutely tender.

**Fourthly.**—In a disease affecting the ear, no examination is complete unless the hearing be tested. It is essential first to clean the meatus of discharge. In otitis externa the hearing will be normal or but slightly diminished. In otitis media there must always be a considerable hearing loss.

### THE ORIGIN OF OTORRHOEA.

It is essential to examine the disease from its onset. An acute otitis media leads to an empyema of the middle-ear. The increasing pressure of exudate leads to a bulging of the drum-membrane. At this stage a myringotomy should be performed. It shortens the duration of a painful illness, the membrane heals perfectly, the hearing is restored, and the discharge ceases in from one to ten days. It is very rarely that mastoiditis or chronic otorrhoea follows. Myringotomy at an early date is the most certain preventive measure against chronic otitis media. Failing myringotomy the membrane is spontaneously ruptured by pressure-necrosis, leading to an open fistula. The invariable additional factor leading to chronic otorrhoea is now facilitated—and this factor is secondary infection, which is the prime cause of chronicity in all surgical diseases.

### FACTORS CONDUCTIVE TO SECONDARY INFECTION

This cardinal factor of secondary infection is now reinforced by the treatment given. The meatus itself is the source of the secondary infection and it is obviously wrong to plug it with cotton-wool. It is also wrong to instil carbolic acid and glycerine, which will produce a chronic dermatitis and which cannot possibly have any therapeutic effect on the underlying middle-ear disease. There is no pyogenic infection in the body in which the application of 4 percent phenol to the infected tissue would be regarded as anything but malpraxis. The use of hydrogen peroxide is also to be condemned, as it causes maceration of the skin of the deep meatus, and it cannot have any bactericidal value in the middle-ear, which it cannot reach.

### RATIONAL TREATMENT.

In a case of acute suppurative otitis media before rupture of the drum-membrane has occurred, we are dealing with a pure infection due to streptococci or pneumococci in the vast majority of cases. If we can prevent secondary infection, the disease will usually resolve in from one to ten days.



How are we to prevent secondary infection? The obvious answer is to keep the meatus surgically clean. This is done by preventing accumulation of discharge, and maintaining the health of its lining skin. The former is best attained by syringing with a sterile non-irritant fluid, such as biniodide of mercury 1 in 4,000. Mopping with sterile wool is open to the objection that it requires a skilled surgeon, and that even in his hands there is no means of removing secretions pushed in front of his cotton-wool pledget on each application. After the syringing, spirit drops are used at a strength of 25 per cent merely in order to dry the skin surface, and not with the object of killing bacteria.

This treatment should be carried out at least twice daily and the meatus should be left free of any foreign body, however sterile. If in spite of this routine the discharge persists for three weeks, there must be a reason for its persistence.

#### PERSISTENT OTORRHOEA.

If a case of acute suppurative otitis media be treated correctly the discharge should cease within 14 days. If the otorrhea be unchanged after this period, it is essential to discover the reason. The factor leading to non-resolution is often discovered on careful examination of the drum-membrane. It is often found that the region surrounding the perforation is occupied by a small bright-red polyp, which is a herniation of granulation-tissue or swollen mucous membrane, which acts as a ball-valve and interferes with drainage of mucus from the middle ear. If this be removed or destroyed by the application of chromic acid on a probe, the otorrhea may be cured dramatically in one or two days, even in cases where it has resisted treatment for months.

The discharge may be persistent and profuse, and it becomes obvious that its volume is greater than could possibly arise from the mucosa of the middle-ear alone. It is probable in such a case that the mastoid cells are infected and an X-ray examination will confirm the diagnosis. The correct procedure will be to obliterate the infected area by a simple cortical mastoid operation which should be performed without delay, as it offers the only chance of healing of the drum-membrane and restoration of good or perfect hearing.

Persistent otorrhea may be caused by an untreated neighbouring infected area, such as an antral empyema, infected adenoids, or tonsils, or bad teeth. These must be sought, and, if found, eradicated.

Very rarely indeed, tuberculosis affects the middle-ear and leads to persistent discharge.

#### CHRONIC OTORRHOEA

In a great number of cases, the institution of rational methods of treatment will have most dramatically favourable results.

It may, however, be impossible to promise a dry ear for this reason. There may be a large perforation which can never heal, much of the drum-membrane having been destroyed. In such a case we are really dealing with a fistula, connecting the nasopharynx with the exterior, and it is obvious that a fistula leading to a cavity secreting mucus cannot be dry. If we can ensure that the discharge is one of mucus only, we must be content. If the discharge continues purulent and offensive, then we are dealing with an infection that involves not only mucous membrane, but also bone.

A radical mastoid operation will be indicated if the continued purulent discharge indicates a dangerous osteitis. The operation will have as its primary aim the eradication of bone disease that endangers life, and it is important to realise that it is not performed in order to terminate aural discharge.

**Vitamin Deficiencies: Stigmas, Symptoms and Therapy** (Issued by the Council on Foods and Nutrition of the "Journal of the American Medical Association" June, 1946).

The accompanying syllabus is a consensus of current views. Lack of complete information due to continued rapid development of the subject renders certain statements tentative and subject to probable early revision. In presenting this syllabus the Council directs that emphasis be placed on the view that vitamins must never be relied on as a substitute for the regular consumption of an adequate diet.

The stigmas and symptoms associated with deficiency of vitamin A, thiamine riboflavin, niacin, ascorbic acid, vitamin D and vitamin K are listed in this syllabus together with a statement concerning treatment of each deficiency. Deficiencies of several vitamins, notably biotin, pyridoxine, pantothenic acid and

Vitamin E, are not accompanied by stigmas which can be recognized at present. The subject is in a stage of fluidity and development, which probably will necessitate early revision or amplification. Particularly is this true of the diagnosis and treatment of deficiency of folic acid. This vitamin has been prepared in isolated form so recently that its consideration here is omitted. Not many of the stigmas listed are diagnostic of a vitamin deficiency in themselves, but the occurrence of several of these stigmas in association is at least presumptive evidence of some nutritional failure. Vitamin deficiencies commonly encountered in clinical practice are multiple. Scrutiny of the dietary history is indicated in cases in which several of the stigmas listed are present. Due attention should be paid to the well-known fact that stresses such as pregnancy, exposure or disease may occasion the development of deficiency states when the diet otherwise might be considered adequate.

Treatment for a deficiency involves administration orally, or, if need be, parenterally of large enough doses of the vitamin to be of therapeutic value and continuation of this treatment for long enough periods to assure a satisfactory therapeutic trial. However, since the diagnosis is necessarily presumptive in many instances, exclusive dependence on specific therapy is justified only infrequently, and basic to good treatment in all cases is a diet planned to be adequate nutritionally and assurance that the diet is eaten. The diet is important for the education of the patient and as a means of dispensing factors heretofore not isolated which will be contained in the foods of such a diet. Likewise helpful in treatment because of its content of factors not as yet identified in some good source of the vitamin B complex as a whole. Products such as brewers' yeast or an extract of such yeast, wheat germ, extracts of cereal grasses or of rice bran, crude extract of liver or desiccated liver represent such sources. For a patient who cannot take foods or drugs orally or in whom absorption is poor, crude liver extract may be given intramuscularly or even on occasion it may be diluted with sterile isotonic solution of sodium chloride or dextrose and administered by vein.

#### Vitamin A

##### STIGMAS SUGGESTING DEFICIENCY OF VITAMIN A.

###### Xerosis of the conjunctiva:

Thickening with loss of transparency, so that only the more superficial vessels of the bulbar conjunctiva are clearly seen, associated with more or less yellow pigmentation, especially along the horizontal meridian of the eyeball; infrequently associated with small foamlike plaques called Bitot's spots.

###### Popular eruptions of pilosebaceous follicles:

A grater-like feel, which in early stages resembles goose-flesh but, when more fully developed, presents the picture of keratosis pilaris. The extensor surfaces of the arms and thighs and the flexor surfaces of the legs are primarily affected.

###### Xerosis or osteatosis of the skin:

Dryness, scalliness and crinkling, in extreme cases resembling alligator skin. In early stages the condition is associated with keratosis pilaris but it persists and extends after follicles have disappeared, the body hairs being broken and later lost. All parts of the body are involved, but the skin of the extremities, particularly of the legs, is more severely affected than the skin of the head and trunk.

###### Follicular conjunctivitis:

Hypertrophy of the follicles, particularly of the lower eyelids.

###### Night blindness:

Conspicuous only in cases of advanced, severe deficiency.

###### Keratomalacia:

Thickening with subsequent ulceration and necrosis of the cornea: present only in most severe and advanced forms of deficiency.

##### TREATMENT OF VITAMIN A DEFICIENCY.

###### Early deficiency state:

25,000 U. S. P. units of vitamin A twice daily for two months or longer.

###### More chronic states:

25,000 U. S. P. units of vitamin A two to three times daily for a prolonged period.

#### Thiamine

##### STIGMAS SUGGESTING DEFICIENCY OF THIAMINE.

Loss of strength of the quadriceps: disproportionate to loss of general strength, evidenced by difficulty in rising from the squatting position.

Loss of vibration sense: first of the toes and later of the malleoli and tibias.

Tenderness of the calves and hyperaesthesia of the feet:

Diminution and loss of the achilles tendon and patellar reflexes first. Other tendon reflexes are lost in the later stages of the polyneuritis of "dry beriberi."

Oedema of the skins, ankles and knee joints; found in "wet beriberi."

Enlarged heart with dependent oedema and elevated venous pressure: Poor response to rest and administration of digitalis unless thiamine is given. This is a late manifestation of severe deficiency (beri-beri heart).

Papillary oedema with retinal haemorrhages: associated with ophthalmoplegia and polyneuritis. The condition is a late manifestation of severe deficiency.

##### TREATMENT OF THIAMINE DEFICIENCY.

###### Acute deficiency state:

10 to 20 mg. or more of thiamine twice daily until relief of symptoms; this may be days or weeks.

###### Chronic deficiency state:

5 to 10 mg. or more of thiamine twice daily for a prolonged period.

#### Riboflavin

##### STIGMAS SUGGESTING DEFICIENCY OF RIBOFLAVIN.

###### Congestion of the limbic plexus:

Visible with a small hand lens are the +20 lens of the ophthalmoscope; invasion of the cornea by capillaries arising from this plexus (vascularization) requires a biomicroscope and slit lamp for detection.

###### Cheilosis:

Represented in chronic deficiency by excessive and irregular wrinkling in acute deficiency by swelling and erosion of the normal wrinkling of the lips. Reddening, thinning, scaling, chapping of epithelium are associated.

###### Angular stomatitis:

Various combinations of erythema and open fissuring in the angles of the mouth with or without a white, moist maceration (perleche); scars of healed fissures.

###### Dyssebacia:

An erythema overlaid with somewhat greasy, flaky accumulations resembling hoar frost, noted mostly in the alae nasi, canthi, pinnae and other folds of the skin, accompanied in some cases by coarsening and elevation of the sebaceous follicles of the nose and cheeks, the latter also seen with deficiency of vitamin A.

###### Magenta tongue:

A purplish red coloring with moderate oedema and flattening of filiform papillae; observed in more advanced deficiency.

##### TREATMENT OF RIBOFLAVIN DEFICIENCY.

###### Acute deficiency state:

5 mg. of riboflavin three times daily for weeks.

###### Chronic deficiency state:

3 to 5 mg. of riboflavin three times daily for a prolonged period.

#### Niacin

##### STIGMAS SUGGESTING DEFICIENCY OF NIACIN.

###### Oedema of the tongue:

Shown by dental indentations.

###### Increased redness of the tongue:

Beefy red in chronic states; scarlet red in severe acute deficiency.

Congestion and hypertrophy of the papillae of the tongue, followed by fusion and atrophy:

In early stages the fungiform papillae are congested and hypertrophied. This is followed by hypertrophy of the filiform papillae and later by their flattening. As they atrophy they fuse or mat together with multiple fissuring to give a cobble-stone appearance and finally baldness. Vincent's infection of tongue and fauces, ulceration and pseudo-membrane formation may or may not accompany these changes in the more advanced stages of this deficiency.

#### Dermatitis:

Erythema, rough scaling, with ulceration and formation of bullae, affecting primarily areas of the skin exposed to light; namely, wrists, ankles, neck and face; observed only in severe deficiency (pellagra) and then frequently associated with diarrhoea and dementia.

#### Encephalopathy

Clouding of consciousness cogwheel rigidity and grasping, sucking reflexes observed in acute, severe deficiency.

##### TREATMENT OF NIACIN DEFICIENCY.

###### Acute deficiency state:

100 mg. or more of niacinamide twice daily for weeks.

###### Chronic state:

100 mg. of niacinamide twice daily over a prolonged period.

#### Ascorbic Acid

##### STIGMAS SUGGESTING DEFICIENCY OF ASCORBIC ACID

Redness, oedema, tenderness and bleeding on pressure of the gums: Observed in acute or sub-acute deficiency of moderate severity, sometimes with, but usually without, other signs of ascorbic acid deficiency.

###### Thickening and increased firmness of the gums:

With recession and exposure of the base of the teeth, including recession of inter-dental papillae; observed in chronic deficiency.

###### Retraction of the gums:

Leaving pockets between gum and tooth, secondary infection and resulting pyorrhoea; observed in chronic deficiency.

###### Loosening and shedding of the teeth.

###### Increased capillary fragility.

Manifested by petechial haemorrhages of the skin, especially in the tourniquet test; observed in more severe acute and sub-acute deficiency. Easy bruising, spontaneous ecchymosis of the skin, idiopathic haemorrhage into joints and slow healing of wounds, observed in severe acute and sub-acute deficiency.

##### TREATMENT OF ASCORBIC ACID DEFICIENCY

###### Acute or sub-acute deficiency state:

100 mg. or more of ascorbic acid for weeks.

###### Chronic deficiency state:

100 mg. of ascorbic acid three times daily over a prolonged period.

#### Vitamin D

##### STIGMAS SUGGESTING DEFICIENCY OF VITAMIN D.

###### Deformities of the skeleton:

Bowed legs, malformation of the chest (funnel breast) and defects of the teeth may be residues of early rickets which is usually no longer active or susceptible to treatment; enlargement of the wrists, elbows, knees, ankles and chondrochondral junctions (beading, rachitic rosary) and bulging forehead (cranial bosses) which respond to treatment are found in infancy and in the rare example of late rickets.

##### TREATMENT OF VITAMIN D DEFICIENCY

###### In infants:

1,500 to 2,500 U.S.P. units of vitamin D daily, continued for several months (double this amount for premature infants).

#### Vitamin K

##### STIGMAS SUGGESTING DEFICIENCY OF VITAMIN K.

###### A tendency to bleeding:

Particularly from minor wounds, related to abnormal lengthening of the prothrombin line, developing spontaneously in new-born infants; observed in adults after treatment with dicumarol or large doses of salicylates; in advanced disease of the liver with poor excretion of bile, and in disease of the intestine, such as sprue in which vitamin absorption is disturbed.

##### TREATMENT OF VITAMIN K DEFICIENCY.

###### In adults:

1-mg. of vitamin K two or three times daily with or without bile (1 Gm. of desiccated bile or bile salts).

###### In new-born babies:

1 mg. of synthetic vitamin K intramuscularly daily in oil solution for several days.

##### Deficiency Symptoms

A diagnosis of vitamin deficiency only rarely can be based on symptoms or less significant abnormalities than those which



have been listed thus far. However, such symptoms and abnormalities frequently accompany the more specific lesions of deficiency.

Symptoms commonly observed with deficiency of thiamine, also less conspicuously in deficiency of other vitamins, include apathy, lethargy, increased emotional irritability, hypersensitivity to noise and painful stimuli, headache, vague fears, confusion of thought, uncertainty of memory, asthenia, loss of manual dexterity, insomnia, heart consciousness, paresthesia, anorexia, nausea, flatulence, epigastric pain, constipation.

Photophobia, burning of the eyes, lacrimation and eyestrain not relieved by glasses are encountered in deficiency of riboflavin.

Other abnormalities unrelated to deficiency of any single vitamin but commonly observed in persons who are malnourished are dry, brittle, lack-luster, rebellious, so-called staring head hair, a loss of sleekness analogous to the rough coat of malnourished animals, blepharitis, spider-like telangiectasis of the face, seborrhoea of the face, patchy pigmentation of the face, especially suborbital and circumoral, sinus arrhythmia, bradycardia, low blood pressure, loss of tone of muscles and anaemia.

## LETTERS TO THE EDITOR

### Then and Now

Marcus Antonius:—

"Octavianus, I have seen more days than you;  
And though we lay these honours on this man,  
To ease ourselves of divers slanderous loads,  
He shall but bear them as the ass bears gold,  
To groan and sweat under the business,  
Either led on driven, as we point the way;  
And having brought our treasure where we will,  
Then take we down his load, and turn him off,  
Like to the empty ass, to shake his ears,  
And graze in commons."

—"Julius Caesar" by Shakespeare  
(Act IV, Scene 1).

A concise, apt and true picture of the attitude of the Government of our country towards the Licentiate is, to my mind, best brought out by the above quotation.

When the I.A.M.C. Special Number of the I. M. J., was published, everyone considered that the 3rd day of April 1943, would remain a Red Letter Day in the history of the medical Licentiate of India, for, one was led to believe that the Government had at last removed for ever the invidious distinction between Licentiates and Graduates in Medicine and had recognised the merit and qualification of the Licentiate. From that day till the world war ended, the Government and the A.I.M.L.A. made frantic appeals to the Licentiates, "in the name of humanity", to join the I.A.M.C.; and the response was no doubt excellent. In those days the Licentiates were given to understand that the post-war era contained a big 'surprise packet', full of good things in store for them. Little did the A.I.M.L.A. realise that all these were merely meant to lure Licentiates into the Army.

The world war is long over. The post-war era has already dawned and one finds that the Government is trying to perpetuate the old order of things. If to-day, one were to peruse the I. A. M. C. Special Number of the I. M. J., it makes a sorry reading and the encomiums showered on the Licentiates in 1943, now appears to be sheer mockery, for, here are a few of the contents of the 'surprise packet':—

(1) Regular Commissions In the I. A. M. C.:—The Licentiate who was considered good enough to hold an Emergency Commission is now required to obtain a Graduate qualification before he is actually appointed to a Regular Commission. If it was not the dearth of doctors in the Army, but honest recognition of the qualification and merit that made the Government grant Emergency Commissions to Licentiates, then they should first be appointed to a Regular Commission and given opportunities to obtain higher medical qualifications and not the other way round.

(2) Army in India Reserve of Officers (Medical):—During war time, when the question of admitting Licentiates to the A. I. R. O. was raised, it was easily shelved aside by the authorities on the plea that the matter was one pertaining to post-war reconstruction and so would be considered in due course,

To-day when the post-war era is already well over an year old, it is pointed out that Recruitment to A. I. R. O. is still under suspension and the question of its composition, continuance, future etc., have not yet been decided. Looking to what has already happened to Licentiates in regard to Regular Commissions, one need not be very optimistic about the Reserve.

(3) Army in India Territorial Force Medical Corps:—The doors of this corps continues to remain banged to the Licentiates, for the I. T. F. Regulations require that an officer should be in possession of qualifications recognised under Section II (1) of the Indian Medical Council Act, 1933 or registrable in the U. K.

In this connection it will not be out of place if I make a reference to the Auxilliary Force (India) Medical Corps. Recruitment to the A. F. (1) is entirely reserved for Anglo-Indians and Europeans. Is it not high time that the A. F. (1) was scrapped or absorbed 'en bloc' into the I. T. F.?

Resettlement of Demobilised Officers: It is deplorable to find, that the Bombay Medical Employment Bureau offers mostly subordinate and ill-paid appointments—such as Railway S. A. S., S. M. O., Subsidised Medical Practitioner, etc.—to ex-officers of the I. A. M. C., but no demobbed officer worth that name will ever stoop so low as to accept these jobs. It is not unlikely that the same is the case with other Provinces and States. In these circumstances the only honourable course left open to the Licentiates is to stand on their own legs and swell the ranks of the Independent Medical Profession.

We have now a Peoples' Government at the centre and in most of the Provinces; India is on the eve of great political upheaval; there is at the moment a lot of talk about Nationalisation and Indianisation of the three Fighting Forces; and we have an Indian Minister in charge of the Defence portfolio. I appeal to the A. I. M. L. A. through the columns of your esteemed Journal, to seize and make the best use of this opportunity, towards securing a rightful and honourable place for the Licentiate in every walk of life. Will it do it?

P. R. PANDIT,  
CAPTAIN, Late I.A.M.C.

### Evasive Replies and Actions

This is with reference to the letter published in June 1946 issue under the caption "DISILLUSIONED".

The reply given by the D.G.I.M.S. to the points raised in the above mentioned article and published in your issue of September, 1946 is neither comprehensive nor satisfactory. If at all it is evasive. The real position is that applications have been called for from the Licentiates for regular commission but simultaneously with it the Administrative Officers have been instructed to recommend as few Officers as possible and these few are further subjected to a Screening Board. Neither of these two procedures exist in the case of graduates. The Screening Board, I understand, has instructions to send up the most minimum number of cases for final interview at G.H.Q. as only about a dozen or two of Licentiates will be taken. This is the correct situation regarding the offer of commission to Licentiates. Is this not an eye-wash? I challenge the authorities to deny this is not a correct exposition of things.

3. As for the regular I.M.D's their fate still hangs in the balance, no decision having been arrived at.

4. The grant of overseas pay to Licentiate medical officers has been under active consideration of the authorities since April 1943 and as yet (very soon everybody barring a few will have been demobilised) no decision has been arrived at.

5. Payment of war gratuity to Emergency Commissioned officers who are normally authorised to a service gratuity on demobilisation, has been refused. This latter thing (service gratuity) is in lieu of pension benefits which is admissible to regular officers in Government employ. In addition to the above benefits, latter are entitled to war gratuity as well. It is therefore only reasonable that the Emergency Commissioned officers also get war gratuity as both these types of people exposed themselves to the same amount of risk, did the same work as comrade-in-arms and fought in the same war. Why should there be any distinction now?

The Government have agreed to grant the following privileges to released P. M. S. and P. S. M. S. officers vide medical Resettlement Bulletin No. 7.

(a) Clothing Benefits,

(b) Release leave benefits viz., military rates of pay will be admissible during the period of the leave which will be credited to civil leave account—earned while in military employ.

May this be published along with this letter for information to all.

32-A Lansdowne Road,  
Calcutta.

PROMODE NATU GUPTA,  
Captain Ex-I. A. M. C.  
Released.

### Bombay University and the Licentiates.

Under the above caption Capt. P. R. Pandit of Ahmedabad, has in your November issue, quoted certain resolutions of the Bombay University. I am giving him the latest information about the subject. In his letter dated 10th October 1946, the Registrar writes as follows:—

"In reply to your letter No. 1397 of the 3rd October, 1946, I am to state that the faculty of Medicine has resolved that the licentiates of this Province including those who have not enlisted for the army be not required to attend regularly for any definite period any of the affiliated colleges but that they be permitted to appear directly for the 1st, 2nd and 3rd M.B., B.S. examinations one after another provided they pursue at an affiliated college courses specially organised for such students by the authorities of the affiliated colleges. The concession was granted only on condition that the Government of Bombay and the College of Physicians and Surgeons decided to discontinue the admission of candidates to the courses respectively for the L.M.P. and L.C.P.S. diplomas permitting only such candidates to pass out as were admitted to the courses one year before the stoppage thereto. The necessary undertaking has been received from the Government of Bombay in respect of the L.M.P. diploma and as such the holders of this qualification are now entitled to the concession referred to above. But as the necessary undertaking has not so far been received from the College of Physicians and Surgeons the resolution is not yet operative in the case of holders of the L.C.P.S. diploma. I am to state however that certain concessions are already granted to the holders of L.C.P.S. diploma and they will be found in the University handbook Part II (1946)."

Girgaum, Bombay 4. } U. B. NARAYAN RAO,  
13-12-46. } Ex-President, A.I.M.L.A.

## NEWS AND NOTES

### Refresher Course in Tuberculosis.

The Post Graduate Refresher Course in tuberculosis under the auspices of the Tuberculosis Association of India, which was postponed owing to unavoidable circumstances, will now be held in Bombay from February 10, 1947.

In addition to lectures by well-known tuberculosis workers in Bombay and by the Technical Adviser of the Tuberculosis Association of India and demonstrations at the J. J. Hospital, K. E. M. Hospital, G. T. Hospital, and Princess Street Sanitary Institute, the candidates will visit Bal-Air Sanatorium, Pachgani and Sir William Sanatorium Wanlesswadi.

The course is open to registered medical practitioners from all over India, men and women, whether in Government service or in private practice.

\* \* \* \* \*

Dr. S. A. Bokhari, Provincial Secretary, A. I. M. L. A., Punjab wires to us under date 10-1-47 that the Punjab Provincial Conference of the A. I. M. L. A. will be held during March 1947. The place and programme of the Conference will be announced in our March Issue if it is received in time for such publication.

\* \* \* \* \*

The Ex-I. A. M. C. Officers Branch of the A. I. M. L. A., Punjab has submitted a well reasoned memorandum to the Minister of Health demanding the absorption of demobilised licentiate officers into the Provincial Medical Service and urging for easy facilities for appearing for the M.B.B.S. examination of the Punjab University. The General Secretary of this Branch Captain Harbans Singh Mahal, King Edward Medical College, Lahore, is trying his level best to get justice done to the demobilised Licentiates Medical Officers. All such officers who have not yet joined this Branch are requested to get in touch with the Secretary.

## ASSOCIATION NOTES

1st Bihar Provincial Conference, A.I.M.L.A.  
(Continued from January 47 issue, Page 23).

Election of Office Bearers:—1. Dr. Bankim Chandra Bose, Chief Medical Officer, Tinsplate Co., of India Limited, Golmuri—was unanimously elected President of the Bihar Branch for 1946.

2. Dr. K. N. Dalippra—Demonstrator, Darbhanga Medical School was unanimously elected Vice-President of the Bihar Branch for 1946.

3. In the election of Provincial Secretary, the following members were proposed and seconded:—

|                                 |                      |
|---------------------------------|----------------------|
| (a) Dr. Nikhil Chandra Banerjee | ... secured 6 votes. |
| (b) Dr. B. N. Mazumdar          | ... " 4 "            |
| (c) Dr. K. Mukharjee            | ... " 3 "            |

The names were put to vote and Dr. Nikhil Chandra Banerjee got the majority of votes and elected Secretary of the Bihar Provincial Branch for the year 1946.

4. Dr. L. C. Sinha, Private Practitioner, Darbhanga was unanimously elected Joint Secretary and Treasurer.

5. The members of the Standing Committee were elected as below:—

Purulia.—1. Dr. A. T. Roy. 2. Dr. A. N. Sarkar.  
Jamshedpur.—3. Dr. H. N. Chandra. 4. Dr. Israil.  
Bhagalpur.—5. Dr. D. P. Srivastav. 2. Dr. T. P. Choudhury.  
Darbhanga.—7. Dr. Shibsanker Prasad. 8. Dr. Tarashankar Prasad.  
Chaibasa.—9. Dr. R. Radharaman. De. 10. Secretary (Branch).

Bengal:—A meeting of the Provincial Standing Committee was held on 11-3-46 at 5-30 P.M. at 27, Dixon Lane, Calcutta. The following resolutions were passed:—

1. Received the Provincial Secretary's letter intimating his inability to attend the meeting and noted contents.

2. In the absence of the minutes book the proceedings of the last meeting could not be confirmed.

3. Considered the proposal of electing a Joint Provincial Secretary and resolved that this meeting does not find any urgency for this office at present.

4. Resolutions passed by the last Howrah Conference were circulated to the branches and to the persons and authorities concerned in the various departments and results are awaited.

In pursuance of a resolution of the said conference a deputation consisting of nine persons headed by Dr. A. D. Mukharji, Provincial President, waited upon the Surgeon General today—a copy of the Memoranda was placed before the meeting and approved by the same.

5. The Reception Committee of the last All-India Conference, Calcutta, has not yet closed the accounts and as such the same could not be placed before this meeting.

This meeting however requests the Reception Committee to close the accounts and place the same before the next meeting of the provincial Standing Committee.

This meeting also requests the Reception Committee to donate Rs. 250 to the funds of the proposed Congress Medical Mission to Malaya out of the funds of Reception Committee immediately.

6. Read the letter of the Munshiganj Branch and papers connected therewith.

Resolved that as questions of observance of medical ethics by two professional men are involved in the issues, the Branch Secretary or the aggrieved doctor be requested to refer the matter to the Registrar of the Bengal Council of Medical Registration for any action the Council might deem fit and proper.

Calcutta.—The Second General Meeting of the branch held on 20-4-46, at 5 p.m. at 27, Dixon Lane, Calcutta.

1. The minutes of the last general meeting were read and confirmed.

2. The Secretary is requested to write a letter to the Provincial Secretary for the result of the Deputation.

3. The Secretary is requested to write to the Secretary of the Campbell Medical School and Hospital, House Staff Union for elucidation of their grievances.

4. The Joint Secretary Dr. D. Bhattacharjee is entrusted with organising the volunteers corps for Public Health and take up the matter in right earnest.

5. In view of the fact that the Central Government is going to appoint a commission for the revision of the scales of pay of all the services it is proposed that the General Secretary be requested to take note of it at once and start working to represent the service condition of the Licentiates to the Commission.

6. The Contingent Bill from 24-1-46 to 18-4-46 amounting to Rs. 203-15-9 only was placed by the Honorary Secretary and was passed unanimously.

(2) Minutes of the general meeting held on 14-6-46 at 27, Dixon Lane, Calcutta.

Dr. A. M. Malik was in the chair and the following resolutions were passed. A condolence resolution was also passed at the untimely death of Dr. Nalini Sen. The following resolutions also were passed:—

1. Calcutta Branch of A.I.M.L.A., places its deep sense of sorrow at the sad demise of Dr. B. M. Das Gupta, Late Director of School of Tropical Medicine, who in his short period of life, established himself to be one of the eminent research scientists of the world.

2. The minutes of the last meeting were read and confirmed.

3. The Contingent Bill amounting Rs. 49-9-6 from 19-4-46, to 13-6-46, was placed before the meeting and was unanimously passed.

4. It is resolved that a Sub-Committee consisting of President, Secretary, Drs. Ajit Sengupta and Azizul Haque be formed to draft the resolutions and send it to the proper authorities concerned regarding the Sub-Assistant Surgeons' grievances and also to wait on a deputation to the Minister-in-Charge of Public Health for the purpose.

5. It is resolved that this Branch nominates Dr. Jamiat-Ram Desai of Ahmedabad as the President of the next All India Conference.

(3) A Sub-Committee meeting regarding the service conditions of the Sub-Assistant Surgeons was held at 2, Chittaranjan Avenue, at the residence of Dr. A. M. Malik at 8 p.m. the following were present Dr. A. M. Malik was in the chair.

The following resolution was drafted and the Secretary is requested to send it immediately to the Minister-in-Charge, Local Self Government, Bengal, Secretary to the Government of Bengal, the Surgeon General with the Government of Bengal.

This meeting records with deep concern that though the Provincial Health condition is by no means changed, if not steadily being deteriorated over already worst situation, as to think to sacrifice the services of the present number of medical men who have been serving the country for the difficult period of last five years with a very meagre pay (war and famine zone) the Government has issued notice intimating all the temporary Sub Assistant Surgeons recruited since 1940 that their services may be terminated at any time without notice.

This meeting considers it necessary to impress upon the people as well as the Government of Bengal that while according to the first five years' plan of National Health Reconstruction put forward by the Bhoré Committee (appointed by the Government of India) the number of hospital beds and dispensaries are to be doubled and the long ignored preventive measures are to be adopted in an elaborate scale, while there is acute dearth of medical personnel in all the Medical Institutions as to compel the doctors to spare on average only 48 seconds per patient for examination and directions (Bhoré Committee), and last but not the least when the province is already under the death grip of famine evidently to be followed by waves of epidemics much more severe than that of 43-44, there can be no justification for retrenching the existing number of doctors.

The meeting while being un-officially informed of the intention of the Government to declare the existing posts vacant and then to recruit according to the merit from among the existing temporary civil and demobilised military personnel warns all concerned that such a policy will ultimately throw a pretty good number of doctors out of job.

The meeting, therefore, requests all the Sub-Assistant Surgeons and other members of the Association as well as people of Bengal not only to resist such a suicidal policy of retrenchment and demobilisation first, and reconstructions and reappointment last if not least but to see that the recommendation of the Bhoré

Committee and Professor Adarkar for reconstruction of National Health instead of being eye washed be immediately put into operation which will not only absorb the temporary civil and demobilised army doctors but will definitely require many more.

And this meeting is further of opinion that even if the whole scheme of Bhoré Committee takes time to materialise, the present number of medical men if not more will be required and can be absorbed by making all the temporary men permanent.

This meeting therefore urges upon the Government not to discharge the temporary Sub-Assistant Surgeons but to make them permanent with a revised and approved scale of pay.

It is resolved that a deputation headed by Dr. A. M. Malik M. L. A. do wait upon the Hon. Minister-in-Charge of Public Health to put before him the resolution mentioned above and the questions arising out of it for favour of implementation.

(4) Minutes of the emergent general meeting held on 4-7-46 at 27, Dixon Lane, Calcutta at 8 p.m. Dr. A. M. Malik was in Chair and the following resolutions were passed.

1. The minutes of the last meeting were read and confirmed.

2. The Contingent Bill amounting to Rs. 42-14-0 from 14-6-46 to 4-7-46 was placed before the meeting and was passed unanimously.

3. In view of the fact that the Government of Bengal have set up a Committee to consider the revision of scales of pay and other service conditions of the Government employees, this branch requests the provincial standing committee to take immediate action in properly representing the case of the licentiates employed under the Government.

Further resolved that the Calcutta branch should without delay form a Sub-Committee with the following members to formulate an elaborate scheme for the above purpose and submit it to the different authorities:—Dr. A. N. Koy (Convenor),

Dr. Naren Bhattacharjee, Dr. Bimal Ukil, Dr. Samar Roy Choudhury, Dr. Sachin Sahane (Anatomy Dept, Campbell Hospital) and Dr. Salil Dutt.

4. It is resolved that the following four will represent as delegates from Calcutta Branch and No. 5, to 8, as substitute delegates to the next All-India Conference of our Association which will be held at Pona during October 1946.

Delegates and Substitute Delegates:—  
Dr. A. M. Malik, Dr. J. Majumdar, Dr. N. Bhattacharjee, Dr. Salil Dutt, Dr. Samar Roy, Dr. B. Ukil, Dr. K. Chakravarty, Dr. A. Sengupta.

5. Resolved that retired doctors when re-called to serve should be given the salary at which they retired and not the initial salary of the cadre as is done in the case of S.A.S. only.

Chaibasa:—Proceedings of the 2nd Annual Conference of the Chaibasa Branch of the A.I.M.L.A., held on the 28th January, 1946.

1. The proceedings of the last annual conference were read and confirmed.

2. The report of the Branch Secretary was read and adopted.

3. Resolved that our sincere thanks be conveyed to All-India President, General Secretary, Provincial President and Secretary for their kind guidance and co-operation in the matter of holding the 1st Bihar Provincial Conference at Chaibasa.

4. Resolved that this Branch heartily thanks the members of the Jamshedpur Branch as it is their co-operation which has helped us to make the Provincial Conference at Chaibasa a success.

5. Considered the Memo. No. 5337, dated 31-10-1945, from the Chairman, District Board, Singhbhum, and resolved unanimously that the Chairman, District Board, be requested to reconsider the subject of taking a Licentiate in the Medical Sub-committee. The Lady Doctor was not selected as a representative of the Licentiates, but she was taken in as a Lady Member of the Board.

6. Resolved that the 25% of pay declared to be paid to the medical officers for doing epidemic duty is very poor, and this branch of the A.I.M.L.A., requests the Chairman, District Board Singhbhum to reconsider the decision, in view of the fact that there are new and old grades, and a doctor doing the same kind of work will be subject to different kinds of remuneration. The members strongly urge the District Board to introduce a uniform scale of pay.

7. (a) Resolved to request the Chairman, District Board Singhbhum, that due consideration be given in cases of transfers of the doctors serving under the District Board in respect of length of service, scale of pay etc. (The junior doctors may not supercede the claims of the senior one—as they have got ample time to get better places).

(b) Further resolved that the District Board, Singhbhum, be requested to classify the Dispensaries under the Board into two classes (a) and (b). Class (a) will consist of six dispensaries in Dhalbhum and in order of seniority the 1st six medical officers will be in charge of these dispensaries. Any transfer amongst them when due will be within these six dispensaries. Class (b) will consist of the remaining 5 dispensaries in Kolhan with the post of the Reserve Medical Officer and the remaining medical officers will be in charge of these places. Any transfer amongst these medical Officers when due will be within these 6 places. Whenever there will be a vacancy in class (a) it will be filled in by the seniormost doctor of that class.

8. Resolved to request the District Board, Singhbhum to revise the scale of pay of the medical officers serving under it in view of the prevailing high cost of living.

9. The Contingent bills of the Branch from October to December, 1945, amounting to Rs. 9-8-0 were scrutinised and passed.

10. The T. A. bills submitted by Dr. R. P. De for doing propaganda and recruitment work during the period from October, 1945 to January, 1946, amounting to Rs. 28-6-0 were put up and passed.

11. The following office bearers were elected.  
(a) President ... Dr. N. R. Buxi.  
(b) Vice-President ... Dr. (Mrs.) N. S. Das.  
(c) Secretary cum Treasurer ... Dr. A. R. Kundu.  
(d) Joint Secretary ... Dr. G. C. Bose,  
(e) Members—Executive Committee—

1. Dr. R. R. De  
2. Dr. R. P. De  
3. Dr. A. K. Kumar  
4. Dr. P. C. Sen  
5. Dr. A. K. Mitra  
6. Dr. K. N. Banerjee

12. This meeting records with appreciation the "Member ship Drive" by Dr. Rampada De with whose help the Branch Secretary was able to increase the number of membership of this Branch from only 25 in 1944 to 51 in 1946.

13. It is not always possible for a Branch Secretary to know if and when a member of his branch discontinues his membership of the A.I.M.L.A. It is therefore resolved that the Treasurer (A.I.M.L.A.) be requested to kindly inform the Branch Secretary as soon as a member of the concerning branch ceases to be a member of the parent body so as to enable him (Secretary) to find out the reason and if possible, to re-enlist the member.

The accounts and the activities of the Chaibasa Primary Branch for the year 1945 i.e. from 1st January '45 to 31st December 1945:

| Receipts.                                                                           |           | Accounts.                                                               |           | Expenditure. |           |
|-------------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------|-----------|--------------|-----------|
|                                                                                     | Rs. A. P. |                                                                         | Rs. A. P. |              | Rs. A. P. |
| 1. Balance from 1944...                                                             | 30 7 6    | 1. To Dr. Worha, Treasurer, A. I. M. L. A., membership subscription ... | 104 0 0   |              |           |
| 2. Subscription for this Branch at the rate of Rs. 2 per member from 49 members ... | 96 0 0    | 2. Postage Stamps ...                                                   | 25 10 0   |              |           |
| 3. Membership subscription realised through our Branch from 26 members ...          | 104 0 0   | 3. Miscellaneous ...                                                    | 24 3 0    |              |           |
| 4. Donation ...                                                                     | 15 0 0    | 4. Contingencies ...                                                    | 22 15 0   |              |           |
| 5. Asrecoupment from Central Body on account of contingencies etc. ...              | 29 10 0   |                                                                         |           |              |           |
| 6. Advance for membership campaign ...                                              | 20 0 0    |                                                                         |           |              |           |
| 7. Interest ...                                                                     | 0 6 0     |                                                                         |           |              |           |
| Total receipts ...                                                                  | 295 7 6   | Total ...                                                               | 176 12 0  |              |           |
| Total expenditure ...                                                               | 176 12 0  |                                                                         |           |              |           |
| Balance ...                                                                         | 118 11 6  |                                                                         |           |              |           |

out of which Rs. 96-11-0 in the Bank and the rest Rs. 22-0-6 in cash with the Treasurer cum Secretary.

If will be seen that Rs. 96 has been shown as subscription received from the local branch from 49 members at the rate of Rs. 2 per member. The apparent anomaly with regard to that requires an explanation which is as follows:—

|                                                                                            |        |
|--------------------------------------------------------------------------------------------|--------|
| The figures ought to have been 49x2 ...                                                    | 98 0 0 |
| Two members did not pay their local subscription and therefore deduct ...                  | 4 0 0  |
| add Rs. 2 being the subscription from one member who paid in advance for the year 1946 ... | 94 0 0 |
|                                                                                            | 96 0 0 |

As regards activities.—We had 10 meetings of the Executive Committee during the year 1945. In all the meetings we had the quorum and every member took keen interest in discussion.

As regards the number of members—we had only 25 members in our roll in 1944, while in 1945 it has come to 49 and till to date is 51—a most encouraging sign and this shows the popularity of our Branch.

I must admit that behind all these encouraging activities stand two souls (1) Dr. A. R. Kundu and (2) Dr. Rampada De. It is simply their untiring energy and ability which has brought our branch to this stage.

(2) Proceedings of the Executive Committee meeting of the Chaibasa Branch, All India Medical Licentiates Association, held on 10-3-1946 at 6 P. M.

Dr. N. R. Buxi presided.  
1. The minutes of the last meeting were read and confirmed with the exception of Resolution no. 7 (a) and (b) the confirmation of which was kept postponed till next meeting for further discussion on the subject.

2. With a view to make the A. I. M. L. A. more representative and to add more strength to our branch, it was resolved that each member of the Executive Body should try his utmost to enrol as many members as possible.

3. Advancement of Scientific knowledge being one of the main functions of our Association it was resolved that a Scientific Sub Committee be formed with Drs. A. K. Mitra, and R. De as Secretary and Joint Secretary, respectively, and that they be requested to arrange for scientific papers, case demonstrations etc. in the Executive Committee meetings and thereby make the meetings more attractive and interesting.

It was also resolved that Dr. Mitra be authorised to declare prizes for the best contributions from the members and a sum of Rs. 5/- be paid to him as advance to meet the postal expenditure likely to be incurred in this connection.

(3) Proceedings of the Executive Committee meeting of the Chaibasa Branch of the All-India Medical Licentiates Association held on Sunday, the 5th May, 1946, at 5 p.m.

Dr. N. R. Buxi presided.  
1. Minutes of the last meeting were put up and adopted.  
2. Resolution No. 7 passed in the Annual Conference of the Chaibasa Branch held on 28-1-46 was again put up for discussion and it was resolved that since objection has been raised by some members against its confirmation, a reminder be issued to all D. B. doctors to whom the resolution specially relates, with a view to elicit their considered opinion in the matter.

3. A copy of circular No. 11 of 19-4-46 from the General Secretary to all Provincial Secretaries as forwarded by the Bihar Provincial Secretary under his memo No. 1-17 dated 27-4-46 to the Secretary, Chaibasa Branch, was discussed and it was resolved that since the issue is of vital importance the opinion of every individual doctor in service be sought for and that the Provincial Secretary be informed to request the General Secretary to organise an united front by vigorous propaganda in press and platform before deciding to take any drastic step in the matter.

4. This meeting regrets the unsympathetic attitude of the executives of the Singhbhum District Board towards the Medical Officers serving under them. The grievances of the doctors have been ventilated to them on several occasions in the past by adopting resolutions from time to time and duly communicating the same to them but to no effect.

Hence it was resolved that instead of carrying on any further correspondence, it is desirable to wait upon the Chairman, and Vice Chairman, District Board, in deputation for placing before them the genuine grievances of the medical officers awaiting immediate redress and a suitable date and time be fixed by the Secretary in consultation with the District Board authorities.

5. The contingent bills of this branch for the quarter ending March, 46 amounting to Rs. 22-3-3 were scrutinised and passed for submission to the General Secretary for his doing the needful.

6. This meeting appreciates the recent move taken by the Bihar Government in converting the Darbhanga Medical School into a Medical College. This move will be more appreciated if the Government provide adequate facilities to the Licentiates for qualifying themselves as Graduates since the Licentiates form the main prop of the medical profession in the country rendering medical aid to the majority of the public. They should be given the first preference to qualify themselves as graduates for there is no denying the fact that given the opportunity of passing out the Degree Course, an experienced Licentiate will prove more efficient than a newly qualified Graduate.

(4) Proceedings of the Executive Committee meeting of the Chaibasa branch of the A.I.M.L.A., held at 5 p.m., on Sunday the 16th June, 1946.

In the unavoidable absence of Dr. N. R. Buxi, the President, Mrs. B. Kaur, the recently transferred Lady doctor of this place, was voted to the chair.

1. The following resolution was moved from the chair and passed unanimously and the members present were requested to stand and observe silence for a minute:—

"This meeting of the Executive Committee of the Chaibasa branch of A.I.M.L.A., records its deep sense of sorrow and profound grief at the sad and premature death of Mrs. N. S. Das, a popular Lady doctor of this town and an energetic member of this branch who held the office of the Vice-President of this branch since its inception and conveys its heart-felt condolence to the bereaved family.

2. The minutes of the last meeting were read and confirmed with the exception of Resolution No 7 passed in the Annual General meeting held on 28-1-46.

The letters from such D. B. Doctors who responded to the Secretary's reminder to express their views on the above resolution were read and it was found that there is a great diversity of opinion regarding transfer of Medical Officers. Hence it was resolved to postpone any further discussion on the subject till the next Annual General meeting because it is the general body which alone is competent enough to bring about an amicable settlement of such a vital issue affecting all the D. B. doctors.

3. Read and considered General Secretary's Circular No. 13 dated 1-6-46 to all Provincial and Branch Secretaries regarding election of the President for the 34th Annual Conference of the A.I.M.L.A., to be held at Poona during October 1946 and it was resolved that this branch proposes the name of Dr. A. D. Mukerji for the Presidency of the said conference.

4. Read and considered General Secretary's Circular No. 14 dated 1-6-46 to all Branch Secretaries and it was resolved that the Secretary (Chaibasa branch) be requested to—

- submit the Annual Report of this branch and a list of members with their names and roll numbers to the General Secretary in due time,
- ask for resolutions, to be placed before the forthcoming Annual conference, from all members of this branch and forward copies of the same to the General Secretary in due time for his doing the needful.

5. This branch with a membership of more than 50 is entitled, as per rules, to send 3 delegates to the ensuing 34th Annual Conference and accordingly it was resolved that the following members be elected to represent this branch in the above conference,

- Dr. P. C. Sen,
- " R. R. De.
- " A. R. Kundu.

In the event of failure of any one of the above members to attend the conference Dr. K. N. Banerji and if Dr. Banerji fails, Dr. R. P. De will replace him but in any case the total number of delegates from this branch must not exceed three.

6. In pursuance of Resolution No. 4 passed in the Executive Committee meeting held on 5-5-46, the Secretary's letter No. 109—110 written to the Chairman and Vice-Chairman of the Singhbhum District Board was put up and it was noted with regret that no reply had been received from them till then. The Secretary was, however, requested to write to them again and in case no reply from them be forthcoming, to make an attempt to contact them personally when they come to Chaibasa next time to attend the Board's meeting to be held on 22-6-46 and to arrange for meeting them in deputation as early as possible

7. The Secretary was also requested to prepare a memorandum stating all the reasonable grievances, summed up from among those already furnished to him by the District Board doctors, for presenting before the District Board authorities, if and when they accept to receive the proposed deputation.

8. If the deputation be agreed upon it will consist of the following members:—

- Dr. N. R. Buxi ... President.
- " A. R. Kundu ... Hony. Secretary.
- " P. C. Sen. ...
- " R. De. ...
- " G. C. Bose ...

(5) Proceedings of the Executive Committee meeting of the Chaibasa Branch of A. I. M. L. A. held at 5-30 p. m. on Sunday, the 28th July 1946 at Sadar Hospital, Chaibasa.

1. In the absence of the President, Dr. N. R. Buxi, Mrs. P. K. Ghosh, the new Lady doctor of Sadar Hospital, was voted to the chair and was elected Vice-President of the branch in place of Late Mrs. N. S. Das.

2. Confirmed the proceedings of the last meeting held on 16-6-46 after proper correction of item No. 5 in which there was a recording mistake as noted below:—

Item No. 5-Read Dr. R. P. De in place of Dr. R. R. De and vice versa in the list of delegates elected for attending the 34th Annual Conference of A. I. M. L. A.

3. Read and considered Circular No. 15 dated nil from the General Secretary, A. I. M. L. A. to all Secretaries directing every branch to call a representative meeting in collaboration with the Ex-I. A. M. C. Doctors and giving their views on the subject of creating a deadlock by way of non-co-operation; the following resolution was unanimously adopted:—

This meeting of the Chaibasa branch extends its heartfelt sympathy to the demobilised I. A. M. C. doctors who readily joined the Army but who on demobilisation are thrown overboard.

This meeting, at the same time, reiterates the resolution No. 3 passed in its previous meeting held on 5-5-46 and emphasises the need of organising a vigorous propaganda drive with a view to feel the pulse (unity and strength) of the Association before administering a drastic remedy (non-co-operation).

4. Resolved to pass the contingency bills of this branch for a sum of Rs. 9-1-0 for the quarter-ending June, 46.

Further resolved that the General Secretary be requested to arrange for an early payment of the following outstanding contingency bills of this branch already submitted to him for disposal.

|                                                                                                                | Rs. | As | Ps   |
|----------------------------------------------------------------------------------------------------------------|-----|----|------|
| 1. Balance of Contingency bill for June 45                                                                     | ... | 4  | 0 0  |
| (Vide Branch Secretary's letter No. 80 dated 21-5-46—regarding discrepancy in preparing the bill for June '46) |     |    |      |
| 2. Contingency bill for October '45 Payment received.                                                          | ... | 3  | 5 0  |
| 3. Arrear for November '45                                                                                     | ... | 4  | 6 3  |
| 4. " " December '45                                                                                            | ... | 15 | 5 3  |
| 5. " " January '46                                                                                             | ... | 1  | 10 0 |
| 6. " " February '46                                                                                            | ... | 5  | 4 0  |
| 7. " " March '46                                                                                               | ... | 33 | 14 6 |
| Total Dues                                                                                                     | ... | 33 | 14 6 |

5. Resolved to sanction Rs 14-0-0 from the branch finance for final payment of the bill of the photographer for the group photo taken in connection with the Bihar Provincial Conference.

Resolved that since Captain D. N. Biswas has joined his former post here after the Army Service, he be co-opted a member of the Executive Committee.

Muzaffarpur (Bihar).—The Annual General Meeting of the branch was held on 17-3-46 at 7 p.m. at the Kumar Pharmacy with Dr. B. C. Akar in the chair. 8 members were present.

1. The annual report was read and passed.  
2. Unanimously resolved that the following office bearers be elected for the new year 1946-47.

- Dr. B. C. Sarkar ... President.
- Dr. S. P. Singh ... Secretary and Treasurer.

3. Unanimously resolved that Re. 1 be charged as annual subscription from the town members specially to meet the initial expenses of the branch and to raise a local fund.

4. Resolved that the A.I.M.L.A. may be amalgamated with the I.M.A. but there should be a sub-committee to safeguard the interests of the licentiates therein.

Darbhanga (Bihar).—The following resolutions were passed on the 7th April, 1946.

(1) Resolved that a sub-committee be formed to work in detail the line of action to be decided upon to represent or to wait in deputation upon the Government with regard to the future prospectus of such members of our Association who could not for some reason or the other avail of the I.A.M.C.

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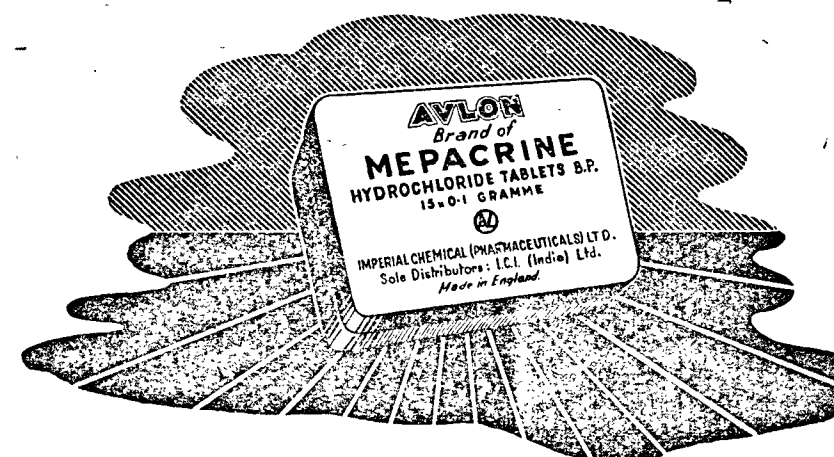
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(2) A resolution was passed on the 5th May 1946, that extensive efforts be made to enrol as many members as possible throughout the District. The position of the demobilised I. A. M. C. officers is too distressing in as much as they have been thrown back on a pay of Rs. 60 as against their military pay - Rs. 500 a month! The most heart rending and burning example is of Dr. Harihar Ghosh who was a demonstrator in Medicine in the Darbhanga Medical School and who then graduated from Madras and who after graduating became Captain in the war field but is now serving here as Sub-Assistant Surgeon on Rs. 65-

(4) Resolution passed on the 2nd June.

In view of the fact that licentiate class has been abolished this meeting resolves that the Government be moved through our A. I. M. L. A. that a fair chance for graduating be given to the young generation and those with 10 years professional experience be given the same status as the Graduates of the older generation.

(2) Resolutions passed at the extraordinary meeting of the Darbhanga Branch of the A. I. M. L. A. held on the 13th April, 1946:—

1. Resolved that this Association thanks the Government of Bihar for absorbing the 2nd and 3rd Medical Officers of the provincialised Sadar Hospitals in the permanent Cadre of Government.

2. Resolved that this Association requests the Government to abolish the cadre of Sub-Assistant Surgeons and unify the medical services of this Province.

3. Resolved that the designation of S. A. S. be forthwith abolished and replaced by "Medical Officers."

4. Resolved that until the Resolution Nos. 2 and 3 are not brought into effect, S. A. S. with meritorious services of at least 10 years standing be promoted to the rank of Assistant Surgeons. This Association notes with regret the step-motherly treatment of the Government in so far as the promotion of this class is concerned which is miserably few and far between. This class is the only exception whereas every other department and branches of Government servants of subordinate services get liberal and much better percentage of promotions. The Association further requests the Government to kindly fix the promotion at 25 per cent of the cadre.

5. Resolved that the Government be requested to absorb the temporary and officiating S. A. S. into permanent cadre as they have served the civil population ungrudgingly as also because they were within the regions of Defence of India Rules and were prevented from resigning their services when they so desired.

6. Resolved that the initial pay of the S. A. S. be fixed at Rs. 150/- with a time scale of 150-20-350.

7. Resolved that the Government be requested to allow the ambitious licentiates to take the M. B. B. S. Course in a medical college without any restriction whatever and that all licentiate applicants be admitted in the college. The Government be requested to encourage this spirit of licentiates and not shut doors against them

8. Resolved that no distinction must be made and preferential treatment be given between those who joined the army and those who could not for one reason or other avail of it as the latter also were governed by the Defence of India Rules; as such reservation of cent per cent posts in the Medical Services for the army returned personnel would be very unjust and unfair to the rest of the others concerned.

**Mymensingh. (Bengal):**—A meeting was held on 2-6-46 with Dr. B. Chowdhury in the chair, to mourn the sad demise of Dr. B. M. Das Gupta. 9 members were present.

Resolved that this Branch deeply mourns the sad demise of Dr. B. M. Das Gupta, Rai Bahadur, L.M.P., Late Professor of Proto-Zoology and late Director of School of Tropical Medicine, Calcutta and member and patron of A.I.M.L.A. Further resolved that a copy of the above resolution be sent to the members of the bereaved family with whom this meeting shares their grief.

Dr. A. Nandy, late student of Dr. Das Gupta, elaborated the life and activities of Late Dr. Das Gupta. At the end two minutes silence was observed.

**24 Perganas Branch: (Bengal).**—(1) A general meeting of the above branch was held on 28-4-46 at 5 p.m., at Gobardanga in the residence of Dr. R. N. Maschatak under the presidency of Dr. S. Sarkar. Twelve doctors were present. The following resolutions were passed:—

(1) Proceedings of the previous meeting held on 31-3-46 were read and confirmed.

(2) Discussions on Cholera:—Clinical varieties and detailed treatment of cholera were discussed and all the members present participated.

(3) Recruitment of members:—Four new members were recruited on the spot.

(4) Place of next meeting:—Resolved that Dr. B. K. Chatterjee's place (Barasat) be selected as next place of meeting in May 1946.

(5) Resolved that discussions on "Pulmonary Tuberculosis" would be held in the next meeting.

(2) Meeting held on 26-5-46 at Baraset Trevor Hall under the Presidentship of Dr. S. Sarkar, 16 doctors were present.

(1) Two minutes silence was observed, condoling the death of Rai Bahadur Dr. B. M. Das, Gupta. It was resolved to send a letter of condolence to the members of the bereaved family.

(2) Proceedings of the previous meeting held on 28-4-46 were read and confirmed.

(3) Paper on "Question of Malaria in Pulmonary Tuberculosis" was read by Dr. A. Goswami and a detailed discussion was held on this paper in which all the members participated.

(4) (a) 2nd Contingent Bill was passed for Rs. 9-0-6.

(b) Suburban Bank (Dum Dum Branch) was selected for depositing the money (branch fund) in the name of the branch and the Hon'y. Secretary be authorised to operate the same.

(c) Dr. K. K. Dutt's place (Dum Dum Jn.) was selected to be the next place of meeting in June 1946.

(d) It was resolved that the paper on Kala-Azar to be read and discussed in the next meeting.

(5) Four members were recruited on the spot and Rs. 12/- was realised for the branch fund.

(3) A general meeting of the above branch held on 23-6-46 at Dum Dum Jn. at the residence of Capt. K. K. Dutt, under the presidentship of Dr. S. Sarkar. 18 members were present.

(1) Proceedings of the previous meeting held on 26-5-46 were read and confirmed.

(2) Resolved unanimously that Dr. A. D. Mukherji be elected President for the next All-India Conference to be held at Poona in October, 1946.

(3) Resolved unanimously that the temporary Sub-Assistant Surgeons of the B.M.S., (Lower) be reinstated as present incumbents in the B.M.S.

(4) Two members were recruited on the spot and Rs. 5/- was realised on the spot of the meeting for the Branch fund.

(5) Interesting and detailed discussion on Kala-Azar was held and all the members present participated.

(6) It was resolved that the paper on "Wound-Varieties, recent treatment etc." be read and discussed in the next meeting.

(7) Dr. P. K. Roy Chaudhury's place (Baruipur) was selected to be the next place of meeting in July 1946.

(8) With a vote of thanks to the chair and sumptuous dishes being served by Capt. K. K. Dutt, the meeting terminated.

(4) Meeting held on 28-7-46 at Baruipur under the Presidentship of Dr. P. K. Roy Chaudhury. 14 Doctors were present.

(1) The proceedings of the last meeting held on 23-6-46 were read and confirmed.

(2) Resolved that the following members be elected as delegates to the 34th All-India Conference at Poona in October and 3 members are to be kept as reserve.

1. Dr. P. K. Roy Choudhury. 2. Capt. K. K. Dutt. 3. Dr. R. N. De. 4. Dr. R. C. Chakrabarty. 5. Dr. S. C. Sen-gupta. 6. Dr. R. N. De. 7. Dr. P. B. Dutta.

(3) One doctor was recruited on the spot as member and Rupees six was collected as Branch Fund

(4) Paper on the "Treatment of Wounds" was read by Capt. K. K. Dutt and the paper was discussed by all the members present.

(5) Licentiates and I.A.M.C.—During the world war the Licentiates served in the I.A.M.C. with commendable merit and integrity which has been highly spoken of by the highest authority. After the termination of hostilities and when demobilisation has commenced, the re-settlement of the Commissioned Licentiate Medical Officers in civil employment has not been effected as sincerely as it deserved. Majority of the Commissioned

Licentiate Medical Officers are not being given regular commissions in the Army without ascribing any cogent reason. Also the Licentiate Medical Officers who were commissioned from I. M. D. (Indian Cadre only) or from Provincial Civil Medical Departments are being relegated to their former humiliating terms of service.

Since this unjustified and discriminatory attitude of the Government calls for immediate redress, this meeting of the members of the 24 Pargana Branch, A.I.M.L.A., unanimously resolves to request the President and General Secretary of the A.I.M.L.A.,

(i) To form a Sub-Committee including the President, General Secretary, Editor and 4 members of I.A.M.C. as early as possible.

(ii) To draft a memoranda of the services rendered by the Licentiates during war and the injustice done to the class by the Government in the post-war period and rouse public opinion in the matter.

(iii) To circulate the memoranda to the party leaders and prominent members of Central Assembly, D.M.S., D.G.I.M.S., War Secretary to the Government of India for action.

Further resolved that the copy of the above resolution be forwarded to the President and Secretary, A.I.M.L.A., at the earliest opportunity drawing their immediate attention.

**Chittagong (Bengal).**—The second District Conference of their Branch of A. I. M. L. A. was held on 5th, May 1946 at 2 P. M. at the Municipal Reading Room. Dr. A. Bhattacharjee, Teacher, Chittagong Medical School occupied the chair.

Many doctors from various parts of the District attended the conference.

Dr. K. P. Ghosh, Secretary of the Branch read the letters of Dr. A. D. Mukherjee, Dr. A. N. Roy, Dr. B. Chowdhury, Dr. Monohar Lal Kapur (President), who could not attend the conference, but sent the address.

Then the yearly report of the branch was submitted by the Secretary Dr. K. P. Ghosh. In the report he mentioned, that total number of members increased to 120 from 88. Nearly 22 doctors joined I. A. M. C. and doctors in A. R. P. service and all the relief and Emergency hospitals were conducted by licentiate doctors of this branch.

15 General meetings and 6 clinical meetings were held during the year, and in one meeting Dr. A. D. Mukherjee was present as guest.

Then the President read the address; in his address, he mentioned the following points.

Unification of medical education is an essential factor and Calcutta University should be congratulated for the condensed M. B. Course. He also added that I. A. M. C. licentiates proved their efficiency and merit. But still the grievances of the licentiates in various services are too many, though they are the backbone of the profession in India.

To change this atmosphere, they should enter the assembly Teaching Staff of the institutions should not be allowed in private practice, so that they can do research work and allow more duties.

Indian Medical Council should have a common register for the doctors. Temporary Military Hospitals should be transformed to the permanent hospitals, with better arrangements.

Quackery should be stopped immediately by law, it is a public danger.

In conclusion, he thanked all members, present.

Then the following resolutions were accepted after speech of Dr. Haripada Chosh and Dr. B. A. Khan.

1. Resolved that a deputation be sent to the M. L. As (local) regarding the deplorable conditions of U. B. Charitable Dispensaries.

2. Resolved that, as Jail doctors under Superintendent of the Jail, who is a medical man, they should not remain subordinate to the Jailor.

3. Resolved that, introduction of one provincial Medical Service open to all Registered Medical Practitioners should be done.

4. Introduction of unitary type of Medical education.

5. Acceptance of the recommendations of the Health planning Committee and introduction of National Health Service.

6. Amalgamation of I. M. A. and A. I. M. L. A. i. e. All India Medical Organisations.

7. Medical profession to take more active interest in Social and Political matters.

Then the Scientific session began and the following subjects were discussed.

1. Dr. Suresh Chakrabarty, Supdt. Kutubdia F. R. E., on peculiar manifestation of Kala-Azar and Amoebiasis.

2. Dr B. Sil on recent treatment in V. D.

3. Dr. N. C. Bhattacharjee on Penicillin.

4. Dr. K. P. Chosh on Pediatrics.

(2) A meeting was held on 23-6-46 at Municipal Reading room to meet Rai Saheb Dr. Manoharlal Kapur, President, A.I.M.L.A. 30 Doctors were present and Dr. Dababrata Das occupied the chair.

Secretary of the Branch, Dr. K. P. Ghosh, briefly narrated the activities of the Branch and qualities of Dr. Kapur. Then Dr. Kapur delivered his lecture for nearly one and half hour and discussed all the points regarding the Association and its future.

Then Dr. Dababrata Das thanked Dr. Kapur for his visit to Chittagong and his valuable speech.

**Jambusar Branch (Bombay).**—Proceedings of the meeting held on 14-6-46.

(1) Dr. A. D. Mukherji of Calcutta be nominated as President of the next Conference at Poona.

(2) The short report prepared by the Secretary of this branch be sent to the General Secretary, Calcutta.

(3) Dr. M. M. Patel has joined this branch and the General Secretary be informed to enlist his name and to send the V.P.P. for the Indian Medical Journal.

(4) This branch regrets to part with Dr. M. J. Shah, Vice, President of this branch on account of his transfer for Bombay and puts on record the valuable services he has rendered to the branch in the uplift of the cause of the licentiates and for his keen interest for unity and brother-hood amongst the members. All members wished him long life and success.

**Annual Report of the Jambusar Branch.**—The members are taking keen interest in the welfare of the Association. Many clinical meetings were held during the year. The unity and spirit of brother-hood is nicely maintained. Though all protest and other meeting to consider the general and provincial Secretaries circular were held many other like last year were not held owing to ill health of the Secretary.

One new member has recently joined this branch at the request of the president.

Dr. J. M. Shah continued as President.

**Rangpur Branch (Bengal).**—Resolutions of the meeting held on 12-6-46. 7 members were present.

1. Read the the circular No. 13 Dated 1-6-46 and it is resolved that Dr. J. B. Desai of Ahmedabad be elected President of the All-India Medical Licentiates' Association for the 34th Annual Conference which will be held at Poona.

2. Read the circular No. 14 dated 1-6-46 and it is resolved that Dr. N. N. Mukherjee of Mahiganj and D. P. C. Chose of Rangpur be elected delegates from this branch for the Poona Conference.

**Budge-Budge (Bengal).**—Meeting held on 30-3-46. Proceedings of the last meeting were read and confirmed. Proceedings of the last Provincial Conference were discussed.

(2) Meeting held on 27-4-46.

Drs. A. N. Roy and I. B. Bose demonstrated some interesting cases.

Proceedings of the last meeting were read and confirmed. Dr. Miss. S. De resumed her office as the Secretary of the Branch.

(3) Meeting held on 26-5-46.

Proceedings of the last meeting read and confirmed.

A condolence resolution on the demise of Dr. B. M. Das Gupta was passed—all standing. Resolved to hold the next meeting of the Branch at Batanagar.

The Secretary was requested to write to the General Secretary about the inconvenience caused by the non-issue of membership receipts the triplicate, as resolved upon by the last annual conference. Ref. Circular No. 13 of the G. S. Resolved to recom-

mend Dr. Sarat Sashi Sarkar of Dum Dum to the Presidentship of the next Session of the A.I.M.L.A.

(4) Meeting held at Batanagar on 30-6-46.

The retiring Secretary Dr. Miss Dey presented the annual report which was adopted unanimously.

The following office bearers were elected:—

President:—Dr. A. N. Roy.

Vice-President:—Dr. M. L. Maitra.

Secretary:—Dr. B. N. Sarkar.

Joint-Secretary:—Dr. J. B. Bose.

Members to the Provincial S. C.:—N. B. Sarkar and K. C. Ghose.

**Nadia (Bengal):**—The meeting adjourned on 30-3-46 was held on 28-4-46.

Proceedings of the last meeting were read and confirmed.

The Secretary was authorised to deal with the letters from Dr. Mrs. Bleaky and B. C. Majumdar.

The proceedings of the Prov. S.C., and the memorandum submitted by it to the S. G. were read and appreciated.

Accounts for Jan., Feb., and March 1946 were passed.

(2) Meeting held on 22-6-46.

Proceedings of the last meeting were read and confirmed. Annual report was read and adopted. Dr. A. D. Mukharji was recommended as president for the Annual Conference to be held at Poona.

Drs. S. N. Battacharjee and S. C. Gosh were elected as delegates to the Poona Conference. Alternative delegates Drs. K. R. Roy and S. K. Banerjee.

In view of the fact that the demobilised Licentiate Medical Officers have done yeomen service in the last war, resolved to request the Government to post them to the B.M.S. (Upper), and to be in charge of Sadar and S. D. hospitals.

(3) Meeting held on 26-5-46. Proceedings of the last meeting were read and confirmed.

Resolved that until the Licentiate qualification is recognised by the I.M.C., this Branch cannot consider favourably the question of amalgamation with the I.M.A.

(4) Meeting held on 2-6-46.

The members condoled the death of R. B. Dr. B. M. Das Gupta, Director of Tropical School of Medicine.

(5) Meeting held on 27-7-46.

Proceedings of the last meeting were read and confirmed.

Annual Report was read and adopted.

Accounts for April, May and June were passed.

Extracts from the Proceedings of the meetings of the Krishna-gar Central Food Committee held on 17-7-46 were placed before the House. It was resolved to elect unanimously Dr. K. Roy, as a member of the Central Food Committee.

The Branch was surprised to note, from the proceedings of the Ex-I.A.M.C. Conference, Punjab, that the Government are not dealing with these officers in an impartial manner, and expressed its appreciation of these officers who refuse to receive their pay as a protest.

Resolved to pay Rs. 10/- as donation to Howrah Provincial Conference and Rs. 5/- to Dr. A. B. Mukharji Memorial Fund.

Resolved to condole the death of Dr. B. M. Das Gupta and to convey the condolence to the members of the bereaved family.

Resolved to protest against the policy of the Government in posting Assistant Surgeons to Sadar Hospitals which were so long held by Sub-Assistant Surgeons.

(2) The Annual General Meeting of Branch was held on 29-11-46.

1. Proceedings of the last meeting held on 8-9-46 were read and confirmed.

2. Annual Report of the Branch Secretary was read and adopted.

3. The following office bearers were elected for the year 1946-47.

President:—Dr. S. Sarkar.

Vice-President:—Dr. P. K. Roychowdhury.

Hony. Secretary & Treasurer:—Dr. R. N. De.

Hony. Jt. Secretary:—R. C. Chakrabarty.

**Managing Committee:**—Capt. K. K. Datt, Capt. S. N. Mitra, Dr. S. N. De, Dr. C. C. Karkoon, Dr. P. B. Dutta, Dr. K. K. Sen Gupta, Dr. B. K. Chatterjee.

**Members of Provincial standing committee:**—Dr. R. N. De, Dr. B. B. Chatterjee.

4. (a) Third contingent Bill for Rs. 6/- (six) passed..

(b) Two resolutions "To omit the subject of Medical Juris and Hygiene from Clinical course of condensed M.B. Course and reduction of tuition fees for the condensed M.B. Course and to send the copy of the resolutions to proper authorities" were proposed by Dr. R. N. De and carried unanimously.

(c) It was resolved that the next branch meeting will be held at Palta at Dr. Karkoon's place in January 1947.

(d) Some branch subscriptions were realised.

**24 Parganas (Bengal):**—A general meeting was held on 8-9-46.

1. Proceedings of the last meeting held on 28-7-46 were read and confirmed.

2. Dr. A. D. Mukherjee was elected President of the 34th All India Conference at Poona and the voting paper was signed.

3. The members present, suggested that the Provincial Conference will not be possible to be held under the auspices of this branch. The branch Secretary was requested to write to the Provincial Secretary to send a copy of the Rules of Provincial Standing Committee if any.

4. The following resolutions were put forward by Dr. R. N. De, seconded by Capt. K. K. Dutt, and were carried unanimously:

**Resolution No. I.** This meeting of the members of the 24 Parganas Branch, A.I.M.L.A. conveys their heartfelt sympathy to all the afflicted in their loss and suffering and records with deep regret the shocking events of murder, looting and arson by hooligan mob in Calcutta and suburbs on 16th August '46 and subsequent 4/5 days.

**Resolution No. II.** Whereas the curfew order has been maintained for nearly a month in Calcutta and adjacent areas after the terrible events of 16th August '46 and subsequent days and because this has made impossible the timely aid and treatment of patients by medical men between the hours of Curfew order, this meeting of the members of 24 Parganas Branch, A.I.M.L.A., unanimously resolves to request the Government of Bengal to introduce necessary arrangements like identity passes for registered medical men and allow them to attend and treat the emergent patients during curfew hours.

Further resolved that a copy of the resolutions be forwarded to the Hon'ble Minister, i.e. of Medical and home departments of Government of Bengal, drawing their immediate attention to the matter and to the Editor, Amrita Bazar Patrika for publication.

5. Some money was realised for Branch fund.

(3) A general meeting of was held on 26-1-47.

1. Before the actual proceedings commenced, as the day was "Independence day" the members observed two minutes silence in reverence to the Indian sons who worked for furtherance of freedom of the country.

2. The proceedings of the last meeting held on 29-12-46 were read and confirmed.

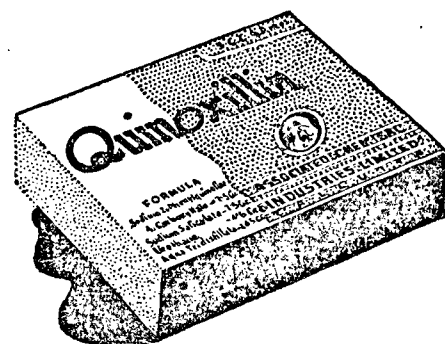
3. Dr. A. N. Roy, B.A., L.M.F., was elected unanimously for the Provincial Presidentship and Dr. J. Mazumdar of Calcutta for the Provincial Secretary, for the next session.

4. Major T. Datta was recruited as a member of the branch.

5. Palta was provisionally fixed for the next meeting.

6. Some branch fund was realised.

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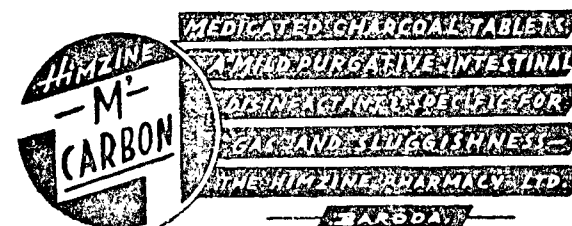
A. VISWANATHAN,  
Editor, Indian Medical Journal.

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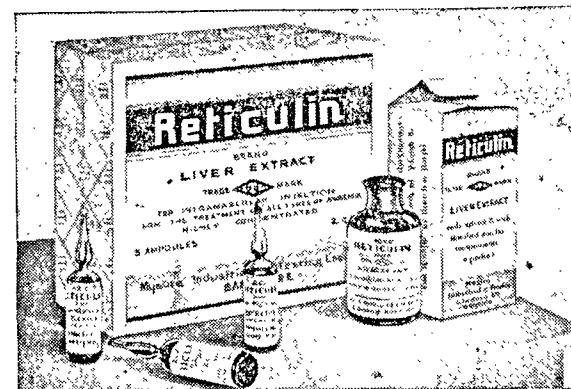


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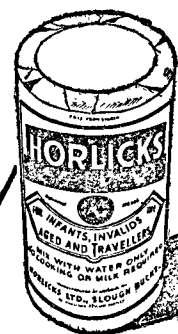


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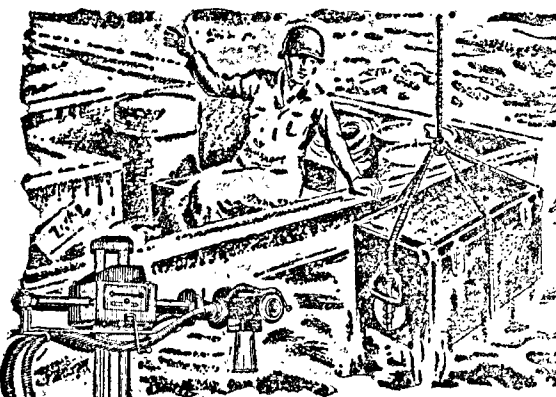
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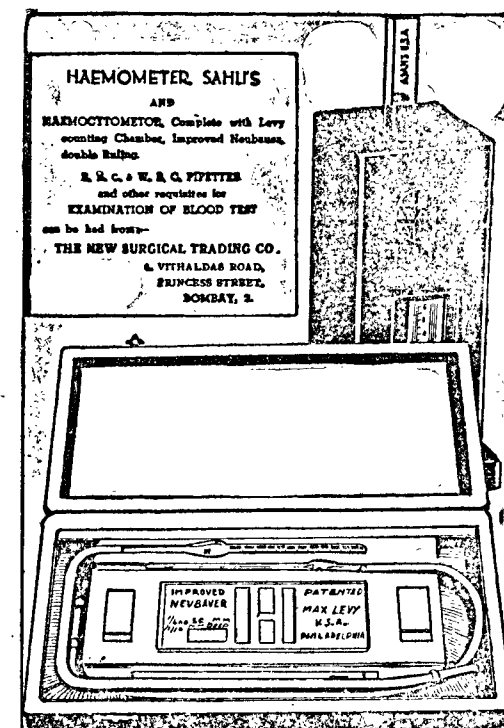
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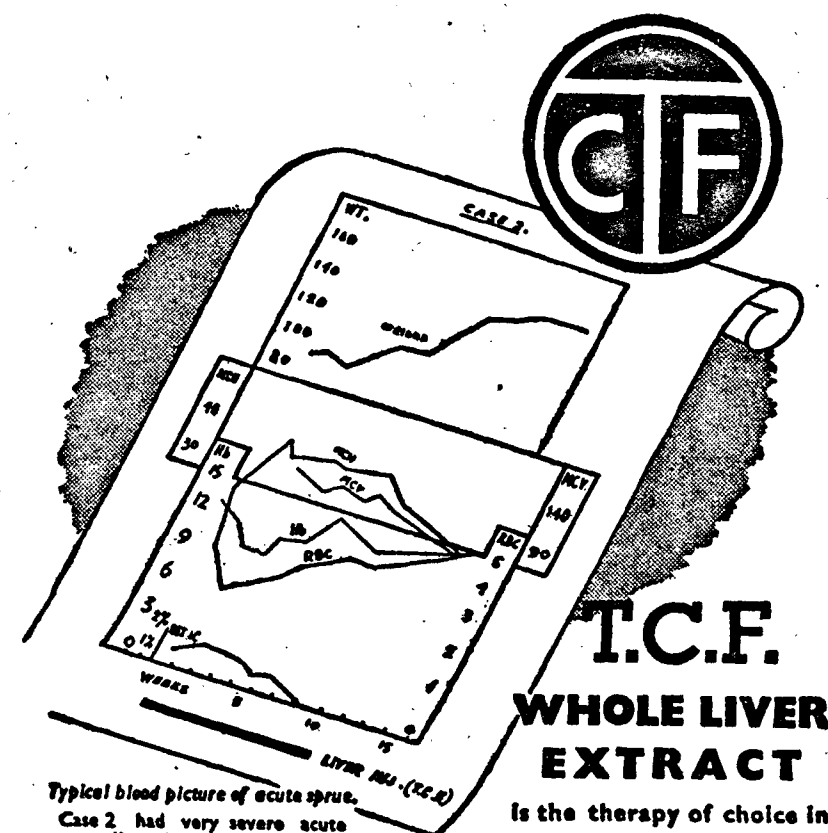
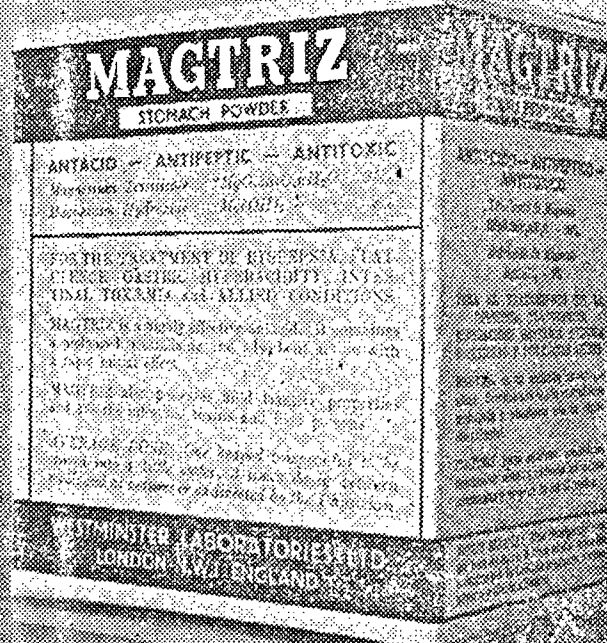
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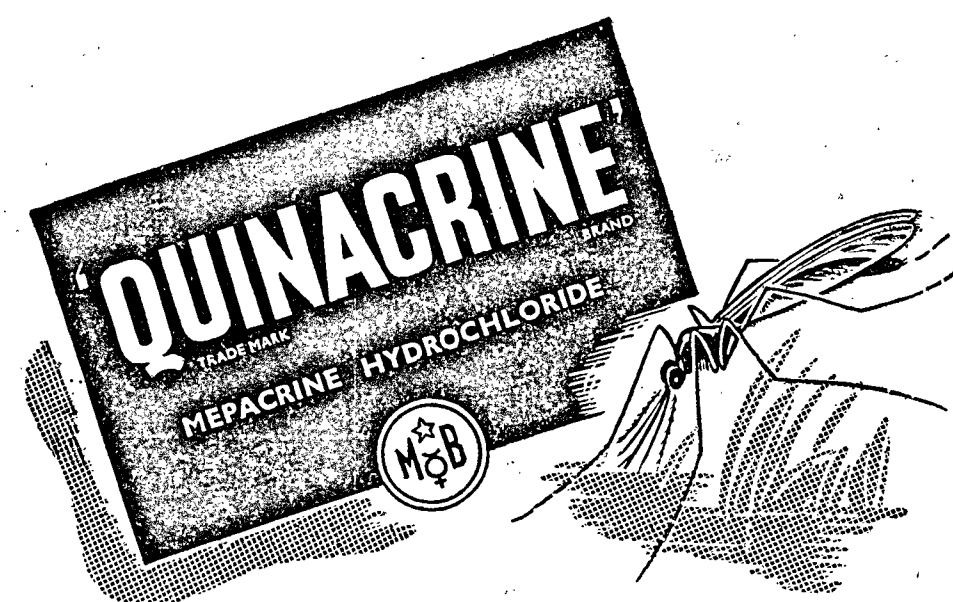


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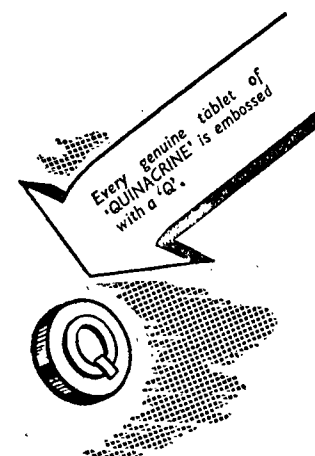
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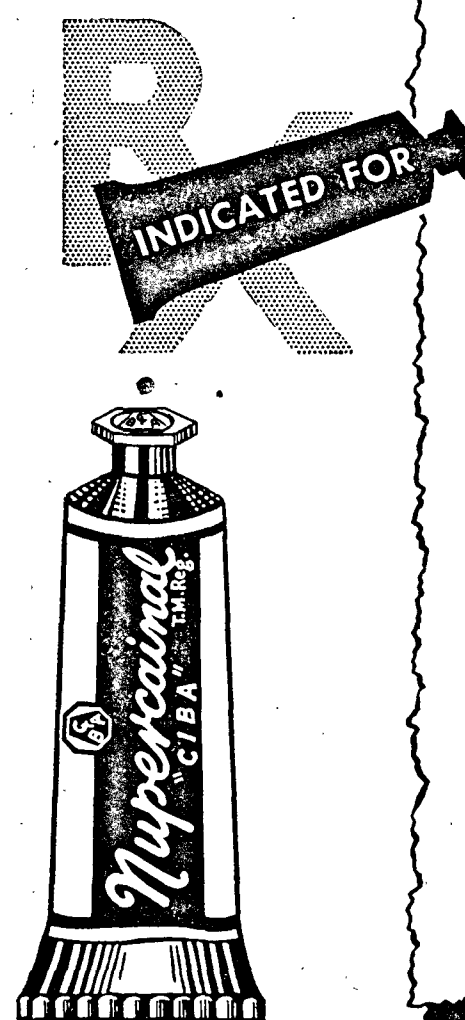
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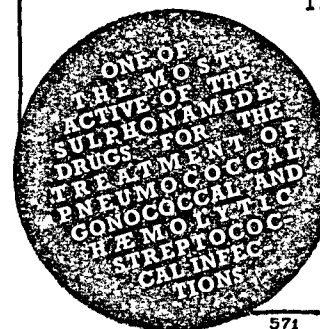
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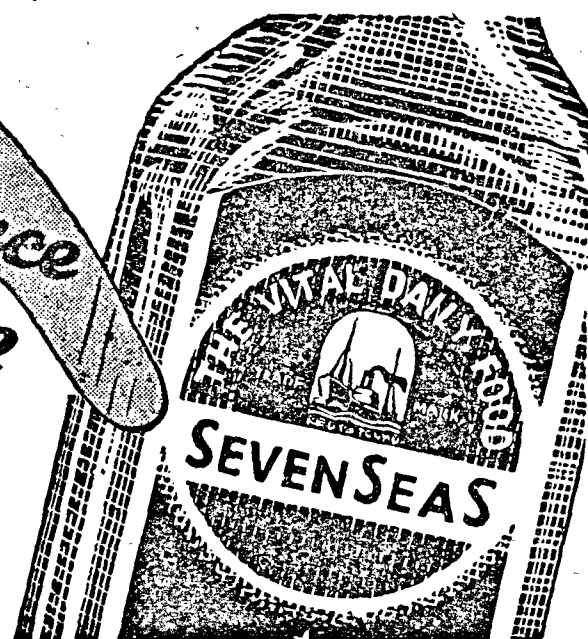
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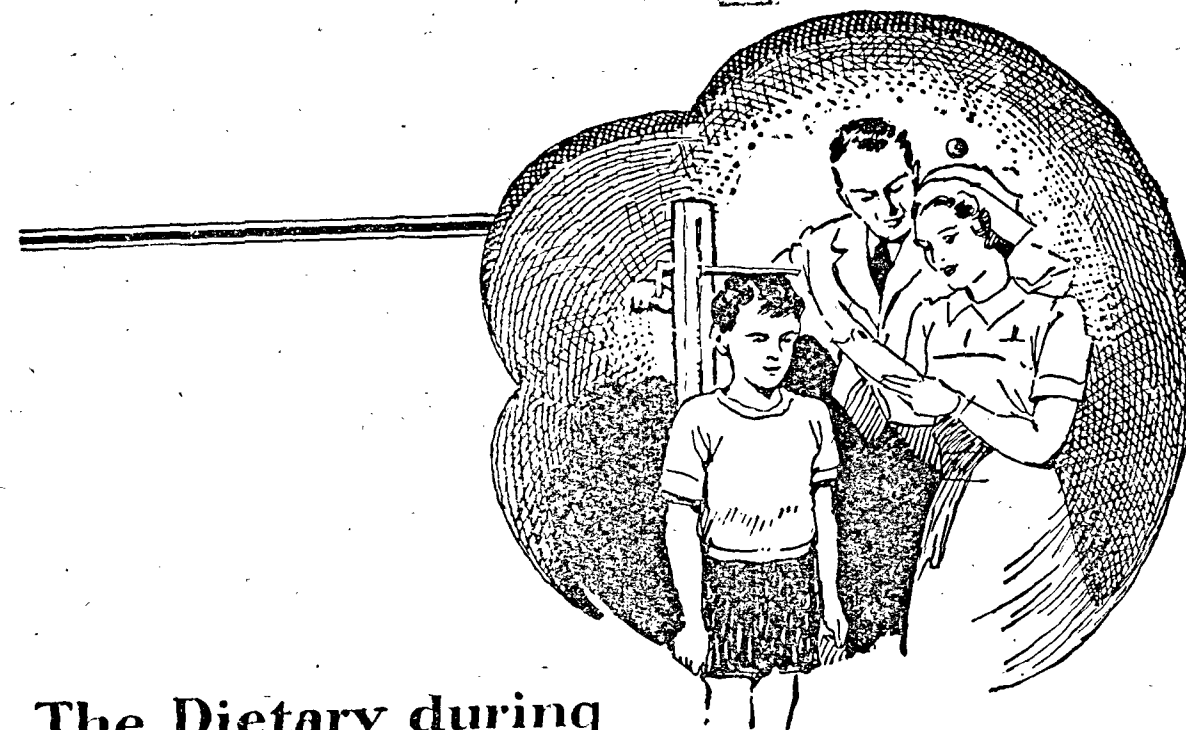
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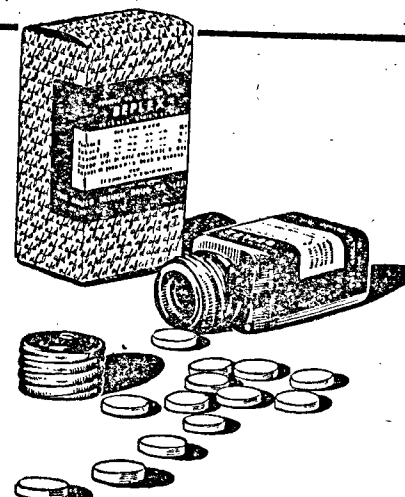
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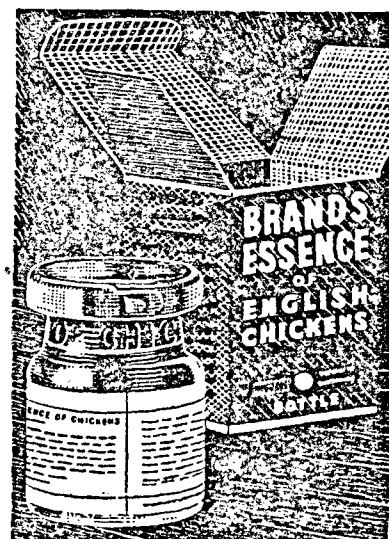
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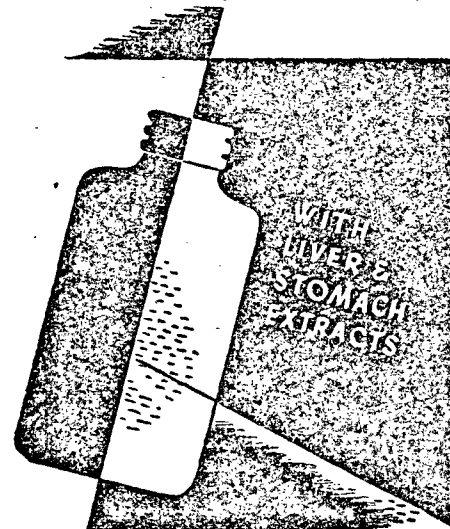
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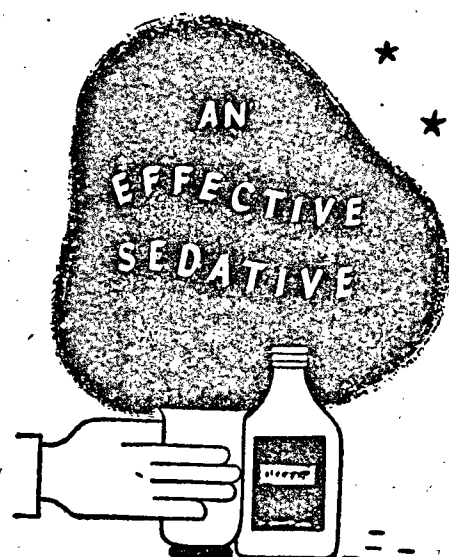


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## Indian Medical Journal

(Journal of the All-India Medical Licentiates' Association)

Vol. 41. Madras: March 15, 1947. No. 3

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### OUR MONTHLY SURVEY.

The National Health Service Act of Great Britain:—This much disputed Bill has now become an Act after having been amended, here and there, by both the Houses of Parliament. Some amendments which were passed by the House of Lords but not accepted by the Minister of Health were again put before the House of Commons and rejected. The Act will come into force from 1st April, 1948. Meanwhile the British Medical Association, after fighting a losing battle with the Minister of Health, has issued the following plebiscite to all the registered medical practitioners in Great Britain.

"Do you desire the Negotiating Committee to enter into discussions with the Minister on the regulations authorised by the National Health Service Act?"

The Act, described in a nut-shell, makes the Ministry of Health responsible for the management and administration of all hospitals in Great Britain, thus bringing into effect a sort of Socialised Medicine. The Minister will take over all the public and the voluntary hospitals and assume responsibility for the Health Service of the Nation. The types of Health Service offered are:

- (1) Hospital and specialist service.
- (2) Health Centres.
- (3) General Practitioner's services.
- (4) Supplementary services.

These services are free and available to all without any limitation. The Minister will delegate his powers of administration to Regional Boards which are expected to be located at University centres wherever possible. Doctors who choose to come under this Act will be given a basic pay together with capitation fees. Sale of medical practice is prohibited

\* Since writing that note the result of the plebiscite has been published in the B. M. J., Jan. 11, 47: 46% voted yes and 54% voted No. It may be noted that about 25% of doctors did not vote at all.

and the practitioners who want to settle in a particular place for the practice of their profession have to get the permission of the Health Minister.

The British Medical Association is opposed to:—

- (1) The state-ownership of voluntary hospitals.
- (2) A whole-sale salaried service even with a basic pay and capitation fees.
- (3) The prohibition of sale of medical practice.

It strongly believes that the Act rides roughshod over the time-honoured traditions of British Medicine, deprives the freedom of the doctors "to choose the form, the place and type of work they prefer without governmental or other direction", and denies the citizen his freedom of choice of hospitals or doctors. Thus it is apparent that the B.M.A., has been opposing the Act on moral and ethical grounds.

There are many good points in the Act which the B.M.A., has generously acknowledged and which could have been made a basis for discussion between the British Medical Association and the Minister of Health. By such a friendly and mutual consultation, an agreed National Health Service could have been evolved without raising the dusts of controversy. But we find, from the literature available to us, that this opportunity was missed by the blindness of mutual intolerance. The invectives against the Minister that have been appearing in the columns of the *British Medical Journal* are no replies to his alleged obstinacy. Nor has the Minister improved the prospects of working the Act properly by his sarcastic remarks about the British Medical Association in the Parliament and in his speeches outside it. Things have now come to a head. The Act has been passed but there is still a year's time for mutual adjustment. We sincerely hope that the Association would not start its final battle of non-co-operation but find ways and means for honourable compromise and adjustments.

We are constrained to remark that the issues over which the B.M.A., have put up a fight are not moral or ethical issues in reality. It is in fact and purpose a fight between the conservative traditions of British Medicine and the socialistic policy of the Labour Government, now in power.

It is not, and cannot be made, a moral issue if the State takes control of the voluntary hospitals and utilise them for the benefit of the largest number of people. Unless the State controls the finances and the administration of these hospitals, how can it establish a comprehensive health service? How can the British Medical Association oppose this transfer of control and ownership when even the owners of these hospitals have not themselves opposed it?

Unless the profession is considered as a trade, how can the B.M.A., oppose the prohibition of sale of practice?

If the B.M.A. has no objection to capitation fees and if such fees have not enslaved the profession so far, its objection to salaried service cannot be logically sustained. We admit there is a loss of certain amount of freedom for the members of the salaried service but this could be reduced to a minimum by suitable arrangements.

The question of the patient's freedom to choose his doctor or his hospital is more theoretical than



actual. With the greatest freedom given to him, his will always be a Hobson's choice.

Not from the moral but from the representative point of view of the B.M.A., we can easily understand its rationale of opposition to the National Health Act. It simply stands by the resolutions passed by its Representative Gatherings and by its Central Council, and bases its opposition on the strength of these resolutions.

We have stated our views frankly that the opposition cannot easily be justified on moral and ethical grounds. But that is not to say that the B.M.A.'s opinions should be ignored. The path of wisdom lies in honourable settlement between the B.M.A. and the Minister of Health. We hope this would be achieved before the Act comes into force. The correspondence between the Presidents of the Royal Colleges and the Minister of Health shows that settlement is yet possible.

**One Medical Science, one Basic Qualification and one Medical profession:**—Dr. Tirumal Rao of the Viza Medical College in his annual oration at the Viza Branch of the Indian Medical Association has given a timely warning that unless the future of medical education in our country is planned on the basis of one Medical Service, One Basic Qualification and One Medical Profession, we have to face chaos and confusion. That his fears are not imaginary or arise from a sectarian mind is obvious from the policy which all the Provincial Governments follow in the matter of shaping the future medical education in our country. They are fostering separate schools of Indian Medicine, and teaching the students there only some elementary knowledge of Modern Medicine. The practitioners of Indian Medicine could also call themselves as registered medical practitioners, if they register their names in the Register maintained by the Government. They are also eligible for public services to a certain extent. We are not against any systems of medicine or practitioners of these systems. What we ask is:

*Is it good in the interest of scientific medicine or in the interests of the people of this country to perpetuate different systems of medicine and different sets of medical practitioners?*

It is said that a synthesis of ancient and modern medicine is being aimed at by giving a course of Modern Medicine to the students of Indian Medicine. This, we consider as beginning from the wrong end. Synthesis will be more effectively and expeditiously achieved if the students of Modern Medicine who have got the necessary qualification in basic sciences are given a course in the Indian System of Medicine. That is why we wrote in 1944\*:

"There is in our view, an imperative need for maintaining the historic continuity between the past and the present while planning for the future. Unless and until this historic continuity in medical education is restored, we would be engrossed and engulfed more in conflict than in construction in the post-war period ..... What we contend is that the purposes for which these separate systems with separate standards of medical education were established have not been, and could not, be realised; that this miscarriage of purpose is due to the defective and partial conception of

the back-ground of medical education; that medical education must be viewed as a whole and not in parts; and that, it should be based not on historic violence but on historic reconciliation and absorption."

This is exactly what Dr. Thirumal Rao has said:

"I believe there is still a great deal to learn from the ancient systems of medicine. They have got an extensive and wonderful pharmacopoeia. They have developed dietetics almost to a fine art..... All that is useful and valuable in them can be easily absorbed and incorporated into modern systems of medicine and bridge the gulf that now apparently separates our past from the present and to ensure the continuity of our great traditions in future."

We know these are but cries in the wilderness. In spite of the odds, we shall yet do our duty of warning the Provincial Governments about the intrinsic dangers in their well-intentioned but dichotomous policy of medical education.

**Nutritive Value of Soya Milk:**—In a series of four articles written by the workers in the Department of Bio-Chemistry of the Indian Institute of Science, Bangalore and published in the *Annals of Bio-Chemistry and experimental Medicine*\*, the nutritive value of soya-milk has been investigated with the following results:

- (1) Soya Milk is 90-95% as good as cow's milk regarding its protein value.
- (2) Soya Milk is about 80% as potent as cow's milk with regard to vitamin B complex content.
- (3) Soya Milk when supplemented to a poor diet can enhance the rate of growth and this can further be enhanced if yeast extract and calcium lactate are added.
- (4) Although *in vitro* digestibility of soya milk is poor, yet it has been found that its *in vivo* digestibility is of the same order as that of cow's milk.

Soya Milk is prepared thus:

"Soya beans are soaked overnight in water. Husk is peeled by gentle rubbings. The beans are then extracted with 0.04% sodium bicarbonate at 70° for half an hour. The beans are then made into a paste, stirred up with about 6 volume of water and boiled for 20-30 minutes. The mixture is allowed to settle and then filtered through cloth. One pound of soya beans gives 5-6 pounds of milk."

**The Licentiates of Indian Medicine and the Madras Medical Register:**—The L.I.M.'s of Madras have been claiming equality of status and privileges with the L.M.P.'s of Madras, and to establish this they have been urging on the Minister of Health to include them in the same Register as the L.M.P.s. The Minister, in reply to a question in the Legislative Assembly on 8th February, is reported to have said that the Government are preparing a Bill to amend the Madras Medical Council Act in such a way as to include the L.I.M.'s in the Madras Medical Register. This is nothing but yielding to a preposterous demand. We know that the present Minister has a soft corner for L.I.M.'s, but we are convinced this is a wrong way of helping them. The Madras Medical Council has been established in 1914 to maintain and establish a minimum uniform standard of allopathic Medical Education and qualification and to maintain a Register of persons holding such a standard of education. The regulation of the Standards of Education in Indian Medicine is in the hands of the Board of Indian Medicine, and not in the hands of the Madras Medical

Council. How then could the Minister of Public Health bring the L.I.M.'s into the Madras Medical Register, unless she is prepared to hand over the functions of the Board of Indian Medicine to the Madras Medical Council? We are quite sure she will be faced with this difficulty very soon when she prepares the Amending Bill. We are afraid the Minister is allowing her feelings to overcome her reason. We have no desire to make a stronger comment than this at this stage. But we do hope that she would see reason and reality in the end, and not confuse the issues more than what they are. Let the Minister give to L.I.M.'s any standard of recognition, but to bring them to the Medical Register without handing over the control of education in Indian Medicine to the Madras Medical Council is neither professionally wise nor legally possible.

## ADDRESSES AND ARTICLES

### X-Ray Therapy in Non-Malignant Diseases

By

DR. P. A. S. RAGHAVAN, Z.M.R.E.  
Radiologist, Trichy.

The general idea amongst the lay public, and even amongst many medical men, is that X-Ray therapy is meant only for cancer, so much so that any reference to X-Ray therapy is associated with cancer. It is true that X-ray therapy is the only treatment available in some forms of cancer, and in many other malignant diseases such as Sarcomas, Rodent ulcers, and Leucæmias, yet in most of these conditions this treatment is thought of only in the very late stages, when little good can be done to the patients. Even in the western countries where the patients seek treatment early on the onset of the disease and where also facilities for early diagnosis are ample, the results in cancer treatment are not cent percent guaranteed. The average expectation of life, after the diagnosis is made and the ideal treatment given by specialists with the latest armamentarium is only two years, i.e., considering both very early diagnosed cancer of the internal organs, and cases in which the treatment is started in the very late stages, the former having been free for as long as five years.

Regarding other malignant diseases the results are still more unsatisfactory. A rule of thumb in malignant diseases is that, the more rapid the growth, the more malignant it is and usually highly malignant tumours are very sensitive to X-Radiation. The more sensitive to X-rays, the more likely it is to recur. Sarcomas and Leucæmias belong to this category. Even though X-ray therapy in advanced cases of cancer and sarcomas and leucæmias is not a guaranteed cure, yet it is the only treatment available, and it gives such an amount of relief that it is worthwhile giving the treatment, though prolongation of life cannot be expected. I shall here recount three cases, one of cancer, one of sarcoma and one of leucæmia, all the three of them having been referred to me in the very last stages, just to show what an amount of relief could be afforded to the patients by X-ray treatment.

(1) An old lady, 64 years of age, came to consult me about her "back-ache" and vaginal discharge for the last six months. The patient was thin, emaciated and anaemic. The stains on her white clothes and the stink gave the diagnosis even at a distance. I asked her to get on the examination table so that I could do a P.V., and put in a vaginal speculum to see the extent of the lesion. Immediately she bade me good-bye and walked out of my clinic as she did not want to be examined by a male. Six months later, her son-in-law came to me and told that she was in a place 100 miles off and she was in a bad condition. A lady doctor was attending on her for the past one month and diagnosed that the case was one of advanced cancer of the uterus involving the fornices and the bladder. This report had been forwarded to radiologists in Madras who were of opinion that the case was too far advanced for any treatment. As the old lady was anxious to end her days with her only daughter here, the son-in-law requested me to see her safe to the other world! The patient was brought to me in a stretcher a week later. Her left leg was slightly swollen, she was unable to walk, due to the pain in the leg and general debility. The pain was so severe that she was being given injections of morphia daily and her urine was being drawn with the catheter once or twice a day, as she could not void of her own accord. Deep X-ray therapy was started and given daily in doses of 100 r units per sitting. I left the catheterisation and the morphia injection to a lady doctor. After five sittings, the morphia was replaced with a sedative by mouth, which was also suspended after a week from the commencement of the deep therapy treatment, as the patient was then able to pass urine of her own accord. The pain and swelling of the leg gradually subsided and after a week she was able to walk into my clinic. The patient lived comfortably for over six months although she had only about 3500 r units on the whole at the rate of 100 r per day anteriorly, posteriorly and *via* the perineum.

Scores of cases of advanced cancer where palliation were given can be cited, but one example is enough in this variety of disease.

(2) A case of Lypho-sarcoma in a patient aged about 56 was referred for X-ray treatment by a surgeon. He had attempted operation a week previously by making a linear incision along the margin of the sterno-cleido mastoid muscle but found the tumour embedded with the vessels and nerves, and hence he closed the wound with stitches. The wound healed by first intention.

When the patient came for X-ray treatment, he had a multilobar tumour on the left side of the neck, the size of big orange. The movements of the neck were considerably restricted, but the patient was well built and general health good. After taking a clinical photo, and after screening the patient with the fluoroscope to see for metastasis, deep X-ray therapy was started with daily sittings of 100 r per sitting. With 1000 r the whole of the tumour went down completely and the neck was flat and no trace of the tumour was seen. The patient was discharged, with instruction to come back the moment there was recurrence. The patient came back with a recurrence in the same place after three months. But

\*I.M.J., Vol. 38, No. 2, Feb, 1944, pp. 17-19.

\*Vol. VI., No. 2, 1946, pp. 49-68.



the size was nearly one and half times the previous one. Five more daily treatments with the same dose were administered and again it went down completely and the patient was sent away. It was reported that 2 months later the patient went to another surgeon with an enormous swelling and in a very bad state of health. It is presumed he must have died soon after.

(3) The next variety of malignant disease where palliation with deep X-ray therapy was useful was a case of Myeloid Leucaemia in a young man of about 30 years. The patient was thin, emaciated and anaemic. The spleen was enormously enlarged and was palpable a little below the umbilicus. There were areas of periostitis on the right tibia and left radius which were very painful. Radiographs showed that the periosteum was thickened and raised. Total blood count revealed that the white cells were over 130,000. Deep X-ray therapy was given in daily sittings of 100 r, the spleen, the ends of long bones and the areas of periostitis being subject to exposure in rotation. After the patient had 2000 r his pain over the areas of periostitis subsided, the spleen had shrunk to behind the costal margin, and white cell count had dropped to 15000. After giving 700 r more the patient was discharged, completely free from all troubles and with his general health much improved enabling the patient to resume his normal avocation of a typist. W.B.C., when discharged, was 8000. The patient turned up after 4 months with the spleen enlarged to 4 fingers below the costal margin and general condition very bad. His blood count revealed that the white cells had increased to 6,67,000. A second course was not undertaken due to the general weakness of the patient and it was reported that the patient died after a fortnight.

The above three varieties of cases show that even in advanced cases temporary relief can be given to patients with deep X-ray therapy.

Now coming to the subject proper i.e., X-ray therapy in Non-Malignant diseases, diseases can be classified into three categories:—

Diseases where alternate methods of treatment are available but deep X-ray therapy is preferable.

Diseases where X-ray can be used as accessory to other treatment.

Diseases where X-ray treatment is the only treatment available.

Only a few in each variety will be recounted here.

**Adenitis:**—It was the vogue till recently to enucleate tubercular glands which were considerably enlarged, whether they were in the neck, axilla or groin. Experience has shown that very often other glands underneath the removed ones enlarged soon, thereby defeating the object of removal. So now, only general treatment is given for what it is worth. Mild doses of X-ray exposure for fairly long periods of, say, 3 or 4 months at weekly or fortnightly intervals aid resolution. In acute non-tubercular adenitis, a few exposures daily, less than 100 r per day for 3 or 4 days helps subsidence of the inflammation. The treatment can be given along with general treatment. X-ray therapy is particularly useful when the gland has opened and takes a long time to heal.

**Bronchitis:** Especially the chronic type of bronchitis where definite cause is not known is considerably relieved by a few sittings of X-ray therapy given on alternate days in bi-weekly sittings, six to eight sittings being enough to relieve the condition. Relief is also obtained in some cases of bronchiectasis by this treatment. Some radiologists claim success in treating cases of bronchial asthma by X-ray treatment. Front and back of the chest are mapped out into four areas, and 100 to 150 r are given to one area at each sitting, the same area getting its next dose after 8 days, each area getting about 500 r by the end of the treatment. This treatment is of no use in allergic type of asthma but only in infective types, the relief being due to the shrinking of the peri-bronchial glands which are invariably enlarged in these types of cases and aggravate the trouble.

**Bone abscess:**—(Brodies disease) It can in the early stages be made to resolve by X-ray therapy: in the later stages, after opening of the abscess and scraping the bone, X-ray therapy will hasten healing. In osteomyelitis, where there is no sequestrum, X-ray therapy with rest, will help healing; but, where sequestrum has formed, removal of the dead bone is essential and then X-rays are very useful in expediting healing.

**Carbuncles:**—will get resolved if irradiated in the early stages and in the later stages they will get circumscribed and softened, thereby facilitating surgical procedure.

**Infective granuloma:**—which is resistant to pentavalent antimony injections, will heal quickly under X-ray treatment, so also lupus when they are resistant to gold injections.

**Eczemas:**—especially in the early stages, respond very favourably to X-ray treatment and disappear after a few weekly exposures. Even in old standing chronic cases lot of relief can be given by X-ray exposures. The distressing and intractable condition of Psoriasis is also successfully treated by X-ray treatment.

**Inflammations of the skin:**—such as in erysipelas, lymphangitis and infections react favourably to mild daily doses of X-rays, and can very often replace serum or sulphonamides.

**Neuritis:**—particularly where the cause is due to the involvement of a particular nerve, as in sciatica, a good amount of relief can be given by irradiating the nerve at the gluteal region where it emerges from the pelvis.

**Prostatic hypertrophy:**—where operation is not possible, can be fairly successfully tackled by deep X-ray therapy. The fibrosis of the glands that results from this treatment makes the prostate shrink sufficiently to give relief to the patient from frequent micturition and disturbance especially at nights.

Now coming to diseases for which alternate methods of treatment are available, but X-ray therapy is preferable on account of its safety, ease and comfort to the patient, the following may be listed.

**Tonsils:**—Surgical removal of the tonsils is a fairly easy and safe procedure, and in the hands of specialists a simple affair. It has yet a small element of risk even in the best of hands. Moreover it is still

a debatable point whether to enucleate the tonsils, or to electrically coagulate them at the crypts of infection. The European school, particularly in Vienna, advocate enucleation, and the American school of thought advocate, especially lately, electro-coagulation. I have followed both the methods, but have now given up both. Tonsils are protective mechanism necessary to prevent infection. After all, enlargement of the tonsils is only a condition in of children and disappears during or soon after adolescence. So there is no need to enucleate or coagulate them merely because they are big. If the enlargement is big enough to cause mechanical inconvenience, they may be made to shrink very much by delivering to each tonsil about 500 r in daily doses of about 100 r by exposing the neck under the jaw to the small cone of the X-ray tube. Even when there is infection in the crypts, this mode of treatment can be adopted, or the points can be electro-coagulated and left alone. The coagulation itself makes the tonsil shrink a great deal.

**Goitre:** The only effective method of treating hyperthyroidism is by reducing the activity of the thyroid is either by its partial removal by surgical method or suppressing its activity by radiation. Surgical procedure is a major risk and can be undertaken only by experts, whereas irradiation is a very safe and simple procedure and quite effective.

**Uterine Fibroids:** Though the method in vogue in treating this condition has been by operative procedure till now, X-ray therapy, where available, should replace surgery. Total or sub-total hysterectomy is a major surgical operation with its attendant risks, hospitalization and post-operative scar formation, especially in patients with a tendency for the formation of keloids. Irradiating the ovaries and the uterus is the safest method of dealing with the condition. The ovaries are so radio-sensitive, that about ten exposures from front and back, are enough to make any fibroid shrink.

X-ray therapy is the only treatment in most of the malignant diseases which cannot be tackled surgically or with radium, but with X-rays also it is only as a palliation. Among the non-malignant disease for which there is no satisfactory medical treatment, may be mentioned *Menopausal catamenia*. Though this is only a passing phase for some women at the climacteric, it can be very troublesome and distressing. A recent case that came up for treatment was exhibiting maniacal tendencies of depressional delusional type. On sterilizing her with deep X-rays, she became normal mentally and physically. Lesser troubles at the menopausal period are relieved by X-ray therapy.

## Tropical Ulcer (Naga Sore) in a Tea Estate of Upper Assam

BY

S. K. CHAUDHURY, A.M.O., BAGHJAN, T. E.  
Doom Dooma, P.O., Upper Assam

This ulcer is common in Assam amongst the labourers of many of the Tea Estates. But in this garden (Baghjan T. E.) it was unknown. I did not see a single case here from 1934 (when I came here first) to 1943. The previous records also show that

this ulcer never occurred in this garden. The first case, a woman, I came across was in 1944, in which year there were 5 or 6 cases in total. In 1945 there were 24 cases. The first case of 1944 had 4 ulcers, 2 on each thigh though generally the leg below the kneejoint and foot are the favourite places of this ulcer. It is a point to look out for as to how this ulcer made its appearance in this garden. This was the War time and labourers from Tea gardens were sent to various construction works in the hills and jungles, e.g., the construction of the famous Lede—Burma Road, and many other roads. In those places Naga Sore was a great menace and it is now easy to understand how it occurred here in this garden where it was unknown. This year (1946) I had 51 cases in this garden.

Many labourers get dermal hookworm infection here during the rains and if this is neglected a Naga Sore follows. An abrasion or small cut develops into N. Sore. Sometimes without any apparent breach of skin a blister forms to produce a N. Sore. The smear preparation shows fusiform bacilli under the microscope, and in some of the cases spiral bacilli or both.

The humidity and rainfall also seems to be a responsible factor. But cases are on record (I.M.G. April and May 1946) to show that N. Sore occurred in dry places like Punjab.

**Treatment.**—The aim of the treatment is to cut short the period of illness as far as practicable with minimum discomfort to the patient. When a large number of cases occur during the busy season time of the Estate the industry suffers to a great extent, and also the labourers. The sooner the labourers return to work the better it is for them and also for the Estate.

**Mc. Guir's Treatment.**—Noted in a booklet published by the Indian Tea Association. The minimum time required was two weeks for small ulcers and 3 to 6 weeks for large and long-standing neglected cases.

**Dry Magsulph powder.**—Dusted over the ulcer and dressed twice daily. This took 7 or 8 days to remove slough in small ulcers and even two weeks in large and neglected cases. When the slough is removed the wound is dusted with iodoform and bismuth subgallate. This took another one week in small ones and more in large and neglected cases. This method of treatment also does not cut short the period of illness satisfactorily. Dressing the wound twice daily after removal of slough with Acriflavin in normal saline appeared to be a slightly better method than the above.

**Magsulph Glycerine Paste:**—This removes the slough more quickly than the dry magsulph powder does. After the slough is removed the wound is heavily dusted with sulphanamide powder and elastoplast applied, covered with cotton wool and bandaged and kept as it is for one week. If slight serosanguinous discharge takes place this may be neglected. If the discharge is profuse only the cotton wool and bandage requires a change and not the elastoplast. After one week the ulcer is seen healed up. But the large and neglected cases take two weeks. In such cases the ulcer is to be again dressed with sulpha powder and



not accompanied by any notable change in the personality of the patient. Disabling and inconvenient though the symptoms may be, they produce no distress. One man with a paralysed arm, remarked "I wouldn't let a thing like that worry me." A woman who had been crippled for years with hysterical contracture of both legs and confined to bed, received her guests with smiles. Her favourite slogan was "Never trouble worry till worry troubles you." She was often alluded to in the neighbourhood as having been "beautified by suffering."

The patient with amnesic hysteria has none of this casualness about his symptoms and there may be considerable changes in his personality. Whether the amnesia is uncomplicated or combined with wandering (the fugue state), he is not aware of any symptoms while they last, and so has no reaction towards them as in conversion hysteria. He acts purposefully and calmly during the fugue and always returns, or seeks to return, to an environment where he was untroubled. Consciousness is limited by the dissociation and while this lasts the "normal" personality and mode of life remain hidden. The patient is of course unaware of his previous personality and his behaviour may differ from that of his normal state. But when the period of amnesia is terminated there is considerable perplexity about the loss of memory. To wander perhaps far from home and to carry on activities of which there is convincing proof, but no recollection, is naturally disturbing. There is anything but a calm indifference to the symptom. The memory may be lost again to-morrow, to judge by past experience, and this, in the normal state of mind with a knowledge of life's responsibilities, is most disturbing. One man, suffering from an amnesia covering the whole period of his life, caused concern in the family circle by declaring that he had never seen his wife or children before. When the amnesia was reassociated with the "normal" personality he was distressed lest there should be a recurrence. It is a mistake, therefore, to apply to all with hysteria the well-known phrase of Janet's—*la belle indifférence de l'hystérique*.

The distinction between conversion hysteria and amnesic hysteria is of importance in treatment. Conversion hysteria is difficult to cure for the symptoms have brought an advantage which is still present and continues. In amnesic hysteria the question of advantage does not arise while the amnesia lasts; and when it passes (that is when the patient is once more his "real" self) the symptom is looked at with disapproval and so treatment is welcomed.

The conception of dissociation, so illuminating in understanding the psychology of hysteria, bears a superficial resemblance to the explanation of hysteria given by Hippocrates. He believed the uterus had become displaced and, moving within the body, caused the symptoms. Plato held a similar opinion; in the womb was an indwelling creature desirous of childbearing but denied it, and in consequence it strayed and thus cast the body into distress causing all kinds of maladies. This bizarre theory pointed the way to treatment—marriage and pregnancy and the use of mechanical methods to keep the womb in position. Nauseous draughts were given by mouth and sweet-smelling substances placed at the

vagina to force or induce the womb to return to, and to remain in, its appropriate site. Medicines of unpleasant taste are still prescribed for hysteria by some presumably unfamiliar with the Hippocratic aetiology. Hippocrates coined the word hysteria (from the Greek word for the uterus) and believed the disorder was found only in women. In this he was followed by all clinicians until fifty years ago, if we except brief period of enlightenment in the seventeenth century. We know now that hysteria is found as often in men as in women; and that it may occur at any age.

## II

The symptoms of conversion hysteria are usually described as protean from the God Proteus who was able to assume different shapes and elude the grasp unless secured by fetters. The symptoms, however, have an individualistic significance and are always to be understood symbolically. Individual problems are protean and the symbolic form given to them in the symptom relates directly to the patient. In this they differ from the physiological symptoms in the anxiety state, which may be found in a transitory form in normal fear. The priest whose hand trembled violently when administering the chalice, the women who develop aphonia when asked about her husband's unfaithfulness, the soldier whose right arm became paralysed when firing a field gun at a visible enemy, all illustrate the individual quality in hysterical symptoms.

Any symptom of bodily ailment, of which the patient has previous knowledge, may appear in hysteria; and it will appear in a form which fits the patient's conception of the disability.

In days gone by in this country, hysterical fits were common. The description of these, by non-medical observers, corresponded closely to epileptic fits. Gross hysterical paralysis with gait disorders are now rarely seen in these islands. But it is interesting to note that hysterical fits and excessive gait disorders were commonplace amongst a certain type of Indian soldier in the Second War. These were frequently encountered in European soldiers in the First War, but they were less common in the last campaign; and in civilian practice they seldom occur.

The most usual forms of conversion hysteria encountered in the west nowadays are less spectacular. Motor involvement such as tics, writer's cramp, stammering, aphonia or contracture is more usual than total paraplegia or hemiplegia. Sensory symptoms are often found with motor disturbances, and the distribution of the anaesthesia or hyperaesthesia does not follow the known neurological sensory paths. Areas of anaesthesia are probably commoner than the glove and stocking variety. The quality or intensity in functioning of an organ of special sense may be affected. The visual or auditory senses are disturbed more frequently than the olfactory, gustatory or labyrinthine. Cardiovascular and respiratory phenomena, such as tachycardia and tachypnoea, which ordinarily accompany emotion, may persist in hysteria and may be intensified by over examination. Pyrexia for which no physical cause can be discovered may be hysterical. Enuresis may result from certain organic conditions, but it is nearly always a

symptom of conversion hysteria. Gastro-intestinal symptoms are often present. The most usual are a sense of choking (globus hystericus), dysphagia and vomiting. Anorexia nervosa is the most striking of the visceral symptoms of hysteria and it may have a fatal termination. The attitude of calm indifference, already mentioned, should be looked for when any of these symptoms is found.

Amnesic hysteria has a limited range of symptoms—unlike conversion hysteria. The loss of memory may cover a short period or it may be for the whole previous life. The amnesia indicates that some experience or experiences, have been emotionally disturbing and have been repressed. When this is accompanied, as it often is, by a fugue, a previous phantasy or line of action preferred to present circumstances is translated into action, without, of course, a conscious awareness that this is happening. Fugues were familiar during the two last wars, but they are encountered in peace time and appear to be more usual in men than in women.

Conversion hysteria and amnesic hysteria have one feature in common—the sudden onset of the symptom. In amnesic hysteria this is clearly seen.

Careful enquiry will often reveal the day and hour at which conversion symptoms first occurred. The emotional atmosphere in which the symptoms appear is always significant and may indicate why certain symptoms rather than others were appropriate.

## III

The diagnosis of conversion hysteria is beset with difficulties. When the symptoms are of the motor or sensory type the possibility of an organic nervous disorder must be excluded. If the functional loss at the time of examination does not correspond to that found in organic disease there may yet be some doubt in the mind of the examiner when the patient speaks of symptoms experienced in the past. Disseminated sclerosis, myasthenia gravis, syringomyelia, paralysis agitans, and encephalitis lethargica, present no difficulty when well advanced, but in the early stages these, and other organic conditions, are not infrequently labelled conversion hysteria. Hysteria is also mistaken for idiopathic epilepsy, particularly if the duration of the fit and the calmness and alertness of the patient on its termination are not noted. The neurological examination should be repeated from time to time, particularly if new symptoms occur; and it should be borne in mind that the hysteric is very suggestible. Tests for sensory or motor defects should therefore be carried out by methods unfamiliar to the patient. Conversion hysteria may of course accompany an organic disease.

Amnesic hysteria should not be diagnosed without a careful examination. Disorders of memory are common in senility, arterio-sclerosis, cerebral tumour, senile dementia (Alzheimer's disease), toxic confusional states, Korsakow's disease, and other conditions. The possibility of a psychosis should also be remembered.

A quiet investigation of the emotional setting of the illness, during which the number of questions is reduced to the minimum, is recommended. Anything in the nature of an interrogation will cause resentment and make the examination more difficult. Patients

with conversion hysteria welcome an examination but they have an uncanny knack of disquieting the doctor who "suspects hysteria." Hysterical symptoms are often acquired by those who are dull and backward. When the case history indicates that the patient has had difficulty with school work, or has been unable to compete on equal terms with his fellows, an intelligence test should be given.

## IV

The taking of a case-history requires considerable care. The patient may consciously or unwittingly distort the story; and memory transformation is probable when emotion is prominent. The interview with the patient should be followed (not preceded) by a talk with the relatives. The physician should exercise care in framing questions and avoid those suggesting answers. A good opening remark is: Tell me about the onset of your illness? A bad start would be: Have you pain in your paralysed arm? For later reference it is useful to record the words used by the patient in describing the ailment. The tone of voice in taking the history should be conversational rather than inquisitorial. The anamnesis should not be prolonged, and it should be followed by a physical examination. If the illness is thought to be hysteria, this term should not be used to the patient or relatives. It is wiser to say that the condition is a form of nervous breakdown for which psychological treatment is advised. The temptation to use physical methods for the removal of symptoms has the drawback, common to all treatment by suggestion—it does not touch the essential features of the malady. It is true that the symptoms may be removed by suggestion and the temporary improvement may be mistaken for cure. But this is ordinarily followed by the return of the old or the appearance of new symptoms. The patient should therefore be referred to a psychiatric clinic, or elsewhere, so that analytical treatment may be obtained.

## Summary

- (i) The symptoms of hysteria are in two groups
  - (a) conversion hysteria, and
  - (b) amnesic hysteria.
- (ii) The symptoms are described.
- (iii) Difficulties and pitfalls in the diagnosis of hysteria.
- (iv) Taking the case history.

THE SEPTIC HAND By JAMES C. GILLIES, F.R.C.S.E., Deputy Medical Superintendent, Hackney Hospital, (Reproduced from the Post-graduate Medical Journal October, 1946.)

The importance of this subject has been universally recognised by the profession for a long time and much study devoted to it. Those who want guidance in understanding and treating infections of the hand can find it in such excellent books as those by Kanavel, Handfield-Jones and Iselin. The signposts are there if we take the trouble to use them. Unfortunately the subject, without being exactly dull, hasn't the glamour of more major surgery and the young surgeon, as his experience increases, finds himself drawn always



towards bigger and better operations with less time and inclination to attend to minor things like septic fingers. Little wounds of the hand and lesser infections are very common and often lightly regarded by patients and practitioners. The potentiality of these little infections to cause long continued and perhaps permanent and severe disability is not always recognised. Once a septic focus in the hand has progressed to any considerable extent the likelihood is that, even with the best surgery, there will be left some impairment of function. The hand is a beautiful machine, a complicated and precise instrument and in consequence extremely vulnerable. The natural process of inflammation, of combating the infection, of the walling off and of healing, all lead to matting and adhesion formation. Later results of the major infections of the hand are little better than they were fifty years ago and are never likely to be good. Uniformly good results without disability can be obtained only by cutting the infection short in its early stages. Efficient early treatment will at least lessen the duration of infection, and it will prevent spread with the consequent crippling disability and so cause less risk to life and limb. Great operative skill is not required; what is needed is the strict application of good general surgical principles and some particular knowledge of the peculiar anatomy and pathology of the affected part.

As the first step in the prevention of septic conditions of the hands all wounds of the fingers and hand should be systematically explored under local or general anaesthetic, contused tissue should be excised and all foreign matter and small bone fragments removed. If the wound is less than six hours old and can be approximated without tension after excision of bruised skin edges it may be sutured, otherwise it should be left open. To generalise it may be said that wounds in the flexures of the fingers are liable to open the tendon sheath, wounds on the dorsum to open the joints and wounds at the tips of fingers are liable to have bone involvement. Where there is any danger of ankylosis the fingers must be maintained in the "position of function" from the outset. The suture of wounds of the fingers and hand without exploration under an anaesthetic is asking for trouble and should not be done.

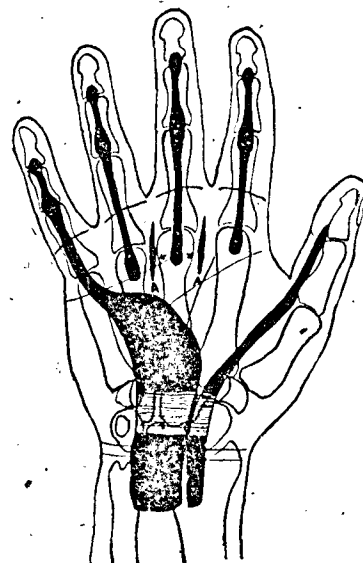
#### Infections of the Hand.

A short classification of whitlows is not possible because of the numerous segments, spaces and tissues in the hand. Whitlows of the fingers fall roughly into two groups, superficial and deep. The superficial group includes the septic blister, paronychia, furuncle, and acute spreading infection. The deep includes cellulitis of the subcutaneous cellular tissue and infection in the tendon sheaths of the second, third and fourth fingers. In the hand the deep group includes:—

- (a) Subaponeurotic infection in the cellular spaces of the thenar, hypothenar and middle palmar spaces.
- (b) Tendon sheath infection—radial and ulnar bursae. Teno-synovitis of the flexors of thumbs and little finger are more properly included in the abscesses of the hand on account of their communication with the carpal tendon sheaths.

The number of spaces makes for difficulty both in diagnosis and in treatment. Infections of the cellular spaces and tendon sheaths are localised only at the outset and if suppuration occurs it should be dealt with as soon as possible. But diagnosis must be certain. This diagnosis is the most difficult part of the surgery in these cases and here it is that experience counts more than in the actual operative treatment. An incision made too early or in the wrong place may do a great deal of harm. If there is doubt about the localisation of the pus it is better to wait even for a few days until it is more clear.

All incisions for drainage of sepsis in the fingers and hand must be made under proper anaesthesia and in a bloodless field. A tourniquet is half the battle. There is no place for the quick stab of a knife in a welter of blood.



*Superficial whitlow of fingers.*—(1) Erythematous type. This is a fleeting type of infection with local signs of inflammation which clears up in a few days. It is really an aborted infection, and demonstrates the wisdom of waiting for localisation of pus before incision is attempted.

(2) Septic blisters are common, occurring on the dorsal and palmar aspects. They have to be differentiated from the "collar stud" abscess caused by a deep whitlow pointing under the epidermis. In the septic blister the superficial collection of pus is large, pain is slight and the corresponding segment of the finger is not swollen. When the blister is "cut away" a small hole may be visible and there may be a small deeper abscess which will require drainage.

*Peri-ungual whitlow.*—This common variety occurs after a puncture wound or spontaneously. There is a superficial variety which is really a septic blister but more commonly there is a subungual collection at the root of the nail. It may start at one side but it tends always to spread towards the base and across to the opposite side. Hence the name "run-around." It tends to point along the lateral edges of the nail. It may burrow towards the bone and may infect the joint which is very close to the nail-bed. In untreated cases the pain subsides after a few days and the infection becomes chronic with

swelling round the nail edge and with pus exuding upon pressure. A mass of granulations may extrude between the nail and the skin. The whole nail gradually becomes detached and falls off. Where there is a sub-ungual collection or a sinus, the base of the nail should be removed after dissecting up a flap of skin, as described by Kanavel. The undetached distal part of the nail is left as a protection for the nail bed—this makes, for comfort in subsequent dressings. The condition clears up quickly after this operation, otherwise with sinuses and poor drainage suppuration may continue for some time and the new growing nail tends to be deformed.

(3) Acute spreading infection is a grave but rare condition. It concerns us closely, being commonest in surgeons, nurses and mortuary attendants. A small scratch or prick usually on the dorsal surface is followed in a few hours by a red swelling extending up the arm and with signs of a most severe toxæmia. Incisions release only blood-stained serum and surgery is not indicated. The seriousness of the condition must be recognised at the outset and immediate and adequate chemotherapy instituted.

2. *Subcutaneous infections.*—The creases on the palmar aspects of the fingers demarcate three segments which are separated from one another and each can be the seat of a subcutaneous whitlow. The commonest is whitlow of the distal segment, the pulpar space. Here the cellular tissue is firm and intersected by vertical fibrous strands running from the dermis to the bone. Infection causes swelling and tenseness with considerable pain which reaches its peak about the third to the fifth day. Spread may be towards the surface, forming a collar stud abscess on the palmar aspect, towards the dorsum causing paronychia, or deep, to invade the bone and then the joint. In the thumb once the bone and joint are involved further spread may infect the thenar space and the long flexor tendon.

Mid-line incision in pulp infection is to be deplored. Owing to the structure of the pulp this incision fails to drain it, it prejudices more adequate treatment and leaves an ugly and painful scar. The shark's-mouth incision gives good drainage but is slow to heal and tends to leave a depression near the nail. The half horse-shoe lateral incision reaching to the tip of the finger is best. It must be carried deep enough to divide the fibrous strands anchoring the skin.

Osteitis is common and causes at least marked prolongation of the infection. The vessels to the distal part of the phalanx are vulnerable as they cross the pulp. The diaphysis of the phalanx has a separate blood supply coming off higher up the finger—hence the necrosis of bone often tends to be subtotal leaving a thin layer of bone which may protect the joint.

We often see cases of pulp infection where the suppuration has been going on for weeks and in them X-ray discloses sequestrum formation. A great deal of time would be saved if this common complication were kept in mind and sequestra removed as soon as they separate. When the joint is involved the distal phalanx should be disarticulated. Teno-synovitis complicating osteitis of the distal phalanx is usually accompanied by sloughing of the tendon and may necessitate disarticulation of the finger. The thumb

of course must be preserved; the thenar muscles will move it.

*Infection of digital tendon sheath.*—This is the most serious type of whitlow of the finger. Diagnosis is difficult; treatment is difficult owing to the peculiar anatomy of the sheath and there is a real danger of spread leading to deep palmar abscess. The results have been bad. The classical sign of teno-synovitis is the hook finger with extreme pain on attempted straightening. This sign is only present when the tendon sheath is intact. Once tension is released either by leakage from a wound or by rupture of the sheath at its top end, the sign is lost. Iselin points out that the most constant sign is pain on pressure over the upper end of the sheath in front of the head of the metacarpal. But even this may be absent.

The usual cause of digital teno-synovitis is direct infection by a wound most often in one of the creases of the finger. Mr. Dickson Wright in 1944 demonstrated cases treated by passing a ureteric catheter through the wound, enlarged if necessary, up the whole length of the sheath, washing out the sheath with saline, and instilling one or two c.c.s of a strong penicillin solution. This was repeated each day for seven days and the catheter then removed. Movement was then started and full function quickly restored. This method seems to offer a chance of far better results than before. General penicillin has no effect on teno-synovitis since it does not reach the synovial fluid.

For draining the tendon sheath directly lateral incisions are commonly used and the pulley divided. At this site the sheath is narrow, drainage is poor and adhesion formation almost certain. Iselin drains the sheath at its superior cul-de-sac by two palmar incisions 2 cms. long, one over each metacarpal space. He makes counter incisions on the dorsum and uses through-and-through drains. This seems a preferable method of drainage. The incision in the palm may be transverse.

*Hand:*—Infections of the subaponeurotic spaces of the hand have been well described. The palmar space is really two spaces, a superficial one lying in front of the tendons, and a deep one behind the tendons. The deep space is the one which becomes infected when a digital tendon sheath ruptures at its superior end. Infection of this space causes severe disability, including paralysis of the inter-ossei which lasts for a considerable time. This space is drained by incisions in the webs of the fingers along the lumbrical canals. Where a finger has been destroyed by teno-synovitis, drainage of the deep space can be obtained by removing the finger together with the head of the metacarpal.

The thenar space can be drained by an incision in the web or by incisions on dorsal and palmar aspect.

*Tendon Sheath of the Hand.*—This encloses the tendons in the palm and in the carpal canal under the anterior annular ligament. The radial bursa is in direct continuity with the digital sheath of the long flexor of the thumb. The flexor sheath of the little finger is continued up to join with the ulnar bursa which at the wrist surrounds the two layers of the flexors of the fingers. The ulnar bursa has three cul-de-sacs in transverse section and the tendon sheath



of the little finger opens into the posterior of these. Hence a lateral drainage by an incision above the annular ligament, which opens this posterior cul-de-sac, is the most efficient as well as the least damaging. In nearly every case of radial bursitis the ulnar bursa quickly becomes infected. Spread from ulnar to radial bursa is not so common. When these sheaths become infected drainage is best carried out by an incision on both sides of the lower forearm and a drain across in front of the pronator quadratus. Instillation of penicillin into the sheath should be carried out.

To close, I would advocate the ideal treatment of infections of the hand and fingers as:—

- (i) General treatment in bed. These patients are ill with pyrexia and pain.
- (ii) Fixation of all cases in the position of maximum function either by plaster of Paris or by a combination of wire and plaster. This should be coupled with elevation of the hand.
- (iii) Chemotherapy. The predominant organisms are haemolytic streptococci and staphylococci aureus. Penicillin and sulphonamide should be given from the beginning. This will not abolish surgical interference but it will help to reduce the operative risks and will make any surgical procedures safer and, therefore, will help to restore functional activity of the parts.

This line of treatment means that all cases of septic infections of the fingers and hand must be treated as in-patients. We cannot afford that ideal at present but we should aim at it. The treatment is expensive, but in my opinion it would pay good dividends.

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**THE ANXIETY STATE** \* BY E. A. BENNET, M.C., M.A., M.D., D.S.C., D.P.M., *Psychiatrist West End Hospital for Nervous Diseases; Consulting Physician Tavistock Clinic, London.* (From the *Post-graduate Medical Journal*, Nov. 1946.

The term *anxiety state* attained notoriety in the recent war, as *shell shock* did in days gone by. Each came to be used casually as a label for practically every form of mental disability and for other conditions as well. This had serious results in the 1914-18 war, as many patients, being wrongly diagnosed, were wrongly treated. The aftermath was seen in the heavy burden of pensions with its inevitable concomitant of invalidism. Fortunately this was not repeated in the last war as psychiatry was taken seriously in the Services. The civil mental health service of the country is, however, far from adequate. There is a shortage of trained psychiatrists, a shortage of in-patient facilities and a shortage of social workers. Consequently it falls to the general practitioner to diagnose, manage and perhaps also to treat many psychoneurotic patients. At least half of this group will be sufferers from the genuine *anxiety state*. It is necessary therefore to use this term with care, otherwise treatment will be haphazard, prolonged and disappointing to the patient and to the physician. This can only be done when there is a clear picture in the mind of what an *anxiety state* "looks like" clinically; and it is the purpose of this paper to draw the outlines of such a picture.

\* Based on a lecture given to Post-Graduate Students at the West End Hospital for Nervous Diseases in May 1946.

#### I

The clinical picture in the *anxiety state* is a combination of psychological and somatic features. The psychological component is morbid anxiety and the somatic, broadly speaking, one or more of the physiological accompaniments of normal fear. Men and women, children and old people, the wealthy and the poor, the active and the idle, the intelligent and the stupid, the married and the unmarried, are all victims. It is an illusion to think that these patients have adopted their symptoms out of perversity or in order to escape from the demands of life. They have become ill because of mental conflict of which they are unaware. The motivation of their illness is unconscious and so outside conscious control and direction. The hypothesis of mental activity outside consciousness is generally accepted for reasons which can be found in any modern text-book on psychiatry. The reasonableness of the complaint is its least obvious feature. But unless it be accepted by the clinician, his handling of the patient will be ruined by his own irritation and sense of frustration.

Anxiety is not always morbid. To be troubled in mind about some uncertain event, such as an examination or an illness, is to show normal anxiety. This anxiety is indeed useful—it leads to appropriate activity. In contrast to it stands morbid anxiety which has a paralysing effect upon thought and action. The sufferer cannot account satisfactorily for the anxiety by reference to local circumstances. The home, financial, and business situation may be satisfactory, and yet anxiety dominates the scene—the mind is in a state of anxious alertness. Inactivity rather than activity results and there may be a sub-current of fussiness and restlessness which is liable to focus on almost any triviality. Anxiety of this type is morbid. It is a symptom of importance and it should be looked for in the patient who is repeatedly seeking advice for minor complaints. The simplest method of detecting it is to take a history of the illness, noting the response of the patient to the demands of life at school, in business and in marriage. This should be the first step in the examination. A certain clinical intimacy is established as the history is unfolded, and the confidence of the patient is gained. It is unnecessary to ask a lot of questions for these patients will talk freely. But a few carefully selected questions may be interposed: How do you sleep? Is your memory as good as it was? Are you able to concentrate on your work? Would you regard yourself as unduly irritable or highly strung? Do you find yourself disturbed in any particular situation? Is travelling by train difficult for you? Are you worried about your mental health?

The demeanour of the patient in giving his history, and the answers to the special questions, will make it possible to decide with a fair degree of accuracy whether the patient is or is not morbidly anxious.

The second step in the investigation is to make a physical examination. When bodily illness is discovered and if the symptoms of it are those about which the patient is anxious, treatment should be laid down, reassurance given, and the interview ended. If, however, the physical examination reveals nothing abnormal or at any rate nothing which appears to account satisfactorily for the undue anxiety, we should bear in mind, as mentioned above, that morbid anxiety does produce physiological disturbances similar to those which accompany normal fear—the natural and healthy response to a dangerous situation. The difference in the two conditions is that morbid anxiety arises when there is no obvious sign of danger. It is in fact the reaction to an inner, unconscious, and so unrecognised danger to the personality.

#### II

The psychological symptoms of an *anxiety state* will vary from time to time, but they will usually include lack of concentration, irritability, impairment of memory, apprehension, depression, feelings of unreality and insecurity, sleeplessness and the dread of insanity. The anxiety may be concentrated upon specific situations such as travelling by train or the underground railway, lifts, heights, crossing the street, walking alone out of doors, interviews, theatres, restaurants, open or closed spaces and so on. Certain objects may also cause anxiety, for example spiders, cats, knives and blood. The so-called phobias fall under the last two groups and these are often dignified by special names such as claustrophobia and agoraphobia, implying, wrongly, that these conditions have an origin different from the less specific forms of morbid anxiety.

The purpose of the phobia is protective and the place, situation, or eventuality on which it is focussed is avoided as far as possible. Incidentally, while it is avoided, it is also kept in mind; for a phobia is a curiously double-edged weapon. There may be a phobia of a situation which demands an exact response

for example driving a golf-ball, sitting at a dinner table or drinking a cup of tea. Such situations can be dealt with appropriately only in one way. There are not a dozen ways of taking a cup of tea. It is astonishing and pathetic to learn of the devices which patients employ to avoid the dreaded situation. The phobia is the symbolic externalisation of some object or impulse repressed from consciousness.

Acute panic may arise in the morbidly anxious patient is likely if he is faced with the situation or object for which he has a phobia.

The physiological symptoms or accompaniments of morbid anxiety are numerous. They include palpitation of the heart, raised blood pressure, increased pulse rate, flushing, sweating, respiratory trouble, tremors (particularly of the hands and face muscles), digestive disturbances, diarrhoea, polyuria, bed-wetting, impotence and vaginismus. The general muscular tension may result in stammering or in blundering and jerky movements. It would be unusual of course to get all of these in any one patient. This applies also to the psychological symptoms. There is usually a ringing of the changes and at times morbid anxiety or the somatic factors may be in abeyance. This should be remembered during the history taking—symptoms absent to-day may have been a cause of distress a few weeks previously. Then again an organic condition may appear in a patient with an *anxiety state* or vice-versa.

Medical men have a tendency to overvalue the importance of physical symptoms and to undervalue the importance of psychological symptoms. Thus patients with a full-blown *anxiety state* are treated only for the physical accompaniments and perhaps treated for a long time on the assumption, presumably, that any physical symptom can cause morbid anxiety. They tend to be unrewarding patients. This is hardly surprising as the importance of the symptom for which they asked advice is exaggerated and morbid anxiety—the root of the trouble—is overlooked.

#### III

A few of the physiological aspects of morbid anxiety may now be noted in more detail. One of the commonest is the so-called "nervous heart." Anxiety, whether morbid or otherwise, is liable to affect the action of the heart, but in the normal person the "palpitations" soon pass. When a person is beset by morbid anxiety, however, they persist and may be accompanied by considerable lassitude in doing any work, or even while at rest, by pain in the left thoracic region and by a sighing respiration. This of course is the familiar picture of effort syndrome. The anxiety will become centred upon the heart if it is examined again and again. This was common during the war partly owing to frequent movements of Medical Officers, Medical Specialists and patients. The new M.O., having no case history to go on, started de novo, and referred the patient to the Medical Specialist who repeated the investigations, perhaps for the third or fourth time. Before long the patient was convinced that he had heart disease. While this is less likely to happen in peace-time, it is still true that patients are in danger of over rather than under examination. It is important, therefore, that the doctor should make a complete physical examination and give reassurance if he finds all is well. When this reassurance is accepted and acted upon, the patient is not suffering from morbid anxiety but from a reasonable misapprehension.

If the reassurance is unavailing and the patient appears again and again it is likely that he has an *anxiety state* and his attitude of mind should be investigated.

The respiratory system is often involved in an *anxiety state*. There may be a cough, a shortness of breath or pain in the chest. The patient may have been seen once or twice before and given a cough mixture. Assuming there has been no relief the doctor, perhaps urged by the patient, will send him for an X-ray examination. If this turns out to be negative, it is probable that the morbidly anxious patient, on his own initiative, will consult a series of specialists. He thinks he has got T.B. or cancer of the lung. It is a wise precaution to ask such a patient, when the chest is healthy, about previous examinations; for he may well say that he has no private doctor and yet claim that he has had the trouble for many months. It then turns out he has been to many physicians, and that each of them, thinking only of his chest, gave a cheerful report. The patient is really sick—but it is a sickness of the mind.

Impotence, or the fear of it, in men, and vaginismus in women are met as symptoms of the *anxiety state* and of other psychoneurotic conditions. The shyness or ineptitude of parents—not by any means confined to the Victorian era—in giving

instruction to their children when they ask questions on sexual matters is the starting point of much of the anxiety which prevents the normal expression of the sexual instinct. A feeling of guilt becomes associated with the mysteries of procreation in the mind of the child and adolescent. This is ordinarily unconscious in the patients unable to achieve coitus. They disown any distaste for the act and say that they regard it as perfectly normal. The man may report that he has had intercourse before marriage, but that since marriage he has been impotent. The woman, desirous of motherhood, is yet unable to permit, or submit to, the advances of her husband.

The presence of morbid anxiety must not be taken for granted in assessing the significance of impotence or vaginismus. Sometimes it is absent and the worry (or normal anxiety) which the patient feels is based on ignorance of the mechanics of coitus. Women with vaginismus often fear that coitus may be painful. Some believe—mistakenly—that the sexual sensations are heightened by contracting the muscles of the legs and abdomen. Every patient with impotence or vaginismus should be asked, to begin with, about the simplest aspects of coitus. Ignorance of the subject is widespread and much of it can be removed by explanation as it may rest upon a misunderstanding perhaps dating back to some remark overheard in the conversation of adults. It is highly satisfactory when the difficulties can be overcome in this way. But of course there are the many whose symptoms have a deeper meaning. How numerous they are none can say. The impression gained in the practice of psychiatry is that impotence and vaginismus are commonplace. Patients are sensitive about these matters and often the presence of impotence or vaginismus will only be discovered by tactful enquiry. If morbid anxiety be revealed in the history taking, it is a good plan to mention that the intimate side of married life is at times a perplexity to those in good health, and that to those who are not, it is frequently the main cause of distress. If this is not done and tonics and injections are prescribed for impotence and dilation for vaginismus, the result may be that the patient, having derived no benefit, concludes that the condition is beyond the scope of medical aid. Sexual intercourse, it is assumed cannot be carried out and attempts to achieve it had better be given up.

The principles which should guide the doctor in his examination of those complaining of cardiac, respiratory and marital disabilities apply also to the other physiological aspects of the *anxiety state* mentioned in Section II. The individual rather than some hypothetical disease entity should be looked at. It is harmful merely to inform the psychoneurotic patient that he is looking well, that he is as sound as a bell and that any insurance company would be delighted to accept him as an A.1 life. This cheerful attitude may be helpful because the patient feels that his doctor is interested in him. But the help is transitory. The doctor, however good his intentions, is being blind to an important clinical symptom, namely morbid anxiety, which consequently persists.

It may be argued that the taking of a full history is too time-consuming; and that to take the history of a psychoneurotic patient requires training which few possess. But the palliative treatment of the "nervous" patient is also time-consuming and indeed often goes on for years. The general practitioner must be rare who cannot think of at least one patient who could be accurately described as a good steady invalid.

#### IV

The treatment of the *anxiety state* is a serious matter "and therefore is not by any to be enterprised, nor taken in hand unadvisedly, lightly, or wantonly." Skill and training are necessary in the treatment of neurosis. The successful therapist, in addition to technical skill, must possess an aptitude, for this branch of medicine a knowledge of the world and an appreciation of the spiritual as well as the material aspects of human affairs. This is not to say that every psychoneurotic patient must be referred to a psychiatrist. Apart from the fact that there are not enough psychiatrists to make this possible, it is the duty—and will we hope always be the duty—of the general practitioner to diagnose illness in its early stages. It should be remembered that the *anxiety state*, like any other illness, has a beginning and also that it can have an end; nor does it come with the abruptness of a road accident. The onset is usually insidious. In dealing with the illness in its early stages, the attitude of the doctor towards the patient more important than his technique. Relatives and doctors often ask about the correct demeanour towards the psychoneurotic patient—should it be sympathetic or hard-hearted? Should they be made

"to do things" or "be given in to"? The answer is that the patient should be approached with objective sympathy, as in other forms of illness. The possibility of preventing the development of a neurosis is high if it is handled wisely in the beginning. The doctor soon discovers what he can do, and the power he does possess, if he approaches this group of patients as innocent rather than guilty people. Once he is trusted he need not be afraid of being too bracing, or as critical as the situation demands.

Many of course will not respond to these simple measures. They are grateful but uncured. It is then that help should be sought—either by reading or by reference to a colleague. No treatment is better than the wrong treatment, for this helps to establish the condition. It should be remembered that statements such as "it all depends on yourself" do constitute a form of treatment quite as injurious as the injunction given to one patient—"pin your faith to the little white pill and it will cure you." The correct treatment for every patient is just not available in the present state of the health services. What then can the doctor do? It is recommended that he should be frank with the patient, indicate that the remedies he prescribes are intended to heal or rest the mind which is sick, while pointing out that it is not the type of illness which is popularly called "mental." This may seem a small thing, but to neglect it does serious harm. It is a disservice to give treatment only for the physical symptoms. To keep an expectant eye on those arising from morbid anxiety, hoping they may fade away, is not enough. The patient will naturally and reasonably conclude that the symptoms for which he is receiving treatment—that is the physical symptoms—are the cause of the trouble. When hope is deferred and the doctor has exhausted his resources, it is hardly fair to put the blame on the patient, saying that it is "all imagination."

The personality of the doctor plays a big part in the management of this illness and often it is this which restores confidence and hope in the patient who is tyrannised over by morbid anxiety.

While the use of the various psychotherapeutic measures employed in psychiatry is best left to the psychiatrist, it should be possible for every medical man to acquire some knowledge of the principles upon which they rest. He will find them of practical value in every branch of medicine and surgery, for the anxiety state knows no boundaries.

## LETTERS TO THE EDITOR

### Deputation to the Defence Member suggested.

You being our accredited representative, I beg to inform you under what state of uncertainty, dissatisfaction and apprehension the Regular Ex-I.M.D. personnel of the I.A.M.C. are labouring at the present moment and request you to give this as wide a publicity as possible since it is a question of life and death for the Licentiatees.

The majority of the Ex-I.M.D. personnel were given King's Commissions—which they so richly deserve—when the British Empire was on the verge of extinction. The role which these men played during the war cannot be under-estimated and the tributes paid to them by high-ranking officers are well known. Whatever job was allotted to them, either administrative or otherwise, was performed as efficiently as the graduates did.

Now that Victory has been won and the British Empire preserved, the Government appears to be bent on relegating these deserving doctors to the hated and disgraceful V.C.O. class once more under some of their cunning and stereotyped pretexts viz., not-reciprocity of Indian medical qualifications by foreign countries, want of finance etc., Thus the vicious circle appears to be set in motion once more.

A farce has already been started where Licentiatees are being interviewed for the grant of regular commissions. It is stated that only about 30 Licentiatees are to be selected for regular commissions in the whole of India; and that too on condition that they graduated before being actually commissioned. This is nothing but a farce.

Now that the long-awaited Interim Government has come into being and that we have an Indian Defence Member in it, it is requested that a Deputation be sent to him and the C-in-C, to present before them the life-long injustice and humiliation done to us and demand the following:—

(1) That all the regular Ex-I.M.D. personnel be kept in the army in the commissioned ranks and let promotions be based on merit and efficiency. It does not matter if the pay-scale be revised to suit the country's finance.

(2) That, if this is absolutely impossible—which it should not be—let these men work in the army as just "Doctors" without any army rank and certainly NOT as V.C.O.'s, which rank is disgraceful and disgusting—to say the least—to be held by any qualified doctor.

(3) That the Government of India be asked to publish its clear-cut policy regarding the future of I.A.M.C. and in particular that of the Licentiatees in it.

In the R.A.M.C. it is a fact that even an orderly can aspire to rise up to the rank of a Lt. Col. without any medical diploma or degree. Why then should such a glaring disparity, disability and distinction exist between two classes of fully qualified doctors in the I.A.M.C.? Does it mean that one extra year of study in medical college gives the so-called graduates all the knowledge there is in medical science and with it all the facilities and advantages over the Licentiatees who spend full solid four years to obtain their diplomas? This is 1947 and the age-old argument that a medical graduate is superior in all respects to a Licentiate no longer holds good as was amply proved during the war years when, for the first time in history, Licentiatees had the opportunity of working side by side with graduates on an equal footing and vindicated their capabilities.

More-over, it has been the bitter experience of Licentiatees as V.C.O.'s in the Army that even the nurses did not pay them the regard due to a doctor since these women are given a much better status than the Licentiatees.

This is simply intolerable—to say the least. This is but a mild instance of the humiliation which Licentiatees come across in the army day after day and many more glaring instances could be cited but for want of space.

This time, if the Government turns a deaf ear to our legitimate and just demands—which it may do again as on previous occasions—we should be ready for a drastic action viz., strike work. We can no longer remain complacent and it is high time that Licentiatees all over the country launch a real concerted country-wide struggle to bring home to all concerned the life-long injustice and humiliation done to us and achieve our legitimate demands once and for all.

"Justice?"

### The Plight of I. M. D. Commissioned Officers.

Thanks for the work done so far by the Association with regard to the uplift of the Medical Licentiatees in the country. Much has been said and done in the past but a great deal has yet to be done. Unfortunately our class is sub-divided into various sections and the complaints also vary according to the experience of individuals. This is why the progress is sometimes slow.

The Medical Licentiatees of the I. M. D. (I. C.) Reserve who were called to colours after the war broke out in September 1939, were also commissioned like others in the I. A. M. C. which came into being on 3rd April 1943. The service gratuity allowed to them is counted from 3rd April 1943 to the date of their release from the Army ignoring their war service prior to that date. If by joining the I.A.M.C. on the said date they were liable to forfeit all their previous service with all its claims the same should apply to all other branches of the Medical service in the Army. Everything should start afresh from that date with the foundation of a new world for the medical profession in the Army.

Leaving everybody else, a vast difference exists even between the different branches of the I. M. D. itself i.e., regulars, reservists and the emergency I.M.Ds. The same old policy of divide and rule is here also at work and no body will be pleased in the end. The Reservists were unlucky throughout and the reason for this is not far to seek. Their only unpardonable offence is that they volunteered to join the I. M. D. Reserve and thereby paid a high price for the trifling amount they received as their retention fee during the reserve period. They were like fish in a jar and lived at the mercy of their masters and were ultimately entrapped.

1. They were deprived of the emergency allowance of Rs. 75 p.m. admissible to all others newly recruited who were junior to them in lengths of service and experience.

2. Some of the special appointments as registrars were denied to them.

3. They were released from service without any consideration being shown to them for their pre-war service of any length. As soon as the hostilities stopped they were treated as foreigners as if no link existed between them and the Government before the war and were swept away along the high wave of release.

4. Their war service before 3rd April 1943—date of their commission in the I.A.M.C., was ignored outright for purposes of gratuity and their Reserve (Pre-war) service became a thing of the past.

5. The future is darker than before as they are given no facilities to restart their medical practice which they had to give up when called to colours.

6. The promises of status of equality during war and after were never fulfilled.

7. There is neither any scope for service nor any improved scale of pay for it even if one succeeds in getting it. Even the subordinate medical service is nothing more than an eyewash which has not so far been able to absorb any released hands.

Lastly the conditions for higher studies and special training are most unsatisfactory and disappointing in all respects and there is no hope of any improvement in this direction. The Poona Course also failed to prove successful.

In the end I would suggest that arrangements for hearing complaints may kindly be made not only in every province but in every district so that a prompt action may be taken by the Association. In this way there can be some hope of success in this matter.

Harbans Singh, Ex-Capt., I.A.M.C.

### Why this Step-Motherly Treatment?

I give below in a tabular form the differential treatment needed out to I.A.M.C. Licentiate Medical Officers who volunteered from Railway Service as compared to those who volunteered from Government Service.

After all, we went for war-service in the hope that if we were to come back alive, we will get a better living.

But what do we find actually? We are thrown back as subordinate medical officers. Our period of Active Service is not doubled, as promised. War gratuity to which we are eligible are denied. Even the Service gratuity is given to the Railway Department and not to the officer concerned!!

Would the Railway Board or the Member-in-charge of Railways kindly look into these matters and do justice before it is too late?

Would the A.I.M.L.A. also take such steps as would remove these grievances of the Railway Medical Licentiatees who volunteered for the war only on its assurance of better status and emoluments in the post-war period?

(S. C.) "A Victim"

| Items                    | Provincial Medical Sub-ordinates                                                                                                             | Railway Medical Sub-ordinates                                                                                                                           | Authority and references                                                         |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| 1. Conditions of service | Active period is doubled                                                                                                                     | No.                                                                                                                                                     | D. M. S. (I) E. Medical Directorate - re - settlement bulletin No. 9, D/30-9-'46 |
| 2. Promotion             | All S. A. Ss, in Madras province on return from war service, promoted as Assistants Surgeons. Other provinces granted similar considerations | No.                                                                                                                                                     | Under the arrangement of respective provincial Governments                       |
| 3. Study leave           | Will be granted by the respective Provincial Governments. Study leave and leave allowance to study for M.B.B.S.                              | No.                                                                                                                                                     | Medical Directorate Medical re-settlement bulletin No. 10 D/6-12-'46             |
| 4. War gratuity          | Eligible                                                                                                                                     | No.                                                                                                                                                     | Medical re-settlement bulletin No. 8 D/6-9-'46                                   |
| 5. Leave Pay             | Eligible at military rate of pay during war leave and sick leave                                                                             | Get only railway rate of pay, although the defence department gives the railway Department salary contribution at military rate during the leave period | Railway board letter No. E 44 WA 816/2 dated 27-3-'46                            |
| 6. Service gratuity      | No.                                                                                                                                          | Although eligible, the amount is being paid to the department and not to the individual                                                                 | A. I. (I) 274/44 part III para 7                                                 |

## BOOK REVIEWS

Hand-Book of Infectious Diseases with notes on Prophylaxis, Serum Treatment and Vaccination: League of Nations.

This is an excellent hand-book on Infectious Diseases and the first-hand experience gained during the first and the second world wars has been incorporated. Part I deals with infectious and parasitic diseases of man. Part II deals with general and special immunology in outline. Part III gives the methods of collection of pathological specimens for bacteriological and virological diagnosis. Each part, though necessarily presented in condensed form, is yet replete with useful and authoritative information. It is a book which should be in the hands of every physician and sanitarian.

Physics for the Anaesthetist: By R.R. Macintosh and W.W. Mushin. Published by Blackwell Scientific Publications. Oxford, 1946. Price 30 Net.

The authors themselves are practising anaesthetists and if they have chosen to write a book of this kind, it must be that they have felt the need of sound knowledge of physics in the practice of anaesthesia. The book is made up of 18 chapters and fully illustrated. The printing and set up is excellent. We warmly commend this book to the practitioners in general and the anaesthetists in particular.

British Chemicals and their Manufacturers: Published by the Association of British Chemical Manufacturers; 1946.

This directory is a useful one, because it gives authoritative information regarding British Chemicals and Proprietary remedies. As a reference book to the practitioners it is invaluable.

**Some Chapters in Cambridge Medical History:** By Sir Walter Langdon-Brown. Published by the Syndics of the Cambridge University Press, July 1946. Price 6 sh. Net.

Cambridge may well be proud of the contributions she has made to Scientific Medicine. In this book under review, Langdon-Brown gives an account of the great men who have made these contributions possible. Among these great men are John Caive, William Gilbert, Francis Glisson, William Heberdon, John Haviland and Gifford Albutt. The book is interesting and illuminating, and undoubtedly a valuable addition to the History of British Medicine.

**The Circulation in the Foetus:** By Kenneth J. Franklin and others. Published by Blackwell Scientific Publications Ltd., Oxford. Price 2-6 Net.

This is a synopsis of a bigger book under the same caption which was reviewed in these columns in the year 1945 (Vol. 39, page 203). It is specially intended for the use of students. Foetal circulation is a subject on which the last word has not been said. But what is detailed in this book is based on authentic researches and observations. We heartily recommend this book to the medical students and nurses in this country.

**The Indian Pharmacopoeial List: 1946.** Published by the Government of India, Department of Health:

This list gives (1) Substances which are included in the B.P. available in our country and (2) substances not included in the B.P. It does not claim to be exhaustive but its usefulness to the chemists and the practitioners of our country is apparent. For the first time we have an authoritative lists of drugs with suitable tests to establish their tenuity, purity and therapeutic value. We congratulate the Department of Health for the vigour and enterprise which have gone into the production of this valuable Indian Pharmacopoeia, and hope it is but a fore-runner of more comprehensive edition.

## ASSOCIATION NOTES

**N. W. Ry. Branch:**—The annual general meeting was held on 13-10-46 at Lahore. R. S. Dr. M. L. Kapur, President of the A.I.M.L.A., presided.

Minutes of the last meeting were read and confirmed.

A/cs for the year 1945-46 were passed.

The following office bearers were elected: *President:* Dr. Mathra Das; *Working President:* Dr. S. S. Jetty; *Vice-President:* Dr. Hakin Rai; *Secretary:* Dr. M. A. Lalman; *Treasurer:* Dr. A. D. Taneja.

**Cuttack (Orissa):**—Meeting held on 16-10-46. Resolved that the Branch be re-opened and that the following office-bearers be elected:

*Secretaries:* Dr. M. K. Sahu and Dr. B. K. Patnaik; *Treasurer:* Dr. P. K. Patra; *Executive Committee:* Drs. K. Das, A. Sahoo, M. Sadanji, D. C. Mahanty and B. P. Acharya.

Resolved that the senior most member be elected as the President of the Branch.

(2) Meeting held on 26-10-46.

Proceedings of the last meeting were read and confirmed.

Resolved that Dr. C. C. Mitra be elected president of the Branch.

Resolved to thank Dr. Dinkar Rao for giving his impressions of the last Poona Conference of the A.I.M.L.A.

**Nadia (Bengal):**—A monthly meeting was held on 27-8-46, at 7-30 P.M. in the house of Dr. K. R. Ray, Krishnagar.

1. The proceedings of the last meeting were read and confirmed.

2. Read the circular No. 17 dated 9th August 1946 from the General Secretary A.I.M.L.A. Association and finally elected a President for the next Annual Conference.

3. The circular No. 2 dated 1-8-46, from the Provincial Secretary A.I.M.L.A. Bengal was placed on the table and discussed. The Secretary of this Branch was requested to send Rs. 10 as annual subscription of this branch to the Provincial office at an early date.

4. Enquiry is going on to find out whether they are any unqualified and unregistered doctors in the service of District Board, Union Board and Local Board Charitable Dispensaries of this District. The result to be communicated to the General Secretary timely.

(2) General Meeting of the Branch was held on 30-9-46, in the Dispensary of Dr. D. Basu, Goari, Krishnagar.

1. The proceedings of the last meeting were read and confirmed.

2. Read the letters of the General Secretary Circular No. 3 dated 21-9-46 and No. 2774 dated 17th September, 1946, and the Circular No. 3 dated 21-9-46 from the Provincial Secretary and the resignation letter of Dr. K. R. Ray from the Secretaryship of this branch.

Resolved that Dr. P. C. Chakraborty be elected as 3rd delegate from Nadia Branch, its present No. of members being 52.

Dr. K. R. Ray requested the members to relieve him from the arduous task of the Secretaryship in his old age which he held since the creation of this branch. Then the following office bearers were elected for the next year.

(1) *President:* Dr. S. C. Dutta Rai Saheb, (2) *Vice-President:* Dr. S. M. Bhattacharjee, (3) *Secretary and Treasurer:* Dr. B. C. Ghosh, (4) *Joint Secretary:* Dr. P. C. Chakraborty, (5) *Auditor:* Dr. K. R. Ray, other members of the Executive Committee: (6) Dr. H. N. Sen, (7) Dr. R. D. Shing, (8) Dr. D. Basu, (9) Dr. B. C. Bhadra, (10) Dr. N. B. P. Biwas, (11) Dr. S. K. Banerjee.

3. The budget for Rs. 25 (Rs. 15 for monthly expense and Rs. 10 for propaganda) be passed for the next year.

(3) A monthly meeting was held on 1-12-46. The proceedings of the last meeting were read and confirmed.

Circular No. 1 of the G. S.: Resolved to thank Dr. A. N. Ray, G. S., for his services to the Association and devotion to its cause.

Letter from the Provincial Secretary: Resolved that certain amount be sent to him for Relief Work, but that it is not possible to send any relief worker from this place.

Dr. K. R. Ray as Honorary Secretary: This Branch places on record the valuable services rendered by him in the cause of the Association.

T. A. Bills of Drs. B. Ghose and P. C. Chakravarty for attending Poona Conference were passed.

(4) Meeting held on 30-12-46. Proceedings of the last meeting were read and confirmed.

Discussion took place on some interesting cases cited by the members.

**Chittagong (Bengal):** Meeting held on 12-1-47. Following Office bearers were elected for the new year. *President:* Dr. B. A. Khan; *Vice-President:* Dr. Samiruddin; *Secretaries:* Dr. K. P. Ghosh and J. C. Nandy. *Executive Committee:* Drs. N. C. Bhattacharjee, M. Mazumdar, B. Sil, C. S. Bhattacharjee, A. Martin.

Resolved to place on record the sad demise of Dr. J. P. Biswas, the President of the Branch and to offer condolences to the bereaved family. Resolved to hold the 3rd District Conference on 23-2-47.

**Pabna (Bengal):** Meeting held on 5-6-46. Resolutions of all previous meetings were read and confirmed. Accounts up to date, were checked and passed. Dr. A. N. Chaudhury was elected as a delegate to the ensuing Conference of the A.I.M.L.A. at Poona.

**Chhindwara Mining Area Medical Association, A. I. M. L. A. Branch:**—A meeting of the Chhindwara Mining Area Medical Association held at Bark, 1-Parasia at Dr. Choudhri's residence on 25-8-46. Dr. Banarji Presided.

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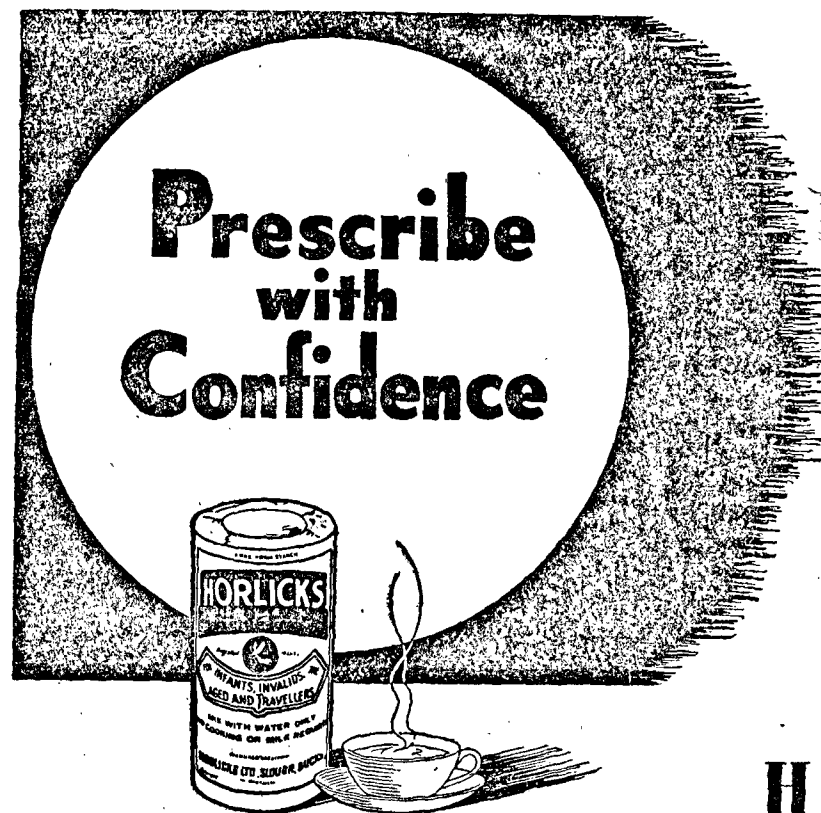
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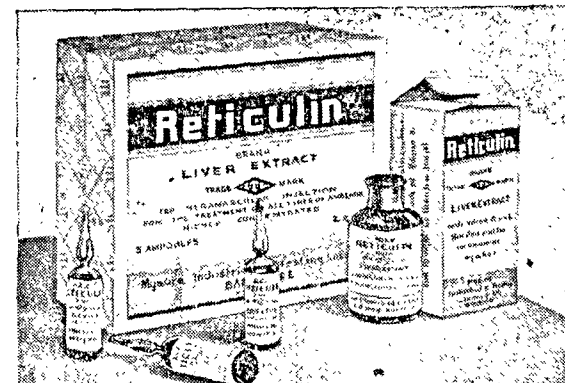
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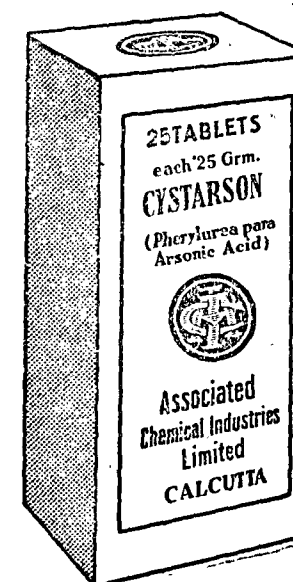
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MADRAS

2/27, BROADWAY

Proceedings of the last meeting and transactions there-after were read and confirmed.

Resolved to elect Dr. A. Mukharji of Calcutta to the Presidentship of the 34th, Poona Conference.

A congratulatory address was presented by the President to Dr. N. B. Tembhekar for his getting the Deputy Chief Medical Officership in the medical department of Messers Shaw Wallace & Co., Parasia in Pench Valley.

(2) C. P. and Berar:—The Annual Meeting of the C. P., Berar and Central India Minings Area Medical Association (A. I. M. L. A. Branch) was held at the residence of Dr. Gadhihar at Chandametta-Parasia on the 22nd September '46.

Accounts for the year ended September 1946 read and passed. Elections were held for the ensuing year from October '46 to September 1947. Following were the election results:—

President: Dr. T. E. R. Chetty. Vice-President: Dr. B. M. Roy. Hon. Secretary and Treasurer: Dr. N. B. Tembhekar. Jt. Secretary: Dr. A. G. Gadhihar. 2. Members of the Prov. Standing Committee: 1. Tembhekar. 2. Dr. B. C. Chaudhari. 3. Members of the Managing Committee: 1. D. R. S. Khot. 2. Dr. W. J. Fadanavis. 3. Dr. A. Banerji.

1. Bhandara (C. P.) A Meeting of the Bhandara Branch was held on 12-10-46 and the following Office bearers for this Branch were elected for 1946-47.

Branch Secretary: Dr. G. R. Wyawahare.

Branch President: Dr. Ramlal Rajbhoj.

Vice President: Dr. G. V. Dawoo.

Branch Standing Committee members.

1. Dr. G. V. Dawoo. 2. Dr. G. R. Wyawahare.

3. Dr. Ramlal Pashine.

Standing Committee Members.

1. Dr. G. V. Dawoo. 2. Dr. G. R. Wyawahare.

1. Unanimously resolved that Dr. G. R. Wyawahare be elected as a delegate from the Bhandara Branch to the All India Medical Licentiate Conference to be held at Poona on the 19th October 1946, and that Dr. Ramlal be elected as a substitute.

2. Resolved that Dr. G. V. Dawoo be elected as a second delegate to the Annual Conference of the All India Medical Licentiate Association to be held at Poona on the 19th October 1946.

3. Resolved that the third contingent bill of the Bhandara Branch for the year 1946 be sanctioned for payment.

Silchar (Assam) Meeting held on 31st. Aug 1946.

Lt. Col. P. H. Cummins, M. B. Ch. B., I. M. S., Civil Surgeon Cachar gave a very nice clinical lecture on Vesical Calculus. This was followed by two operations. The first was extraction of an impacted stone in urethra and the second 'Lithotomy'. Both were done very successfully and the demonstration was highly interesting.

The official business of the meeting then commenced with Dr. M. R. Chakrabarty in the Chair.

1. Minutes of the last meeting were read and confirmed.

2. Account of the branch upto date was checked and passed.

3. Cir. No. 15 of the General Secretary was read and discussed and the meeting was of opinion that this should be given wide publicity with a copy to each licentiate of the district to elicit and record his personal opinion on the subject.

4. Cir. No. 17 of the General Secretary was read together with copy of letter No. 436 dated 14th Aug '46 of the President. This branch unanimously elects Rai Saheb Dr. M. L. Kapur for the Presidentship of the ensuing All India Conference to be held in Poona.

Hailakandi (Assam): A Meeting held on 17-11-46.

As it is not feasible for the Members of this Sub-Division to attend the monthly meeting at Silchar Branch, be it resolved that a Branch of the A.I.M.L.A. be opened at Hailakandi and the General Secretary be requested through the Provincial Secretary to grant necessary affiliation of this branch immediately. A list

of Members of this Branch with their subscribers' number is appended herewith.

Resolved that the following Members be elected Office-bearers for the year 1946-47. President: Dr. P. C. Mazumdar, Vice-President: Dr. M. Chakraborty, Secretary and Treasurer: Dr. J. K. Sen Gupta, Joint Secretary: Dr. A. R. Sen Gupta, Auditor: Dr. K. R. Purkayastha, Members of the Executive Committee: 1. All Office bearers, 2. Dr. H. Bhattacharjee—Koyah T. E., 3. Dr. N. Ghosh Biswas—Serispore T. E., 4. Dr. K. N. Sen Gupta—Dhalai T. E., 5. Dr. L. M. Bhattacharjee—Lallacherra T. E., 6. Dr. S. C. Bose—Chandypore T. E.

Resolved that Dr. J. K. Sen Gupta and Dr. S. C. Bose be elected as Members of the Provincial Standing Committee.

Dr. S. C. Bose read a paper on a complicated case of Ascariis and some Members took part in the discussion.

Resolved that Rs. 10 only be donated to Hailakandi Jana Seva Sangha for the relief work of the Noakhali refugees.

Chaibasa (Bihar): Executive Committee meeting held on 8-9-46.

Dr. N. R. Buxi presided.

1. Proceedings of the last Executive Committee meeting were read and confirmed.

2. Read and considered General Secretary's Circular No. 17 dated 9-8-46. It was unanimously resolved that this branch elects Dr. A. D. Mukherjee to be the President of the Poona conference.

3. This meeting expresses its heartfelt gratification to Dr. P. C. Sen ex-Secretary of this branch, on the event of his being elected a member of the Council of Medical Registration, Bihar, and sincerely hopes that Dr. Sen will extend his honest efforts for safeguarding the interests of the Bihar Licentiate doctors.

(2) Executive Committee meeting held on 10-11-46.

Dr. N. R. Buxi, President, took the chair.

1. Minutes of the last meeting were read and confirmed.

2. The contingency expenditure of Chaibasa branch amounting to Rs. 7-10-3 for the quarter ending September '46 was scrutinised and passed.

3. Resolved that the Annual General Conference of the Chaibasa branch be held on some date during the ensuing X'mas holidays and that the fixing of the exact date and time and the formation of the Reception Committee etc. to be done in the first week of December when the executive committee must meet again.

4. Further resolved that the Civil Surgeon, Singhbhum, be approached for inaugurating the Conference and Dr. A. D. Mukherjee of Calcutta be requested to preside over the function.

Resolved that the Secretary, Scientific Sub-Committee, Chaibasa branch, be requested to invite scientific contributions, interesting case records etc., from the members to be read in the annual meeting in order to make the scientific section of the Conference a success.

Giridih (Bihar): A General Meeting held on 10-8-46 at the Imperial Medical Hall, under the presidentship of Dr. A. B. Das Gupta.

Proceedings:—

The following members were unanimously elected as Office Bearers:—

1. Secretary: Dr. S. K. Roy.

President: Dr. G. Choudhury.

Treasurer: Dr. M. Chatterjee.

2. The treasurer is requested to realise the annual subscription from members by the 15th of August 1946.

3. All grievances of the licentiate serving under I. G. R. Cd be submitted to the General Secretary A.I.M.L.A. for redress.

4. All licentiate Medical Practitioners of Giridih be approached to enlist their names as members of the Giridih Branch.

5. Meeting should be held at least once in a month and members were requested to attend the meetings regularly.

(2) A General Meeting held on 24-1-47. Dr. G. Chowdhury presided.

Read the P. S. letter dated 23-11-46 re: Pay Commission: Resolved that he be requested to recommend the scale of pay Rs. 200 to 450, abolition of the designation of A. S., and institution of one Composite Provincial Medical Service with no differential treatment between licentiates and graduates.

Badarpur (Assam): Meeting held on 29-12-46.

A discussion was held on Black-water fever and members took a keen part in it.

A/cs up to date, were checked and passed.

Resolved that the request the Secretary of the Sylhet Branch to expedite holding of the Provincial Conference.

Resolved that the subject for the next clinical meeting be 'Sprue'.

Muzafarpur (Bihar): Meeting held on 22-9-46. Dr. B. L. Sircar presided. Proceedings of the last meeting read and confirmed. The members of the Branch deeply mourn the loss, by the loss, by death, of Dr. B. M. Das Gupta, Director of Tropical School of Medicine, and the brightest jewel of the licentiate class. Drs. A. K. Ghose and S. P. Singh were elected as delegates to the ensuing Poona Conference.

Tinsukia (Assam): Meeting held on 5-1-47.

Resolved that Dr. S. C. Ganguli of Dhekhat T. E., be elected as Secretary and to requested to open Branches at Doom-Dooma, and Marjirita; Dr. D. Battacharjee, as President of the Branch.

Regarding the scale of pay of Tea estate M.O.'s the Secretary is requested to collect relevant data and to place it before the next meeting.

Bhagalpur (Bihar): General Meeting held on 1-10-46. The following were elected as delegates to the ensuing Poona Conference: Dr. T. P. Chowdhury or Capt. B. P. Rama, and Dr. P. Sriastayc or Dr. K. Prasad. Following resolutions were passed:

1. S. A. Ss. should be liberally promoted to A. S. Cadre, at least to the extent of 50 percent of the cadre of S. A. S.; such promoted S. A. Surgeons should also given a chance to let of as Civil Surgeons.

2. There should be only one Service in future without any difference between licentiates and graduates.

3. Bihar Government was thanked for converting the Dharbanga Medical School into a College, and requests the Government to afford facilities for the licentiates for qualifying for M.B.B.S. in the new college.

4. Bihar Government was requested not to rely on some of the reports of the Police-officers against the Medical Officers, as this Branch has found after enquiry that most such reports had no basis in facts; no action should be taken unless the allegations are verified in an open enquiry and explanation from the S. A. S. concerned sought.

5. Bihar Government was requested to absorb and confirm such of the Sub-assistant Surgeons who were forced to resign because they could not join military duty either on account of ill-health or other reasons.

6. Bihar Government was requested to go into the Scales of pay now given by the District Boards of Municipalities to the licentiates in their Service, and their refusal to give the Dearness allowance to the licentiates, although they give such an allowance to their other employees.

7. Interim Government was requested to make suitable regulations for effective segregation of T. B. and leprosy cases.

Bhagalpur D. B. Medical Officer Association: This Association invites all the M. Os. in the District Board Service in Bihar to organise a Provincial Association and to hold its first meeting at Bhagalpur during March 1947. Without unity and concerted action, their grievances are not likely to be redressed.

Chapra (Bihar): Extra-ordinary General Body Meeting held on 19-1-47 under the presidency of Dr. B. Gupta.

Resolved that the initial pay of the Medical Licentiates serving under the Bihar Government should be fixed on scale of Rs. 450—Rs. 1000, without private practice; and should get all the facilities and privileges as are given to other Government employees.

## NEWS AND NOTES

Dr. A. N. Roy, Secretary, Scientific Committee A. I. M. L. A. 27, Prinsep St, Calcutta. writes:

Those Licentiates who desire to take up research work in problems pertaining to public health and medicine are requested to kindly communicate with me. While doing so they are requested to give details of the work in which they are engaged at present and the institutions in which they are serving.

A deputation on behalf of the Punjab Provincial Branch of the A. I. M. L. A. waited upon the Honorable Education Minister of the Punjab Government on 23-2-47 and placed before him the grievances of the Medical Licentiates in service. It is said that the Minister gave a patient hearing—Dr. M. A. Rahman, Secretary, Propaganda Committee, Punjab Provincial Branch.

In a meeting of the Executive Committee of the Punjab Provincial Branch it was decided to hold the next Provincial Conference on 20th and 21st April 1947 at Lahore. Rao Bahadur Dr. Mathra Dass was unanimously elected as the President and Dr. M. L. Kapur as the Chairman of the Reception Committee. Dr. M. A. Rahman was elected as the General Secretary of the Reception Committee.

The Council of the College of Physicians and Surgeons of Bombay at its meeting held in January 1947, decided to institute post-graduate Diplomas in the following subjects:—

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- (3) Orthopaedics.
- (4) Anesthetics.
- (5) Radiology.
- (6) Anatomy.
- (7) Physiology.

The regulations relating to these diploma examinations are under preparation.

Corrigenda:—In the Article on "A General Survey of Leprosy" written by Dr. A. T. Roy, Purulia, in the February 47 issue of the Journal, please read '75 per cent of Carbolic Acid instead of 75 per cent in the last line of the first column of page 25 of the said issue.

## A REQUEST TO THE BRANCH SECRETARIES

I earnestly request the Branch Secretaries of our Association to collect all the Scientific papers and case notes read before their Branch meetings and forward them for publication in the INDIAN MEDICAL JOURNAL.

A. VISWANATHAN,  
Editor, Indian Medical Journal,



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| 6.                         | Anti Corneal Ulcer      | 2 8       | 1 4 | 32.                        | Boric and Zinc          | 2 8       | 1 4 | 61.                        | Sulphadiazine Cum       |           |     |
| 7.                         | Anti Bacterial          | 2 8       | 1 4 | 33.                        | Calomel Ointment        | 2 8       | 1 4 |                            | Atropine                | 3 0       | 1 8 |
| 8.                         | Anti Chalazion          | 3 0       | 1 8 | 34.                        | Chaulmoogra Oil         | 2 8       | 1 4 | 62.                        | Penicillin Strong       |           | 2 8 |
| 9.                         | Anti Iridocyclitis      | 3 0       | 1 8 | 35.                        | Collargol               | 2 8       | 1 4 | 63.                        | Penicillin Cum Atropine | 4 8       | 1 8 |
| 10.                        | Anti Scleritis          | 2 8       | 1 4 | 36.                        | Copper Citrate          | 2 8       | 1 4 | 64.                        | Penicillin Cum          |           |     |
| 11.                        | Anti Blepharitis        | 2 8       | 1 4 | 37.                        | Eserine Ointment        | 4 0       | 1 8 |                            | Sulphathiozole          | 4 8       | 1 8 |
| 12.                        | Sulphanilamide Cum      | 2 8       | 1 4 | 38.                        | Homatropine             | 2 8       | 1 8 | 65.                        | Coper Cum Protargol     | 2 8       | 1 8 |
|                            | Atropine                |           |     | 39.                        | Mercurochrome and       |           |     | 66.                        | Penicillin Cum          |           |     |
| 13.                        | Sulphanilamide Cum      | 2 8       | 1 4 |                            | Atropine                | 2 8       | 1 4 |                            | Sulphadiazine           | 4 8       | 1 8 |
| 14.                        | Sulphanilamide Cum      | 2 8       | 1 4 | 40.                        | Procaïn & Chlorotone    | 3 0       | 1 8 | 67.                        | Penicillin Cum          |           |     |
|                            | Dionine                 |           |     | 41.                        | Pilocarpine             | 2 8       | 1 6 |                            | Sulphanilamide          | 4 8       | 1 8 |
| 15.                        | Sulphanilamide Cum Zinc | 2 8       | 1 4 | 42.                        | Protargol               | 2 8       | 1 4 | 68.                        | Calomel Cum             |           |     |
| 16.                        | Sulphanilamide Cum      | 2 8       | 1 4 | 43.                        | Picric                  | 2 8       | 1 4 |                            | Sulphathiozole          | 2 8       | 1 8 |
|                            | Yellow Oxide of         |           |     | 44.                        | Scarlet Red Ointment    | 2 8       | 1 4 | 69.                        | Atropine Cum            |           |     |
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|                            | Atropine                |           |     | 49.                        | Zinc and Ichtyol        | 2 8       | 1 4 | 72.                        | Shark-Liver Oil Cum     |           |     |
| 20.                        | Yellow Oxide of Mercury | 2 8       | 1 4 | 50.                        | Picric Cum Atropine     | 2 8       | 1 4 |                            | Yellow oxide of mercury |           |     |
| 21.                        | Halibut-Liver oil Cum   |           |     | 51.                        | Pilocarpine Cum Doinine | 3 0       | 1 8 |                            | Shark-liver oil 20%     | 2 8       | 1 4 |
|                            | Yellow oxide of mercury | 3 0       | 1 8 | 52.                        | Xeroform Cum Atropine   | 2 8       | 1 4 | 73.                        | Shark-Liver Oil 30%     | 3 0       | 1 8 |
| 22.                        | Halibut-Liver oil Cum   |           |     | 53.                        | Quinine Bisulphate      | 2 8       | 1 4 | 74.                        | Dionine Cum Iodide      | 3 0       | 1 8 |
|                            | Plasma Cum Atropine     | 3 0       | 1 8 | 54.                        | Yellow oxide of mercury |           |     | 75.                        | Tyrosine Cum            |           |     |
| 23.                        | Dionine                 | 2 8       | 1 8 |                            | Cum Balsam Peru         | 2 8       | 1 4 |                            | Sulphathiozole          | 5 0       | 2 8 |
| 24.                        | Atropine and Dionine    | 2 8       | 1 4 | 55.                        | Scopolamine             | 3 0       | 1 8 | 76.                        | Tyrosine Cum            |           |     |
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| 26.                        | Atropine                | 2 8       | 1 4 | 57.                        | Sulphanilamide Cum      |           |     | 77.                        | Penicillin Cum Yellow   |           |     |
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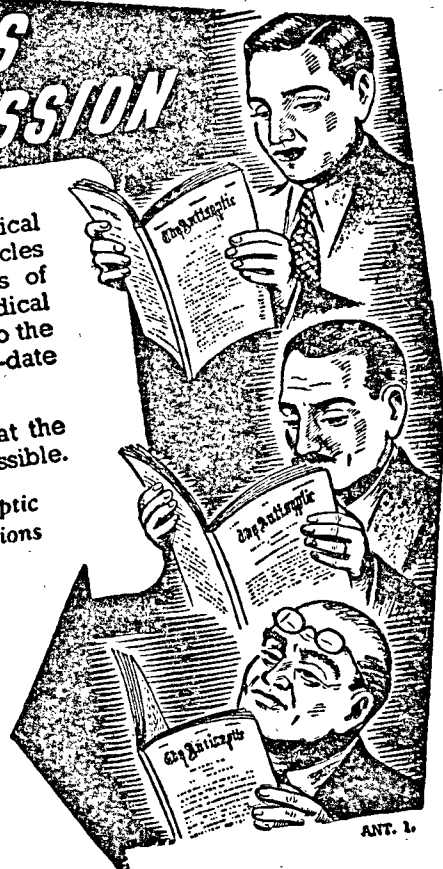
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SUPPLEMENT

TO

## THE INDIAN MEDICAL JOURNAL

Vol. 41.

Madras, 15th March, 1947

No. 3.

In the following statement, the President of the A. I. M. L. A., Dr. Manoharlal Kapur, proves conclusively that the Medical Licentiates of India are in no way inferior to the Medical Graduates, either by the test of professional qualification or actual achievements.

He, therefore, urges on all the Provincial Governments to institute one cadre of medical service open to all medical practitioners subject to a competitive examination. He commends to the Government that the I.A.M.C. model may conveniently and effectively be copied in the institution of a single cadre of civil medical service for India.

He believes that unless such a step is taken, and taken early, no self-respecting medical licentiate would join the State Medical Service in the future.

We do hope that the Provincial Governments would adopt the suggestion of Dr. Manoharlal Kapur and thus mobilise the needed medical personnel for the execution of Bhoré Committee's planning of rural medical relief which all the Provincial Governments have accepted to implement at the earliest possible time.

Even apart from expediency, fairness demands that the medical licentiates of India should be treated on par with the Medical Graduates for all the great services they have been rendering for the last 100 years in the matter of Medical and Public Health relief.

### Assessment of Licentiate Medical Qualification.

During the last War, the Medical Licentiates of India demanded their rightful place in the Army, if their Services were required by the Government of India. They asked for the same rank and status as were then given to the medical graduates, viz., King's Commission in the Medical Branch of the Indian Army. The Government of India appointed a Mission, popularly known as the British Medical Mission, to assess the value of medical licentiates' qualification and to advise the Government as to the legitimacy of their demand. This Mission toured the country in December 1942 and January 1943, interviewed the leaders of the profession, and visited institutions where the licentiates were working. The Mission came to the conclusion that the Medical Licentiates were in no way inferior to the medical graduates and that that they could be given positions of responsibility. They re-commended the formation of the Indian Army Medical Corps. The Government

accepted this recommendation and inaugurated the I.A.M.C. in April, 1943, where-in there were no material differences in terms and conditions of service between these two groups of medical men except for the fact that the licentiates started as a second lieutenant for a period of six months. Later on, the medical licentiates were even made eligible for direct recruitment as a recognised specialist in the rank of Major.

### The Role which the Association Played.

Realising fully well that there is no love lost between the various groups in the profession—the I.M.S., the Assistant Surgeon and the Sub-Assistant Surgeon—and realising also that it is too much to expect one group to be just and fair to other groups even in the interest of the profession or the public, the Association felt that it could not leave the task of recruiting medical licentiates for the I.A.M.C. in the hands of members of other groups. It made its position clear to the Government which, fortunately, accepted its stand and called upon it to help the recruitment of medical licentiates. Consequently, the Government of India appointed a Medical Licentiate as a Liaison Officer, designating him as Officer on special duty, Recruitment (Later on re-settlement) in the office of the D.G., I.M.S. With his full co-operation and consultation, Provincial and Regional Recruiting Officers of the Medical Licentiate class were appointed in all the provinces through the Surgeons General. The Government nominated two or three Medical Licentiates in each Provincial Medical Selection Board. In spite of many odds, the Association gave a good account in its work of recruitment.

### The Experience of Last War.

It has been amply acknowledged by both Civil and Military authorities that the recruited medical licentiates have done their work with full-sense of responsibility. Many were mentioned in the despatches and a good number won military distinctions. The Association has thus proved

ch, 1947]

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that the licentiates, if given opportunities, are second to none, and are competent and fit to perform their professional and administrative duties as efficiently and skillfully as medical graduates and I.M.S. Officers.

#### The Conference of Administrative Medical Officers.

Soon after the termination of the War, the Administrative Medical Officers of India met in a Conference at New Delhi, in November, 1945, to review, and to recommend, among other things, the work done by the licentiates and decide the rank and status to be given to them in the Civil Medical Services of our country. They recommended the abolition of subordinate Medical Service and with it the designation of S.A.S., and a uniform scale of pay from Rs. 150 to Rs. 450 p.m., to all the State Medical Officers.

#### Institution of One Civil Medical Service.

Two years have elapsed since this recommendation was made, yet the Provincial Governments have not yet begun to reorganise the medical service on equitable basis. So far as the Association is concerned, it has honestly paved the way for the establishment of one unified medical service by suggesting, and succeeding in, the abolition of medical schools. The Government may not be unaware that although the period of licentiate medical education is only 4 years as against five years for graduate qualification, yet the education imparted to both is practically of the same quality.

They read the same text-books and are examined by same examiners. There is no doubt in my mind that the Licentiates fully conform to the concept of Basic Doctor described by the Bhoré Committee—four years academic education and one year of internship.

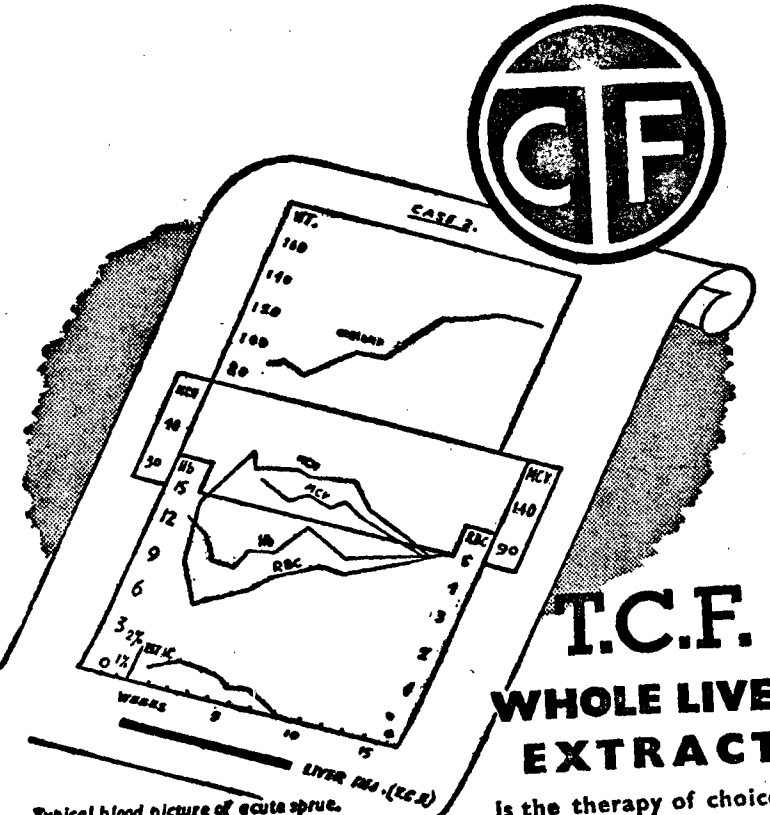
The Government may not also be unaware of the fact that the Licentiates have carried medical relief effectively to rural areas\* and that 75% of specialised work, such as X-Ray, Eye Surgery, laboratory etc., is done by the Medical Licentiates.

Time has therefore come to end the castes and compartments in the medical services of India. And the best way of ending this vicious system is by instituting one unified medical service open to all registered medical practitioners on the basis of a competitive examination. The Licentiates ask but for a fair field and no favour. If this is not done early, the medical licentiates may be compelled to think seriously whether it will be in their interest or even in the interest of the public to submit to this unbearable injustice and hardships.

Model Town,  
Lahore.  
23rd Feb. 1947.

MANOHARLAL KAPUR,  
President, A.I.M.L.A.

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INDIAN

# MEDICAL JOURNAL



(Journal of the All-India Medical Licentiates' Association with which the Agra Medical Club Journal is incorporated)

Vol. 41, No. 4  
April 15, 1947

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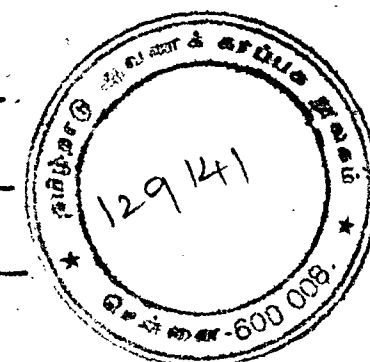
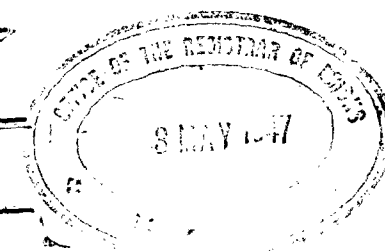
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\* Colebrook, L. (1933) *J. Obstet. & Gynaec.*, 40, 977.

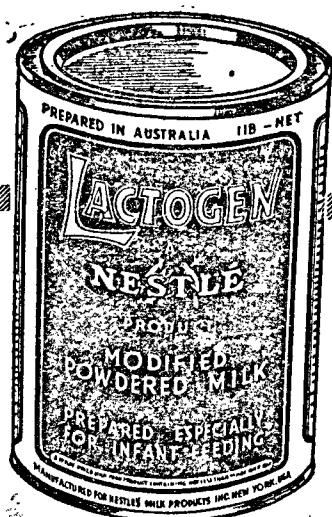
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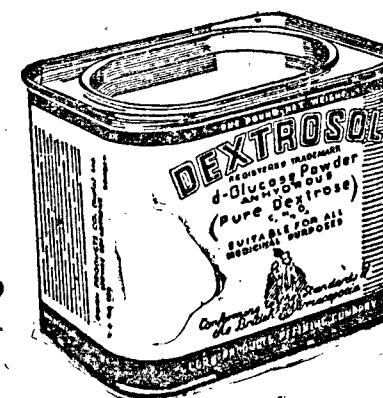
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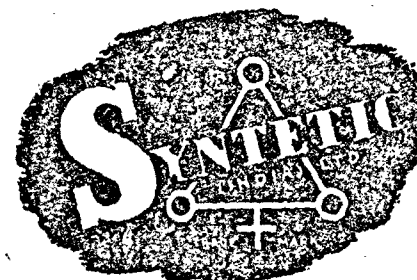
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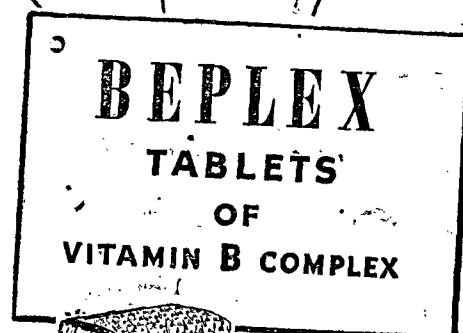
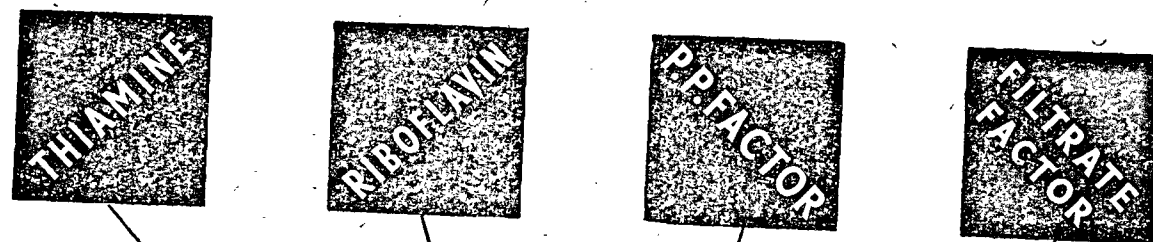
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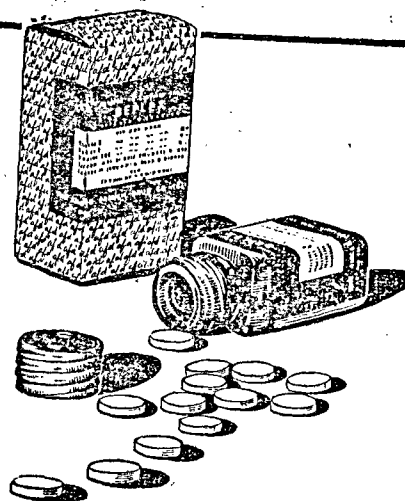
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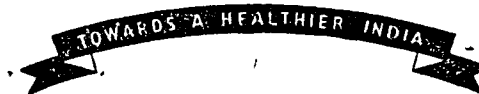
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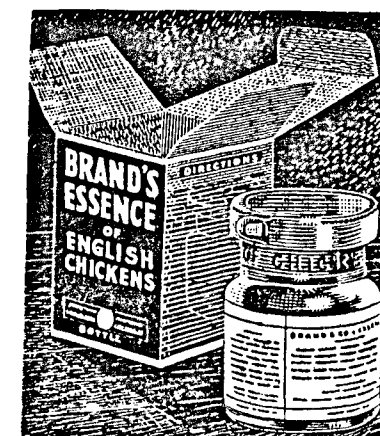
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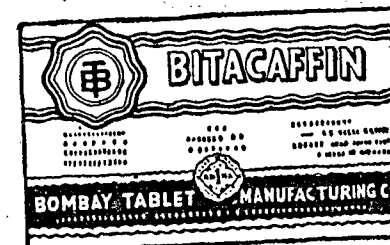
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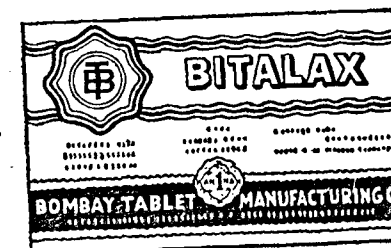
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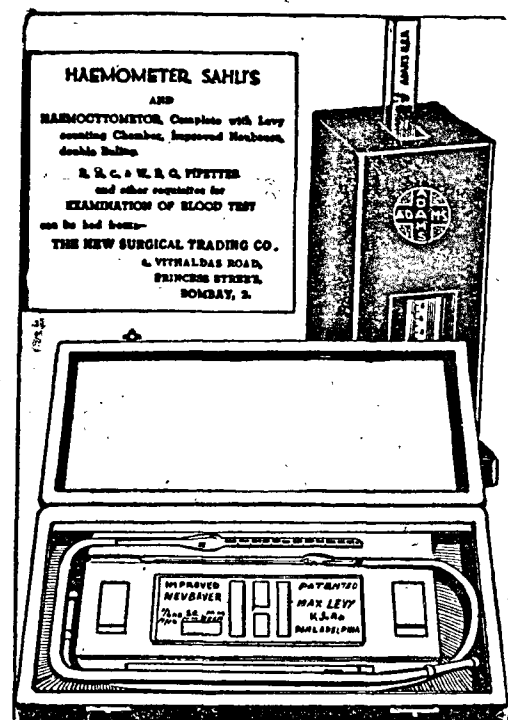
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## Indian Medical Journal

(Journal of the All-India Medical Licentiates' Association)

Vol. 41. Madras: April 15, 1947. No. 4

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### OUR MONTHLY SURVEY

**Penicillin in Human Leprosy** :—Drs. Dharmendra and N. Mukherjee \* have carried out experiments to find out the effect of Penicillin in infected rats, in the hope that, if there is a successful result in these experiments, the drug may be tried in human leprosy. A rat received three injections daily of 100 units intraperitoneally, and the other two intramuscularly. This treatment was continued for 184 days. Post-mortem examination revealed heavy bacillary infection with enlargement of liver, spleen, lymphatic glands, and smears from the affected organs showed a large number of acid-fast bacilli. So the authors conclude :

(1) In rats infected with rat leprosy Penicillin given intraperitoneally and intramuscularly in doses of 300 units per day for 184 days failed to modify the infection in any manner.

(2) Penicillin, in the dilution and the doses used, has no bacteriostatic or bactericidal action on the rat leprosy bacilli.

These findings are in accord with similar work in other parts of the world. It is therefore obvious that Penicillin is no good in the treatment of leprosy. We are therefore left with the old remedies—hydriocarpus oil and its preparation.

**A Case of Acute Haemorrhagic jaundice** † :—The risk of yellow fever taking root in our soil, owing

\* Ind. Jour. Med. Res. arch, 34, 2, October, 1946,

† Ibid, page 241.

to frequent communication by air and sea between Africa and India is quite real. No wonder therefore that the Government of India have instituted strictest precautions at air and sea ports to prevent such an occurrence. A case of acute haemorrhagic jaundice reported by Drs. B. M. Das Gupta and R. L. Sen Gupta in a Bengali girl of 11 years of age and the results of laboratory tests indicate that this patient was suffering from a peculiar syndrome closely allied to yellow fever. If this case had been a resident in an area of yellow fever endemicity, the authors believe that a diagnosis of yellow fever would undoubtedly have been made. The history and course of this case, as recorded by the authors, are as below :

"A Bengali girl, aged 11 years, resident of Bengal all her life developed severe illness characterised by fever, severe headache, pains in the body, limbs and abdomen; nausea, blood-stained and persistent vomiting; haemorrhages; intensive jaundice and delirium. Elaborate tests failed to confirm a diagnosis of leptospirosis. Specimens of serum taken between 26th and 116th days after the onset of the disease showed the presence of yellow fever immune substances but no trace of such protective anti-bodies could be found in a specimen of serum taken on 387th day. The acute attack lasted for 10 days and after a protracted convalescence the patient made a complete recovery."

The authors are not in a position to state that it is a clear case of yellow fever but think it is a syndrome closely allied to yellow fever. This case would show the great need for alertness in the early diagnosis of similar syndromes with complete laboratory tests so that proper preventive precautions may be taken early if these prove ultimately to be yellow fever or some as yet unknown variation of it.

**What is Medical Politics?** :—It is time that this is clearly defined so that the members of the profession may know what it is and may contribute what they could to its successful management. Dealings of the organised profession with the Government of the country in respect of its policies related to medical education, medical organisations for medical and public health relief, medical statutes in general, medical research and schemes of medical relief etc., constitute what is commonly termed as medical politics. The policies of the Government differ according to the party politicians in power. The organised profession brings to bear upon the Government the majority opinion of the members of the profession on such subjects. So far, in this country and elsewhere, the Governments had always the upper hand. That is so, and will continue to be so, because there is an unfortunate lack of unity among, and concerted action by, the members of the profession. The function of a medical association is to increase this unity and devise modes and means of concerted action, and thus influence the medical policies of the Government. The success of medical politics depends therefore on the strength, influence and representative character of organised medical associations, and this, in turn, depends on the collective good-will and co-operation of the whole profession.

## ADDRESSES AND ARTICLES

## Blood Groups

By

DR. R. J. SHAH L.C.P.S. (Bom).

R. M. O. State Hospital, Gondal.

The investigations into the phenomenon of agglutination of red blood cells on coming into contact with serum derived from another individual of the same species, led Landsteiner, Ottenberg, Jansky, Moss, and others to divide human blood without regard to race, sex or state of health into different blood groups.

It has been now admitted that the red blood cells contain two main distinct agglutinable factors called haemoagglutinogens. They are A and B. agglutinogens which may occur singly or together in human cells or be absent therefrom; the blood serum contains two homologous haemoagglutinins alpha (Anti A) and Beta (Anti B) which may occur singly or together, or be absent therefrom. To tabulate along with various classifications :-

| Approx. Dist. | Classi- cation Moss. | Inter- national. Jansky. | Agglut- inogens in R.B.C. | Agglutinins in Serum.  |
|---------------|----------------------|--------------------------|---------------------------|------------------------|
| 2%            | I                    | IV                       | A B                       | Neither                |
| 46%           | II                   | II                       | A                         | Beta (anti B)          |
| 8%            | III                  | III                      | B                         | Alpha (anti A)         |
| 44%           | IV                   | I                        | 0                         | Neither Alpha and Beta |

In order to avoid confusion, international classification is universally accepted. These agglutinogens and agglutinins are permanent and persist in blood throughout life without any change. At birth the agglutinogens are almost always present but the agglutinins which are to characterise the individual throughout life may not appear as late as the close of second year.

Haemoagglutination occurs whenever homologous agglutinins and agglutinogens come in contact. So it can be stated the homologous agglutinins and agglutinogens cannot exit together in the same blood.

The determination of blood groups is based on the knowledge of intergroup reactions. The unknown cells are tested with Stock standard sera of group A and B. If agglutination occurs with both sera the cells contain both A and B agglutinogens and therefore belong to group AB; if agglutination occurs with only B group serum, the cells contain A agglutinogen and belong to group A; if agglutination occurs with only A group serum the cells contain B agglutinogen and belong to group B; and if it does not occur with either serum the red cells contain neither agglutinogens and therefore belong to group O.

## Intergroup reactions.

| Serum of group | AB | R. B. C. Suspension of A | Suspension of B | group O |
|----------------|----|--------------------------|-----------------|---------|
| AB             | +  | +                        | +               | +       |
| A              | +  | +                        | +               | +       |
| B              | +  | +                        | +               | +       |
| O              | +  | +                        | +               | +       |

+ agglutination, - no agglutination.

From these tables we can see that group AB is universal recipient and group O is universal donor. But these terms are better discarded.

It has been now found that agglutinogen A can be subdivided into subgroups A<sub>1</sub>, A<sub>2</sub>, A<sub>3</sub>, A<sub>4</sub>, A<sub>5</sub>, A<sub>6</sub>. Out of these last four A<sub>3</sub>, A<sub>4</sub>, A<sub>5</sub>, A<sub>6</sub> are rare and does not occur more than 1%. Therefore there are two main subgroups of A agglutinogen called A<sub>1</sub> and A<sub>2</sub> so subgroups A<sub>1</sub>, A<sub>1</sub>B and A<sub>2</sub>, A<sub>2</sub>B occur. The chief importance of recognising this subdivision lies in the fact that the cells of A<sub>2</sub> and particularly A<sub>2</sub>B bloods react more weakly than those of groups A<sub>1</sub> and A<sub>1</sub>B bloods with B group serum; they may indeed react so weakly that the reactions are not detected at all unless test sera are used which are known to give satisfactory reactions with A<sub>2</sub> and A<sub>2</sub>B cells. For practical purposes the main significance of these subgroups lies in the need to avoid the erroneous classification of subgroups A<sub>2</sub> and A<sub>2</sub>B as groups O and B respectively, owing to failure to detect A<sub>2</sub> factor. Nearly 80 percent from the group A and AB belong to A<sub>1</sub> and A<sub>2</sub>B and remaining 20 per cent belong to group A and A<sub>2</sub>B.

Nearly all (anti A) B group serum contains the agglutinin alpha and alpha<sub>1</sub>. Alpha reacts with all subgroups A<sub>1</sub>, A<sub>1</sub>B, A<sub>2</sub>, A<sub>2</sub>B; while Alpha<sub>1</sub> reacts only with subgroups A<sub>1</sub> and A<sub>1</sub>B and not with A<sub>2</sub> and A<sub>2</sub>B. There is a further agglutinin Anti O (which is often misappropriately called as alpha<sub>2</sub> because it reacts with 95 percent of A<sub>2</sub> cells) which react all group O cells and occurs spontaneously but very rarely in A<sub>1</sub>, B, A<sub>1</sub>B sera.

The extra agglutinins are in most cases present in only small amounts. They are more active in cold than at room temperature. At a first transfusion generally they do not give rise to reaction due to incompatibility, but it may however stimulate an increase in titre of circulating extra agglutinin. So for subsequent transfusion the risk of incompatibility will be increased. In actual practice, reaction due to this incompatibility appears to be rare.

Table showing possible extra agglutinin which may or may not be present.

| Groups           | Agglutino- gens      | Agglutinins                      | Extra agglutinin   |
|------------------|----------------------|----------------------------------|--------------------|
| A <sub>1</sub> B | A <sub>1</sub> and B | —                                | Alpha              |
| A <sub>2</sub> B | A <sub>2</sub> and B | —                                | Alpha              |
| A <sub>1</sub>   | A <sub>1</sub>       | Beta                             | Alpha <sub>1</sub> |
| A <sub>2</sub>   | A <sub>2</sub>       | Beta                             | Alpha              |
| B                | B                    | Alpha (Alpha <sub>1</sub> )      | Alpha <sub>2</sub> |
| O                | —                    | Alpha (Alpha <sub>1</sub> ) Beta | —                  |

Table showing intergroup reaction.

| Serum of group   | A <sub>1</sub> B | A <sub>2</sub> B | R. B. C. suspension of A <sub>1</sub> | A <sub>2</sub> | Suspension of B | group O |
|------------------|------------------|------------------|---------------------------------------|----------------|-----------------|---------|
| A <sub>1</sub> B | —                | +                | —                                     | +              | +               | +       |
| A <sub>2</sub> B | +                | —                | +                                     | —              | —               | —       |
| A <sub>1</sub>   | +                | +                | —                                     | +              | +               | +       |
| A <sub>2</sub>   | +                | +                | +                                     | —              | —               | —       |
| B                | +                | +                | +                                     | +              | —               | —       |
| O                | +                | +                | +                                     | +              | +               | —       |

+ agglutination; — no agglutinins; + may or may not agglutinate.

## Is leprosy contagious?

BY

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The disease leprosy was all along shrouded in a deep mystery. All ancient people took it to be highly contagious. Even upto the present day, many a scientist too holds a view not in any way more enlightened than that.

So in the following pages a critical study has been made as to the contagiousness or otherwise of leprosy.

When the leprosy bacillus was first discovered by Hansen in 1874, the contemporary workers in leprosy thought that the disease spreads simply by contact, as in the cases of small-pox, syphilis, plague etc., but in later days several of the following facts and arguments were found to be not explicable by the contagion theory alone.

(a) All infectious diseases do not spread by contact alone as for example, Malaria, Kalazar etc.

(b) There is lack of any positive experimental proof of the contagiousness of leprosy, such as has easily been demonstrated with many other bacterial diseases. It has not been possible to make decisive experiments with animals (1) Even Adler's experiment on Syrian hamsters was not corroborated by others (2). Repeated attempts to inoculate the disease in human subjects by Danielsen, Profeta (1) and others were without success; various later experimenters (as Holst, Witsch and various Japanese workers) have ventured on similar experiments but none of these were successful (3). Dr. Arning of Honolulu was reported to be successful in a case but that was of doubtful value as too very close relations of the subject developed leprosy spontaneously afterwards. From the clinical standpoint also we have :-

In the long history of Norwegian leper houses no contagion to doctors nurses or other servants have occurred. Similar observations have been made by other leprologists such as E. Kiel, Hopkins and, others in their different Leprosaria (4). Lowe also comments that many people exposed to the infection do not develop the disease. Instances according to him are quite common of highly infectious lepers living for many years in close contact with healthy people, the contact remaining healthy all the time (5). It is universally admitted to be very infrequent for the husband and wife to be both lepers whatever be the duration of their conjugal life.

It has been observed that when leprosy patients are removed to a distance from the place of origin, the disease generally dies out. Lepers do not carry the disease either to their associates or their off-spring. If leprosy be really a contagious disease, how is the fact to be explained that in a community of 160 lepers (emigrated to America from Norway) the disease should die out among the descendants. The leprosy commission report also concludes that though they consider leprosy as an infectious disease, caused by a specific bacillus, but they are of opinion that there is not sufficient evidence to show that leprosy is maintained or diffused by contagion (6). J. A. Thompson quotes (7), from M. Zembacco (pp 220-22), "Among

To test for subgroups, alpha<sub>1</sub> is obtained free from alpha by absorbing a group B serum, containing alpha<sub>1</sub> in good amount with a suitable quantity of A<sub>2</sub> cells; after separation of the cells by centrifugation the alpha<sub>1</sub> remains in supernatant fluid.

In addition to A and B agglutination of Landsteiner, human red cells contain a variety of other agglutinogens. The other agglutinogens M and N which have been recently mentioned are usually ignored by the clinicians, because the corresponding agglutinin occurs only very rarely in human sera. It has medico legal importance.

It has been recently shown that human erythrocytes contain another agglutinogen Rh, irrespective of their ABO group. The term Rh is derived from the fact that a similar agglutinogen is found in the blood of Rhesus monkeys. 85 percent of the white race contain this factor. The remaining 15 per cent which lack in this factor, so called Rh-negative are liable to form the corresponding agglutinin if agglutinogen be introduced into circulation. This may occur in all Rh-negative persons as a sequel to transfusion of Rh (positive) blood and in Rh-negative women who become pregnant with a foetus whose erythrocytes are Rh (positive). Anti Rh agglutinin are formed only under these conditions.

They do not occur naturally like anti A and anti B agglutinins. But once the anti Rh agglutinin is produced it may reach a high titre and a subsequent transfusion, promote a severe haemolytic reaction, which may be even fatal.

In the year 1942, Weiner said that the Rh factor is a complex factor and consists of Rh<sub>1</sub> and Rh<sub>2</sub>. Small rh is for Rh negative blood. Approximately 70% of the bloods Rh<sub>1</sub>, 15% are Rh<sub>2</sub> and remaining 15% are rh bloods. The genotype reactions along with the serum of erythroblastosis foetalis foetus as 37°C for two hours in a incubator will be as follows:-

| R. B. C. suspension of genotype | Anti Rh | Anti Rh <sub>1</sub> | Anti Rh <sub>2</sub> | *erythro foe. |
|---------------------------------|---------|----------------------|----------------------|---------------|
| Rh <sub>1</sub> Rh <sub>1</sub> | +       | +                    | —                    | —             |
| Rh <sub>1</sub> Rh <sub>2</sub> | +       | +                    | +                    | +             |
| Rh <sub>1</sub> rh              | +       | +                    | —                    | +             |
| Rh <sub>2</sub> Rh <sub>2</sub> | +       | —                    | +                    | +             |
| Rh <sub>2</sub> rh              | +       | —                    | +                    | +             |
| rh rh                           | —       | —                    | —                    | +             |

\*agglutination; - no agglutination.

In the year 1943 other divisions of Rh factor were detected such as Rh', Rh'', Rho, Rhy. These divisions cause great confusion. So in the year 1944 Prof. Fiecher introduced a new system of nomenclature by calling each locus of the two chromosomes as CDE and c d e.

And still the blood groups are not fully grouped.



the monks of Mount Athos were many who thought it would be a sign of special grace if they were stricken with leprosy and who, consequently, made every efforts to contract the disease. They associated themselves with the lepers in every way and even wore their flannels and under-clothings which were still saturated with the discharges from the leprosy sores. But although attempts for years had been systematically and perseveringly made not a single monk ever suffered to the least. It has been observed that though lepers reside in England, France and U. S. A., many of them infectious, but not isolated still the contact cases are extremely rare, thus they never become foci from which the disease spreads (8). The Royal College of Physicians in 1866 made a very extensive enquiry throughout the British Dominion and came to the clear conclusion that the disease do not spread by contagion alone—no explanation could also be given of its local distribution e.g. very large districts—in fact by far the largest parts of this world are entirely exempt while others suffer severely—of no really contagious disease can these be asserted unless indeed its prevalence has evidently been restrained by natural or artificial agency. How contagion alone can possibly explain the facts that where one has acquired the disease, hundreds equally exposed to the risk had, escaped or small hamlets exist largely infected with the disease whilst others in the neighbourhood contain but few affected.

(c) The few isolated instances where superficially the contagion theory may seem true are:

The famous case of Father Damien of Molakai. But this self-sacrificing missionary not only exposed himself to the infection but also lived in the same surroundings and partook the same food, in other words he submitted himself to all the influences (that were prevailing in that island) which were causing the out-break and as a result became himself a leper. From the above it is evident that he was not only in contact with the lepers but also shared their methods of life in many other ways and as such in addition to contagion there were many other factors in common, so contagion alone cannot reasonably be held responsible for his disease. Similar to the above is Dr. Bensen's case—where an Irishman became leper abroad and when returned home, is supposed to infect his brother at home. The argument against this is this, if the disease were really contagious it would very soon have spread like wild fire through the whole community, for not the slightest precautions were taken against that or any segregation observed (10).

(d) James Knott writes that 25 years of trial of compulsory segregation of all known lepers in St. Croix has not resulted in any appreciable decrease in the incidence of the disease. Burgess also mentions a similar story of failure of segregation in Philippines.

In a truly contagious disease segregation would not have failed so miserably in stamping out the disease (9).

From the above it becomes apparent that contagion alone cannot cause the disease, there must be something in addition to contagion which makes a person susceptible to the infection. This additional factor, in the complex aetiology of leprosy, when present

changes the body tissue in such a way that the soil is manured as it were and made ready to receive the seed.

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## Eruptive Fevers and their Diagnosis

BY

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Frequently we find cases coming to the hospital with eruptions all over the body associated with fever. These eruptions may be due to various diseases and sometimes we find great difficulty in differentiating one from the other. A clear history with a typical rash, we easily diagnose the case. From little experience as an officer of the admission room, Campbell Hospital, Calcutta, I give detailed notes regarding the diagnosis of such cases which may be of much help to some doctors specially to the beginners. The diseases are classified serially according to the day of eruptions after the onset of temperature. I shall explain this in a small phrase which I learnt from one of my teachers in my student life. It stands thus—'VERY SICK PEOPLE. MUST DO EXERCISE' Each word stands for one of the diseases and they also arranged according to the days of appearance of rashes—thus—very

Very-Varicella or Chickenpox—Rash appears on the 1st day of Temperature.

Sick—Scarlet Fever—Rash appears on the 2nd day of Temperature.

People—Small-pox—Rash appears on the 3rd day of Temperature.

Must-Measles—Rash appears on the 4th day of Temperature.

Do, Dengue—Rash appears on the 5th day of Temperature.

Exercise—Enteric fever—Rash appears on the 6th day of Temperature.

Now, I will describe the rashes of each disease in detail one by one.

**Chicken Pox or Varicella:**—The rash generally appears on the 1st day of fever,—common site being trunk from where, it spreads centrifugally towards face, scalp. It may appear on the forearm, hands and feet. The rash appears as macule which rapidly passes to papule and finally to vesicle—discrete in form and superficial.

**Scarlet fever.**—The rash generally appears on the second day of fever, firstly on the neck from which it gradually spreads to the chest (specially on the

axilla), flexure of the elbow, knee and inner side of the thigh. The rashes are brickred in colour with red base which fades on pressure.

**Small Pox.**—The rashes appear generally on the forehead, face first from where it spreads to other parts specially on the posterior aspect of forearm. The extensor surfaces are commonly affected. The form in which it is found first is the maculo papular one from which it turns to vesicular type on the fifth day and pustular stage on the ninth day. The macules are red which soon turns into papule which are hard and shotty. The vesicles are pearl coloured and do not collapse on puncture, umbilication at the centre is frequently found. The pustules are of yellow colour with red zone around. The pustules, generally turns into crust on the fifteenth day and usually comes out leaving scar in the third week.

**Measles:**—A young child with fever and appearance of rash on the fourth day with headache, malaise, photophobia suggests measles. The rash is maculeo-papular and appears first on the forehead, and back of the ear, which then spreads towards face, trunk, hand, feet and usually fades on pressure. But most confirmative sign is the presence of Koplik's spot which is a bluish spot on the redish base, about the size of a pin's head and lies on the cheek against the second premolar tooth.

**Dengue:**—This fever is not so much common, yet may be mistaken for other diseases. This is characterised by high temperature with severe pain all over the body. The pain may be described as a boring pain like that of osteomyelitis. This fever is also accompanied by a peculiar rash all over the body. The rash generally appears on the fifth day first on the palm of the hands and wrist, extending upto forearm, from which it gradually spreads upwards and is best seen on the back, chest, upper arms and thigh. At the early stage it appears as isolated, slightly elevated, circular reddish spot—thickly scattered over the surface, each spot being surrounded by sound skin. There may be a general coalescence of spots isolating here and there, patches of sound skin. These rashes fade on pressure as that of measles and never or rarely become petechial. They fade in order of their first appearance, thus it disappears first from that of palm of the hands and lastly from back, chest, thigh etc. Desquamation generally occurs in the 3rd week. The pulse is also one of the diagnostic feature in Dengue. There is bradycardia which even falls to 44 per min.

**Enteric fever:**—Rash also appears in cases of Enteric fever generally on the sixth day. They are papular; pinpoint and is found on the abdomen and trunk which fades on pressure. But there are other factors for its diagnosis, such as—rise of temperature in a ladder like way in the first week, bradycardia, peasoup stool, distended abdomen with tenderness on the caecal region and peculiar tongue.

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## Chronic Diarrhoea

BY DR. B. P. GHOSH,

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I want to write a few lines on Chronic Diarrhoea which we often come across in our practice. Whenever we see any such case we always think that either it is a case of Chronic Amoebiasis or Tubercular Diarrhoea (Tabes Mesenterica), we never think that there is another variety of disease called "Sprue". Of course, this disease when it occurs in a Tropical Country, is called *Sprue*, when in non-tropical country, it is called *Idiopathic Steatorrhoea*, when found in children, it is called *Coeliac Disease*. Whatever may be its name, clinically every one is the same. During my 4 year's army life, I was in-charge of Diarrhoea and Dysentery Wars on two occasions of 6 months each when I met several cases of Chronic Diarrhoea worst in early morning with progressive weakness and emaciation accompanied by glossitis which ultimately was diagnosed as "Sprue".

**Aetiology.**—Regarding its aetiology there are various theories—

(1) **Infection Theory.**—It has got some definite incubation period from 3/12 to 6/12 days. It is some virus infection which affects the small intestine, causing inflammation of the gut thereby hampering the process of assimilation and absorption of fat.

(2) **Calcium Deficiency.**—It was found out in several cases that total blood calcium is below the normal level which is due to failure of calcium absorption due to metabolic disturbance of thyroid and Parathyroid, thereby it does not form soap in intestinal canal to help absorption of fat.

(3) **Simple failure of Absorption.**—It is due to atrophy of intestinal mucosa which is found in X-Ray Examination.

(4) **Food Deficiency.**—It is due to the absence of extrinsic hemopoietic factor Vit. A & B. complex in diet or intrinsic factor is gastric secretion or both.

(5) **Metabolic failure.**—Functional or mechanical failure to absorb and utilize both fats and carbohydrates.

It is more common in females than males in middle age. Usually during or after rain.

**Symptoms:**—Patients always complain of morning diarrhoea, diarrhoea alternately with constipation or diarrhoea throughout whole day. Sometimes vomiting, loss of appetite, flatulence, meteorism, glossitis and progressive weakness. Sometimes cramps of the limbs.

**Signs:**—Anaemic, weak and emaciated, wasting of all the muscles, parchment-like skin with patchy pigmentation and muddy complexion.

**Tongue:**—Raw and smooth with loss of papillae.

**Abdomen:**—Boat shaped but distended with gas. No tender mass is palpable.

**Liver:**—Sometimes atrophied.

**Stool:**—Large quantity, foul smelling, whitish colour containing fat globules and fatty acid on examination, sometimes mucus is detected.



**Blood Picture:**—Macrocytic hyperchromic anaemia, blood salcium is below normal level.

Lower limbs are tender and loss of knee jerk. Oedema in last stage.

**F. T. M.:**—Low acid curve (hypochlorhydria or achylia gastrica).

**X-Ray:**—Feathery appearance of the upper part of small intestine. There are irregular dilatation showing loss of tonicity. Rapid emptying of its contents.

**Diagnosis:**—(1) Morning diarrhoea with foul smelling whitish stool.

(2) Emaciation, anaemia (macrocytic).

(3) Sore and smooth tongue.

(4) Tender calf muscles and loss of knee jerks.

**Differential Diagnosis:**—A. Chronic amoebiasis.

(i) History. (ii) Thickened caecum and sigmoid colon.

(iii) Presence of E.H. on stool or rectal swab examination.

(iv) Responding to Emetine Hydrochlor.

**B. Tubercular Diarrhoea:**—(i) Primary focus in the lungs or elsewhere. (ii) Matted mesenteric glands. (iii) Stool—T.B. present or culture.

**C. Giardiasis.**—Stool contains Giardia—Intestinal's.

**Prognosis:**—From the beginning if a rigorous treatment is undertaken, it is favourable; otherwise death follows due to exhaustion.

**Treatment:**—Rest in bed. Vitamins A and D and B Complex. High Protein diet. Calcium.

**A. Diet:**—(1) Milk—3 lbs. divided into six times a day for a fortnight. Gradually increasing to high protein mixed diet.

(2) Fresh fruits—Banana and oranges.

(3) Marmite.

(4) Fresh Liyer soup.

**B. Symptomatic Treatment:**—(a) Diarrhoea—Sulphoquinidine.

(b) Meteorism—Mist Carminative if severe, turpentine Stupes.

(c) Emaciation and Asthenia—Glucose Sol. I.V.

(d) Anaemia—Liver Extrac. Injection.

(e) Apthe or Glossitis—Pot. Chloras gargle and Boro—Glycerine to apply.

(f) Cramps—Calcium Glyconate 10 per cent 10 C.C. I.V.

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### Quackery\*

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The word quackery is derived from the cry, 'quack quack' made by the domestic duck, and it has come to mean the noisy and boastful pretensions or

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mean practice of a quack, particularly in medicine. By quack we as a rule mean an unqualified doctor, but may I ask what is there to prevent a qualified doctor, from making boastful pretensions and behaving otherwise like an unqualified person? Quacks are found both in and outside the profession and the quackery within the profession is to my mind the worst form of quackery.

#### Quackery in the Profession

Quackery is of course older than the medical profession, but the exploitation of therapeutics by large commercial concerns through the medical profession is a recent development mainly due to the use of modern methods of large scale advertisements. Some firms make sweeping therapeutic claims for their products in a light-hearted manner, claims in support of which they have little or no direct evidence. A firm with huge capital can employ highly skilled methods in conducting propaganda and this is being done in an unimaginable scale. Many years ago it was estimated that a famous group of patent and proprietary medicine vendors catering chiefly for nervous and digestive disorders had spent a sum of nearly a million pounds for press advertisement alone during one year. It was further estimated that the capital employed in America in making secret remedies was larger than that employed in the legitimate drug trade. If it were a clean trade that would be no matter for regret, but what is it that is sold and bought? A few patent and proprietary preparations are good, and the claims made for them, as claims go, are not unreasonable. A good many preparations that do little or no good and little or no harm, are sold at fantastic prices. Now and again some thing is sold that does definite harm. That there is an enormous number of preparations which are fraudulent in the degree of the advertisement, fraudulent in the claims they make, and very fraudulent in the way in which those claims change without any change in the nature of the so called specific. The rule or declaration that articles are to be advertised to the medical profession only is absolutely worthless as a guarantee against fraud. Advertising to the public direct is expensive, while advertising to or even circularising the medical profession is relatively cheap. So the profession is being made the best selling agent of the manufacturer, and the extent to which it is functioning in that respect indicates the extent to which quackery prevails in the profession.

A quotation of some remarks by Dr. Simmons—an editor of Journal of American Medical Association—will reveal the extent to which this has been going on: "It has become a recognised fact in the patent medicine field that the easiest and the cheapest way of reaching the public is through the doctor. Let me quote a paragraph that appeared in the Printer's Ink—an advertising Journal. The words are those of a patent medicine man, and they are not directed to the medical profession: But the patent medicine of the future is the one that will be advertised only to the doctors. Some of the most profitable remedies of the present time are of this class. They are called proprietary remedies. The general public never hears of them through the daily press. All their publicity is secured through the medical press by means of the manufacturer's literature, sometimes gotten out in the

form of a medical journal, and through samples to doctors. The original bottle is given to the patient, he sees that the remedy does him good, and when he feels a trifle run down again, he goes to a drug store and buys another bottle, not troubling the doctor. He meets a friend in the street who is not looking well. 'I know exactly how you feel', he says. 'Now go and buy a bottle of best thing in the world. My doctor prescribed it for me, so it is not a patent medicine.' In this way the names of remedies advertised only to physicians get abroad to the public. The proprietary medicines of the future will be advertised through these channels. The medical papers will reap the harvest, and the physician himself always so loud in the denunciation of patent medicines will be the most important medium of advertisement at the command of the proprietary manufacturer." Those words written about 42 years ago have turned out to be absolutely true and prophetic.

With regard to the evil of proprietary medicines Dr. Simmons further says, "In brief, this business, the annual profit of which runs into millions, has grown until the use of proprietary remedies by many physicians has almost displaced the use of the individual official drug. It has checked advance in scientific methods of treatment, inhibited intelligent clinical observation, and developed an optimism that is unwarranted by facts, an optimism that is more fatal than the most radical therapeutic nihilism. But above and worse than all, this commercialised materia medica has blighted our literature by debauching our medical journals and even by tainting our text books."

The following remarks by the select committee which sat in England a long time ago go home much deeper:

"We have learned, however, to our great surprise that persons of influential social positions and small means will sell the use of their names to advertise secretremedie; that large sums of money are expended in canvassing medical men; that many medical men give testimonials (with the use of their medical qualifications, but without the use of their names) to proprietary and secret remedies, and allow themselves to be made, as a medical man declared in a public address, 'the cat's-paw and fool of the fraternity of the secret remedy'; and that there are medical men who prescribe to their patients remedies of this class of whose composition they are themselves largely ignorant. We have evidence in two cases of medical men acting as directors of companies manufacturing secret remedies."

This, then, is one form of quackery which is going on in the profession. Another form, no less deplorable, is the tendency to treat patients from symptoms alone without making proper examinations and investigations on scientific lines with a view to arrive at a diagnosis. It is forgotten that a necessary preliminary to treatment is the knowledge of disease—its causes and its diagnosis. How many of us in our general practice do, as a routine, the examinations which in our student days we were taught to do in the clinical side room? How many of us keep in touch with the current medical literature? Do not many of us continue to practise as we had been taught when we were students and show little ten-

dency to grow intellectually and scientifically? Is it then any wonder that the real quack with his boastful pretensions scores over us? It is our fault, our weakness, not his superiority or cleverness.

#### Quackery Outside the Profession

So much about quackery within the profession to which I attach greater importance than to quackery outside it. If India is a country of diverse religions, languages, dialects, customs, geographical and climatic factors, and many other things, it is also a country of diverse systems of medicines. Every kind of pathy, old or new, indigenous or foreign, good or bad, revealed or man-made, scientific or fraudulent, flourishes in this land much too much to the detriment of mankind. If the science of physics, or chemistry, or biology, can be one all over the world why not the science of medicine which is nothing but an application of these and some other sciences, such as anatomy, physiology, pathology, bacteriology, and pharmacology? There could not be two anatomies and two physiologies, nor two different causes of syphilis, or gonorrhoea, or cholera, or tuberculosis, or malaria, or small-pox for example. There can be no controversy over these sciences, and no one should be recognised as a qualified practitioner until he had approved training in these sciences, and had studied the nature of disease and its diagnosis. This training should be the same for all. There could not be the least compromise in this matter. Once a man had passed the tests at the end of his training he should be at liberty to follow his predilections short of prescribing secret remedies. He might then if he wished, become homoeopath, naturopath, ayurved, or anything else. Truth would triumph in the end, though not necessarily in individual instances. No one whatever his view on law might be, can practise as an advocate unless he has undergone the training prescribed by a faculty of law, why should the same not apply to medicine?

#### Remedies for Quackery

Coming to the remedies for quackery, first within the profession. No doctor should ever prescribe, and no medical journal should ever accept an advertisement of a secret remedy, or a preparation of whose composition and action he is ignorant, or a patent or proprietary drug for which there is an equally good substitute in the pharmacopoeia, or a substance which is advertised directly to the public, or indirectly to the public by means of literature sent with the bottle stating the disease it is intended to cure, or for which unwarranted, exaggerated, or misleading claims and statement as to its therapeutic value are made, or which is useless on account of its unscientific composition. There should be set up some agency or organisation like the Council on Pharmacy and Chemistry composed of leading chemists, pharmacologists and clinicians, appointed by the American Medical Association to examine and report on all proprietary remedies. American experience has shown that it is possible to do this, and that it is of great service to the medical profession, but it has also shown that the work is difficult and expensive. In India at least it can, for some time to come, be taken up by the State alone.

Every doctor should keep his professional knowledge up-to date and should conduct his practice on

scientific lines, ever keeping the good of the public and his readiness to avail himself of useful knowledge from whatever quarters it came as his guiding principles.

Now, secondly, remedies for quackery outside the profession, I am not one of those who advocate that unqualified practice should be forbidden by legal enactment. This is entirely impracticable. It has not been done and, I believe, it can never be done in any country unless perhaps it is under a totalitarian regime. What I advocate is that unqualified practice should not be recognised by the medical profession and the State, that the State should prevent an unqualified person from prescribing, administering or applying a substance which contains a scheduled poison—and the list of scheduled poisons should be revised every now and then—and from performing an operation which requires surgical skill, or an anaesthetic, local or general, or is life-endangering, or concerns a vital part of the body and a list of such operations should be prepared and revised every now and then.

No one should be recognised as a qualified medical practitioner of any system who has not had a certain prescribed minimum standard of general and scientific and professional education, and who does not possess a registrable medical qualification approved of by recognised medical councils in the respective provinces.

#### Covering and Association with Unqualified Persons

The question of consultation or association with the practitioners of indigenous systems often crops up. The Punjab Medical Council has laid down that any registered medical practitioner who either by administering anesthetic or otherwise assists an unqualified person to attend, treat, or perform an operation upon any other person in respect of matters requiring professional discretion or skill, will be liable on proof of the facts, to have his name erased from the register. It further says in a Note that if a Registered practitioner has been called in by the patient or his friends to advise and has found such a practitioner in attendance and has rendered assistance to the patient, the council will not consider such action of itself to be of a reprehensible character.

On one occasion Col. N. King, Registrar of the General Medical Council in the U. K. said, "If a registered practitioner was responsible for the treatment and took a patient to a masseur or a light specialist or anybody else and said, 'I want a certain treatment given to this patient covering would not arise even if the doctor might not know exactly how to administer the treatment.'"

This means that a registered practitioner may ask a practitioner of an indigenous system to give a certain treatment to a certain patient and that it would not amount to covering because the registered practitioner will himself be responsible for the treatment the patient would receive. But the position would be totally different if the registered practitioner was employed by or was working under the other practitioner or recognised him as a duly qualified person acceptable to medical council for registration. The essence of the whole thing then is that the initiative must rest with the registered practitioner and the other practitioner must work under him.

These observations based as they are on a comparatively narrow range are offered as an invitation to a wider discussion of a very important subject.

### SELECTED ARTICLES

**DYSENTERY AND COLITIS** By SIR PHILIP MANSON-BAHR, C.M.G., D.S.O., M.D., F.R.C.P., (Reproduced from *P. G. Medical Journal*, February 1947 with due acknowledgments).

This is an ever-recurrent subject of considerable contemporary importance and it is one which, in view of therapeutic advances, calls for a periodic review. As a result of the recent war large numbers of ex-Service personnel who have served in India, Burma and in the Far East are still suffering from and will continue to exhibit recurring symptoms of these disorders for some time to come.

Of the bacillary dysenteries there is fortunately little to be said. In the acute dysenteries of bacillary origin a great therapeutic victory has been won by the introduction of the special sulphonamides—sulphaquandine and sulphasuccidine. Not only has this disease been robbed of its terrors, but its sequelae, which loomed so large some 25-30 years ago, have almost completely disappeared. No longer do we encounter those alterations in the lumen of the large intestine, those peritoneal adhesions and that peculiarly intractable ulceration formerly known as chronic bacillary dysentery. Even the granular inflammation of the lower rectum, or 'granular proctitis,' the unhealed remnant of bacillary necrosis of the mucosa, is rarely seen nowadays.

These sulphonamides have amply proved their worth, of that there can be no question. And probably also they are not only of curative, but also of prophylactic value, because it appears to have been established that by taking sulphaquandine in daily gramme doses the onset of these dysenteries may be effectually prevented. It is due to these measures that the incidence of bacillary dysentery in the Eastern theatres of war sank during 1945, to insignificant proportions and that the mortality rate declined to less than 1 in 5,000. These are indeed remarkable figures.

Though sulphaquandine and sulphasuccidine are especially valuable in the more toxic bacillary infections caused by Shiga and Flexner bacilli, they appear to be less effective in Sonne dysentery, which is so prevalent in this country at present. There is, however, some evidence that the more recently introduced compound, phthalystatin, possesses greater bacteriostatic powers in this infection. However, there is some comfort in the contemplation that Sonne dysentery produces considerably less damage to the bowel surface than the other organisms of this group.

Whether exposure on a large scale to these specific infections gives rise to a much greater incidence of so-called idiopathic ulcerative colitis amongst men of military age, which has been recently so much in evidence, remains a moot point. It is undoubtedly true that in wartime the numbers of a very acute form of ulcerative colitis appear to be increased. I would like to stress the great importance of arriving

quickly and decisively at a correct diagnosis of this fell and insidious disease. The natural tendency is to regard it in the first instance, when it arises in those areas where the other well-ascertained forms of dysentery are common, as necessarily a manifestation of one of them. I think this especially applies to amoebic dysentery, but certain it is that, if ulcerative colitis is treated continuously and successively and mistakenly for amoebic dysentery with irritating antiamoebic drugs such as emetine and emetine bismuth iodide, its manifestations are exacerbated.

Manifestly amidst such a whirlpool of fluxes and dysenteries which presents itself in war-time hospitals the onset of idiopathic ulcerative colitis is not readily recognized. Usually little assistance is forthcoming from the laboratory and I am convinced that the most ready method is by sigmoidoscopy, or even by proctoscopy. By these means the peculiar flush-like appearance of the mucosa can be recognized and its friability and vulnerability ascertained. Nor am I convinced that we are yet in possession of any really effective therapeutic measure in combating its ravages. In these acute military cases with extreme emaciation and dehydration a decision must be taken early whether operative measures are justifiable or not. Ileostomy may be, and often is, the only practical method of saving the patient's life, but this must be undertaken before the entire mucosa of the large intestine has been destroyed or the patient overwhelmed by toxæmia.

In less acute cases, or when only limited areas of the bowel are involved—regional ulcerative colitis—then instillation of sulphasuccidine by rectal retention enemata, in 6-8 gm. doses, suspended in water and mucilage does, for a time at least suspend the ulcerative process and leads to lessening of the toxæmia.

Amoebic dysentery is undoubtedly of great importance. The already considerable literature has been enriched by quite a spate of contributions on this disease in the current medical press as a weekly scrutiny of the *British Medical Journal* and *Lancet* amply demonstrates. A great deal of it traverses already familiar ground, though many of our therapeutic beliefs have been sadly shaken.

A fundamental distinction must be made between 'amoebic dysentery' and 'amoebiasis.' The former is associated with 'dysentery': the passage of blood and mucus in the stools, with diarrhoea, colic and abdominal pain. The latter is entirely asymptomatic. The stools may be normal or even constipated, and in them the cysts of *Entamoeba histolytica* are discovered by routine examination. I am convinced that these two conditions are pathologically and therapeutically quite distinct. In the former the trophozoites of *E. histolytica* are embedded in the bowel wall and have seriously affected the mucosa by the cytolytic enzymes they secrete, whilst in the latter the organism plies a coprozoic existence. In the first instance the human host is ill; it may be severely so. In the second he is perfectly well and is not incommoded.

The distinction has been rendered clearer by the introduction of a new quinoxyl compound—*diiodoquin*—which contains 63 per cent. of iodine. The drug is easily tolerated and can be given as an outpatient treatment. A dose of eight tablets daily

for 15 days suffices to eradicate the infection (i.e. cysts of *E. histolytica*), whilst in the actual disease—amoebic dysentery—it appears to exert little beneficial effect.

Amoebic dysentery may then appear in many disguises. It may, it is true, be severe and the resulting passage of bloodstained stools may result in emaciation and severe anaemia. More often it is chronic. Then the patient suffers mostly from periodic attacks of diarrhoea, abdominal discomfort and sometimes deep-seated pain confined to the caecum or sigmoid colon. In my experience acute abdominal crises, especially when limited to the upper abdomen, are never of amoebic origin.

The diagnosis of amoebic dysentery presents many pitfalls. First, the organisms may be present in large numbers in the faeces in the active vegetative state, especially when quantities of blood and mucus are being evacuated. These motile trophozoites are encountered, only in the active acute stage, whilst the precystic and cystic forms are seen in the chronic stage when the evacuations are faeculent. A great drawback to accurate diagnosis and a puzzle to pathologists lies in the fact that the cysts appear in the faeces in a most vicarious fashion. It so happens that on one occasion they may swarm in myriads, whilst in the next they may be absent altogether. It does not appear that the various concentration methods which have been devised materially help in clinching the diagnosis. So it comes about that the clinician has to concert various examinations, clinical, pathological, instrumental and, occasionally, radiographical, in order to obtain a correct diagnosis. I have become increasingly impressed with the value of proctoscopy. By the judicious employment of this procedure amoebae may often be demonstrated in cases in which the faeces have been examined, often on many occasions, in vain. By proctoscopy, which is so easily performed, a good view of the rectal mucosa may be obtained and microscopic preparations can be obtained from scrapings of the diseased surface and the microscopic examination of the exudate immediately carried out. On many occasions this simple method is successful in demonstrating the living and active *E. histolytica*. To perform proctoscopy, a simple tubular proctoscope with obturator some 6 inches in length is used. No preliminary preparation of the patient is necessary. I find that it is better not to employ a fixed illuminant, such as are fitted into the standard instruments, but an electric bulb introduced within the proctoscope so as to illuminate a limited area of the rectal mucosa. Scrapings can then be made by means of a long-handled Volkmann spoon of any particular lesion encountered. The sample of mucus, blood and mucosa must be transferred direct from the bowl of the spoon directly into a microscope slide, the coverslip must be pressed down and no diluent, such as saline, employed. The microscopic examination must be immediate, any delay is detrimental. Therefore it is preferable to have the microscope on a table in the examination room. If *E. histolytica* is present, the trophozoites can be seen actively progressing between the mucosal cells. I have become increasingly impressed with the varying appearances of the mucosa attacked by *E. histolytica*. This arises from the conviction that the popular idea of the characteristic lesions in the

bowel are incorrect. The living pathology differs considerably from the morbid appearances. The earliest lesions consist of small circumscribed hyperaemic areas, later there are small pinhead haemorrhagic depressions which bleed when they are swabbed with cotton wool. The most confusing appearance is in the acute stage when the mucous membrane is so inflamed as to resemble the flush-like haemorrhagic stage of ulcerative colitis. Indeed it is quite intelligible why so many misdiagnoses are arrived at on this very count. Under these circumstances, I have learned that it is futile to contuse the mucosa by scraping with a sharp instrument to demonstrate the amoebae. The surface of the mucosa should be swabbed with a tightly packed cotton-wool swab, a pledget of blood and mucus removed, and immediately examined. Sometimes the amoebae may be so numerous as to resemble a solid mosaic of motile trophozoites. Again the mucosa may present a granular appearance; the surface is friable as in the chronic stage of bacillary dysentery. Under the present conditions actual ulceration of the mucosa, such as is depicted in most textbooks, is an extremely rare event. In chronic amoebic dysentery, when *E. histolytica* cysts are numerous in the faeces, the crenation and folding of the mucosa is a prominent feature, whilst the surface is pitted with innumerable depressions like that produced by minute raindrops, giving rise to the classical so-called 'pigskin appearance'. In this stage it is not possible to demonstrate the trophozoites of *E. histolytica* in scrapings, though sometimes precystic forms and cysts may be demonstrated on the mucosal surface. The only reliable clinical sign, apart from the deep tenderness which has already been referred to, is the thickening and induration of the sigmoid colon but even this may be absent when the amoebic lesions are confined, as they so often are, to the rectum. *Amoebic typhilitis* is another matter. Here the deep-seated pain is restricted to the caecum. This thickened and tender viscus can be palpated in the right iliac fossa and it is in this condition that radiography may be of distinct advantage. In amoebiasis of the colon it is usually particularly unhelpful. The amoebic caecum (by barium enema) gives a distinctive appearance. There are filling defects and, on emptying, a spasm is apparent producing a contracted cone-shaped mass. It is necessary to draw attention to this fact as, in the absence of direct evidence of amoebic infection by faeces examination, it is particularly difficult to diagnose and to differentiate from tubercular disease. We now come to the vexed and much debated question of treatment.

A great deal has been heard and written of the importance of secondary bacterial infections. Whilst not denying that these do actually occur and did play a part in many particularly virulent cases invadated from Burma, I do submit that they do not play any essential part at the present time. Therefore it is inadvisable to submit the average case of intestinal amoebiasis to intensive courses of penicillin and sulphasuccidine therapy before specific antiamoebic treatment is instituted. In the acute phases emetine injections of hypodermic emetine, at the commencement of treatment are, I am convinced, beneficial. After which the routine treatment with emetine and quinoxyl retention enemata should be carried out on the appro-

ved lines. The fault is the present treatment, which has been subjected to criticism, lies in the quality and preparation of the emetine bismuth iodide. It has recently been shown that it is the dispersibility of the E.B.I. which is the essential factor and the constitution of the covering of the E.B.I. tablet. At present Burroughs Wellcome are putting out a new preparation which is sugarcoated and which readily dissolves in the *succus entericus*. Some of the older gelatine capsule preparations had the effect of crystallizing the contained E.B.I. which then did not readily disperse. This new preparation is particularly well-tolerated and can be given in gr. iii doses, for a total course of 30 gr. I freely admit that relapses still occur, but many of these can be cured by a second course. There is one factor to which, I think, too little attention has been paid. When it has been ascertained by sigmoidoscopy that the mucosa is covered by a dense membrane of mucus and detritus then the bowel should be cleansed by high colonic lavage with boric acid (3i to the pint) or by 2½ per cent. sodium bicarbonate solution, before the E.B.I. course is instituted. It stands to reason that, unless the bowel surface is reasonably clear, the E.B.I. cannot come into intimate contact with the diseased mucosa. In the chronic stage of the disease *diiodoquin* is of distinct benefit and appears to have a direct action on the cysts. It has been shown that 120 tablets of this drug suffices to clear up the cyst-passer condition.

*Tropical sprue* is another form of chronic diarrhoea which has been much in evidence in India and Burma. It has for the first time, in the long history of this disease, appeared in epidemic form and has behaved like an infective disease. Large numbers of men were stricken down at the same time and the disease progressed with hitherto undescribed rapidity. The early stages were quite unlike the generally accepted picture. Steatorrhoea did not appear till the dehydration and emaciation were well advanced. It therefore now appears more likely than ever that sprue is primarily due to a specific infection of the mucosa with special preference for the lower ileum. The later and more familiar phases are probably expressions of vitamin deficiencies brought about by the primary lesions.

There is another characteristic of sprue which appears to me to be almost inexplicable on any aetiological basis. Tropical sprue may arise *de novo* and run its typical course, with glossitis, steatorrhoea, emaciation, meteorism and megalocytic anaemia, 15 to 20 years after exposure to infection. When this occurs it is certain to produce very real difficulties in diagnosis. Phantasies of carcinoma of the stomach, Addison's disease, anorexia nervosa, chronic cholecystitis or pernicious anaemia may be conjured up. Then, of course, there is the tendency to classify tropical sprue as idiopathic steatorrhoea, pancreatitis, tubercular enteritis, or other forms of fatty diarrhoea. The real distinction lies in this difference. In the vast majority of cases tropical sprue yields readily to treatment. Up to the present the parenteral injection of crude liver extract has held the field. Large doses are necessary, 4 c.c. or even more, intramuscularly three times a week. Rest in bed and careful dieting are essential. Now at last it appears that a truly specific treatment is in sight as the outcome of Spies' work on folic acid. Small doses such as 10 mgm.

twice daily for a period of 5-7 days appears sufficient. Unfortunately in this country folic acid (*fofites*) is very difficult to obtain. The exact part that folic acid plays in the cure of sprue is not known. That it has some action in the absorption of fats, possibly in the promotion of 'phosphorylation', appears probable. What is known, and which is the most important, it stops the diarrhoea, reduces the size of the stools, heals the glossitis, increases the appetite and promotes haemopoiesis. The increase of weight is phenomenal. It therefore appears probable that the sure cure of this age-old malevolent and disagreeable disease may now be in sight.

TOXAEMIA OF PREGNANCY, BY L. N. JACKSON, M.C., D.M., OXFORD. (Reproduced from the P. G. Medical Journal, December 1946, with due acknowledgments.)

By pre-eclampsia is meant a toxæmia usually though not invariably, manifesting itself in the later half of pregnancy and characterised clinically by a more than physiological rise in the blood pressure, the presence of albumen in the urine and the appearance of oedema, "renal" in distribution.

The incidence of pre-eclampsia clearly varies in different localities, the average figure usually given for the British Isles being in the region of 3 per cent. In a series of 1,267 consecutive pregnancies seen in this practice during the past 20 years pre-eclampsia was noted 40 times; once in each of 33 patients, twice in three, and once in a patient who had had eclampsia with two previous pregnancies.

The figure 1,267 comprises 1,014 labours attended by one or another partner of the practice, together with 253 cases confined by district midwives after ante-natal examination by a member of the firm. The incidence of pre-eclampsia in this series is thus approximately 3.2 per cent. In this same series the incidence of eclampsia was only three, in two of which there was a history of a previous attack. This tallies reasonably well with the usual textbook figure for eclampsia of 1 per 580 pregnancies and is almost certainly accurate, since eclampsia could scarcely escape the notice of a Gamp, still less of a district midwife, and would certainly be referred to a doctor.

#### Analysis of 40 Cases of Pre-eclampsia.

All these cases were treated *secundum artem* as soon as diagnosed and of them 22 occurred in primigravidae, 18 in multiparae. Pre-eclampsia was seldom observed among the younger mothers, the average age of the whole group being nearly 30 and of the primigravidae, 29.

Seventeen patients were 30 years old or more at the time of their first attack. The youngest patient was 21, the oldest 42. Though twins are relatively common in this county pre-eclampsia associated with twins occurred only once in this series.

In 20 cases pre-eclampsia was not diagnosed until the ninth month of pregnancy; all these went to term or nearly so; medical induction at the 39th week was done in two cases; two foetuses, one the second of twins, were stillborn.

In three cases pre-eclampsia was diagnosed during the eighth month of pregnancy; in none of these was induction performed; two foetuses were born macerated, one at term and the other at the 38th week.

In 11 cases the diagnosis was made during the seventh month; seven of these did not go to full term; there were surgically induced, one during the seventh month, one at 37 weeks and one at 38 weeks; there were four stillbirths only one of which occurred after induction.

In four cases the diagnosis was made during the sixth month; none of these carried to term; only one was (medically) induced at 37 weeks; there were three stillbirths.

In two cases the diagnosis was made at the fifth month; both were induced, one surgically at the eighth month, the other medically at 39 weeks; neither foetus was stillborn.

Thus foetal mortality was 11 out of 40, more than 25 per cent. Nine foetuses were born macerated; another non-viable, survived only a few minutes; the eleventh, the second of twins, a footling and very small, was virtually stillborn.

The well-recognised association between pre-eclampsia and miscarriage was noted in three cases.

#### Recurrent Toxaemia

Although four only of these 37 patients were attended by one or another partner in this practice for toxæmia recurring in a subsequent pregnancy, a follow-up revealed the fact that recurrent pre-eclampsia occurred in a total of seven patients; an eighth had pre-eclampsia with her third pregnancy after having eclampsia with her first two. (This case is discussed under the heading of eclampsia.) Five patients had two attacks each; a sixth had three attacks; a seventh four attacks.

It is significant that of the six patients showing subsequent persistent morbidity, no less than five had more than one attack of toxæmia.

#### Maternal Mortality and Morbidity

Among these 36 pre-eclampsics there was no immediate mortality and it has been possible to follow up all but three of them over periods ranging from one to nineteen years. Judged by the ordinary clinical standards required for life insurance, including estimation of the blood pressure and examination of the urine 22 of these women seem to be physically none the worse for the experience of one or more attacks of pre-eclampsia and show no evidence of a persistent or progressive renal lesion. Five others who have left the neighbourhood are reliably reported to be alive and well. Six only show persistent subsequent morbidity.

Case I.—A multip seven, aged 39 when first attended during her eighth pregnancy in 1935, gave a history strongly suggestive of pre-eclampsia with her fifth pregnancy which ended in a still-birth. During her eighth pregnancy signs of pre-eclampsia were noted at the seventh month; there was oedema of the legs, albuminuria in considerable quantity and hypertension (220/140). About the same time foetal movements ceased. Surgical induction resulted in



## PREGNANCY

|         | First                         | Second                        | Third                         | Fourth                        | Fifth       | Sixth  |
|---------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------|--------|
| Case 1  | Miscarriage                   | Pre-eclampsia with live birth | —                             | —                             | —           | —      |
| Case 2  | Pre-eclampsia with live birth | Miscarriage                   | Pre-eclampsia with live birth | Miscarriage                   | —           | —      |
| Class 3 | Normal                        | Normal                        | Miscarriage                   | Pre-eclampsia with live birth | Miscarriage | Normal |

the delivery of a small macerated foetus. Three years later she became pregnant for the ninth and last time. During the final month of this pregnancy albumen appeared in the urine and the blood pressure was 150/100. She was delivered at term of a live child. Thus, her first four pregnancies were normal and so were her sixth and seventh; with her fifth (probably), and with her eighth and ninth (certainly), she was toxæmic. Eight years after her final pregnancy her blood pressure was 165/109, but the urine was of "good" specific gravity and free from albumen. She looked and felt well and was (and is) leading an active life. She should probably be regarded primarily as a case of essential hypertension.

**Case II.**—A primigravida, aged 27, when first attended in 1929, developed signs of pre-eclampsia at the eighth month. Despite treatment, intermittent albuminuria persisted to term when she spontaneously delivered herself of a macerated foetus. There was no further pregnancy. Nine years later she began to show evidence of myocardial failure. Sixteen years after her attack of pre-eclampsia her blood pressure was 190/90 and she had auricular fibrillation with oedema of legs. The urine was of low specific gravity but free from albumen and she remains a "cardiac" invalid. Unfortunately there is no record of her medical condition before pregnancy.

**Case III.**—A multip one, aged 34, when first attended during her second pregnancy in 1927, developed pre-eclampsia with this and again with her third pregnancy. The first pregnancy was normal. The first attack of toxæmia (second pregnancy) was mild. She went to term and was delivered of a live child. The second attack (third pregnancy) resulted in the spontaneous delivery of a macerated foetus at the seventh month. There were no further pregnancies. Eleven years after her second attack of pre-eclampsia she developed thyrotoxicosis which was treated surgically. One year after thyroidectomy and 12 years after her second attack of toxæmia the blood pressure was 185/95 and the urine showed a haze of albumen. Her general condition was poor.

**Case IV.**—A multip two, age unrecorded, first seen during the third pregnancy in 1935 had a history of a normal first pregnancy but of pre-eclampsia with her second. At the end of her third pregnancy she developed pre-eclampsia again and was delivered near to term of a live child. Hypertension (170/95) persisted at any rate for several weeks. She left the neighbourhood and no further follow-up was possible

but she was reported alive and well four years later.

**Case V.**—A multip 2, aged 22, had had two normal pregnancies when first seen during her third pregnancy in 1937. At the 38th week she showed signs of toxæmia and spontaneously delivered herself somewhat prematurely of a healthy child. There was no further pregnancy. Nine years later the urine was normal but the blood pressure 150/80. She was pale and dyspnoeic on exertion.

**Case VI.**—A pre-eclamptic primigravida, aged 25, when first seen in 1931 at the request of her own doctor, was delivered by forceps of a macerated foetus at the 39th week. She had three subsequent pregnancies but was not attended by a member of this firm. Pre-eclampsia recurred in all these subsequent pregnancies. The second and fourth terminated at the seventh month; the third, like the first, went almost to term. Despite hospital treatment with these last three pregnancies all four ended in still births. At the age 38 her urine is normal, and blood pressure 145/110.

## Eclampsia

The difference between pre-eclampsia and eclampsia is possibly merely one of the degree; the clinical criterion of difference being the onset of convulsions in a patient showing previous evidence of pre-eclampsia which has not responded adequately to treatment, or possibly there is a constitutional eclamptic factor in these patients. If the immediate and remote maternal prognosis in pre-eclampsia has been good, the same cannot be said of the three cases of eclampsia which have occurred in this series.

**Case I.**—Mrs. C., Multip 1, aged 37, when first seen during her second pregnancy in 1925 with a history of difficult labour, eclampsia, and stillbirth nine years before, showed slight albuminuria at the 38th week. A week later she went into labour and delivered herself of a healthy male infant. During the third stage of this labour she had one slight fit and one further fit only after delivery of the placenta. She recovered and had one subsequent pregnancy three years later during which albuminuria appeared at the 37th week. A week later she went into labour and delivered herself of a macerated foetus. Thus, she has eclampsia twice and pre-eclampsia once with two out of three children stillborn. Hypertension persisted and she died in 1944—19 years after her second eclamptic pregnancy—of a massive cerebral hæmorrhage.

**Case II.**—Mrs. H., a primigravida, aged 27 when first seen in 1943, began to show a rise in blood pressure at the second month (140/90). Albuminuria appeared at the sixth month and oedema at the 37th week. The onset of a slightly premature labour was heralded by two fits and repeated fits occurred during the first stage. High forceps were applied and a stillborn infant was delivered with difficulty. Post partum there were three slight fits followed by a day of coma and then improvement. Eight months later albuminuria and hypertension (155/95) were still present. Three months later petechiae appeared on the buttocks and thighs. Seventeen months later she complained of breathlessness on exertion, morning headache, and nausea and occasional puffiness of eyelids; there was oedema of ankles at night. The heart was enlarged, the blood pressure 180/110, and the urine, of low specific gravity, contained a heavy cloud of albumen. She was referred to Dr. Horace Evans. Nineteen months after her attack of eclampsia he reported that her condition was deteriorating rapidly. There was gross anaemia (Hb 52 per cent) and a high blood-urea (180 mgs per cent), indicating a severe degree of renal failure presumably due to chronic bilateral nephritis. The condition was complicated by the presence of a tuberculous cavity in the left upper lobe and though she temporarily benefited from blood transfusions her expectation of life is to be measured only in months.

**Case III.**—Mrs. M., multip 1, aged 41 when first seen during her second pregnancy in 1934, had a history of eclampsia and a live child delivered by Caesarian section eleven years previously. During her second pregnancy she showed hypertension (160/90) at the second month which persisted and increased. Albumen also appeared at the second month and increased in quantity. Oedema of both legs was noted at the fifth month. At 5½ months the urine became smoky and scanty. At the 6th month the patient complained of headache, became drowsy, and had two fits. Surgical induction was performed and a non-viable foetus, which, however, survived a few minutes, was delivered. Oedema rapidly subsided and the blood pressure fell from 210/120 to 180/100. There were no further pregnancies. This patient had eclampsia twice and one stillbirth. Nine years after the second attack of eclampsia she looked and felt well and the urine was normal, but there was persistent hypertension (210/120 at the age of 50).

Thus, of three eclamptics, one is dead, another dying, and the third markedly hypertensive. Among these three patients a total of six labours, five of which were eclamptic and one pre-eclamptic, produced only two live births.

## Summary and Conclusions

1. The incidence of pre-eclampsia and eclampsia in a general practice over a period of 20 years has been investigated and recorded.

2. In a series of 1,267 consecutive confinements, pre-eclampsia was noted 40 times and eclampsia 3 times.

3. All three eclamptics and 33 pre-eclamptics have been followed up over periods ranging from one to nineteen years.

4. Foetal mortality in these conditions, the recurrence of toxæmias of this type in subsequent pregnancies and the association between toxæmia and miscarriage have been noted.

5. Maternal mortality and morbidity following (a) pre-eclampsia and (b) eclampsia are discussed and contrasted.

Thanks are due to my wife, Dr. Margaret Hadley Jackson, and to my partner, Dr. Norman Sawers, for much helpful, if painful criticism.

RESULTS OF TREATMENT OF RECURRING CONVULSIONS (EPILEPSY) *Reproduced from the Proceedings of the staff Meeting of the Mayo Clinic, Jan. 8, 1947 with due acknowledgments.*

The treatment of recurring convulsions (epilepsy) has been and still is a difficult problem since there are so many variables and treatment must take place for such a long period. Although it is true that the medical profession now has a bigger and perhaps a better therapeutic armamentarium for the treatment of these difficulties than before 1900, the principles are still much the same.

After 1853 bromides were used rather effectively in treating patients who had recurring epileptic attacks. The next drug to come into prominence was phenobarbital in 1912. This is relatively non-toxic and reasonably effective. Later, mebaral, a methyl compound, and a near relative of phenobarbital was introduced. In 1937 Putnam and Merritt suggested the administration of diphenylhydantoinate sodium (dilantin sodium). These drugs may be used singly or in combination.

Most clinicians rely on these few drugs for therapeutic effect, although many others have been tried. In addition, at the Clinic we have used since 1921 the ketogenic (high fat, low carbohydrate) diet and I wish to report some of the results of this treatment of patients who have been observed for many years. It is fairly effective for the treatment of children but not so effective for adults.

In an attempt to compare the results of drug therapy with the results of treatment with ketogenic diet, 300 consecutive cases in which the patients were first examined in 1940 and 1941 were studied. The results were classified as follows: Patients who have had no attacks of any kind as far as they know from the time of the beginning of the treatment or shortly thereafter until the end of the follow-up period (between four and five years) were considered well. Patients who were definitely improved either for a comparatively short time or for a much longer time but who still have some difficulty were considered improved, and the remainder who have continued to have attacks in spite of reasonable treatment were considered to have received no benefit.

From 113 of the 300 patients follow-up information was not obtained. Of the remaining 187, thirty-eight had neurologic disorders, such as cerebral palsy, marked mental retardation, hydrocephalus, and so forth. Seventeen of these thirty-eight patients improved as far as their attacks were concerned; eight of them improved on treatment with phenobarbital



alone; four improved from use of dilantin; three from a combination of the two, and one improved from use of the ketogenic diet. One patient became well without any treatment and remained so for four years. Two of the children in this group died during treatment, one from general paresis and one from rather severe hydrocephalus. There were 149 patients who had no handicap but the convulsions and who were satisfactorily treated for four to five years. Some of these 149 patients were treated by more than one method at different times. This makes the total of patients who received the various types of treatment more than 149.

Thirty-seven of the 149 patients received ketogenic diet only. Of these thirty-seven, ten (27 per cent) remained completely well, sixteen (43.2 per cent) were improved and eleven (29.7 per cent) were not helped. A group of fifteen patients received ketogenic diet plus drugs. Again, four (26.7 per cent) remained well, three (20 per cent) were improved and eight (53.3 per cent) were not helped. The ketogenic diet was maintained until the patient had been free of attacks for one year or more; then the diet was gradually changed to a normal diet, with usually a moderately limited amount of carbohydrate. When drugs were used in addition to the diet, they were usually continued after the change in diet had been made.

Forty-eight patients received phenobarbital alone. Of these, six (12.5 per cent) were well, but continued to take full doses of medicine. Thirty-one (64.6 per cent) improved for periods varying from a few months to four years.

Fifty patients received dilantin sodium alone. Six (12 per cent) remained well (while taking the drugs), nineteen (38 per cent) were improved, and twenty-five (50 per cent) obtained no help. It is interesting to note that twelve patients (24 per cent) of this group had toxic reactions, the only group that did have evidence of toxicity.

A final group of twenty-six patients received both phenobarbital and dilantin sodium. Three patients (11.5 per cent) were well while taking medication consistently, twelve patients (46.2 per cent) were improved and eleven (42.3 per cent) failed to obtain help.

A second group of cases studied consisted of all cases in which the ketogenic diet alone or with drugs was used in the treatment of convulsions from 1921 to 1930. The records were studied up to and including 1945. This group consisted of 311 cases. Seventy-three of the patients did not co-operate well enough to find out whether the diet would help them or not; and forty-eight had gross neurologic lesions, including one with brain tumor. There were then 190 patients who gave the diet a fair trial. Sixty-seven patients (35.2 per cent) remained well following this treatment for periods from four to twenty-two years. A few of these have not been heard from in recent years. Some may have had attacks recur, but at least they were well for the periods stated. Thirty-five patients (18.4 per cent) were definitely improved, so much so that they were willing to continue the diet for several years.

Thus, by means of a ketogenic diet 53 per cent of the patients treated who had so-called "idiopathic"

epilepsy were influenced favourably and 35 per cent have been "well" for long periods (four to twenty-two years.)

It is of interest, and perhaps of value, to point out that there were twenty-nine children born to twenty of these patients; the children's ages at the time of the last follow-up ranged from a few months to twelve years. Not one child had been observed to have convulsions of any sort.

**SURGERY OF THE BREAST: A REVIEW.**  
J. A. G. BURTON, M.B., F.R.C.S. Ed., F.R.F.P.S.G.  
St. Mungo Professor of Surgery, University of Glasgow. Reproduced the Glasgow Medical Journal, with due acknowledgments.

#### Malformations.

In the old text books an undue emphasis was placed upon the many abnormalities and maldevelopments of the breast which had been graphically recorded by ancient authors. These records go very far back in medical history and a considerable admixture of religious mythology can be determined in many of the more striking abnormalities. Multiple breasts adorn some of the Hindu deities while other religious cults have figured a lady without breasts. It is doubtful whether Saint Barbara can be added officially to the seven recorded cases of complete absence of the breasts. Supernumerary breasts occur most frequently in the axilla, although they may be met with anywhere along the primitive milk line—from axilla to groin. Growths with breast like structure have been described in other parts of the body surface, but they must be regarded as sweat gland tumours. The axillary breast rarely possesses a nipple and is often diagnosed as an enlarged lymphatic gland. These supernumerary breasts should always be removed as they give some trouble during pregnancy, and later in life may be the origin of tumours. Supernumerary nipples are seen most frequently in the areolar area and in the axilla where they are easily recognised. They should be removed. Persistent inversion of the nipple should be dealt with during late adolescence, when manipulation over a period of months will usually rectify the condition. If the inversion is neglected till pregnancy occurs, treatment becomes a matter of urgency and some form of operative interference may be necessary. The various types of breast development in adolescence have been studied recently with a view to determining the incidence and type of pathological lesion likely to develop in later life. Very rarely the hypervirginal type of breast passes quite rapidly into a pathological virginal hypertrophy and prompt surgical treatment may be necessary to save life. As the increase in the bulk of the breast in those cases develops from the stroma, hormone therapy is of little use. Occasionally an asymmetry in breast development is noted during early adolescence, but this almost invariably corrects itself in a few months.

#### Injuries.

Injuries to the breast have increased greatly in incidence during the past forty years. The industrial and medico-legal importance of these injuries renders it necessary for the doctor in attendance to make a

detailed and accurate record of the site and extent of the damage sustained. The relation between breast injury and cancer has assumed a considerable importance on the Continent. In Britain there is not the same enthusiasm over trauma as a cause of cancer. The medical branch of the Board of Trade has laid down certain conditions which must be fulfilled before cancer of the breast from injury can be considered; (1) the breast must be certified as previously normal; (2) the injury must be severe enough to cause bruising; (3) the tumour must develop within a year at the site of the original damage.

More common sequelae to crush injuries of the breast are chronic haematoma and fat necrosis. In motor accidents a severe bruise of the breast may be overlooked owing to the presence of other more obvious injuries which fix the attention of doctor and patient. As a rule, these haematomas absorb well but in some cases the unabsorbed haematoma becomes surrounded by a dense mass of fibrous inflammatory tissue; the hard lump is discovered a month or two after the accident and carcinoma suspected. When the haematoma is retro-mammary it is always fairly extensive and, if missed, infection frequently supervenes. Sometimes the bruise is minimal, but there follows considerable necrosis of the breast tissue. This area of fat necrosis is surrounded by a mass of reactive fibrous granulation tissue and the resultant tumour closely resembles carcinoma. Unless an accurate history is obtained, a radical mastectomy may be carried out. From the medico-legal viewpoint, an action for damages may be lost if proof is not forthcoming that the condition was noted immediately after the accident.

The treatment of breast haematoma is at first expectant. Firm support of the breast and light massage will probably clear up most of these cases. If the condition of fat necrosis or encysted haematoma develops, excision of the involved area is the best treatment. Simple incision with drainage leaves a discharging sinus which may persist for a long time.

#### Inflammatory Conditions.

Acute and chronic inflammatory conditions constitute the bulk of the pathological changes met with in the breast. It is doubtful, however, if chronic mastitis should be regarded strictly as an inflammatory condition.

**Acute mastitis.** This condition usually merges rapidly into suppuration, but with improved prophylaxis in puerperal milk engorgement and the prompt exhibition of penicillin, these troublesome intra-mammary abscesses should be greatly reduced in incidence. Pre-mammary abscess is seen most frequently in the areolar area. It may be regarded largely as an industrial disease occurring in girls working under dirty or dusty conditions. The abscess develops rapidly with considerable general disturbance and intense pain. Poulticing or a wet dressing followed by a small incision will clear up the condition in about a week.

**Intra-mammary abscess.** This constitutes a most disturbing event in the puerperium. It is mostly seen following first pregnancies and the organisms are the usual pyogenic cocci. There is a grave systemic upset often associated with a short septicaemic period.

A notable degree of blood destruction may occur. Those cases are, on the whole, very badly treated. Timid and repeated incisions with packing is, unfortunately the usual treatment employed and the result is a prolonged period of invalidism. The correct treatment is a prompt incision just large enough to admit a finger; all trabeculae and pockets in the abscess cavity are gently broken down and soft rubber tube stitched in. Penicillin injections are immediately commenced and 200,000 units given daily for three days. The condition clears up in about 10 days.

**Chronic mastitis.**—The etiology of chronic mastitis is still imperfectly understood. A large amount of work has been done on the hormonal aspect of the subject, but final conclusions as to cause and treatment are still awaited. The infective theory has largely been abandoned, although some Continental surgeon pathologists suggest tertiary syphilis as an etiological factor in some cases. The great majority of workers in this subject are convinced that chronic mastitis in its varying manifestations is a disease of hormone imbalance, but recognise that it is a very complicated imbalance. The essential feature in mammary dysplasia would seem to be a defective corpus luteum function. This is usually absolute, but may be relative where there is excessive oestrogenic activity. The determination of these two principal hormones is a complicated process carried out on 24-hours specimens of urine over a period of days, and the results are not free from fallacy.

The oestrogen is estimated by biological tests and the corpus luteum hormone chemically by its excretory product pregnanediol. In all forms of adenofibromas of the breasts the pregnanediol estimation average 12 mg, against the normal 30 mg, per cycle of 28 days. The oestrogen assays are usually normal—about 400-600 rat units (4000-6000 international units) per cycle, but occasionally an excess is observed. In addition to these ovarian hormones there is an imperfectly understood remote control involving pituitary, thyroid and suprarenal.

Chronic mastitis manifests itself in two forms—adenofibrosis and cystic disease. The pathological changes are always patchy in distribution and a goodly proportion of the breast tissue may appear normal. It is usual to consider adenofibrosis as of two types—mastodynia and adenosis. Mastodynia occurs in women about the age of thirty, but may be seen much earlier in life. The condition occurs in both breasts as a rule, although the symptoms may be referred to one breast only. The patient complains of constant pain with marked premenstrual intensification. She has usually discovered a tender tumour in the breast—which further disturbs her peace of mind. On examination, a hard, tender, ill-defined mass can be felt in the breast with smaller, less tender nodules scattered through the breast substance. The other breast may show a similar but less advanced pathology. Histologically the breast tissue shows deficient lobular development with increase in the interlobular stroma and patches of round-celled infiltration. The epithelium is irregular and the ducts and acini show cystic dilatation in places. The prognosis in these cases is fairly good if mammary deficiency is not a marked feature.

Simple mastodynia shows spontaneous remissions of symptoms and signs resulting frequently in a clinical cure. Where breast development is deficient and particularly where ovarian dysfunction is also present, the condition tends to persist and develop into adenosis (Schimmelbusch's disease). In adenosis the whole tissue of the breast becomes involved and the organ feels nodular, granular and fibrous. Histologically multiple small cysts are present, filled in places with solid plugs of proliferated epithelium. Epithelial over growth also invades the inter-acinous stroma in short solid processes. The regular acinar outlines are obscured and the appearance suggests a pre-cancerous condition.

In recent studies of the pathology of chronic mastitis of this type a considerable degree of alternative nomenclature has developed. The original papers of Reclus (1883) and Schimmelbusch (1892) do not seem to have attracted much attention when published; but a fashion developed on the Continent where *Maladie de Reclus* or *Schimmelbusch's disease* were used as general terms for chronic mastitis, although both authors have described the cystic variety. Bloodgood described this disease as 'diffuse non-capsulated cystic adenomatous type of chronic mastitis.' Semb called it a 'micro-cystic form of fibro-adenomatosis.' Cheate and Cutler shortened the description to 'epithelial neoplasia' while Lewis and Geschickter abbreviated the term to 'adenosis.' Clinically the condition appears as multiple nodules in one or both breasts. The patient is about 40 years of age, usually childless, with poor breast development. Pain and tenderness are complained of as in mastodynia. The breasts feel dense and fibrous and the nodules vary in size and tenderness. The axillary glands may be enlarged.

**Cystic disease.** The third clinical and pathological variety of chronic mastitis is cystic disease. Described originally by Astley Cooper (1831) the condition was popularised by Bloodgood in the early years of this century. Cystic disease is a late manifestation of chronic mastitis. The patient, usually above 45 years of age, may give a history of past trouble in one or both breasts. A minor injury may direct her attention to the condition. The cyst is usually single and deep in the breast tissue but multiple cysts are not uncommon, grow fairly rapidly, the cysts reach an average diameter of 2-3 cm. A portion of the wall usually projects forward in the breast tissue. This may reach the breast surface and show some degree of translucency (Bloodgood's blue-dome Cyst). Fluctuation may be difficult to elicit where fibrosed mammary tissue surrounds the cyst. The patient complains of the presence of a tumour and usually of some pain or discomfort. A 'spot' diagnosis of carcinoma is too often made and acted on in these cases. Accurate diagnosis is impossible in many cases without a proof puncture of the cyst. This safe and painless procedure is very essential in any breast tumour where diagnosis is in doubt. There is no intracystic proliferation of epithelium in these cases. The axillary glands may be palpable and hard. Generally the changes in chronic mastitis are most often seen in the upper and outer quadrant of the breast, and seldom do they produce any notable deformity in the organ.

**Treatment of inflammatory conditions.**—In simple mastodynia the patient needs reassurance that there is nothing seriously wrong. A well-fitting brassiere should be worn and small doses of dried thyroid may be tried in a series of three or four weeks courses with a short interval between. Massage has been advocated and gives a proportion of good results. Theoretically, corpus luteum hormone should give the best results, but it has so far proved rather uncertain in its action. In view of the fact that many cases clear up spontaneously the therapeutic value of plasters, massage, etc., is difficult to assess accurately. It has been found that these cases are not more liable to develop carcinoma than the average female of that age.

In adenosis some spontaneous retrogression of symptoms and signs may occur, but rarely is there a restoration to normal, relapse being the rule. These cases have an increased liability to develop cancer later in life. The risk is given as six times that of the normal female population. Victor Bonney pointed out that those cases are particularly liable to tumour when enlargement of the axillary glands is a definite clinical feature. In view of this risk and the later age at which the condition is usually seen, radical measures need to be considered when conservative measures fail.

In some cases, ovarian dysfunction is evident in the clinical picture and in these hormone therapy may be tried with some degree of success. The apparent excess of oestrogenic stimulus is most commonly due to a marked deficiency in the corpus luteum hormone, rather than an absolute excess of oestrogenic element. Moderate doses of corpus luteum hormone combined with dried thyroid should be tried at first with general measures to deal with the usual secondary anaemia and loss of weight. Deep x-ray therapy has been tried, but this has proved uncertain and even dangerous. When any doubt exists as to the nature of the nodular masses in the breast, histological investigation of a small wedge of tissue should be undertaken. When any question of early malignancy is suggested by the pathology a local removal of the breast should be carried out.

The treatment of cystic disease rests largely on accuracy of diagnosis. If puncture is carried out, several cc. of slightly turbid brownish fluid are drawn off. The 'tumour' disappears completely and the patient should be invited to verify the fact. In order to prevent the cyst refilling its inner wall may be lightly scarified by the exploring needle or some sclerosing fluid may be introduced. (2 c.c. of 40% sodium salicylate in 10% sodium chloride is quite useful.) After the puncture, the breast is firmly supported for at least two days. In the majority of cases, especially where the cyst is large and the breast feels fairly normal, the swelling does not recur. If further cysts develop, a local incision of the cyst and surrounding breast tissue should be carried out. If pathological examination shows atypical epithelial activity, a local removal of the breast is indicated. Local mastectomy has become a very popular form of treatment in the United States during the past twenty years for all cases of persistent adenofibrosis of the breast. In many cases it would appeal to us as unduly enthusiastic. The female dread of carcinoma is apparently more developed in the eastern half of the United States and the surgeons are correspondingly radical.

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#### Tumours of the Breast.

Breast tumours may be classified as simple, doubtful and malignant. Cysts are usually considered with the tumours. Of simple tumours, fibroadenoma is by far the most common. Fibroma, lipoma, angioma and myoma are so rare that they need hardly be considered.

*Fibroadenoma* is a very common tumour of varying type and biology. It is seen in late adolescence as a small, very mobile, and elastic tumour which may be multiple and bilateral. Situated peripherally on the breast surface, it is the easiest of all tumours to diagnose. Later in life, in the middle thirties, a nearly pure adenoma is met with deep in the breast tissue. This growth is single and induces a considerable fibrous capsulation on the part of the breast. It rarely causes pain and when the lump is discovered, a diagnosis of carcinoma is often made. Some slight retraction of the nipple may occur which suggests malignancy in the tumour. It is often impossible to arrive at an accurate diagnosis without an exploratory incision and biopsy. The most impressive of the adenoma series is the rare cystadenoma. Occurring about the age of 45, usually in women who give a more or less definite history of a surgically neglected lump in late adolescence, this tumour has an alarmingly rapid growth and usually causes necrosis of the overlying skin. The ulcerated area with abundant blood-stained discharge and a few frouds of tumour projecting from its depth lead to an early deterioration in the patient's general health and much worry for herself and her relatives. The condition, however is simple and can be dealt with effectively by a local mastectomy. A rare complication of fibroadenoma is a dramatic growth which may occur during the early months of a first pregnancy. The tumour may not previously have been noted and the increase from an unobtrusive nodule to a lump of 10-15 cm. in diameter in 3-4 weeks frequently causes a panic which may communicate itself to the surgeon and lead to a radical mastectomy, which often precipitates a termination of the pregnancy. Although rather vascular, the tumour shells out easily and should not be allowed to alarm the patient.

*Duct papilloma.*—In the 'doubtful' class of breast tumour duct papilloma is the only common example. The others (endothelioma, etc.) merely provide interesting material for pathological argument and are never diagnosed before removal. Duct papilloma is interesting because the diagnosis may rest almost entirely on the patient's observation and also because it is one of the few known pre-cancerous conditions.

The patient is usually over 40 and gives no history of previous breast trouble, and no symptoms of present breast trouble. The only complaint is of discharge from the nipple. The discharge is infrequent, small in amount, watery and of brownish or reddish colour. The discharge is unexpected and stains a limited area of the patient's clothing. These patients rarely consult a doctor about the first discharge but when the process repeats itself once or twice at intervals of six weeks or so they seek medical advice. Only rarely can the duct papilloma be palpated, but one segment of breast may feel a little more granular than the rest. In the circumstances, it is difficult to persuade the patient that a local mastec-

omy is indicated; her general health has not suffered and she resents the suggestion of a major surgical operation for an apparently trivial trouble. Operation must be urged, because duct carcinoma almost invariably follows neglect of treatment. There may also be more than one papilloma in the breast. The prognosis is good, even when histological examination suggests that an early duct cancer has supervened.

*Carcinoma.* All carcinomas of the breast must originate as adeno-carcinoma, but the vast majority assume the well-known spheroidal celled type early in their biological development. Adeno-carcinoma produces a larger tumour mass and maintains an acinous structure throughout its growth and metastases. Duct carcinoma probably originates from undetected duct papilloma, but this is open to question. Colloid carcinoma is rather rare and is usually seen as a partially capsulated growth, although acute cases have been reported. Bulky anaplastic carcinomas are occasionally met with when the diagnosis of sarcoma is usually made and histology is needed to prove the nature of the tumour. As elsewhere, silent pathology is the main enemy of early diagnosis. It has been calculated (Lane-Clayton, 1926) that a carcinoma is present in the breast for at least five months before the earliest clinical signs may be observed. As regards etiology we are largely ignorant. Industrial authorities admit a small number of cases as due to trauma producing initially a deep bruise or fat necrosis. Carcinoma in a lactating breast might be considered in this category. Spheroidal celled carcinoma has widely different clinical manifestations which appear to depend almost exclusively on the reaction of the host to tumour development rather than any intrinsic variation in the virulence of the growth. Acute carcinoma, carcinoma simplex and scirrhus carcinoma represent the three main types. In acute carcinoma the whole breast is involved and the tumour consists of solid masses of carcinoma invading the stroma of the breast. No fibrous or lymphocytic reaction is seen. In carcinoma simplex there is a definite tumour of dense consistence and indefinite margin. Histology shows a roughly equal distribution of carcinoma and reactive fibrous tissue. Marked lymphocytic reaction is evident around the growth. In scirrhus carcinoma the breast is deformed by excessive fibrosis. Embedded in the fibrous tissue are scattered collections of crushed and degenerate tumour cells. Attempts have been made in the past to assess prognosis by rather elaborate clinical and histological investigations. The only clinical facts of absolute value in prognosis are the age of the patient and the involvement of the axillary glands. There is no exception to the rule that the younger the patient the worse the prognosis. Similarly, involvement of the axillary glands reduces the prospect of 'cure' by 40%. Histologically, Border's grading has proved of great value. The statistical prospects of cure recede rapidly with the spread of the disease from the primary focus.

In assessing the degree of spread a careful x-ray investigation of the vertebral column in the thoracic and lumbar regions if necessary. Spread by the external lymphatic channels may occur quite early in the clinical course of the tumour and secondary deposits may be determined in bone, chest and abdomen even



when the primary tumour suggests a fairly circumscribed condition. Anaemia of secondary type in these patients always suggests a distant spread of carcinoma. There is considerable diversity of opinion as to the most effective treatment of breast carcinoma. This concerns chiefly the fairly advanced cases which at present constitute the great majority of patients. In early cases, when diagnosis can be made definite only by histological examination, a radical mastectomy is sufficient. Few surgeons advise post-operative irradiation in such cases. In patients where involvement of the axillary glands is obvious, various procedures have been advocated. A sweeping radical mastectomy involving, if necessary, ligation of the subclavian vein has been carried out by many surgeons. Post-operative irradiation of the chest and axillary region is recommended by some and condemned by others. Local mastectomy with early post-operative irradiation of the axillary deposits and chest wall is favoured chiefly by radiotherapists. In late cases a local removal of the breast will save the patient from the distress caused by a large fungating malignant ulcer and subsequent irradiation may mitigate the pain and delay the growth of the metastatic deposits. In bone involvement deep x-ray therapy can alleviate the pain for quite long periods, sometimes for years. Some radium enthusiasts would treat all cases with radium applied to the original growth and the axillary deposits. If the scheme outlined a few years ago by the radiotherapists is adopted, all cases of tumour will be examined and considered in a central clinic by radiotherapists and the line of treatment decided upon. This procedure would certainly make for uniformity in treatment and its results could be judged by the Registrar General's returns of deaths from breast carcinoma. So far, no procedure seems to have influenced these returns to any notable extent, in spite of the cheering figures of 'cures' produced by many optimistic authorities. As the solution of the cancer problem comes very near to the solution of the problem of life itself, it is not surprising that surgeons are generally depressed by an extensive experience of breast carcinoma. The depression is not notably lifted when they contemplate some of the results of radiotherapy.

**Carcinoma in the male breast.** Carcinoma in the male breast constitutes about 1% of all breast cancers. The treatment and prognosis is based on the same principles as in the female breast. Anaplastic carcinoma, sarcoma and mixed tumours are very rare. They develop as bulky tumours, over which the skin frequently gives way at a number of places. The deterioration of the patient's general health is rapid and the prognosis bad. A few of the anaplastic cancers have proved very sensitive to radiotherapy, so post-operative radiation is worth a trial.

#### Cysts of the Breast.

Apart from those tumours where cystic degeneration normally occurs, a variety of cysts may be met with in the breast. Small dermoid and sebaceous cysts are found below the areolar area. They seldom exceed 1 cm. in diameter and are obvious and easily dealt with. Deeper in the breast, serous cysts may cause some difficulty in diagnosis. They are tense and may be mistaken for fibroadenoma. Galactocoele may be easy or difficult to diagnose,

depending on how soon the condition is observed after nursing has ceased. In some cases it may be many months after lactation, and a differential diagnosis problem may present itself. Chronic abscess, fat necrosis or carcinoma may be suspected. Puncture biopsy may be required to settle the diagnosis. A hydatid cyst is occasionally met with in the breast.

#### Penicillin in Tuberculous Infections

R. GRENVILLE-MATHERS, M.A., M.B. (Cantab), F.R.F.P.S.G. *Reproduced from Glasgow Medical Journal with due acknowledgements.*

Great disappointment was felt when early *in vitro* experiments showed penicillin to be inactive against the tubercle bacillus. However, since then penicillin has been shown to have an action in disease where *in vitro* experiments suggested it was useless (Bulmer, 1945; Hargreaves, 1945). In consequence isolated experiments with penicillin in tuberculous infections are reported.

**Case 1.** Male aged 42. This case had a left artificial pneumothorax of 3 years' duration. Following a bump in a train he developed a valvular tension pneumothorax on the same side as his A.P. Following this an effusion appeared in which tubercle bacilli were demonstrable on direct smear and from which a coagulase positive staphylococcus aureus penicillin sensitive, was cultured. Temperature range 98° to 101°F. He was treated by aspiration and the intrapleural injection of 50,000 units of penicillin on alternate days for 7 administrations. The temperature returned to normal following the second injection. After the seventh dose of penicillin culture of the fluid was sterile and tubercle bacilli were absent both on examination of direct smear and in cultures. Following this the remaining fluid was absorbed. Four months bed rest followed during which time the lung expanded. The patient is now working all day.

**Case 2.** Male aged 27. A case of bilateral pulmonary tuberculosis with poor resistance who developed a spontaneous valvular tension pneumothorax on the right side followed by the development of a tuberculous empyema. This was secondarily infected with a coagulase positive staphylococcus aureus, which was penicillin sensitive. This case was given penicillin in the same manner and dosage as Case 1, and after five applications the fluid became sterile. Cultures and smears for tubercle bacilli also became negative. Unfortunately the left lung became progressively worse and the patient eventually died.

**Case 3.** A girl aged 16 with acute bilateral pulmonary tuberculosis. General condition fair. Temperature range 98.4° to 101° F. Pulse 80 to 112. E. S. R. (Westgren) 41 mm. in 1-hour. Weight steadily decreasing. X-ray; Right—fine mottling in all zones with a cavity in middle zone; Left—fine mottling in all zone. The shadows had the appearance of fine, widely distributed lesions which appeared to be of haematogenous origin. Such lesions would be expected to react most readily to a chemotherapeutic agent. The effect of penicillin was tried when efforts to obtain streptomycin failed.

Two hundred thousand units were given daily, divided into three-hourly doses administered intramuscularly. At the end of one week the appetite had improved and the patient looked much better. The penicillin was continued for a second week. No effect on the temperature and pulse occurred and serial skiagrams showed the lung condition to be progressing. A few weeks later the patient died.

#### Conclusions.

In two cases of tuberculous empyema, secondarily infected with a staphylococcus and treated with penicillin, not only was the secondary infection abolished but the fluid also became negative for tubercle bacilli both in smears and cultures. Effusions in such cases do not normally become negative for tubercle bacilli and it was presumed that the high concentration of penicillin maintained in the pleural cavity was responsible for this change. However no such effect was noted on a case of pulmonary tuberculosis treated with a high dosage of penicillin for two weeks and so the elimination of the tubercle bacillus from the empyema fluid may have been occasioned by the coincidental necrotising effect of the associated coccal organisms.

#### BOOK REVIEWS

**Case studies in the Psychopathology of Crime—A Reference Source for Research in Criminal Material Vol. 2.** By Ben Karpman, M. D., Senior Medical Officer and Psychotherapist, St. Elizabeth's Hospital, Washington, D. C. Published by Medical Science Press, Station L., Washington, D. C.

The first volume presented histories of individuals charged mainly with predatory crimes. The second volume, now under review, presents detailed history of cases directly involving sexual crimes. The Publishers have planned to issue a third volume dealing exclusively with murder cases. The purpose of publication of these volumes is that they should serve as a reference source for research in criminal material. If the view that criminality is a particular form of psychic disease manifesting itself in abnormal social behaviour and that it is curable by psychic means, is correct—we have no doubt it is—there is no doubt that Dr. Karpman has rendered a signal service to mankind by undertaking to write, in closest detail, the case histories of well-known criminals of America. His is a monumental work with a high purpose. The legal and the medical practitioners are bound to find these volumes very useful and instructive. They will find ample material therein to find out the fundamental causes of abnormal social behaviour in certain individuals.

The present volume gives the history of four criminals:

- (1) The case of Walter Manson—Theft of the United States Mail, and his drug addiction.

- (2) The case of Atinkson Cleary—Violation of the Mann Act.
- (3) The case of Kenneth Elton—Rape.
- (4) The case of Jerrey Biggs—Mail Train Robbery.

The author has adhered, as closely as possible, to the original language of the criminal-patients themselves, correcting only its mistakes of grammar, spelling etc.

We repeat again that this is a monumental work of great practical value and utility to legal and medical practitioners of this country, as elsewhere, who have to deal with criminal clients or patients in their daily practice, and to those who are engaged in research in human psychology and psychiatry. We heartily and warmly recommend the book to them.

**The Chemistry of Anaesthesia,** By John Adriani M. D. Blackwell Scientific Publications Ltd., Oxford, 1947. Price 35/- net. Copies can be had in India from Messrs. Macmillan & Co., Ltd., Hornby Road, Bombay, or Bowbazar Street, Calcutta; or Pateello Road, Mount Road P.O., Madras.

Chemistry is playing a significant role in Modern Medicine, particularly in Anaesthesiology. The author of the book under review has therefore done well in recording his observations and the result of his research under the suitable caption of 'Chemistry in Anaesthesia.' He has divided the book in three parts:

- (1) Inorganic Chemistry related to anaesthesia, such as the physical behaviour of gases, clinical application of the physical law of gases, etc.
- (2) Organic Chemistry related to Anaesthesia, such as the chemical nature of anaesthetic gases, local anaesthetic drugs, etc.
- (3) Biochemistry related to anaesthesia such as effects of anaesthesia; local and general, or body fluids, liver, kidneys etc.

We are quite confident that anaesthetists will greatly appreciate this book and be benefitted by it. It is illustrated and its set up is excellent. We recommend this book to the practising anaesthetists of our country.

**Researches on Pre-Natal Life,** By Sir Joseph Barcroft, Blackwell Scientific Publications, Oxford Price 37/6 net. Copies can be had from Messrs. Macmillan & Co., Ltd., Bombay, Calcutta or Madras.

The author in his short but effective and eloquent preface writes: "The book purports to deal primarily with researches in which I have had a hand myself and the work of my colleagues (Italics ours). The general aim is to trace the development of function in the mammalian foetus, never losing sight of

the fact that one day the call will come and the foetus will be born. Not only has the foetus to develop a fundamental life which will suffice for intra-uterine conditions, but at the same time it has to develop an economy which will withstand the shock of birth, and will suffice, nay more than suffice for its new environment". Those who go through this book are bound to endorse this claim warmly and to feel that Sir Joseph has shown light in places where darkness prevailed and kindled an abiding interest in the much neglected field of mid-wifery, namely, Pre-natal Life. The book is well and profusely illustrated and its set up is highly attractive—just typical of Blackwell Scientific Publications. We warmly recommend this book to the obstetricians of our country, particularly in view of the fact that very little work is done on "Pre-natal life" in our country.

The Indian Journal of Radiology, Vol. I No. 1. Published at Madras by the Indian Radiological Association, and edited by Drs. P. Rama Rau and K. M. Pai, Annual Subscription Rs. 12 per annum.

We warmly welcome this first Indian Journal of Radiology, a needed addition to the special journals of our country, such as the Indian Journal of Surgery (Madras), of Paediatrics (Calcutta), of Venereal Diseases (Bombay) of Ophthalmology (Poona) etc. The present editors are masters in the subject of Radiology and if the profession of Radiology helps them by reliable and useful contributions, we have no doubt that they would make the Indian Journal of Radiology one of the best and foremost of its kind. This journal has a great future and a great role to play in as much as the Science of Radiology interpenetrates all branches of Medicine and Surgery, even Public Health as exemplified in the usefulness of mass radiology to detect early tuberculous infection and thus to initiate the necessary public health measures.

In the maiden editorial, the Editors write that they hope to make this journal fulfil the ideals of efficiency, progress, organisation and unity in the science of radiology and in the ranks of radiologists of our country. This hope is fully justified by the splendid contents of its first number.

We have only one comment to make, and that is on the half-tone illustrations published in the copy under reference. They show very poor re-production which may probably be due to defective processing of the block or to defective printing machine, or both. As the journal of Radiology, unlike other journals, depend for its success upon suitable and striking illustrations, we hope the editors will devote some attention to this aspect of their publication.

## ASSOCIATION NOTES

[In future, the proceedings of the Branch Meetings should be sent to the General Secretary only, who would edit the same and send them for publication in the Journal, bearing his serial number according to the date of receipt. Ed.]

(1) Report of the Annual Meeting of the Rajshahi Branch Bengal:—Meeting held on 15-1-1947. The Secretary read the Annual report. It was discussed and adopted unanimously.

The following were elected as office bearers for 1946-47.

President:—Dr. M. O. Lahiri.

Secretary:—Dr. G. K. Maitray.

(2) Rohtak Branch:—A meeting of this branch was held on 8-12-46. All members of the branch were present. Resolutions protesting against the non-payment of the salaries of the staff officers of the Medical Department of the District Board Rohtak, demanding new grades for the rural medical officers on the lines sanctioned by the Punjab Government were passed unanimously. The meeting also viewed with alarm the proposed strike in the dispensaries of the District Board and requested the Chairman of the Board to meet the legitimate demands of the employees and avert the strike. After an appeal for membership was made by Dr. B. D. Malhan the meeting was terminated.

(3) Tinsukia Branch:—A monthly meeting of this Branch was held on 2-2-1947. 15 members attended the meeting. The meeting discussed the report submitted by the Secretary regarding the pay scale of the Tea Garden Indian Medical Officers and resolved that in view of the fact as stated below the time scale pay of the said doctors be as follows:

|           |     |                 |     |           |
|-----------|-----|-----------------|-----|-----------|
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| " 300/-   | ... | " 15/-          | ... | " 400/-   |

and further resolved that a compensatory allowance in lieu of the private practice be sanctioned at Rs. 50/- to Rs. 75/- per mensem according to the seniority of service. The reasons for the above scale of pay is summarised as follows:—

Since the Tea Garden Medical Officers are made responsible for

(1) Maternity and Child welfare work.

(2) Sanitation.

(3) Antimalaria.

(4) Help in general administration of the gardens and where the garden M. Os. are in mostly out of the places without facilities, cut off from society, and whereas the Tea Garden M. Os. are deprived of the advantages which are given to the European Assistant Managers as better housing, more servants free electricity free fuel, room heaters, conveyance allowance, medical benefit, children education allowance leave passage etc. and in view of the fact that the M. O. is placed in a very responsible post giving his service 24 hours day and night.

(3) It is further resolved that the Tea Garden Indian M. Os. be sanctioned yearly privilege leave for one month and casual leave for 15 days as enjoyed by other medical officers of the Government and Railway department.



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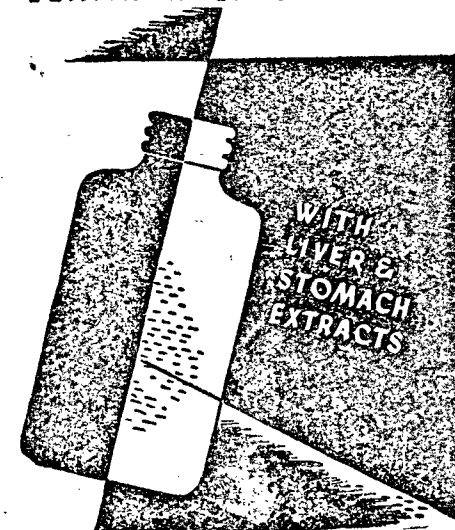
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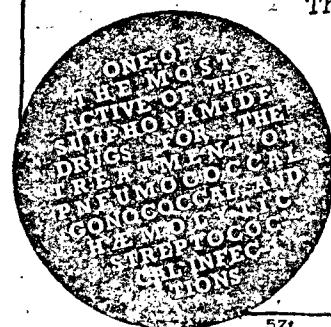


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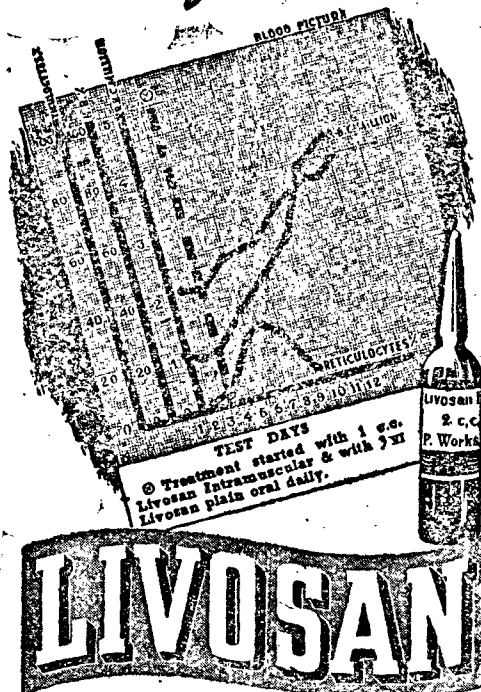
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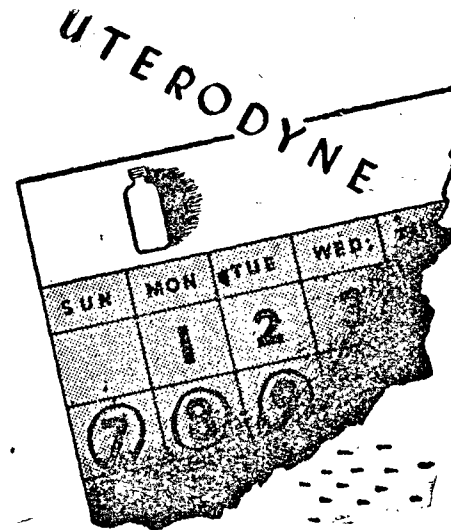
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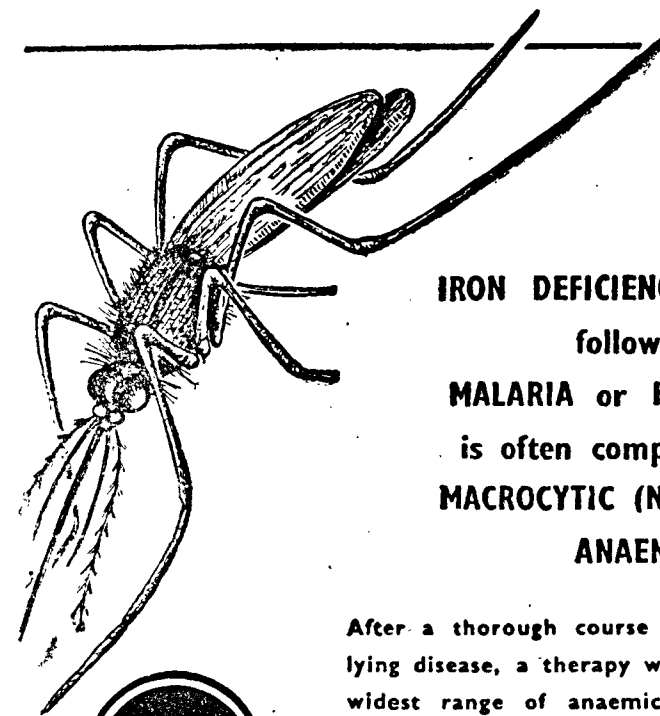
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# INDIAN MEDICAL JOURNAL



(Journal of the All-India Medical Licentiates' Association with which the Agra Medical Club Journal is incorporated)

Vol. 41, No. 5  
May 15, 1947

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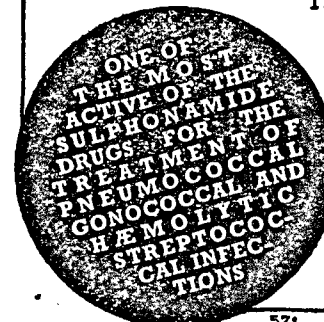
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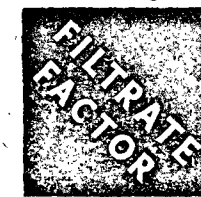
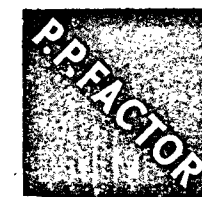
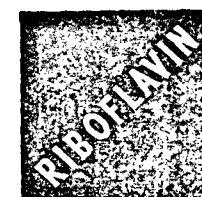
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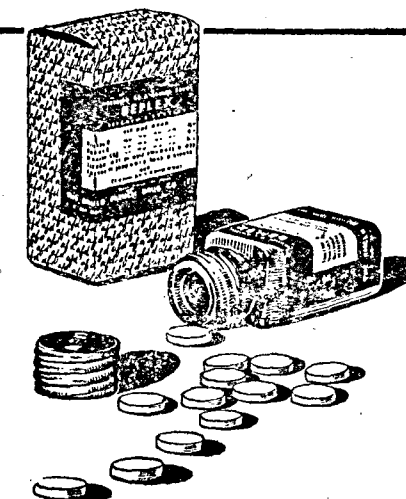
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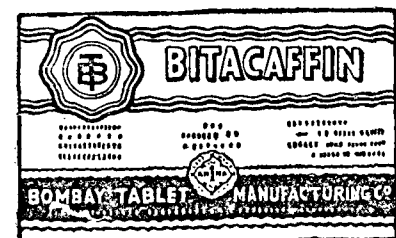
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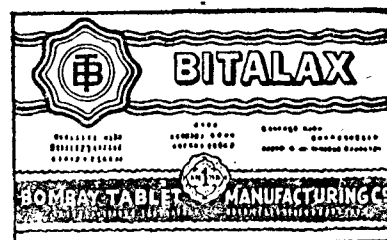
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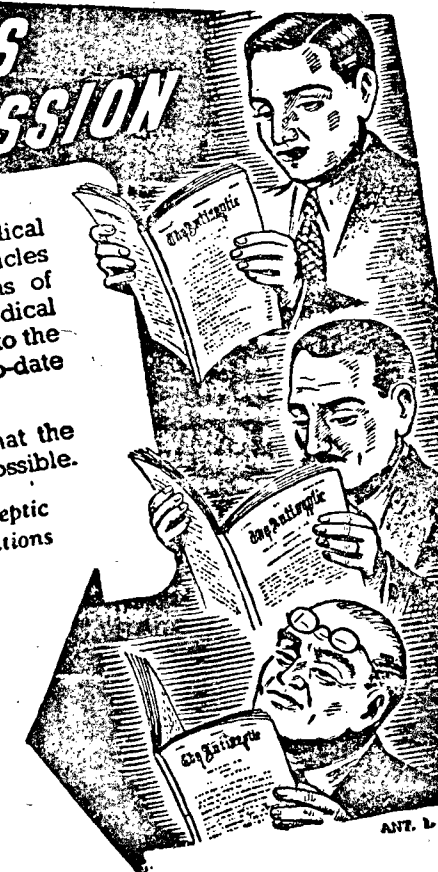
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## Indian Medical Journal

(Journal of the All-India Medical Licentiates' Association)

Vol. 41. Madras: May 15, 1947. No. 5

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### OUR MONTHLY SURVEY

Advances in Medicine During 1946:—We list  
below the more important advances in Medicine which  
were reported during 1946 in medical journals in  
India and abroad.

(1) Folic acid in the treatment of sprue and  
macrocytic anaemia.

(2) Radio-active phosphorus in the treatment of  
polycythemia vera.

(3) The discovery of penicillin gave a general  
impetus to the study of antibiotic substances from  
leaves and other parts of plants.

(4) Treatment of leprosy has been tried with  
Promin, Diasone and Streptomycin; but the results  
have not been evaluated so far.

(5) Treatment of cholera has been advanced by  
the use of sulfonamides and penicillin in conjunction  
with saline and blood plasma.

(6) Synthetic antimalarial drugs like Chloroquin,  
Oxy-chloroquin and Paludrine. They are still in the  
stage of trial.

#### Obstetrics and Gynecology

(1) Penicillin either displaced or was used to  
augment sulfa-derivatives in the treatment of puru-  
peral infections.

(2) The effectiveness of follicular hormone with  
progesterone in the treatment of threatened and  
habitual abortion has been confirmed.

(3) The use of vaginal insufflation during preg-  
nancy is condemned as it may give rise to air embo-  
lism.

(4) Powdered human milk has been successfully  
prepared and used in Sweden for infant feeding. The

process for preparation is similar to that of preparing  
powdered cow's milk.

#### Surgery

(1) Chemotherapy in Surgery has received further  
study and excellent reports on the use of sulfonamides,  
penicillin, streptomycin and tyrothrycin have been  
published.

(2) Early ambulation has been emphasised in the  
prevention of thrombosis and embolism.

The Road which leads to Castle of Success  
in Clinical Investigation:—Dr. Fuller Albright, in  
his address to the American Society of Clinical  
Investigation, outlines the qualities necessary for a  
clinical investigator. He says:

"I think of a clinical investigator as one trying to ride two  
horses—attempting to be an investigator and a clinician at  
one and the same time. Experience has shown  
that it is a very fruitful pastime. In the first place the  
ultimate goal of most investigation is to find something of  
benefit to the human race. Secondly nature has  
arranged an experiment in a sick individual and partly  
completed it. All that is needed are the eyes of the clini-  
cian to make certain observations and back-ground of the  
investigator to plan other observations and interpret them."

He has, from his experience, made certain recom-  
mendations in the form of "Do's" and certain  
practices to be avoided in the form of "Do-not's."

"Do" No. 1: Do be born with good intellect,  
not necessarily the best of intellect.

"Do-not" No. 1: Do not have more mind  
than matter.

"Do" No. 2: Do develop an inquisitive mind.

"Do-not" No. 2: Do not be too ambitious.

"Do" No. 3: Do be ambitious—Clinical inves-  
tigation requires sweat if not blood and tears.

"Do" No. 4: Do have that something called  
originality.

"Do" No. 5: Do obtain a backing, financial  
and other-wise.

"Do" No. 6: Do look at your problem from  
all points of view.

"Do-not" No. 3: Do not jump at the first  
problem which presents itself.

"Do-not" No. 4: Do not be a lone-wolf  
investigator but seek the advice and help of your  
colleagues.

"Do-not" No. 5: Do not be secretive.

"Do-not" No. 6: Do not be fooled by figures.

"Do" No. 7: Do arrange your data in chart  
form where possible.

"Do" No. 8: Do develop a theory and try to  
correlate your work with the sum total of human  
knowledge.

"Do-not" No. 7: Do not be a slave to your  
theory.

"Do-not" No. 8: Do not yield to the pressure  
to produce papers or reports.

"Do-not" No. 9: Do not become a professor  
of Medicine or Head of a department!



"Do" No. 9: Try to reserve sometime when you can do some unadulterated thinking.

He concludes:

"Well you do the 'do's' and you do not do the 'do-not's'—you arrive at the door of Castle of Success. You still need the key to open the door. The key stands for personal equation. 'But personality does not count in pure science' you may say. 'But clinical investigation is not a pure science'."

\* \* \*

#### Medical Officers in the Tea Estates of Assam:

We understand that these Medical Officers are denied even the elementary privileges of service, such as, casual and privilege leave, regulated hours of work and housing accommodation. This is apart from the meagre pay they are given—a pay which is much less than what the postal peons are getting to day. Other classes of employees in the Estates seem to be a little better off than the educated employees like Medical Officers. This is indeed an intolerable position, and it is time that Congress Government in Assam should look into this matter and remedy the grievances of these unfortunate Medical Officers. The Assam Branch of the A.I.M.L.A. should not keep the matter lying down, but interfere actively and see that justice is done to them. If it fails in securing reasonable terms of employment, it must ask all the Estate Medical Officers to resign and prevent others from accepting the vacant places. Then only the Estate Owners—the white and the brown capitalists—would open their eyes and do something that is reasonable.

#### ADDRESSES AND ARTICLES

### Acute Diarrhoea among infants during\* summer months at Jamshedpur and Suburbs.

BY

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An epidemic of acute type of diarrhoea breaks out at Jamshedpur every summer and takes a heavy toll of infant life. It begins usually during the later part of the summer months and continues throughout the rainy season. The victims are mostly infants between the age of 6 months to 2 years, death rate being highest in infants below one year of age. The disease is more common among the poorer class, due to their insanitary living and ignorance of hygienic principles. The incidence is higher among the bottle fed babies than among the breast fed.

The greater susceptibility of the infants below two years of age can be explained by the fact that the intestinal epithelium of the infants are devoid of the well developed protective mechanism that protects the adults from the infective elements and dietary indiscretions. Moreover the infantile system comparatively lacks in immune bodies to ward off the invasion of germs.

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Clinically we come across three types of cases:

1. Simple
2. Severe diarrhoeic
3. Dysenteric.

#### Simple Type.

**Cause:**—The underlying factor in this type of diarrhoea is the mechanical irritation of the intestinal tract by partially digested or undigested milk or other food elements. Accidental eating of harmful food stuffs by infants also accounts for a number of cases.

In summer months the vitality of the infants is depressed by the oppressing heat (which sometimes goes as high as 118°F at Jamshedpur). The digestive juices secreted are deficient both in quantity and quality and hence the digestive functions are below par. But unfortunately more load is placed on this weak digestive system by over-feeding the infants by ignorant mothers, who are under the impression that the more they feed the baby the better it shall thrive. Moreover in summer months, the babies' cry for thirst is often mistaken for cry of hunger and consequence is over feeding again. Normally, the hydrochloric acid-pepsin and renin work on the proteins in the stomach and break them down up to the stage of peptone. The peptone is acted on further in alkali medium by the trypsin of the pancreatic juice and erepsin of the succus entericus, and broken down to aminoacids for absorption. The fat of the milk is acted to some extent by the gastric lipase, but the main digestion of the fat takes place in the small intestine, where the pancreatic lipase plays the main role in breaking down the fats to fatty acids and glycerol.

The carbohydrate are tackled by the ptylin of saliva, amylase of pancreatic juice and the invertase, lactase and maltase of succus entericus.

It is to be noted that the small intestine cannot cope with the food (especially the proteins) which have not undergone the preliminary breakdown process by the gastric enzymes, and such undigested food acts as irritating foreign matter and causes hurried peristalsis in the intestine. What happens inside the intestines is not exactly known but it is assumed that fermentation and indigestion are the chief factors.

**Signs and Symptoms:**—The abdomen is full and distended. There is foul smelling eructation and passage of foul flatus, vomiting of undigested milk with thick curds and passage of strong acid smelling loose motions of dull milky or pale yellow colour, full of fine and large curds. The motions are expelled with force. Later the stools become green or pale yellowish in colour and of a very sticky or ropy consistency. They spread out like strings on separating the folds of the soiled linen. This type of diarrhoea usually runs an afebrile course. The infant suffers from moderate amount of thirst and some degree of anuria is present.

**Treatment:**—The object of treatment is

1. Elimination of the irritants.
2. Rest to the digestive system.
3. Prevention of any bacterial growth in the intestine.

At the onset of treatment a dose of pure castor oil ( $\frac{1}{2}$  drachm for every six months of age) is given to eliminate the offending undigested food matter. This is to be followed by castor oil emulsion (Castor oil m. 5 per dose T.D.S.) till the mucus in the stool disappears. If nausea is marked, calomel in fractional doses with a little chloretone and menthol (3 to 4 doses every  $\frac{1}{2}$  hour calomel  $\frac{1}{2}$  gr. menthol 1/12 gr. sodibicarb 1 gr) has proved useful.

All food is stopped for 12 to 24 hours. The infant is given plenty of water (boiled and cooled) to drink. A little common salt and fresh lemon juice can be added with advantage. This helps the baby not only by quenching its thirst but also assist cleansing the stomach by encouraging vomiting or washing down. It also keeps the efficiency of circulation by checking dehydration and promoting the kidney output, thus draining the toxic products. Lastly the Vitamin C content of lemon juice checks the bacterial growth and prevents damage to the intestinal mucosa. The sodium chloride helps to meet the chloride lost by vomiting and purging. It should be noted that a baby needs 2½ ozs. of fluid per pound of body weight in 24 hours plus extra 10 oz in 24 hours for dehydration. Hartmann's solution (Ringer Lactatis) can be used with advantage to meet the dehydration. More detailed account of its use is mentioned later. Sulphonamides can also be administered to check bacterial growth.

**Diet:**—As already indicated no food is given for the first 12 hours. Food should be withheld longer if no improvement is noticed within this period. Nourishment can be maintained by injection of 12½ percent of glucose solution in 5 to 10 c.c. doses with equal part of normal saline. This can be repeated if necessary. Administration of glucose in this way has the extra advantage of combating acidosis. With this regime it is possible to tide a baby over 24 hours. At the end of this period feeding should commence. Glucose 2½ per cent solution with lemon juice, albumin water or whey can be given alternately. Milk diets should be resumed with further progress of the case. Breast fed babies should be put to the breast twice in the first 24 hours and oftener later. Artificially fed babies should be given either malted milk, butter milk (freshly prepared butter milk) or commercial preparations such as lacidac separated or Eledon, skimmed milk or equal parts of milk and barley water alternatively with glucose solution. The number of milk feeds should be increased gradually with the progress of the case. It should be mentioned here that the feeds should be of as diverse a nature as possible. This frequent change in diet has a deleterious action on the growth of bacteria in the intestine.

#### Severe Type.

This is a more severe form of gastro-intestinal disorder, fortunately less frequent in Jamshedpur. The simple diarrhoeic type may roll on to the severe type with the invasion of already devitalised intestine by bacteria. Sometime the bacterial infection may be the chief factor from the very onset.

Ingestion of stale decomposed or contaminated milk, the use of unclean feeding bottles were noted to be root cause of a large majority of cases. Mothers keep filled milk bottles with them and feed the babies

during the night hours whenever they cry. Milk, thus stored up easily gets bad especially during the summer month and the babies fed on this stale milk naturally suffer. It should be noted that milk is a very good culture medium for bacteria and the toxins produced by their growth, are not destroyed by heat, though the bacteria themselves can be killed by it.

The increase in number of flies and amount of dust, rapid multiplication and increased virulence of bacteria in warm weather provides the artificially fed babies more risk of infection through milk. Moreover the diminished vitamin content in cow's milk during the summer months (due to lack of precursor substances and the vitamins in the dry fodder) results in diminished resistance to bacterial invasion to the babies fed on cows milk.

The caustive organisms are generally found to be dysentery group of bacilli, sometimes streptococci and staphylococci, while nothing more than the normal bacterial flora of the intestine could be identified at times.

**Signs and Symptoms:**—The symptoms appear abruptly, soon after the ingestion of contaminated food. Diarrhoea is accompanied by nausea and vomiting of a continuous type. The vomitus contains slimy matter and frothy water. Sometimes it is bile stained. There is colicky pain (as evidenced by the sharp cries) restlessness, intense thirst, profound prostration, high temperature, rapid pulse and furred tongue. Broad motions follow one another in quick succession. The stool is at first of a pale yellow or greenish colour, later it becomes almost colourless but contains offensive smelling glazy soft curds. The stool is of an offensive odour throughout the course. Later on as dehydration advances, the stool becomes mucoid and sometimes blood tinged. At this stage, the patient's features get shrunken and all the signs of severe collapse become evident. Thirst is greatly intensified and there is anuria, restlessness and sleeplessness.

**Treatment:** The object of treatment is

1. Elimination of the irritants
2. Combating nervous irritability
3. Maintenance of vital functions.

In milder cases, the treatment is carried on in the same line as simple diarrhoea.

1. **Elimination of the irritants:**—In severe cases our first effort should be to get rid of the irritant and for this bowel wash and stomach wash should be tried. Gastric lavage with normal saline should be continued till the return is clear. After this a solution of Osmo-kaolin (4 tea spoonful in 2 ozs water) should be left in the stomach. This measure often stops vomiting and kaolin decreases the gastric irritability by providing a coating on the mucus membrane and adsorbing toxins. Gastric lavage may be repeated in 24 hours if needed. For bowel wash usually warm normal saline is used. If the stool contains much mucus, sodibicarb solution (1 drachm to a pint) may be tried. If the stool is highly offensive the bowel should be washed with calcium or potassium permanganas solution (1:10,000). Bowel wash must be carried out very carefully. The following steps must be strictly adhered to during bowel wash:—

- (a) The tube must not be introduced more than 2" from the anus.



- (b) Not more than 3 to 6 ozs. of fluid should be used at a time.
- (c) This amount must be drained out before the introduction of next dose.

Washing must be continued till the return is clear. It is usually seen that after the bowel wash, stool becomes frequent for an hour or so. This is due to the evacuation of the retained fluid. If toxæmia persists as evidenced by raised temperature, foul breath and dry furred tongue, bowel wash is to be repeated in 24 hours again.

2. *Combating the nervous irritability*: To allay the nervous irritability ordinary bromide mixture is used. Peacock's bromide may be used for insomnia or Luminal 1/8th to 1/4 gr. according to age.

3. *Maintenance of vital functions*: In diarrhoea there is a huge loss of fluid leading to dehydration. In addition there is also loss of alkalis and salts, especially sodium, resulting in retention of chloride in blood (which is intensified by the impaired kidney function). The chlorides cause a displacement of the plasma bicarbonate in an attempt to compensate for alkali deficit. Hence the bicarbonate content of the blood falls and an acidosis condition is set up. In vomiting there is loss of fluid and the associated loss of chloride diminishes the chloride content of the blood resulting in a condition of alkalosis. In the condition of gastro-intestinal disorder with which I am dealing, diarrhoea plays a more important role and so there is a tendency to acidosis.

The problem to be tackled is the restoration of fluid and the acid base equilibrium. For the latter condition our aim will be to decrease the chloride and increase the bicarbonates in blood. The kidney function is also to be improved to maintain the acid base equilibrium. Normal saline with glucose is introduced into the system to meet these ends. Hartmann suggested incorporation of bicarbonate along with the glucose-saline to counteract the acidæmic condition of the blood set up by the loss of the bicarbonates. But it is dangerous to introduce bicarbonates directly into the blood. To meet this difficulty Hartmann suggested use of sodium lactate in the glucose-saline. The lactate is oxidised in the blood and converted into bicarbonate which is liberated slowly, thus avoiding the risk of overloading the system with bicarbonate. But clinical results have not often tallied with this theoretical proposition. This is because the circulation in diarrhoeic condition is impaired due to decreased blood volume, so the oxidative processes do not work efficiently and the lactate is not oxidised properly.

The incorporation of alkali along with the glucose saline is also regarded unnecessary for the glucose saline alone causes diuresis which re-establishes the acid base equilibrium by selective drainage of acids or alkalis as necessary. Moreover the glucose supplied also acts as source of energy and also helps the liver cells in detoxicating the noxious elements in blood.

Another function of glucose which is very important in the starvation condition associated with the continued diarrhoea is that it acts as a protien and fat sparer.

Before the toxæmia becomes pronounced the baby usually drinks readily. During this period fluid

should be given adlib in the shape of water (boiled and cooled) mixed with lemon-juice or 2½ per cent glucose in normal saline or alkaline glucose solution. Hartmann has suggested the following composition:—

(Liquor Ringer Lactatis, B.P.C.)

|                                                             |           |
|-------------------------------------------------------------|-----------|
| Lactic acid                                                 | 2.4 c.c.  |
| Sodium hydroxide solution—sufficient to neutralise the acid |           |
| Sodium chloride                                             | 6.0 gm    |
| Potassium chloride                                          | 0.4 gm    |
| Calcium chloride                                            | 0.2 gm    |
| Distilled water to                                          | 1000 c.c. |

The amount to be given is 2½ oz per lb. of body weight plus an extra for dehydration, per day at 2—3 hourly intervals.

If nausea is severe and fluid cannot be retained in stomach it must be administered by other routes, viz., subcutaneous, I.V. or intraperitoneal. Rectal administration is useless as the fluid is not retained, the exact amount absorbed cannot be estimated, and the absorption is very slow.

The subcutaneous method is painful and permits use of a small quantity only. Still as it is one of the easiest way of administration it should be tried first. Normal saline with 12½ per cent glucose 4—5 ozs at a time be repeated 3 times a day. The special advantage of the subcutaneous method is that the absorption takes place comparatively slowly depending upon the need of the body for fluids and so no overloading of the body with fluid takes place.

Intravenous administration of fluids is the method of choice but the closed method is not often practicable due to the collapsed condition of veins. Normal saline with equal part of 12½ per cent glucose solution is to be used and 100 c.c. of it can be given in 24 hours in divided doses. Drip method is to be preferred as more fluid can be pushed. The rate of injection should be 20 to 40 drops per minute. For intravenous drip method 1/2 strength of Hartmann's solution with 5 per cent glucose can be used.

After a day or two there may be some oedema due to the defective salt elimination through the kidneys and so it is advisable to use 1/2 normal saline with 5 per cent glucose. While administering saline by intravenous route only sips of water is to be given by mouth. Fluid can also be administered intraperitoneally, the contra indications being tympanitic condition of the abdomen and chance of peritonitis. The site of puncture is one inch below and to the left of the umbilicus. A special needle (Bishop's or 18 gauge hypodermic needle with short bevel) is to be used to prevent damage to the viscera. 50 to 150 c.c. of normal saline can be administered in this way according to the weight of the baby and the urgency of the case. The temperature of the fluid injection is to be adjusted according to the rectal temperature.

*Medical treatment*:—Alkaline mixture every three hours to combat acidosis and promote diuresis.

For collapse and shock atropine sulph in doses of 1/800 to 1/400 gr. can be injected hypodermically at the onset of the treatment especially when vomiting is persistent and the child is rapidly going downhill for want of fluid. The dose can be repeated after 12

hours if the collapsed state still persists. Atropine checks all secretions and thereby reduces the chance of pulmonary oedema when fluid is administered parenterally.

For improving the pulse, adrenaline chloride solution 2 minims or coramine. 5 c.c. is to be given 3 to 4 hourly till improvement is evident. The baby should be kept warm properly covered with hot water bottles placed against the loins. This combats shock as well as increases the urinary output by promoting renal circulation. In severe anuria cupping can be done and along with it 5 to 10 c.c. of 12½ per cent glucose with an equal part of normal saline is injected in fascia lata. If there is hyperpyrexia, it should be combated by the ordinary principles of hydrotherapy. For severe dehydration transfusion of plasma may be considered.

Chemotherapeutic treatment with sulphonamide group of drugs is to be considered. The dosage and the choice of drugs is discussed later.

*Diet*:—When vomiting has been controlled 5 per cent glucose in alkaline solution can be given in small sips. Later cold water with little lemon juice or orange juice can be given and dol water also to be given if available. Next day 8 or 10 small feeds of barley water, chira gruel, whey or glucose should be given alternately. Chira gruel is prepared in the same way as barley water. It is not safe to use albumin water as it may add to the toxæmia, if putrefaction of albuminoid substances takes place in the intestine. Feeds should be given every 2 or 3 hours and not more than 2—3 ozs. at a time. On the third day, freshly prepared butter milk can be added to the diet. At this stage Eledon, Lacidac (separated) may be prescribed. As the case progresses milk is gradually added to the diet. By the end of the week, patient is brought back to normal diet. Throughout the course whenever the physician has to push diet, preference should be given to carbohydrate over protein and fat. Dextrimaltose is worthy of mention here for its low fermentibility. While prescribing diet it should be remembered that the infants under these condition cannot digest fat and so the quantity of fat has got to be reduced.

Lately I have used pressed juice of full ripe fresh banana 1 tea spoonful four times a day with glucose solution or plain water. The banana juice inhibits the growth of colon group of bacilli. Apple powder 5 per cent in boiled water without sugar can be given, 2 oz at a time at hourly intervals. Steamed or baked apples may be used. Apple has got the following properties (1) pectin-propectin and cellulose absorbs the toxins (2) the organic acids soothe the intestine and also have got an astringent action (3) the cellulose has got cleansing action.

#### DYSENTERIC TYPE.

In this type of gastro-intestinal disorder infection plays the more important role from the beginning. The infective organisms are generally of the dysenteric group of bacilli and are conveyed by the food, finger, flies, etc.

*Signs and Symptoms*:—This type also runs a virulent course. It can set in one of the following ways:—

(a) The baby may have watery diarrhoea with tenesmus. Motions are rather broad and contain faecal matter and shreds of mucus. Later the stool becomes of a serous nature and has a peculiar fishy odour. Still later the quantity of the stool decreases but the frequency increases and the faecal matter disappears.

(b) The patient passes 40 to 50 scanty motions with no faecal matter but only mucus at times stained with blood.

It will be noted that the first type starts as diarrhoea and gradually takes the course of dysentery. The second type starts as dysentery from the beginning.

The disease runs a febrile course. Patient shows all the signs of dehydration with extreme prostration and anuria gradually sets in. The respiration is hurried. Pulse is quick and gradually becomes weaker and of a low tension. Finally it becomes imperceptible and all signs of severe collapse becomes evident. Baby remains wide awake and shrieks out frequently. Later convulsions set in and signs of meningeal involvement appear and death supervens.

*Treatment*:—General Management: The patient being in a very devitalised condition should be handled carefully and protected from sudden chills and other sources of danger.

When diarrhoea is marked kaolin gr. 15 with lactose powder 7½ grs. may be administered in an ounce or more of water. Dehydration is more severe and so requires proper attention. The treatment of dehydration has been discussed previously.

*Medicinal treatment*:—1. Symptomatic. For vomiting and hiccough atropine sulph gr. 1/800 to 1/400 I.M. or solution of Adrenalin chloride, 1/1000 2/3 drops under the tongue. For sleeplessness-Potassium bromide gr. 2 with chloral hydrate gr. 2.

2. Curative. (a) Serum therapy should at once be restored to when the signs of collapse, rapid pulse, high temperature, number of stools more than 20, are present. Polyvalent serum in doses of 10-20 c.c. should be administered I.M. The antibodies in serum bind up the toxins of the bacteria and thus inactivate them.

The serum therapy is of special value in cases where sulphonamides are not tolerated or are vomited out. The disadvantages of the serum therapy are due to the protein sensitisation, and are urticaria, rigor, serum fever etc. Moreover it is expensive.

(b) Bacteriophage therapy. Phage has only local action. It inactivates and causes lysis of the bacteria. Autophage is the best but therapeutically active stock phage is worthy of trial early in the disease. The dose is 1 c.c. by mouth 4 hourly for 3 days. Each dose should be preceded by 1 grain of sodibicarb and 1 grain of pot. bicarb and no food is to be given one hour before or after the phage.

It has been observed that frequent change of the brand of phage gives better result.

(c) Sulphonamide therapy—The drugs of choice are Sulphaguanidine, Sulphasuxidine, Pethalysulphathiazole and Sulphapyrazine. All these drugs act locally in the intestine and are characterised by their

slow rate of absorption and hence the resulting high concentration in the intestine.

Sulphaquanidine acts as such in the intestine and causes bacteriostasis.

Sulphasuxidine (Succinylsulphathiazole). The succinyl radical is said to inhibit the absorption of the drug from the upper intestinal tract and slow hydrolysis of the drug into succinic acid and sulphathiazole takes place resulting in high concentration of sulphathiazole in the intestine. The concentration of sulphathiazole has been estimated to be 50–200 mgm. per 100 c.c. of faeces. The effect is something like local application of sulphathiazole on the bowel surface.

As Succinyl Sulphathiazole has almost the same range of action as Sulphaquanidine and is devoid of the potential toxic effect of Sulphaquanidine, Succinyl Sulphathiazole is to be preferred to Sulphaquanidine.

**Dose:**—Sulphaquanidine—0.1 gr per kilogram of body weight initially and 0.3 gm daily afterwards divided into 6 doses.

Succinyl Sulphathiazole—0.25 gm per kilogram of body weight initially and then 0.3 gm per kilogram bodyweight divided into six equal doses daily. Double the dose can be used after three days if no recovery occurs.

The newer drugs Phthalylsulphathiazole and Sulphapyrazine are too recent to be commented upon.

The sulphonamides are powdered and administered by making a paste of it in a few drops of honey.

Some cases improve also under Sulphathiazole or Sulphamerazine. Evidently the causative organism in these cases are Streptococci or Staphylococci. For Sulphamerazine the dose suggested is 0.5 gm for the initial dose and 0.25 gm. every 12 hours subsequently for an infant of six months.

Constant watch is to be kept for the toxic action of the sulphonamides. As a prophylactic measure large amount of fluid is to be administered to prevent the crystallisation of the acetyl derivatives in the renal tubules. Watch is also to be kept on the volume of urine passed and also examine the urine for the crystals of the drug if possible.

Recently, combined serum therapy and sulphonamide therapy has given promising results.

The starvation condition set up by the diarrhoea may lead to vitamin deficiency symptoms, especially so in cases where there is already pre-existing nutritional deficiency. In these cases vitamins may be added to the transfusion fluid. The dosage suggested is Thiamin 2–5 mg. Riboflavin. 5 to 3 mg, Niacinamide 5. 30 mg, Ascorbic acid 30–100 mg. per day. Since these vitamins are unstable in alkaline solution they should not be added to alkaline solutions.

It will not be out of place to mention that other forms of diarrhoea are also to be kept in mind while treating a case. Cholera for example is also prevalent during this time. Infection in other remote sites e.g. nasopharynx or middle ear may also give rise to diarrhoeic symptoms.

Proper sanitary education and sewage disposal have markedly reduced the incidence of infantile

diarrhoea in recent years at Jamshedpur. The metalting of the roads have reduced the dust nuisance to a large extent and the improved system of sewage disposal have removed the breeding of flies. Thus the two chief factors for spreading of infection have been removed.

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## A Few Observations on Tropical Ulcer

BY

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In the district of Singhbhum, the so called Tropical ulcer was unknown till 1941 when there began military operations on the Assam Front, and when there was movement of labourers from one place to another. I first noticed the ulcers among some coolies returning from Assam front. A few cases were admitted into my hospital in 1942, out of whom two died of septicemia. Subsequently, the number of cases increased till it reached its highest in 1944–45. In the year 1944 I treated about 40 cases in the out-door department; mostly among the school children, which yielded to the copper sulphate and sulphanilamide treatment. In the year 1945, about 50 cases were admitted into the hospital, and they were resistant to treatment. I give below my observations on these cases.

**Aetiology:**—In all my cases, I found fusiform bacilli in large numbers, and in 3 to 4 cases they were mixed up with Spirilla. There was also secondary infection of the cocci group. The fusiform bacilli were large, nonmotile and gram negative. The centre of the bacilli stained less deeply than the poles. They were found arranged in parallel groups. The Spirilla were finely filamented and stain deeply.

**Seasonal incidence:**—Generally it is found during the rainy season, reaches its height during August and then declines gradually. There are variations in the severity of the disease also.

**Co-existing Diseases:**—It is found generally in the ill-fed and ill-nourished persons. In some, it is associated with malaria, anaemia, vitamin deficiency and amoebic dysentery. In my series of cases, it was as follows.

|                   |    |       |
|-------------------|----|-------|
| Anaemia           | 5  | cases |
| Malaria           | 3  | "     |
| A-Vitaminosis     | 10 | "     |
| Amoebic dysentery | 3  | "     |
| Unassociated      | 28 | "     |

Total cases 49

**Sex:**—It affects both sexes

**Age:**—Occurs usually among young active persons. But I have seen among school children—8 to 12 years of age. The distribution of age and sex is shown below—this does not include the cases seen in 1944.

| Sex    | Below 12 yrs. | Between 12 & 30 | Between 30 & 60 |
|--------|---------------|-----------------|-----------------|
| Male   | —             | 25              | 2               |
| Female | 1             | 19              | 2               |

**History:**—Most of the cases give a history of a slight local trauma with erosion of the epidermis which appear like blebs and which burst and form a typical tropical ulcer. In some cases, there was merely some irritation of the skin which on scratching resulted in blebs and ulcers.

**Site of affection:**—Generally affected the lower extremities below the knee joint, and mostly found above and around the ankle joint. In one family, three persons were affected with the ulcer in the great toes. One had it on the other side of the abdomen. Size of the ulcer varies from  $\frac{1}{2}$ " to  $2\frac{1}{2}$ " in diameter.

**Symptoms:**—After trauma or irritation it starts as a bleb with serosanguinous contents. In the course of a few hours it ruptures revealing a sloughing ulcer.

The slough rapidly increases in area. After a few days, the centre of the slough liquefies with foul smelling discharge. It may involve muscles, and even the periosteum. Considerable swelling of the affected part is frequent. Local pain is severe which makes the limbs immobile. There is however no raise of temperature.

**Prognosis:**—Majority of cases heal after a month of vigorous treatment. Two of my cases (1942) died as a result of severe septicemia.

**Treatment:**—Results of treatment are tabulated below:—

| Dressings used.                                                                        | Number of days taken for healing |          |
|----------------------------------------------------------------------------------------|----------------------------------|----------|
|                                                                                        | Out-door.                        | In-door. |
| Application of 5% Copper sulphate for 3 to 4 days and then 5% Sulphanilamide ointment. | 12 to 51                         | 15 to 30 |
| —Ditto— and codliver oil with acriflavine application                                  | " "                              | 21 to 45 |
| Cod-liver oil.                                                                         | " "                              | " "      |
| Hypertonic Saline.                                                                     | " "                              | 30 to 60 |

Antimony compound was also tried in some cases and anti-diphtheretic serum in one case without any good result. Calcium chloride 5 cc. was given intravenously to all cases. Also tonics like iron, cod-liver oil etc.

**Discussion:**—The tropical ulcer presents a very characteristic clinical picture although its etiology is still unknown. In my series, fusiform bacilli in large numbers, and Vincent's Spirilla in a few cases

were found. Doshi (1930), Bopaya and Rao (1942) Panja and Ghosh (1944) found fusiform bacilli and V. Spirochetes. Panja (1940), Barucha (1943) and other workers isolated diphtheroids. Roy (1928) found intracellular diplococci in most of the cases. Napier (1943) found diphtheroids in some cases. He also mentions cases of Naaga Sore in which peripheral neuritis was present.

The variations in the severity of the tropical ulcers may be due to the varying degree of the virulence of the infecting organism. The size of the ulcer also varies greatly—sometimes a whole limb from the knee to the ankle may be affected.

I am much indebted to my civil surgeon Dr. N. C. Mazumdar for his suggestions regarding the treatment of the cases.

## Penicillin and Sulphonamides in the Treatment of Trachoma

BY

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Penicillin has greatly improved the prospects of treating trachoma successfully. In this short article, I limit my observations to the therapeutic side of trachoma, leaving aside the etiological and pathological aspects of the disease. As is well known, the disease is caused by a virus which is unaffected by ordinary antiseptic like silver nitrate or copper sulphate. Even the latest surgical methods have not proved very successful in the treatment of trachoma.

For the purpose of treatment, the disease may be classified as simple and complicated. Simple consists of the 1st and 2nd stages of trachoma as classified by MacCallan.

**First stage:**—Sulphanilamide by mouth and penicillin and sulphanilamide ointment locally are indicated. Six tablets per day are given by mouth with a few grains of sodi-bicarb. Locally the eye is washed with warm saline six times a day and 5 per cent sulphanilamide and penicillin ointment applied. The eye is then massaged for a minute or two. Improvements noticed are:

(1) Diminution of blepharospasm, watering and photophobia within 3 days.

(2) Clinical improvements within a week.

The local treatment should be continued for one month to avoid relapse.

**Second stage where granules are noticed:**—In these cases, in addition to sulphanilamides by mouth for 2 weeks, surgical excision of the granules followed by local application of penicillin and sulphanilamide ointments for a month is the best to be adopted. In cases where surgical treatment is not possible, silver nitrate (2 per cent) in the early stages or copper sulphate in the later stages is advised for touching the lids with a view to expose the virus to come in contact with the penicillin ointment.

**Third and fourth stages where there is entropion and ectropion:**—Nothing but surgical treatment will

be of any avail. The specific ointment is used after surgical intervention to prevent any further secondary infection.

**Trachoma complicated with corneal ulcer:—** These are the cases that respond best to penicillin therapy. Many an eye is saved from enucleation by prompt penicillin therapy, locally and parenterally. Frequent saline wash, atropine ointment, and penicillin ointment (20,000 units in 100 grs. of fatty vehicle) constitute the main lines of treatment. In ulcers of the cornea complicated with hypopyon, penicillin (10,000 units) is also injected every 3 hours till clinical improvement is noticed. Milk proteins may be injected when penicillin alone is ineffective.

**Trachoma with pannus:—** These cases respond very well to penicillin cum yellow oxide of mercury ointment and occasional touchings of the lid with copper or applications of 1% copper citrate ointment.

### CASE NOTES

#### A Fatal case of Round Worms Showing symptoms simulating Epilepsy.

BY

DR. A. RAHMAN

Medical Officer, Noapara Ch. Dispensary, P. O. Guzra Noapara, Dt. Chittagong.

I was called in to attend on a female, aged about 20 years, residing in the village of a Jahampur,  $\frac{1}{2}$  mile off Fatehpur Ch. Dispensary.

**Previous history:—**She delivered a male child 15 days ago in a normal manner. She had slight oedema of feet.

**Present history:—**Two days before I was called in, she had fever and soon passed into a state of unconsciousness with twitchings of hands and feet, staring eyes, feeble pulse and Cheyne Stoke's respiration.

**Treatment:—**I gave her Morphine ( $\frac{1}{2}$  gr) and Atropine ( $\frac{1}{100}$  gr) subcutaneously and 20 cc of 25 per cent glucose solution. After some time, twitchings were less. In the evening I gave her another glucose injection. After 24 hours she had recurrence of the trouble—twitchings of the face and the limbs. I repeated the same treatment, with the addition of calcium gluconate injection. She recovered and was doing her ordinary work. I was told that during one of these days she vomited a big round worm. After a month, she had recurrence of the old trouble. But there was no medical help available at that time. She died within 24 hours and it was reported to me that 15 to 20 round worms came through the mouth and the nose after her death.

This case would illustrate the seriousness of round-worm infection in at least in a few cases, and the need for prompt treatment of the same.

#### Temporary Insanity Due to Mepacrine Hydrochloride

By

Dr. G. J. KARDALEY, L.M.P., (C.P.),

Post Kokaida, Dt. Amroati, Berar.

A Hindu Male, aged about 35 years, came to me for treatment of malarial fever on 22-1-47. He was kept on quinine mixture, 4 grs. per dose, three times a day. He was kept on this mixture for 3 days; but still he used to get daily rise of temperature. On 25-1-47, I put him on Mepacrine Hydrochloride Tablets (Avlon Brand) 3 tablets a day after meals. As soon as I put him on these tablets his temperature came down to normal and it never rose again. He continued these tablets up to 27-1-47. On 28-1-47 he came to me in the morning complaining of great heat in the body, giddiness and itching sensation all over his body. I asked him to stop the tablets and to take plenty of fluids. He had about two to three vomits that day after 11 A.M. The itching sensation was much but he still complained of giddiness. However nothing untoward happened that day but in the night he did not get proper sleep. The next day i.e., on 29-1-47 he became insane, abusing everybody, throwing whatever was near at hand and talking all rot. He was tied by ropes as he was violent. I was called to see him. I examined and found him quite insane. He was at once put on alkaline mixture combined with sedatives like bromide, chloral hydrate and valerian. In the noon he was somewhat quiet, but used to talk all nonsense. He had also no sense of himself as he was running here and there naked. He was given cold bath twice that day. He did not get sleep at all during the day or night. In the latter part of the night he got some disturbed sleep. Next day i.e., on 30-1-47 also he was just as before but he was not so much violent and he was drowsy the whole day. He had good sleep during the night. On 31-1-47 he got up quite fresh and no signs of insanity could be noticed. He was quite alright.

Can this temporary insanity be attributed to Mepacrine Hydrochloride? Will my professional brothers throw some light on this point?

### SELECTED ARTICLES

**CLINICAL USES OF THE VARIOUS INSULINS:** By BENJAMIN SASLOW, M.D. (From "The Journal of the Medical Society of New Jersey").

Insulin provides chiefly for the utilization of carbohydrate absorbed from the intestinal tract and dextrose which enters the circulation from the liver. Dosage of insulin depends upon two main factors: (1) Degree of insulin deficiency in the pancreas. (2) Intensity of mechanisms opposed to insulin. Among the latter may be mentioned: (a) rate of supply of dextrose from food; (b) effect of endocrins antagonistic to insulin, such as the pituitary, adrenals and thyroid; (c) effect of infections; (d) presence of recent or coincident acidosis; (e) abnormalities of liver function; (f) variations in irritability of the autonomic nervous systems; and (g) presence of insulin-sensitivity or insulin-resistance.

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**Unmodified insulin.**—Insulin is an amorphous protein soluble in water when prepared as a hydrochloride. Zinc salts of insulin are crystalline in nature and are commercially available under the name of "solution of insulin crystals." Because of its greater chemical purity the latter variety is especially indicated for patients who exhibit allergic reactions to amorphous insulin.

The consensus of opinion is that insulin of amorphous origin may ordinarily be interchanged with the variety prepared from zinc insulin crystals and differs inconspicuously from it in activity. In this paper the term *unmodified or regular insulin* will refer either to the amorphous or the crystalline variety.

In the practical clinical consideration of any insulin three properties are important, viz., (1) initial effect, (2) maximum effect, and (3) completion of effect.

The hypoglycaemic effect of unmodified insulin begins one to two hours after injection, exerts its maximum effect in two to four hours and is completely spent in four to six hours. The type of insulin should be employed where rapid or powerful action is desired and is especially indicated in emergencies, acute complications or where insulin requirements fluctuate rapidly. In severe cases, fasting blood sugar levels treated with regular insulin are characteristically elevated, but fall during the day if insulin is injected prior to meals.

**Protamin zinc insulin.**—Protamin zinc insulin, first made available in 1937, is a combination of insulin protamin and zinc. Protamin is a relatively nonantigenic polypeptide obtained from sperm of rainbow trout or salmon. Zinc, which is added to the amount of 1 mg. per 500 units stabilizes the protamin-insulin combination, slows its absorption and prolongs its effect. This metal is present in too small an amount to exert toxic action.

Protamin zinc insulin is almost insoluble at the pH of body fluids, and thus absorption is delayed, activity prolonged and insulin released at a constant rate for a period of one to three days from a single injection site. Initial effect begins in two or three hours and maximum action occurs in 18 to 24 hours. When protamin zinc insulin acts longer than one day it is important to remember that the final effect of one day's dose may be superimposed upon the first effect of the dose given the following day.

Advantages of this insulin over the unmodified type are: the number of multiple injection is reduced, glycosuria and hyperglycaemia are usually better controlled, violent insulin reactions are infrequent, less rigid control of the dietary factor is necessary, unphysiologic undulations of blood sugar levels occur less often and decreased azoturia or ketonuria probably represent better sparing of tissue proteins.

Because of its slow and prolonged action, protamin zinc insulin should be regarded as basic in most cases; but by the same token it predisposes to post-prandial hyperglycaemia and glycosuria.

In patients responding adequately to protamin zinc insulin, blood sugar before breakfast is normal and except in mild cases, ascends during the day

because active insulin is released too slowly to overcome the hyperglycaemic effects of food.

Generally speaking, patients who are relatively mild cases, and whose requirements range between 30 to 40 units per day, do well with a single daily dose. It is most commonly given before or after breakfast, but ordinarily it does not matter much what time is chosen, *provided that the time is regularly maintained*, and the arrangement of the meals is optimum and not altered.

Severe or moderate diabetes cannot be controlled with a single daily injection of protamin zinc insulin even when a relatively large night feeding is employed to prevent nocturnal hypoglycaemia. This problem has been met in a satisfactory manner in many instances by giving a large dose of protamin zinc insulin and a smaller dose of regular insulin both before breakfast. Occasionally an accessory dose of regular insulin must be added before or after lunch or dinner. Thus, the prolonged activity of protamin zinc insulin is utilized to prevent nocturnal hyperglycaemia while the unmodified insulin tends to combat the rise of the blood sugar after meals. However, in many cases even this method fails to regulate the patient.

Two commonly overlooked symptoms of protamin zinc insulin reaction are morning headache and a feeling of exhaustion.

**Globin insulin.**—Globin insulin is a new tool in the treatment of diabetes. It is an artificial chemical combination of ordinary insulin, zinc and globin prepared at a pH of 3.4 and is water-clear. Globin is a weakly antigenic protein and is obtained from the haemoglobin of beef blood. It exerts its initial effect two to three hours after injection and maximum action occurs eight to twelve hours later. Thus, it lies somewhere between unmodified and protamin zinc insulin in activity. When given once a day it is customarily injected before breakfast, and thus maximum effective action occurs when the meals are being eaten and the patient is active and awake. During the night, its action wanes, and this is particularly desirable, as the effects may occasionally carry over beyond twelve to eighteen hours.

Occasionally protamin zinc insulin with or without unmodified insulin will seem to exert very little effect on a fasting high blood sugar. When globin insulin under such circumstances is given twice a day, before breakfast and before supper, this will often take place. When the fasting blood sugar is maintained at a normal level with protamin zinc insulin, switching to globin insulin once a day has been generally unwise. Blood sugar under such circumstances often rises.

Globin insulin will generally clear up local allergic reaction in patients on protamin zinc insulin.

Unit per unit, globin insulin seems to be more effective than eight regular units of protamin zinc insulin. It is wise not to give more than half the dose of protamin zinc insulin initially when making this transfer, and even smaller doses are judicious when the patient is unreliable as to diet.

This insulin should not be used initially in infections, acidosis, pregnancy, or diabetic surgery because

of its unpredictability as to the time and extent of hypoglycaemia.

The arrangement of the carbohydrates in the meals is particularly important when globin insulin is used, and experience has taught us that if sufficient carbohydrate is not available when it begins to exert its effect the blood sugar may fall precipitously and induce severe symptoms.

The carbohydrate portion of the meals should be highest at noon to buffer its effect, and it is best to add a small carbohydrate feeding about 3 p.m. However, each case must be individualized and no rule can be given for the number of units required or arrangement of the meals. Chief difficulty with this type of insulin seems to be the sudden onset of severe insulin reactions unheralded by the usual premonitory symptoms and signs. There hypoglycaemic effects may occur even when anticipatory carbohydrates have been given and shock symptoms and their times of occurrence change not infrequently without cause.

Most insulin reactions occur in the late afternoon.

**PROSTATIC OBSTRUCTION:** By W. D. DOHERTY, M.CH., (Form "Guy's Hospital Gazette," Feb. 20, 1946)

It is customary to divide the urinary tract for descriptive purposes, into an upper urinary tract, consisting of the kidneys and ureters, and a lower urinary tract consisting of the bladder and urethra, and we shall consider the effects of obstruction on both these systems.

#### THE CAUSES OF PROSTATIC OBSTRUCTION.

The causes of prostatic enlargement which may give rise to obstruction may be:—

1. Inflammation—A. Acute; B. Chronic.
2. Simple hypertrophy.
3. Carcinoma of the prostate.

A. *Acute inflammation* of the prostate gland may occur as an ascending infection in the course of an inflammatory lesion of the urethra. This may be the cause of acute urinary retention during an attack of gonococcal urethritis; on the other hand, acute prostatitis going on to abscess formation may be a blood-borne infection. I have seen acute retention of urine in a young man due to a staphylococcal abscess in the prostate gland secondary to a boil on his neck. The bacillus coli is also a common blood-borne organism.

B. *Chronic prostatitis* may result from an acute infection which has never been quite eradicated, or it may follow infection by an organism of low virulence. In either case it is very common for calcium salts to be deposited in the gland with the formation of prostatic calculi. This is a similar pathology to the formation of a salivary calculi in the sub-maxillary gland. The irritation of the calculi, from time to time, causes a flare up of the prostatic infection with resulting obstruction. In addition, the surrounding fibrosis gradually contracts and narrows the bladder outlet.

2. *Simple hypertrophy* of the prostate gland is the commonest cause of urinary obstruction. Under this heading we will include the so-called adenomatous enlargement, in fact all the types grouped together under the heading of senile prostate enlargement although they may come on long before senility makes its appearance in other parts of the body. I think there is no doubt this enlargement, which may occur in a man from forty years onwards, but is commonest round about the seventies, is due to a hormone imbalance, but so far little is known about it.

It is the normal routine for the prostate gland to atrophy in old age, but in something like 30 per cent. of men the gland undergoes enlargement instead, which is generally progressive at varying rates. Probably 15 per cent of men get obstructive symptoms. It is therefore a very common pathological lesion.

3. *Carcinoma of the prostate gland* is, unfortunately, a common disease. About one-fifth of the cases with symptoms of prostatic obstruction which come to out-patient clinics will be found to have malignant disease.

Carcinoma of the prostate gland does not, however, always give rise to obstruction. Sometimes the patient presents himself with secondary deposits commonly in bone, without any urinary symptoms at all. This is one of the reasons why a routine examination per rectum is so important in all surgical conditions.

During the last few years it has been conclusively demonstrated that the growth of carcinoma of the prostate is readily influenced by hormone therapy, although it is not clear whether hormone imbalance is the casual factor.

#### Effects of Prostatic Obstruction.

Nature reacts in the same way to obstruction in one of the vital passages in the body, be it in the vascular system, the alimentary, respiratory, or urinary tract. First of all there is hypertrophy of the muscular wall of the passage above the seat of the obstruction, so that the contents are forced through the narrow portion. If the obstruction is a progressive one there comes a time when the hypertrophy can increase no further and the effects of the obstruction become manifest—namely, there is a damming back of the contents with dilatation of the passage above the obstruction, the passage does not completely empty and eventually does not empty itself at all, becoming completely obstructed.

The bladder may be considered as part of the passage through which the urine passes on its way from the kidneys to the exterior, and I want to consider the effects of the obstruction in this passage in three stages:—

Stage 1.—Complete Compensatory Hypertrophy.

Stage 2.—Commencing Failure of Compensation.

Stage 3.—Complete failure of Compensation.

Stage 1.—In this stage there is a gross hypertrophy of the bladder, but the bladder completely empties itself at each act of micturition. The bladder wall will be found to be thickened, the muscle bundles standing out clearly underneath the mucous membrane. There are no pathological changes to be seen in the

upper urinary tract, the kidney pelvis and ureters emptying normally.

The symptoms at this stage will be due to the loss of elasticity and capacity of the bladder due to the hypertrophy. Hence frequently, urgency and diminishing stream, with slowness in initiating the act,

If during this stage the patient should get a gross prostatic congestion from sexual excitement or an over-full bladder he may get a sudden and complete obstruction, acute retention, which, when relieved by catheterisation, leaves him as he was before, with a compensated obstruction.

It is my custom to investigate all cases of suspected urinary obstruction by intravenous pyelography and cystography.

The patient is instructed to come to the examination with a full bladder. Pictures are taken of kidneys and bladder at three, eight and fifteen minutes after an injection of the dye. The patient is then instructed to empty his bladder and a further picture is taken. The dye excreted in the urine makes the full bladder outline stand out clearly, and the picture taken after micturition shows whether the bladder empties or not. At this stage the pyelogram and cystograms will be normal except perhaps for a little irregularity of bladder outline due to the muscular hypertrophy.

Stage 2.—In this stage of commencing failure of compensation, the most striking change is that the bladder fails to empty itself at each act of micturition and the patient begins to get residual urine left in the bladder.

The whole bladder wall begins to lose tone and dilate, or else the mucous membrane tends to herniate between the muscle bundles, producing diverticula.

The effects of the obstruction begin to become manifest in the upper urinary tract and the muscle fibres in the wall of the pelvis of the kidney and ureter hypertrophy in order to empty themselves in to the bladder.

Another complication which may occur is stone formation—in the stagnant residue in the bladder or, later in, the pelvis of the kidney.

The symptoms during this stage are sometimes less marked than in Stage 1. The loss of tone in the bladder musculature may make for less frequency and urgency of micturition, so that the patient thinks he is better. There is no sign of any renal failure, and blood chemistry will be normal.

As before, an attack of acute retention may occur at any time and can be relieved by catheterisation.

The diagnosis is made by intravenous cystography which shows the bladder dilatation and possibly diverticula. It also shows the presence of residual urine with some measure of the amount.

Stage 3.—This is the stage of complete failure of compensation. The bladder becomes grossly dilated with a large volume of residual urine. The kidney

pelvis and ureters are unable to empty themselves into the overdistended bladder, so that bilateral hydronephrosis and hydronephrosis. The pressure of the urine, in the hydronephrosis causes ischaemia of the renal parenchyma with resulting atrophy.

The condition is one of chronic urinary retention. The bladder is distended often to the umbilicus, but is quite painless in contradistinction to the acute retention, which is painful.

The patient has gross frequency which goes on to incontinence. This generally first makes its appearance during sleep; in fact, an elderly man complaining of nocturnal incontinence is almost certainly suffering from chronic urinary retention.

There will also be signs and symptoms of renal failure, evidenced chiefly by cardiac and circulatory incompetence. The diagnosis is not difficult so long as the distended bladder is not missed by the examining hand.

Intravenous pyelography and cystography is contra-indicated and, in fact, will be of no value, as the failing kidneys will not concentrate the dye.

#### Treatment of Prostatic Obstruction.

This must be briefly outlined. The inflammatory conditions must be treated on general lines with sulphonamides, draining of abscesses, etc. The presence of prostatic calculi may require a prostatectomy to eradicate them.

Carcinoma should be treated with stilbestrol 5 gm. daily by mouth and, in most cases, obstructive symptoms will be relieved.

Senile enlargement calls for different treatment in its three stages.

Stage 1.—This is the ideal case for a one-stage prostatectomy by whichever route the surgeon favours.

He will tell the patient that the condition is a progressive one, that he can have an operation now and be healed and about again in three weeks' time with a minimum of risk. Whereas, if he waits until a later stage, both the length of time and the risks of the operation will increase.

Stage 2.—A patient in this stage may again be subjected to a one-stage operation, but complicating factors such as diverticula or stones may call for a two-stage procedure.

Stage 3.—This is the dangerous stage owing to the renal and circulatory failure.

The bladder should be drained, preferably by a supra-pubic tube and the pressure let off slowly, to minimise the haemorrhage which frequently occurs into kidneys and bladder as the pressure is reduced.

The drainage must continue until the renal and circulatory failure has been stabilised. It will seldom return to normal, but, once it has reached a stable level, these elderly patients stand a prostatectomy very well, and it is not often that they are forced to remain with a permanent supra-pubic tube.

## NOTES AND NEWS

Dr. K. Agrawal, Provincial Secretary, A.I.M.L.A., Bihar, appeals to the members in this Province to take active interest in the working of the regional Branches and to concert measures to implement the resolutions passed by the 2nd Bihar Provincial Conference held at Darbhanga on 16th and 17th March 1947.

Following a meeting of Psychiatrists in India held in Delhi on January 7th 1947, it has been decided to form the Indian Psychiatric Society, the purpose and scope of which will be the promotion of mental health among the people of India, including the prevention and treatment of mental disability. The first general meeting will be held during the next session of the Indian Science Congress. It is also proposed to begin the publication of an Indian Journal of Psychiatry as soon as possible. Lt. Col. J. E. Dungey was elected the first President and Major R. B. Davis, of the European Mental Hospital, Ranchi, was made the Secretary.

Following is the correct address of the two of the members of the Standing Committee, A.I.M.L.A. Dr. B. N. Sinha P. O. Ujirapur, Dt. Darbhanga (Behar) and Dr. A. C. Sengupta, L. N. Mills, Narayanjanj (Bengal)

**Recent Additions to the Range of May & Baker Specialities: Soluthiazole.** The introduction of this new product which is a neutral soluble derivative of sulphathiazole provides a means for the parenteral administration or topical application in solution of sulphathiazole without the disadvantages resulting from the alkalinity of solutions of sodium sulphonamides. It is supplied as a 45 per cent solution corresponding to 20 per cent of sulphathiazole in boxes of 6 X 5 c. c. and 25 X 5 c. c. ampoules and in bottles of 25 c. c. Literature on request.

**Thalazole:** Thalazole or Phthalylsulphathiazole-M & B represents the latest development in the class of the gut-active sulphonamide compounds. It may be used for the treatment of the acute phase of bacillary dysentery, the cure of the convalescent carrier state, the treatment of symptomless carriers and for prophylaxis in those exposed to infection. Clinical experiences suggest that it has the advantages of greater bacteriostatic activity and lesser toxicity than the other gut-active compounds in use. Supplied in containers of 25, 100 and 500 tablets. Literature on request.

**Thiazamide brand sterilised sulphathiazole powder with 1 per cent 5-Aminoacridine Hydrochloride:** For topical use in the prevention and treatment of wound infections this product makes available a combination of the well-known and tried virtues of sulphathiazole with one of the latest and perhaps best of the acridine antiseptics. 5-amino-

acridine combines a high degree of antibacterial activity with a nearly neutral pH in solution and exhibits only very feeble staining properties. Supplied in sterile containers of 15 gm. Literature on request.

**Intraval Sodium:** Intraval Sodium brand of soluble thiopentone is a powerful intravenous anaesthetic agent. It is a mixture of 100 parts by weight of sodium ethyl (1-methyl butyl) thiobarbiturate and 6 parts by weight of exsiccated sodium carbonate. Supplied in dry ampoules of 0.5 gm. and 1.0 gm. with ampoules of sterile distilled water in unit cartons.

### 2nd Bihar Provincial Conference of the A. I. M. L. A., Darbhanga.

An abstract of the Proceedings of the 2nd Bihar Provincial Conference of the A. I. M. L. A. held at Darbhanga on the 16th and the 17th March, 1947 at the premises of the local Town Hall under the Presidentship of Dr. B. Bose, the Chief Medical Officer, Tata Tinplate Company Limited, Golmuri, Jamshedpur.

The following branches were represented by 24 delegates:—

Jamshedpur—Purulia—Chaibasa—Bhagalpore—Motihari—Muzaffarpur—Arrah—Samastipur—Madhubani and Darbhanga. Besides this it was attended by 217 visitors from all over the Province.

The Conference was inaugurated by Sir C. P. N. Sinha, C. I. E., the Vice-chancellor of the Patna University.

16th March, 1947. Messages were received from the following and were read by the General Secretary, Reception Committee:—

1. Hon'ble Pundit Jawaharlal Nehru.
2. Hon'ble Dr. Rajendra Prasad.
3. His Excellency the Governor of Bihar.
4. Maharajadhiraja Sir Kameshwar Singh of Darbhanga.
5. Major H. J. Curran, I. M. S.
6. Kumar Gangnanand Sinha, M.E.C., Bihar.
7. Dr. B. Narayana, Principal, Prince of Wales Medical College, Patna.
8. Prof. Abdul Bari, President Bihar Provincial Congress Committee.
9. Hon'ble J. Choudhury Minister Public Health, Bihar.
10. Lt-Col A. N. Duggal, I.M.S., Director of Public Health, Bihar.
11. Maj. D. P. Nath, I.M.S., Inspector General of Civil Hospitals, Bihar.
12. Dr. R. Saran, President, Bihar and Orissa, Medical Council of Registration.
13. Rajababdur of Rajnagar.
14. Rai Shaheb M. L. Kapoor, President All-India Medical Licentiates' Association.

Welcome Address was read by Dr. M. N. Sarkar, the Chairman, Reception Committee. Thereafter the Conference was inaugurated by Sir C. P. N. Sinha, the Vice-Chancellor of the Patna University and during his inaugural speech the Vice-chancellor stressed on the research work to be done by the

Licentiates and promised that he will give all possible facilities for carrying on such work by the Medical Licentiates.

The meeting was addressed by Dr. V. D. Sathaye of Poona, the General Secretary of the A. I. M. L. A. and Dr. D. P. Dhar of Pusa.

Prominent amongst those present were Dr. B. Narayan, the Principal, P. W. Medical College, Patna and Kumar Gangnanund Singh Saheb, M. L. C.

The vote of thanks was given by the General Secretary Reception Committee, to the Chair and to all those present and all others who helped in the success of the Conference.

The Medical and the Health Exhibition which was organised by the Reception Committee was opened by Hon'ble Maharaja Dhiraj Sir Kameshwar Singh Bahadur, K. C. I. E.

The following companies took part in the Exhibition:—

1. Jubilee Trading Co. (Armour Laboratory).
2. Indian Health, 3. Union Drug & Co., 4. East India Pharmaceutical Works Ltd., 5. Brahmachari Research Institute, 6. Sarkar Gupta & Co., 7. Addco Ltd., 8. Quinol Laboratories Ltd., 9. S. C. Roy & Co., 10. Indian Chemical & Therapeutic Works Ltd., 11. Asia Drug & Co. Ltd., 12. Neovit Laboratory Ltd., 13. Advance Remedies, 14. Sri Bharateya Resayan Ltd., & 15. Meyer Chemical Works Ltd.

**Health Exhibition.**—1. Darbhanga District Board & 2. T. B. Association of India.

Meeting of the Scientific Section was presided over by Dr. B. Narayan, the Principal P. W. Medical College, Patna on the 16th and Major H. J. Curran, I. M. S., Principal, Medical College Darbhanga on the 17th. Scientific papers were read by the following:—

1. Dr. Sidheshurari Pd. Sinha, Prof. of Physiology Darbhanga Medical College on "Blood Transfusion."
2. Dr. D. N. Mukherji of Jamshedpur on "Diarrhoea."
3. Dr. Madan Pd. M. D. on "Interpretation of Pathological reports."
4. Dr. B. N. Mazumdar of Sanshipur on Rabies

Due to the shortage of time the following papers could not be read:—

1. Capt. B. Bagchee I. A. M. C.—on "Penicillin."
2. Dr. P. Chaudhry on "Blindness"

17th March 1947. The meeting of the Subjects Committee was held on the 17th morning and all the resolutions discussed.

Open session of the Conference was held at 2 p. m. Dr. B. Bose presiding.

The following resolutions were moved and passed unanimously after discussions and proper amendments:

1. This Conference resolves that the immediate objectives of the Conference are as follows:—

(a) Full recognition of the Medical Licentiates' qualifications by the Indian Medical Council by recognising them under Schedule I of the Indian Medical Council Act.

(b) Amendment of the B & O Medical Act II of 1916 in such a way as to throw open the major number of seats in the provincial Medical Council for general election by the Registered Medical practitioners as a whole with a non-official elected President on the model of the Madras Medical Council Amendment Act of 1937.

(c) Immediate abolition of the subordinate Medical service and creation of a Composite Medical Service so as to absorb the present S.A.S. the Government and Public Health Department, Ex I.A. M.C. Officers in Government service and the temporary S.A.S. and provincialising the services of the Local Bodies Medical Officers and putting them under the newly created Provincial service with at least 50 per cent ante-date of the service in fixing a grade.

2. This Conference resolves that within a period of three months the grievances of our class regarding service conditions, pay and status, recognition of qualifications etc., as mentioned in Resolution No. 1 should be redressed by the respective authority otherwise we should call either an emergency session of the Conference or a Meeting of the Standing Committee to review the whole situation.

3. In order to implement the above Resolution this Conference resolves that intensive propaganda be carried out first, to enroll members and to assess the opinion of all the members individually on the above questions. For this purpose the Provincial Secretary should either himself or through a special Organising Secretary undertake to tour the Province within a period of three months.

4. A Committee of Action consisting of nine members be formed including the President and the Secretary to decide upon the important matters arising out of the above resolutions and the Committee must at least meet once a month or oftner.

5. This Conference resolves that a Provincial Health Council be immediately formed in this province as outlined by the Bhore Committee Report and Bihar branch of the A.I.M.L.A. should have due representation on the Health Council and further resolves to give effect to the recommendations of the Bhore Committee Report.

6. To undertake an intensive organizational work and to have the individual view of each and every Medical Licentiate of this Province (as per questionnaire to be issued) a paid Organising Secretary be appointed so as to reach each and every licentiate doctor in the Province within a period of three months for the above purpose. He should be paid an honorarium of Rs. 150 per month and a daily allowance of Rs. 3 and T. A. according to Central Association Rules. The organising Secretary is authorised to receive Rs. 4 as membership fee and Rs. 2 to meet the organising expense from every doctor.

7. This Conference urges on the Bihar Government to amend the Provincial Medical Act in such a way as to establish a common Medical Register without any compartments as is now the case and to throw



open the majority of seats in the Provincial Medical Council for general election by the Registered Medical Practitioners and recommends to the Bihar Government to adopt the Madras Medical Council Amendment Act 1937 as a model in this respect and which is approved by the medical profession as a whole.

8. This Conference resolves (i) the Ex I.A.M.C. officers who had a lien in subordinate service be forthwith be absorbed in the Provincial cadre (ii) the existing S.M.S. cadets, both the Medical and Public Health departments and in the services of Railways, States, Industrial concerns and Local Bodies be abolished forthwith. (iii) there should be one composite Medical service wherein all the existing officers of the S.M.S. including the temporary ones be absorbed and (iv) further resolves as recommended by the Bhoze Report the Provincialisation of all Medical Services in the Province be brought about forthwith, thus bringing together all the Medical Officers of Local Bodies, subsidised rural medical practitioner etc., into one provincial service on equitable pay and other service conditions.

9. This Conference resolves to urge upon the Government and the University to continue the condensed M.B.B.S. course till such time as the Licentiate aspirants for the M.B.B.S. Degree get an opportunity to undertake the course and further for this purpose similar arrangement may be made to start the course at Darbhanga Medical College immediately.

10. This Conference resolves:—

(a) As the knowledge of X' Ray is essential in the diagnosis and treatment of diseases the Association strongly recommends to Government that facilities should be given to the Licentiate for learning the X' Ray technic in the teaching medical institutions, whether they are in Government service or in private practice.

(b) No body whose name does not appear in the list of registered medical practitioners of the western medical system, should be allowed to prescribe, stock or use allopathic medicines.

(c) The Association strongly recommends to Government to take legal action against any person who gives injection of any kind unless he is a Registered Medical Practitioner or unless he is specially authorised by the Provincial head of the Medical Department such as I.G.G.H. or D.P.H.

(d) The Association recommends to Government to take drastic steps to stop the sale of adulterated food stuff of all kinds.

11. This Conference urges on the Local Bodies and similar authorities viz., Railways Industrial firms etc., to grant Dearness Allowance to their Medical Employees at the Government rate with retrospective effect.

12. This Conference strongly protests against the practice of obtaining counter-signature on M.C's granted by the R.M.P.S's as it violates the very essential privilege of Medical Registration and requests the Government to take necessary steps in the matter.

13. This Conference looks with alarm at the present Policy of Tatas of replacing Medical Licentiate in their employ by Medical graduates inspite of

the efficient and meritorious works carried on so far by the Licentiate officers, and requests the Board of Directors to revise their policy and give due share to the Medical Licentiate in their services.

14. This Conference requests the Board of Directors of the Tatas and associated concerns that Medical Licentiate in their employees, hitherto employed as health assistants, should not be graded along with non-medical personnel in their revised scheme. Further this Conference requests the management of the Companies to give conveyance allowance and also compensatory allowances in lieu of private practice to medical personnel employed in their health Depts.

15. Resolved that the University and the Government be moved to give facilities to Medical Licentiate for undertaking research works and further requests the local Government to select suitable Medical Licentiate for training abroad under the re-settlement scheme.

16. This Conference resolves that the services of the Jail doctors be amalgamated in the Provincial Medical Service and that they should get an allowance of Rs. 60 per month in the early period of their service and Rs. 120 per month after 10 years of service in lieu of private practice and that they should not be put under administrative control of Jailor who is a non-medical man and also under Superintendent if he be a non-medical man.

17. This Conference emphatically protests against the termination of the services of the Temporary S.A.S. who have joined the condensed M.B. course and who served the Government for the best part of the career as long as 6-7 years in the worst time to the detriment of their future prospects sometimes compelled to leave the services, without any consideration.

This House strongly urges the Government to consider their case and to retain their services and count the period of their stay in the Medical College as study period, as granted to others with so many other privileges.

18. This Conference expresses its congratulation to the Government for giving stipends to the I. A. M. C. officers who have joined the condensed M. B. S. course at the Patna Medical College and urges upon the Government to extend the same facilities to others also who for some reason or other could not join the I. A. M. C.

19. That since the annual election of the President and the General Secretary have not been done this year as yet which ought to have been done in October 46 according to the rules of the A. I. M. L. A. it is resolved that all the office bearers be now elected by the delegates present here in this Conference

In view of the above resolution the following office bearers were elected unanimously.

President—Dr. B. Bose of Jamshedpur.

Vice-President—Dr. N. C. Banerjee of Chaibasa.

General Secretary—Dr. K. P. Agrawal, Darbhanga.

Joint-Secretaries—(i) Miss Archana Mazumdar.

(ii) Dr. D. R. Yadav, Samastipur

Treasurer—Dr. Sheeshankar Prasad, Laheriasarai

Auditor—Dr. Sahdeo Pd. Muzaffarpur  
Members of the Council of Action.

Ex-officio.

1. President—Dr. B. Bose of Jamshedpur  
2. General-Secretary—Dr. K. P. Agrawal, Darbhanga  
Elected

1. Dr. M. N. Serkar—Laheriasarai  
2. Dr. D. P. Dhar, Pusa  
3. Raj Bahadur Dr. R. P. Ghose, Samastipur  
4. Dr. M. N. Mukherjee, Muzaffarpur  
5. Dr. A. Hakim, M. O. Madhepur Dispensary, P. O. Madhepur, Darbhanga  
6. Dr. P. C. Sen, Chaibasa  
7. Dr. R. K. Mishra, Sabour, Bhagalpur

21. The following members voluntarily promised donations towards the Provincial funds as noted against their names:—

1. Dr. Abdul Hakim—M. O. Madheypur Dispensary  
P. O. Madheypur, Darbhanga Rs. 50  
2. Dr. K. P. Verma M. O. Keshariya, P. O. Keshariya, Champaran — Rs. 25  
3. Dr. N. K. Prasad—Jail Doctor, Motihari  
P. O. Motihari —Rs. 40  
4. Dr. L. C. Sinha—Darbhanga—Rs. 51  
5. Dr. S. M. Reza—M. O. Khutauna, D. B. G. —Rs. 40  
6. Dr. T. P. Choudhury—Colgong, Bhagalpur—Rs. 25  
7. Dr. P. C. Sen—Chaibasa —Rs. 20  
8. Dr. R. K. Mishra—Sabour, B. G. P. —Rs. 25  
9. Dr. Sarju Prasad—Sadr Hospital, Motihari —Rs. 25  
10. Dr. D. R. Yadava—Samastipur —Rs. 50  
11. Dr. K. P. Agrawal—Darbhanga —Rs. 51

Total: 402

## ASSOCIATION NOTES

All Branch Proceedings should be sent to Dr. V. D. Sathaye, General Secretary, A.I.M.L.A., 502, Narayanpeth, Poona who will edit and send the same for publication in the Journal.

4. 24 Parganas (Bengal):—The General Meeting of the Branch was held on 26th March 1947. Dr. Roy Chowdhari was in the chair. The proceedings of the last Meeting were adopted and some branch fund was collected.

5. Muzaffarpur (Bengal):—The Annual General Meeting of the Muzaffarpur Branch was held on 26th March 1947. Dr. B. Sirkar presided. The meeting in a resolution expressed its deep sense of sorrow on the sad and unexpected death of Dr. N. C. Sinha Civil Surgeon, Muzaffarpur. After that the annual report was adopted. A decision to stand for the membership of the District Board by the licentiate was also taken. It has also been decided to organise a District Conference. Dr. Sarkar and Dr. S. P. Sinha were respectively elected as President and Secretary for the year 1947.

6. Mymensingh (Bengal):—The Annual General Meeting was held on 2-2-47, Dr. B. Chowdhari presiding. The following members were elected as President and Hon. Secretary for the current year 1947.

Dr. A. Talukdar—President

Dr. K.K. Saha—Hon. Secretary

7. Punjab Provincial Branch:—An executive Committee meeting was held on 16-2-47 and following decisions were taken unanimously:—

(1) To send a deputation to the Hon. Minister for Health, Punjab Government for representing the service grievances of the medical licentiate.

(2) To hold the provincial Conference on 20th and 21st April 1947. The venue will be Lahore. The Hon. Minister for Health will be approached and will be requested to inaugurate the Conference. The propaganda committee was also formed and R. B. Dr. Mathradas was unanimously elected as President of the branch.

8. Madura (Madras):—The annual meeting of this branch was held on 2-3-47. The Secretary Dr. N. Suryanarayanan gave a short account of the work done by the association during his term of office and touched on the important events of the year namely, Poona Conference, Deputation to the Health Minister, Madras Medical Council election and about the report of the Salary Committee. Following members were elected as President and Hon. Secretary for 1947:

Dr. S. Kanthimathinathan—President

Dr. N. Suryanarayanan—Hon. Secretary

The meeting expressed its appreciations of the valuable services rendered by Major General Huban to the medical profession of Madras Presidency and sent a goodwill message on the eve of his departure to England after his retirement from service.

The meeting also passed the following resolution:—“This meeting of the All India Medical Licentiate's Association, Madras Branch views with extreme regret and disappointment that in spite of the promises made by the present popular Government that they will remove all “Caste” distinctions in the Allopathic Medical profession for which the All India Medical Licentiate's Association has been agitating for the past 40 years, the revised scales of salaries and the designations given to L. M. Ps still glaringly differentiate between licentiate and graduates. There are many other disabilities the licentiate are labouring under which the artificial distinction maintained by a foreign bureaucracy is alone responsible. This meeting therefore requests the Minister for Public Health to do away with all distinctions and set up a uniform Provincial Medical Service and place all licentiate now in service in the order of their seniority in one civil medical list.”

9. EX-I.A.M.C. Officers' Association, Punjab:—First Annual General Meeting was held on 26-1-47. About hundred officers attended. The meeting seriously considered the glaring grievances of the I. A. M. C. personnel. All the members expressed their deep discontent and dissatisfaction as their grievances were not redressed even after eight months of constitutional representation. Feelings ran very high and after animated discussion the meeting decided to make a final approach to the Premier of the province before resorting to other measures to get the basic demands of the EX-I. A. M. C. officers in the province, gazetted status and appropriate emoluments.

The meeting also elected following office bearers for the year 1947:—

Capt. Tara Singh, EX-I. A. M. C.—President

Capt. G. A. Asghar—General Secretary

10. Narayaganj (Bengal):—A General meeting was held on 2-11-46. Dr. A. C. Sen Gupta, Secretary of the branch described his experiences of the last Poona Conference. The meeting also discussed the question of relief to riot victims.

A meeting was also held on 3-3-47 at Narsingdi. This place was specially selected in order to carry on propaganda for membership of the Association in the remotest villages. It is expected that about eight licentiate will join the association immediately.

11. Parasia (C.P.):—A Meeting of the Parasia branch (C.P.) was held on 29-12-46.

Following business was transacted. The Secretary read out the letter received by him from the Secretary, Coal Committee of the C.P. & Berar Mining Association. The letter dealt with the demands made by the Chindwara Mining Area Medical Association. It was decided that Dr. Tembhekar be requested to supply the information required by the Coal Committee and to ask for representation at the next meeting of that Committee.

It was also decided to carry on intensive propaganda to create sufficient sanction behind the grievances.

12. Bengal Provincial Branch:—The Annual Report of the Bengal Provincial Branch of the A. I. M. L. A. for 1946-47:

Since the successful 12th Session of the Provincial Conference held in January 46, only one meeting of the Provincial Standing Committee could be held and owing to the unprecedented communal unrest the Provincial Branch could not hold any other Standing Committee meeting nor even the Provincial Conference. During the period under the report only one branch at Cantai in Midnapore District could be started. At the close of 1945 membership strength was 1641. Since then 318 new members have been enrolled while 168 gave up their membership. The present strength therefore is 1781 only. For redressing the various grievances a deputation was sent to the Surgeon General. A Conference of Ex-I.A.M.C. officers was also held on the 15th and



16th June 46. This branch also undertook relief work in the districts of Noakhali and Tippera. All together 625 letters including Circulars have been issued.

**Hissar (Punjab)**—Copy of the resolution adopted at the All India Medical Licentiate's Association, Hissar Branch at its meeting held at Hissar on 9-3-47.

This meeting of the All-India Medical Licentiate's Association notes with great dismay the adoption of the revised grade of the Rural Medical Officers by the District Board, Hissar from October, 1946 as 80-4-100/5-150 and 175 for only 2 posts; whereas the Punjab Govt. have allowed 80-4-100/5-150/175-200 from November, 1945. The D.B. Hissar have allowed the revised grade to the education Department from April, 1946.

This meeting while disclosing great discontentment among the Rural Medical Officers impresses upon the D.B. authorities the advisability of fair dealing to the Rural Medical Officers by allowing them the revised grade similar to the Punjab Government and from the same date i.e. November, 45. In case no action is taken by the D.B. this meeting advises the Association authorities to represent this question to the Punjab Government, or take other suitable action to bring pressure.

2. This branch meeting recommends to the D.B., Hissar to allow every Rural Medical Officer his emoluments as detailed in the Punjab Medical Manual Para 363 (Reprint 1937) according to which every Medical Officer is entitled to receive Rs 150 to Rs. 175 (revised grade) after 20 years and Rs. 175 Rs. 200 (revised grade) after 26 years service.

3. Read letter No. 1578-81, dated 19-2-47 from the District Medical Officer of Health, Hissar addressed to the Medical Officers who served as Recruiting Medical Officers during the present war indicating that neither the military authorities nor the D.B., Hissar are going to give their pay for their joining time.

It means unaccountable break of their services in the case of permanent employees especially under the present circumstances. The branch meeting requests the Inspector General of Civil Hospitals Punjab, Lahore through whose agency the Medical Officers were selected for the military service to kindly intervene and set right the matter.

4. This branch meeting considers the present fixed T.A. of the Rural Medical Officers of Rs. 12-8-0 p.m. as totally inadequate in view of the high conveyance charges in this Hissar district where for want of good roads conveyance is difficult. This Association recommends to the authorities to grant at least Rs. 40-0-0 p.m. if proper and regular touring is desirable.

**Announcement:**—1. Bengal Provincial Branch has elected the following to the posts of Provincial President and Secretary for the year 1947:

Dr. A. N. Roy—Provincial President

Dr. Jyotirmoy Majumdar—Provincial Secretary

2. Central India and Rajputana Provincial Branch has elected the following Doctors to the posts of Provincial President and Secretary for the year 1947:

Rai Sahib Dr. Raghunath Singh—Provincial President

Dr. R. A. Bhaṅawat—Provincial Secretary

13. **Shrimangal Branch:**—Fourth monthly meeting of this branch was held on 17th March 1947. Ten members attended. Along with the routine work carried by the meeting, clinical subjects were also discussed. Dr. S. B. Datta and Dr. S. K. Das read the papers on Hepatitis and Beriberi respectively.

14. **Cuttack Branch:**—A general meeting of this branch was held on 23-3-47 at Buxibazar. Dr. R. Das was in the chair. Following resolutions were passed:

(1) Resolved that for the inauguration of a "Provincial Branch", necessary action and sincere effort must be made, to organise "District Branches" of the A.I.M.L.A. (Orissa) and the Executive Committee is to do the needful at the earliest possible date, with the following members who may be co-opted

1. Dr. Matilal Tripathy
2. Dr. N. Mohapatra
3. Dr. Rabindra Nath Ghosh
4. Dr. J. K. Mahanty
5. Dr. Bipin Behari Das

(2) Resolved that, in view of the fact that the prices of all commodities of living are highly inflated, all the members are requested not to accept any professional fees of less than Rupees four.

(3) Resolved that the Association requests all the members of the profession to bring to the notice of this Association or Medical Council of Registration, Orissa, any case of infringement of the observance of the codes of Medical Ethics for necessary action.

(4) Resolved that the Association urges the Provincial Government of Orissa, to execute the Bhoire Committee Plan, at an early date, with such modifications as is deemed necessary, and to accept all Licentiatees as "Basic Doctor".

(5) Resolved that this Association urges the Provincial Government of Orissa, to effect promotions of S.A.S. to the Provincial Cadre at an early date in view of the fact that such promotions have been effected since the creation of this Province and that efficient Candidates for the same are not lacking.

15. **Nadia Branch (Bengal):** A monthly meeting was held on 19-3-47. Ten members were present. The letter of the Provincial Secretary regarding the elections of Dr. A. N. Roy and Dr. Majumdar as President and Provincial Secretary respectively was read out. The meeting expressed its regret for the fact that they were not informed previously about the election and thus they were deprived of their right of voting. Scientific discussions also took place in the meeting.

15. (a) **Bombay Branch:**—Annual Meeting of the Bombay Branch of the A.I.M.L.A. The annual meeting of the Bombay branch was held on 16-2-47. The Honorary Secretary submitted the annual report which covered the period from 12-1-46 to 16-2-47 and the report was adopted by the meeting. Following are the salient points from the report. The membership on the register is 180. Monthly circulars about managing committee and membership general body meetings were regularly sent. A campaign for enrolling new members was also undertaken but it did not meet with much success. However, it is hoped that this campaign will be carried on with more enthusiasm during the current year. The special feature in the organisation of the General membership meetings was that the venue of each meeting was selected in difficult parts of Bombay city. That evinced interest in the members and in general the attendance was also comparatively large. In these meetings clinical subjects and some cases were discussed.

Amongst the resolutions passed in various meetings the following are worth noting: (i) Dr. U. B. Narayanrao, an enthusiastic worker, was congratulated on his being elected as president of the Indian Medical Association, Bombay Branch. (ii) Dr. H. A. Amesur was congratulated and a tea party given in honour of his having been elected as President of the I. M. Association.

Following were elected as office bearers for the current year:

President ... Dr. A. D. Mastakar  
Hon. Secretary ... Dr. A. D. Patel

16. **Tinsukia Branch (Assam):** The monthly meeting was held on 13-4-47. 15 members attended. The meeting discussed the Acting I.T.E.'s Secretary's letter regarding the pay-scale of the Tea Estate Medical Officers. Sticking unanimously to their original resolution, the meeting provisionally accepted the present scale under protest. The meeting by a resolution stressed that the authorities should give immediate effect to the said scale. After transacting the usual business, the meeting terminated.

17. **Poona Branch:** The Annual Meeting was held on 19th November 1946. It was attended by about 60 members.

The secretary in his annual report referred to the most important events that took place during the period under the report. The 34th Annual Conference of the All India Medical Licentiate's Association and the 4th Bombay Provincial: both these Conferences, he said were successful only because of the spirit of co-operation of the members of the Poona Branch.

The Secretary also referred to the election of Dr. V. D. Sathaye to the General Secretaryship.

**Activities:**—Eleven meetings were held during the year and the average attendance was about 20. At present the number of the membership of the branch is 90. Clinical demonstrations and lectures were regularly held.

The following were elected for the year 1946-47: President: Dr. M. P. Joshi, Hon. Secretary: Dr. M. M. Ashtaputra, Dr. M. G. Bhide.

We regret to record the death of Dr. Ramrao Hari Golvelkar at Ahmedabad on 31-3-47 at the age of 74. He was for the long time the Secretary of the Bombay Branch of the A.I.M.L.A.



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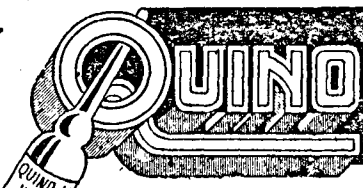


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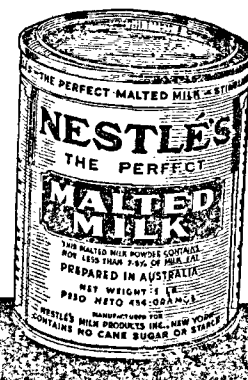
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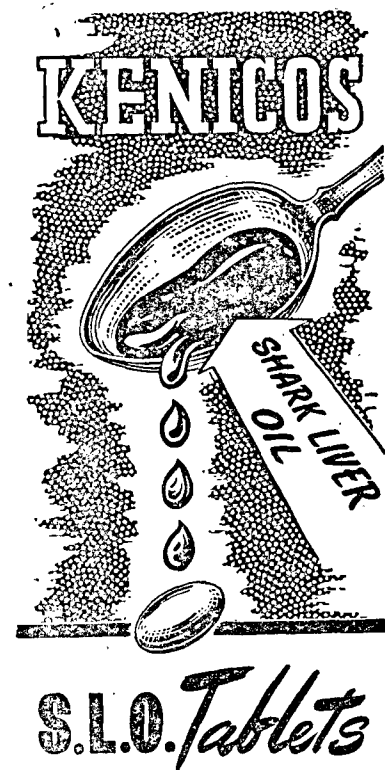


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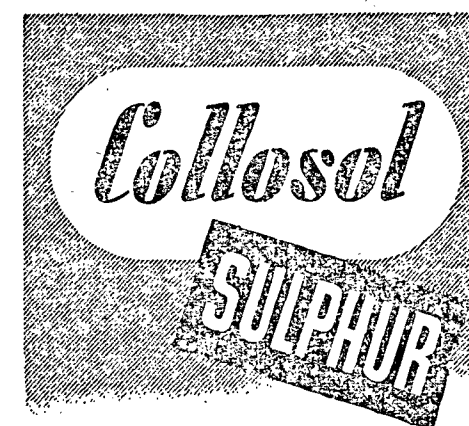


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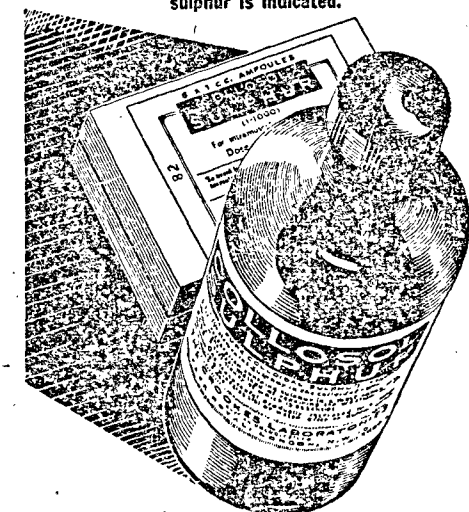
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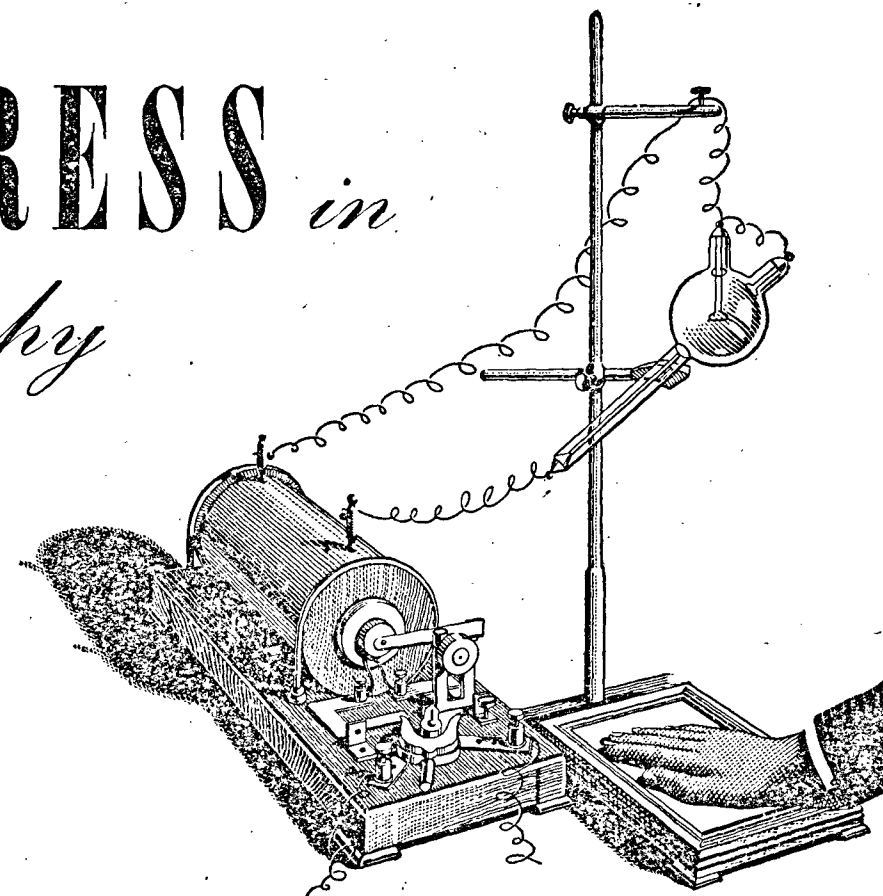
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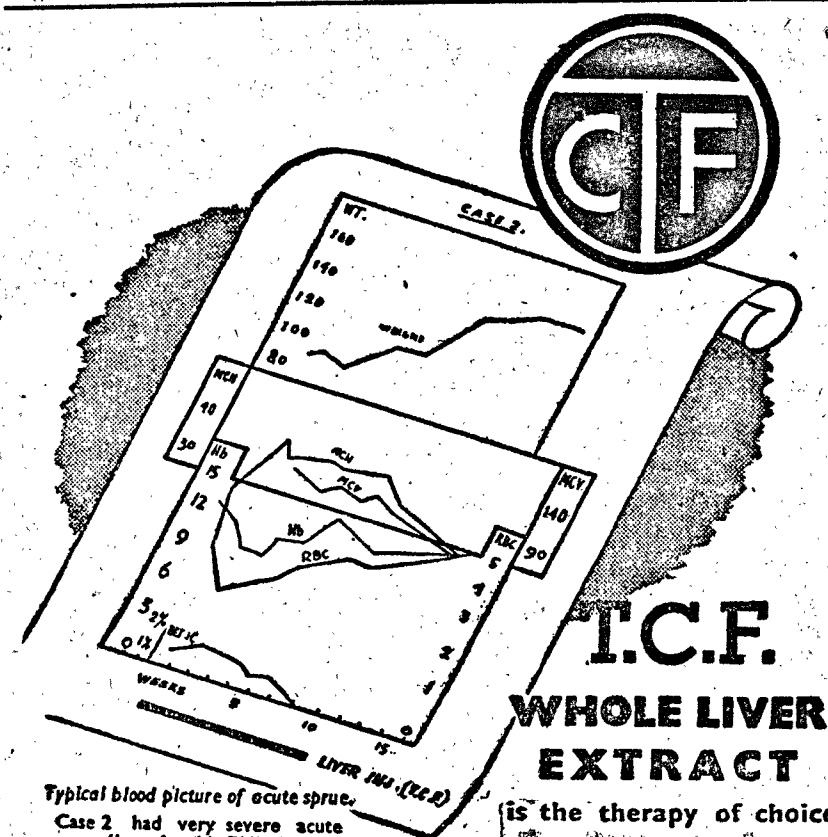
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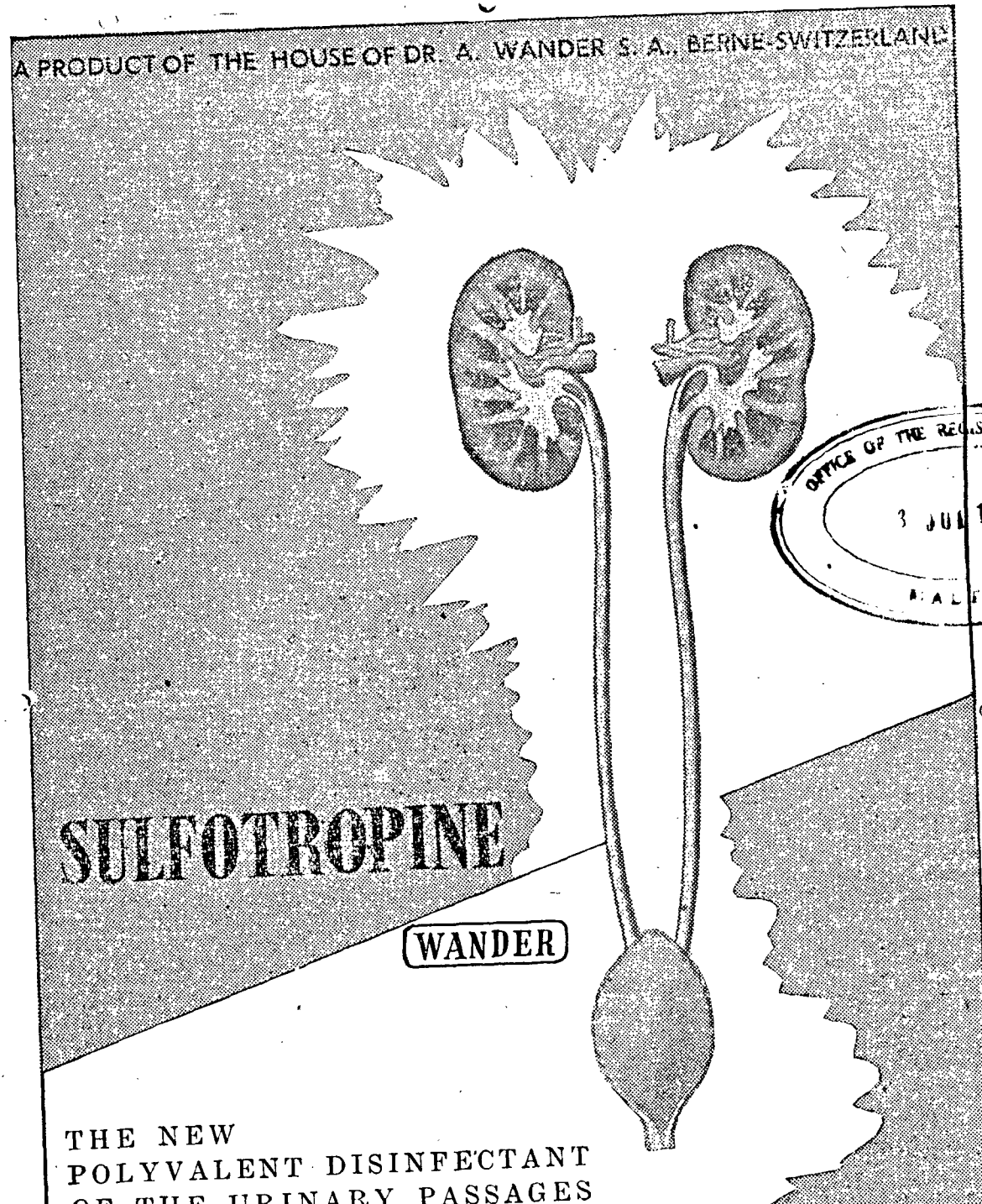
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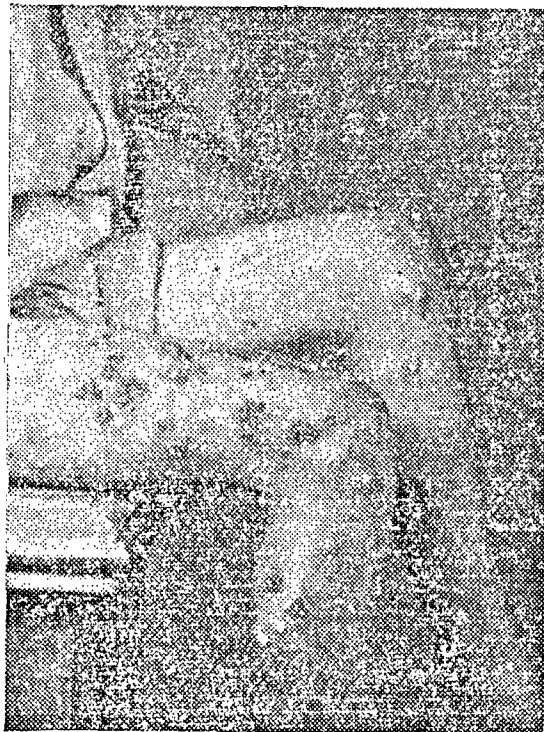
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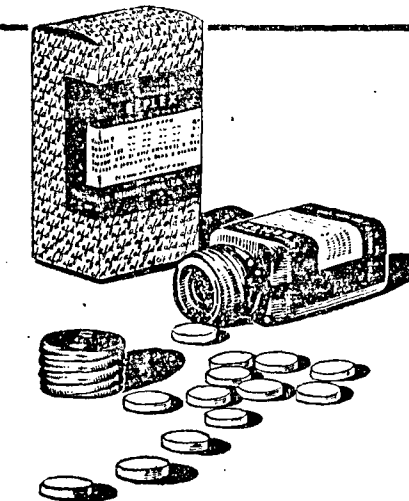
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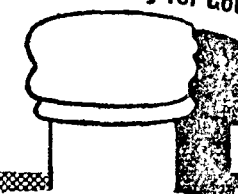


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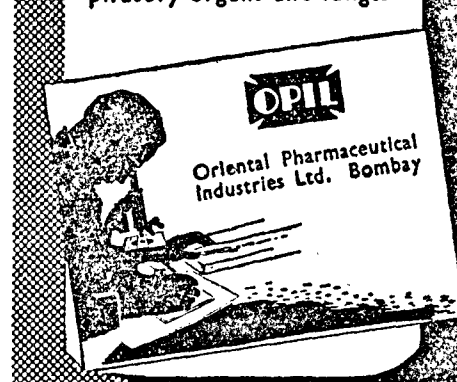


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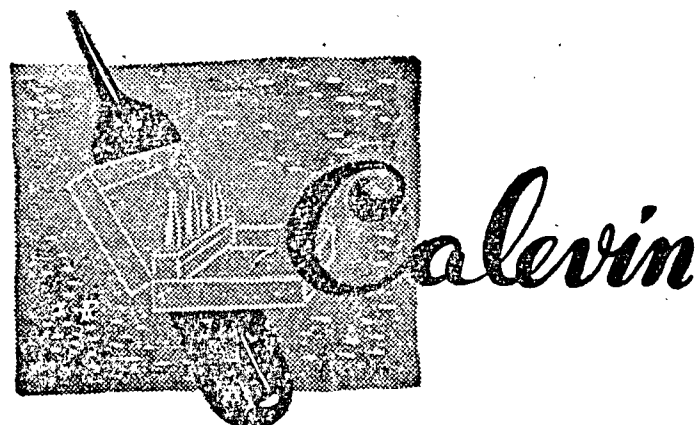
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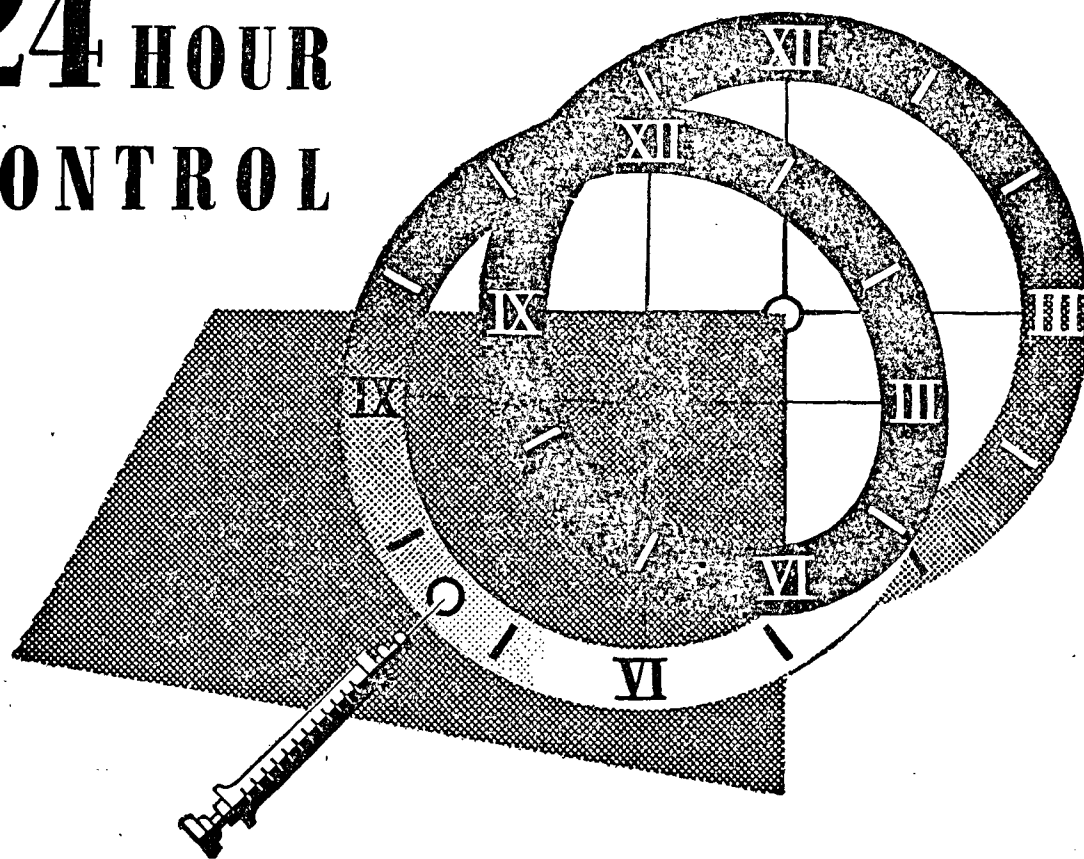


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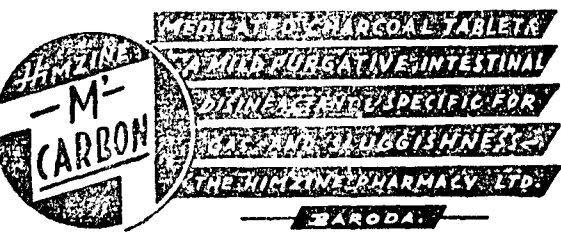
**Indian Medical Journal**

(Journal of the All-India Medical Licentiates' Association)

Vol. 41. Madras: June 15, 1947. No. 6

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**OUR MONTHLY SURVEY**

**One System of Medicine:—**Inaugurating the Committee on the Indigenous Systems of Medicine set up by the Central Health Department, in New Delhi on March 23, of which Col. Sir R. N. Chopra is the Chairman, the Member in charge of Health, Mr. Ghaznafar Ali Khan said in the course of his speech:

"The state of medical relief in India leads one to a very pertinent enquiry, as to whether the three systems cannot be combined into one all-comprehensive system. For medicine, gentlemen, is not a bundle of dogmas or esoteric theories set down at one time and valid for all time. It is a matter of science, of cause and effect, of test and proof, and a matter of constant adaptation to the ever-changing conditions. Considered thus, it should not be exclusive; but should include all that the experience of mankind has proved to be efficacious, all that practice of experts has shown to be beneficial. Why not then a synthesis, a gathering into one of the medicine and surgery, ancient and modern, Indian and Western?"

This is exactly what we have been advocating in the columns of the *Journal*. The Science of Medicine is one and indivisible, and it would not be in the interest of the suffering humanity if different systems of medicine are allowed to prevail in our country. The indigenous systems have borrowed considerably from each other and also from the western system. Time has now come for the synthesis of all these systems and the establishment of a comprehensive system of medicine which should be the basis of medical education imparted in our University Medical Colleges. We therefore heartily endorse the following appeal made by the Health Member to the Members of the Committee.

"I hope you will strive to work out not only a system of medicine and of medical relief of the most extensive nature but one based on rational lines, capable of proof and verification, and thus of general acceptance. The heritage

of India coupled with the discoveries of the West should produce a system, universal in its application and general in its benefits. India which has contributed so greatly to many sciences, may yet again enrich the world with a system of medicine, effective, inexpensive, and yet, rational, and therefore acceptable.

To achieve this noble object it is essential not only that we plan to extend the facilities for medical relief, but also that we carry on research and enquiry, conduct experiments and test clinically and standardise and systematise our medical knowledge.

Gentlemen, I hope you will take up your duties in this spirit. You have my best and sincere good wishes in the task before you."

**It is Nothing but Encouraging Quackery:—**The Government of Madras in its enthusiasm to help the practitioners of indigenous systems of medicine have recently permitted the district collectors to recommend names of rural indigenous practitioners for registration. They have to pay a registration fee of Rs. 15 plus a stamp fee of Rs. 1-8. This is nothing but encouraging quackery. The Collector, who is a lay man, is obviously not the right person to recommend names for medical registration. This must have been delegated to the Board of Indian Medicine, not to an individual civil servant. The School of Indian Medicine has been existing in Madras for the last 20 years and more and it has been producing quite a good number of Licentiates and Fellows in Indian Medicine. Where then is the need or the urgency to register unqualified indigenous practitioners and thus legalise their mal-practice? Most of these indigenous practitioners are illiterate. They perhaps know only to sign their names. They do not know what is Ayurveda, Unani or Allopathy. They know the names of a few medicinal herbs and oils, and with this they manage to treat diseases of all kinds. To allow such persons to be registered as practitioners of Indian Medicine is absurd. This is certainly not the right way of bringing medical relief to the villager or of fostering Indian Medicine.

**Vanaspathy:—**The food value of Vanaspathi—popularly known as vegetable ghee—has been recently brought into discussion on the floor of the Council of State and Mr. M. G. Motilal moved a resolution to appoint a committee to enquire into this question. It is reported by the Food Member, Dr. Rajendra Prasad, that there are at present 23 Vanaspathi factories producing over 190,000 tons and that these figures would shortly rise to 69 factories and 490,000 tons. Owing to the scarcity of ghee and its high cost, Vanaspathi has become not only popular but also the main source of edible fat for the people. The question therefore is not whether Vanaspathy is equivalent to ghee in its nutritional value—which of course it is not and the manufacturers do not claim it is so—but whether it would be right, under the present circumstances of food shortage, to prevent the large scale use of Vanaspathy. We think not. After all Vanaspathy is one source of fat and not the only source of fat for the people. If we are allowed to use gingelly, mustard or ground-nut oil without raising the question of their comparative nutritive value, why should we raise it in the case of Vanaspathi? It is chiefly prepared from ground-nut oil which is hydrogenated and brought to a certain melting point and which is reinforced with Vitamin B before it is finally marketed. It is said that experi-

ments conducted on rats showed that the third generation of them was blind. Such experiments have no practical value because there are many sources of fallacies in such experiments. In our view Vanaspathi fulfills a definite need, though it is inferior to cow's or buffalo's ghee and it would not be right to curtail its use by restricting its production. By all means let its nutritive value be analysed and assayed. But let not unnecessary prejudice or half-baked scientific conclusions be brought to bear on the utility of Vanaspathi or its nutritive value.

## ADDRESSES AND ARTICLES

### T. A. B. Vaccine as a Curative Agent.

BY

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In my previous article on the subject, published in this Journal (*I. M. J.*, vol. 38, No. 9, 1944), I dealt with the role of T.A.B. Vaccine as a specific agent in the curative treatment of enteric infections. Herein, I propose to discuss its value as a non-specific immunising agent.

It was during the last great war of 1914, that the attention of scientists was first drawn to the possibility of non-specific immunisation, owing to the improvement in fibrositis, and rheumatoid and gonorrhoeal arthritis, noticed in soldiers after prophylactic inoculation with T.A.B., or Influenza Vaccine (Cleland).<sup>1</sup> It was, then, suggested that the beneficial effects in these instances were due to the peptones and other allied proteins, produced in the culture media, used for the preparation of the vaccine. Since then, various foreign proteins, e.g., T.A.B., milk, peptones, proteals, horse-serum, human blood or serum, etc., have been extensively tried by various observers. Auto-haemotherapy and auto-serotherapy also belong to the same category.

Though non-specific protein-therapy has, so long, been used with success in a number of diseases, no definite explanation has yet been put forward for its mode of action. The Proteomorphic Theory of Miller<sup>2</sup> suggests that the injection of Proteals (hydrolysed vegetable proteins) stimulates the haemopoietic system. But, in view of the complex mechanism of bacteriolysis, or neutralisation of bacterial toxins, there is no reason to believe that, only increased haemopoiesis in itself is enough to overcome an infection. Reenstierna<sup>3</sup> holds that the beneficial effects are due to the rise of temperature, induced by non-specific antigens—Pyrogenic Theory, which has, later on, been supported by Bray.<sup>4</sup> But, it has not yet been shown that any organism other than gonococcus becomes more vulnerable to the defensive forces of the body on exposure to a high body-temperature. Hence, these theories are but partial and insufficient.

In pursuance of the view of Wichard,<sup>5</sup> most authorities, however, yet hold that the parenteral administration of foreign proteins has a universal stimulating effect on the cellular elements of the body, either functional or immunogenic, the effect being more pronounced on the system, previously sensitised by infection or inoculation. The lighting-up of the infection during the non specific reaction reactivates the healing processes, either by the production of homologous antibodies, or by raising the opsonic index of blood, or by a combination of both the processes. And this mechanism forms the basis of Collateral Immunity. Hence, the best indications for the application of non-specific protein-therapy would be in cases of:—(1) deep-seated foci of infection unsuitable for culture or/and auto-vaccine, (2) long-standing infections, or infections with organisms of lowered virulence, where the specific stimulus is not sufficient to activate the whole system, (3) Chronic infections with structural changes, preventing sufficient circulation to the damaged tissues.

Next, coming to the diseases, in which T. A. B. has been used, we find that it was first used therapeutically by Reenstierna (1920) in gonorrhoea, along with anti-gonococcus serum, for induction of high temperature, in order to render gonococci more sensitive to the specific antibodies. Later, he added dead cultures of typhoid bacilli to anti-gonococcus serum to augment its action.

Arthritis, the commonest complication of gonorrhoea, is the next disease in which Typhoid Vaccine has extensively been administered intravenously, in extremely varying doses by different workers, e. g., 10 millions (Snyder and Ramirez, 1921), 100 to 500 millions (Cowie, 1921), 20 to 50 millions (Waggoner, 1921). Later on, this form of treatment has been recommended in practically all forms of Articular and Peri-articular inflammations (Yeoman, 1926), including Arthritis Deformans, Fibrositis, and Myositis.

In other complications of gonorrhoea (Bray, 1933) both in the male and female, viz., Orchitis, Lymph-adenitis, Salpingitis, discharge from the Cervix Uteri (Greaves, 1932), and other pelvic inflammations (Glinn, 1926), it has proved beneficial.

Asthma, being due to hypersensitiveness to foreign proteins, Latham<sup>6</sup> recommended intravenous injections of dead Typhoid Bacilli in massive doses for immunisation against all foreign proteins. Boyd, Peterson and Miller (1923) used Typhoid Vaccine in 50 million doses intravenously in the disease. From its use in Asthma, the vaccine has been used in other allergic diseases as well, viz., Eczema, Serum Sickness (Tweddel, 1920), etc.

Goodman and Gottesman (1923) treated Thrombo-angitis Obliterans by repeated intravenous injection of anti-typhoid vaccine in doses of 1/4 c. c., 1/2 c. c. 3/4 c. c., upto 2 c. c., for 2 or 3 months. Barker (1931) has also got favourable results with this sort of treatment, with an initial dose of 15 to 30 millions. Allen and Smethwick (1928) used Typhoid Vaccine in Peripheral vascular diseases, including those of vasomotor origin, viz., arterio-sclerotic gangrene, Thrombo-angitis obliterans, Raynaud's disease etc., Bray (1933) also maintains the same view.

Chronic infective conditions e.g., Nasal Sinus Infections<sup>7</sup>, Sphenoidal Sinusitis<sup>8</sup>, Corneal Ulcers, Ulcus Serpens (Whatman, 1933) have also been treated with intravenous Typhoid Vaccine. Even, Psychoses due to chronic infections have been beneficially influenced by intravenous T. A. B., 100 millions to begin with, repeated alternate days with increasing doses (Greaves, 1932). Ambler and Van Cleve (1934) recommended nonspecific protein-shock therapy with milk or typhoid vaccine in interstitial keratitis due to syphilis. The pyogenic reaction after massive doses of T.A.B., e.g., 300—600 millions, i.v., daily has been found useful in the treatment G.P.I. (Mackenzie, 1927), in addition to the usual anti-syphilitic treatment. Paterson (1932) used T.A.B. intravenously in Filariasis with involvement of the inguinal glands. In the treatment of Climatic Bubo, H. Willoughby (1932) advises protein-shock in the form of 4 to 6 injections of T.A.B., i. v., at intervals of 4 to 5 days, beginning with 100 millions, and increasing by 50 millions, at each re-injection; Hanschell (1935) recommends one to three injections of Typhoid vaccine, 100 millions each repeated in 4 or 5 days. Protein shock treatment has been tried even in Gastric Ulcer<sup>9</sup>. As an adjunct to sulphonamide therapy, typhoid-paratyphoid vaccine was first used in the treatment of Subacute Bacterial Endocarditis by Solomon (1940); it has again proved its usefulness in this disease during the last great war<sup>10</sup>.

From the facts detailed above, it is apparent that though T.A.B. vaccine has long been used for non specific immunisation with promising results in a large number of diseases, there are great differences of opinion as to the dosage and duration of treatment. In general, it may be said that the dose depends on the stage of the disease, general condition and personal susceptibility of the patient, and the reaction desired. On an average, 5 millions of Typhoid Bacilli should be the initial dose for children, and 15 to 25 millions for adults, increased by an equal number at each re-injection, at intervals of 3 to 6 days. The most desirable reaction is that in which there is a rigor, sharp rise of temperature, and its quick fall with perspiration. The same dose should be continued until it ceases to produce any shock. And the urine should be examined for R. B. C., the day after injection.<sup>11</sup> As regards the mode of administration, only the intravenous route has been found to be effective. Recently, it is being given intra-dermally, in much smaller doses, particularly in some skin-diseases and in Filariasis.

Untoward symptoms sometimes met with after administration of T. A. B. Vaccine, are head-ache, pyrexia, nausea, vomiting, etc. Allergic phenomena have also been noted, in some cases. So, it is advisable to test individual susceptibility to the vaccine in every case before its administration (Bonime, 1932) The methods usually employed are:—(1) Ophthalmoreaction (2) Dermal or Scratch method (3) Intra-dermal method.

Regarding contra-indications, it may be said that violent reactions have sometimes been noted after administration of T. A. B. Vaccine. Hence, it should not be used in cases of extreme emaciation, cardiac decompensation, excessive hypertension, tuberculosis, very low blood-pressure, acute organic kidney lesions,

and alcoholism. Some authorities discard its use in all forms of allergic and anaphylactic conditions. But, in view of the good results obtained in some allergic diseases, there is no harm in using the vaccine in every suitable case, if proper precautions are taken, as already mentioned.

In conclusion, I may add that T. A. B. is one of the oldest non-specific immunising agents yet in use. The reactions after its administration are negligible, and the results are quite satisfactory. Whatman<sup>12</sup> rightly remarked, "Milk is less constant in its action than Typhoid Vaccine". It is worth trial in cases requiring an additional stimulus to light up the defensive processes of the body. With the inclusion of Sulphonamides into our therapeutic armamentarium, the field for non-specific proteins has become much wider, since it has been shown that these new drugs act best, when the usual immunity-processes are active in the system. Moreover, the recent advances in the preparation of the vaccine, i.e. killing and preservation with alcohol, may further enhance its usefulness.

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## Infective Hepatitis

BY

Dr. S. B. DUTTA.

*Post Srimangal, Sylhet. Assam.*

During the last rainy season three consecutive cases attended my dispensary for the treatment of jaundice. They were between the ages of 7 and 12. Two of them were alright after the usual treatment, but one of them, a girl aged 12, had a relapse. She started bleeding from the gums severely. As vitamin K preparation was not available, she was treated with serum and calcium without success and the girl died the same night. It is curious to note that the other two cases which recovered came from the same village and were taken ill at about the same time as the girl who died. I tried to trace similar cases in that village but with no result. These cases were in all probability cases of infective hepatitis and this tentative diagnosis was made on clinical grounds only.

**History:**—Infective hepatitis was described as an epidemic in Scandinavia in the year 1925-27. It is now believed that the jaundice cases of first world war in which *Leptospira Ictero-Haemorrhagica* were absent and those which defied all investigation might have been cases of Infective Hepatitis. During the last war in 1939 the disease again re-appeared.

Since 1939 till the beginning of 1945 it baffled all experimental inoculation, though it was known

that it was due to some filtrable virus and was very infective. Now it is known that this is a very infective disease and passes from man to man by all natural secretions of the infected person through nasopharyngeal and intestinal mucus membrane. (*Lancet*, 10th November, 45.)

**Signs and Symptoms:**—There is nothing very distinctive as to enable us to make absolute diagnosis of the disease from other types of jaundice specially the catarrhal jaundice. The prodromal or the pre-icteric symptoms are rather suggestive than diagnostic. In an epidemic this is very easy but fallacies should be borne in mind. Specially arsenical poisoning and post malarial icteric tinge may lead to wrong diagnosis. A careful history of the case will reveal association with other cases during an epidemic. The onset is gradual. The first symptoms are anorexia, pain or discomfort in the epigastrium and gastro-intestinal trouble as diarrhoea alternating with constipation. Nausea and sometimes respiratory catarrh are not uncommon. This is followed after 4/7 days by onset of chill and fever. In some cases this prodromal symptoms may be absent and the disease may be ushered in with a chill and rigor simulating malaria. This febrile stage lasts for about a week and then the jaundice sets in. This is the icteric stage. The fever may be high, continuous or low remittent. The jaundice ranges from a slight icteric colour of the conjunctivae to a deep yellow colour. Intensity of the jaundice gives an idea as to what time a case will take to recover. The liver becomes tender and enlarged. It is very soft to touch. The spleen enlarges. The pulse rate is reduced and the signs and symptoms are almost like catarrhal jaundice.

In some cases the icteric stage does not develop and these non-icteric cases result in fallacies of diagnosis.

**Prognosis:**—The disease itself is not dangerous and the death rate, it is stated, is 1 in 1000, bearing in mind that many non icteric cases are not recorded.

**Diagnosis:**—Diagnosis is easy during epidemics. Bilirubin may be detected by Franke's Methylene Blue test. A drop of 0.2 per cent aqueous solution of Loeffler's Methylene blue is added to 5 c. c. of urine. If the test is positive the solution turns into a brilliant green colour immediately.

**Duration of Treatment:**—There is no specific treatment of Infective Hepatitis. Recovery is accelerated by rest and retarded by premature activity. Fat free diet is not essential but is helpful.

The following drugs were tried. Glucose by mouth and I. V injection, ascorbic acid tablets and insulin. Insulin injection (5 to 10 units) with 5 ozs. of glucose by mouth was once advocated as a treatment but as the disease has so low a mortality, and is of variable duration it could not prove of value.

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## Blindness\*

By

Dr. T. P. CHOUDHURY

Bhagalpur Bihar.

It implies inability to perceive light which may be partial or complete. It is a sequelae of ocular diseases in almost all cases excepting a few unfortunates who get it from their very infancy. The number of blind men in India is great and increasing day by day. Hence through this short note on blindness, I like to draw the attention of the medical profession as well as of the Government to eradicate these evils from the society by prevention and energetic treatment of the causes responsible for it.

**Common Causes in Children:**—are

- (1) Ophthalmia Neonatorum about 50 per cent.
- (2) Congenital defects about 25 per cent.
- (3) Intra-ocular inflammation about 15-20 per cent.
- (4) Other diseases-5-10 per cent.

**Common Causes in Adults:**—In middle life also, high incidence of ophthalmia is noticeable. Choroiditis and optic atrophy are important while Iritis, iridocyclitis are markedly advanced in relative position. Many of these are symptomatic conditions, the underlying cause being often syphilis.

Myopia is a prominent factor. Accidents in industrial concerns assume a high proportion. Incidence of glaucoma and cataract increases with the advance of age.

**Prevention:**—Ophthalmia Neonatorum may be prevented by (1) treating the expectant mothers for profuse vaginal discharge which is mainly due to gonorrhoeal infection and other purulent organisms.

Wiping out the closed lids of the child just after the expulsion of head from the vulva.

(3) Subjecting every child to Crede's method of prevention i.e., dropping 1 per cent silver nitrate lotion in the eyes.

(4) Watching of baby's eye for any discharge for at least one week. If found, early treatment to be adopted.

Congenital defects comprising optic atrophy, disseminated choroiditis etc., may be controlled by extensive treatment of syphilitic affections of pregnant women.

Intra-ocular inflammation may be nipped in the bud by timely rational treatment. In adults also a keen sense of cleanliness is required, as infection of eyes with soiled towels, handkerchiefs and fingers are quite common among them. Myopes may be benefitted by timely use of spectacles. This may be done by strict compliance of advices offered from time to time by the school medical officers. Vaccination may prevent the eyes from small pox affection and should be taken during the height of the epidemic. Anti-syphilitic treatment

\* A paper read at the 2nd Bihar Provincial Conference held at Darrbhanga on 17-3-47

must be instituted in all cases with a history of specific infection or where there is a strong Wasserman reaction.

High sounding ideals are of no use unless they are given effect to and this requires a good deal of co-operation between the people, medical men and the Government.

At present, the rural areas are totally neglected. In town, the people are rich and educated. They can afford to get themselves treated. But the people of the rural areas are poor and they cannot afford to get themselves treated at their own cost which is very expensive. They resort to domestic medicines of their own or fall prey to quacks.

Hence rural dispensaries should receive sufficient amount of anti-venereal drugs to cope with the full requirement and not the nominal amount for show.

So far the ante-natal and natal care is concerned, the population of rural areas are not at all aware of it. They are utilizing the untrained dais and midwives for their labour cases and their dirty and untidy affairs lead to several anomalies, ophthalmia neonatorum being one of them. Hence appointment of trained dais and midwives should be made as early as possible and deputed to work in the interior of villages and should be placed under the supervision of medical officers.

As for the treatment of the intra-ocular inflammation is concerned the present system of treatment in outdoor dispensaries are subject to much criticism and should be replaced by improved methods. Most of the cases of eye affections are spoilt by the quacks in the interior of the rural areas and they come to rural dispensaries to seek treatment for corneal opacities, staphyloma etc., and return disappointed. Another group of cases of intraocular inflammations come whose diseases can be cured but for the way in which they are attended to in the rural dispensaries. What practically happens in such cases is this. The poor people attend the dispensaries from 5 to 10 miles off. The medical officers issue prescriptions. The dispenser serves the medicine in drop doses to their eyes, hands over a little cotton wool for compress and yellow ointment in unclean paper. The poor patient has come today and is unable to come tomorrow or to continue treatment at all due to poverty, distance, negligence etc. Under the circumstances, the affection is cured if it were a minor one or the eye has gone for ever if it were a graver one.

Hence, may I suggest that the out-door relief for eye affections should be improved by supplying necessary medicines in small phials along with a dropper for a number of days (subject to doctor's choice) with sulfonamide drugs and vitamins, etc.

To bring about even these minor improvements it requires a good deal of finance. But it is not beyond the capacity of the Government to meet the expenditure.

What is the meaning in having rural dispensaries with little or no equipment? Not only blindness but also no other diseases could either be prevented or cured with the present drug equipment of the rural dispensaries.

In this connection, I strongly recommend to the Provincial Governments the immediate adoption of the Primary Unit Scheme of the Bhor Committee.

## CASE NOTES

**Medical Treatment in Acute Intestinal Obstruction.**—By Dr. L. M. SIMLOT, Medical Officer, Mukundgarh, Jaipur State.

Acute intestinal obstruction is one of the most serious medical or surgical emergencies, which demands the resources of both a physician and a surgeon, who should jointly undertake the management of a case. But in the far interior of districts where the dispensaries are not fully equipped and where at the same time it is not possible to persuade illiterate patients or their relatives and attendants to undergo surgical operations one has to give medical treatment at least. Of course, laparotomy is the only correct and suitable line of treatment for these cases.

I am herewith citing a case of acute intestinal obstruction to the reader of the *Journal* to try this medical treatment where laparotomy is not at hand and where the patient or their attendants definitely refuse to undergo surgical interference but may recover under pure medical treatment.

On the 4th February 1947, at about 6.30 A.M. one gentleman came to my house and informed me that his wife, all of a sudden, got severe pain with distention of her abdomen since 10 o'clock this morning. I immediately followed him as his house was very near to mine. I saw his wife, aged about 38 years, tossing and crying on her bed, rolling both her eye balls and gasping for breath, so much so, that she could not speak anything to me and she was semi-unconscious.

On examination I found thready rapid pulse, abdomen greatly distended like a full air-tight football, distension was mostly round about the umbilicus, tongue almost dry and little coated. Pain more or less continuous. Had one or two watery vomits. No flatus, but had one small motion prior to this attack of pain and distension as related by her relatives. Her pulse was 110 p.m. and temperature 97 F.; respiration very rapid.

**Lines of Treatment:**—

1. I gave her coramine 1 c.c. straight subcutaneously at about 7 A.M.
2. Atropin Gr. 1/100 subcutaneously a 7-10 A.M.
3. Turpentine Stupes,
4. Flatus tube left in. Waited for few minutes and then gave her
5. Turpentine Soap Water enema at about 7.30 A.M. but nothing came out and her condition remained the same.
6. Pituitary 1 c.c. subcutaneously at 8 A.M.
7. Flatus Tube left in.
8. Turpentine Stupes.
9. Calomel gr. 1/6 with little sodabicarb. gr. 5 one every 15 minutes and
10. Glucose (Dextrosal) water to which little sodabicarb added to drink. She did not pass any flatus nor any motion and condition remained the same.



11. Atropin gr. 1/100 subcutaneously at 8.30 A.M.

12. Turpentine-Soap water enema and castor oil oz. 1. by mouth at 9 A.M. But nothing came out except soapwater. No flatus, condition remained the same.

13. At 10 A.M. I again injected her Pituitary 1 c.c. subcutaneously.

14. Rectal Tube passed and Turpentine Stupes.

15. Strong antispasmodic mixture 1 oz. every hourly but there was no change in her condition and she remained the same as before. At last I again gave her one more high rectal enema at 12.30 P.M.—at this time to our surprise she passed lot of flatus and a big motion of foul smelling material at about 12.45 P.M. which relieved her from this severe pain and distension and she felt better and comfortable.

**Medical Problems of Refugees from the N.W.F.P. and Western Punjab.**—By Dr. BHAGAT RAM AGARWAL, L.S.M.F., *Relief Hospital, Chheharta, Punjab.*

After the riots in N.W.F.P. and Western Punjab, a large number of refugees started pouring into this part of the province. About 500 refugees were given protection in Chheharta relief centre. This subject is based on the study of these people.

1. **Scabies.**—This was by far the commonest cause of sickness. (90 percent of them suffering from it). The majority of the cases were secondarily infected thus complicating the cases further. It was very difficult to give them treatment *en bloc* and the second problem was as to how to disinfect their clothing, bedding etc. Sulphur ointment was given to every body but the disease was not uprooted due to contacts and reinfection. 25 percent of the cases were temporarily cured but most of them were re-infected. Benzyl Benzoate 25 percent emulsion was used, but it also failed due to the above mentioned drawbacks.

It still remains as a troublesome thing in spite of the best possible treatment.

2. **Dysentery**—was the 2nd cause of trouble to the people. There being no regular arrangement for the latrines and the removal of the excreta the cases started multiplying. Most cases were of bacillary type. Sulphaguanidine did remarkable good but the infection persisted due to flies and due to non-availability of disinfecting apparatus.

3. **Measles**—was the third menace to be fought. Every child below the age of ten suffered from it. It is remarkable that adults were safe and did not contract this infection.

4. **Chicken Pox**—Many children were simultaneously affected by measles and chicken pox.

5. **Small Pox**—Two cases of small pox occurred. Every one arriving was vaccinated immediately. Cases were segregated. Recovery was uneventful.

6. **Influenza**—common cold etc. were many but not of much significance.

**A Case of Algid Type of Malaria,** By Dr. HARIDAS DEY, L.M.F., *Medical officer, Chatmohar Charitable Dispensary and Auxiliary Government Hospital, Chatmohra, Pabna, Bengal.*

M.....a Mohammadian male aged about 25, of strong and muscular built, was suffering from suspected cholera and was first treated by a physician of his own village, 4 miles off from Chatmohar (Pabna). One fine morning of January last I was called in for consultation in this case. As there were a few cholera cases with fatal result near the adjacent house of that patient, and as he all on a sudden developed the signs and symptoms of cholera i.e., loose watery motions and frequent vomiting, the attending physician treated him with saline, cholera-phage etc. As the best and honest attempts of the physician proved abortive and as the patient without having been improved was going gradually downhill, I was called in the same night to see the patient.

**What I found and saw:**—The patient was in a state of collapse with thready and almost imperceptible pulse. Cold clammy sweat was present. Temp. 98° F. Resp. 22 p.m. His eyes were sinking and voice was husky. Tongue: dry and coated. Heart: both sounds were feeble. Lungs: nothing abnormal could be detected. Liver: not palpable. Spleen: just palpable below the costal margin and soft on palpation. Abdomen: slight tympanitis was present. Urine: stopped for last ten hours. Bowels: frequent loose, slightly blood tinged, and watery. At frequent intervals there was watery vomiting. Stools were offensive in odour. Extremities were cold. He was almost semiconscious. I was rather puzzled at first about the diagnosis of this dying patient. However I consulted the attending physician whose treatment for this particular case as Cholera was quite O.K. His oral temperature was 98° F. but the soft enlarged spleen struck me. Without losing any time and taking courage in both hands and losing all hope of life of the patient I injected him 10 grs. of quinine-bi-hydrochloride with 100 c.c. of glucose solution mixed with normal saline intravenously. I gave him Sulphaguanidine Tablets (2 tablets in powdered form) with soda bicarbonate every 3 hours. Hot fomentation was applied over cold extremities and coramine (Ciba) was injected for cardiac stimulation. After 6 hours another 10 grs. of quinine-bi-hydrochloride was injected in the gluteal region and 25 c.c. glucose (25%) solution with another ampoule of coramine was injected intravenously. After the second injection of quinine the condition of the patient seemed a bit improved. Purging and vomiting subsided much and temperature of the patient was raised to 100° F. The patient was not very thirsty. Sulphaguanidine tablets were continued. I waited till the morning when to my utter astonishment the general outlook of the patient was seen much improved though he did not pass any urine. Next day at noon, I again went to see the patient and found him much better. Purging and vomiting totally stopped and he passed about 2 oz. of highly coloured urine at about 10 a.m. I stopped sulphaguanidine and gave him Atrabrine Tablet by mouth and a plain alkaline mixture. The recovery of the case was uneventful. He is taking Elixir Vitamin B. Complex (T.C.F.) for his health and he is well at present.

**An Interesting Case: Was it Malignant Malaria?** BY DR. AMJAD HUSSAIN, M.O., *Mirzapur Ch. Dispy. Post Singa-Salpur, Dt. Jessore, Bengal.*

On 17-3-47 at 9 A.M. two Hindu boys of the same family, one aged about 10 years and the other 8 years, well-built, were brought to me at my dispensary with the only complaint of headache, it being slightly more intense in case of the older boy. I was told that both of them had slight fever with feeling of chilliness on 15-3-47, temperature keeping normal from next day. On examination temperature in both was found to be 97° F and liver and spleen moderately enlarged and tender on pressure. Nothing particular was detected in any other system except slight tympanitis in case of the older boy for whom in addition to ordinary treatment for malaria with alkaline mixture and mepacrine tablets, carminative mixture was prescribed and one A. P. C. powder was administered *stat.* The cases appeared to be so simple that no other special or energetic treatment was thought to be needed.

At 11-30 A.M. on the same day I received an urgent call to attend the younger patient at home. On hurriedly reaching there he was found lying on his back with constant flow of cold water on his head and wet cold mud applied over the middle of abdomen. On examination the following were noted: The patient completely unconscious and deeply cyanosed. Both extremities flacid. No rigidity of the neck. Kernig's sign negative. Eyes half-open, pupils slightly dilated, corneal reflex totally abolished. Mouth dry. Pulse was found feeble, irregular and very slow. Respiration very very slow, as if going to stop. Slight tympanitis was present. On auscultation congestion was noted at bases of both the lungs. Cardiac beats slow, irregular and feeble; but no other abnormality. Temperature 96° F. Musk in ether was, however, promptly pushed. But unfortunately the patient expired within ten minutes giving me no opportunity to proceed further. As there is no microscope available here, blood slide was not taken. On enquiry it was gathered that the patient was alright till about one hour back when he complained of extreme uneasiness rapidly developing mild fits with throwing of hands and legs gradually passing into complete unconsciousness. As regards history of previous illness it was reported that he was occasionally suffering from malaria from his infancy. Last year he had an attack of Kala-azar for which he was treated by me with urea stibamine. Was it a case of malignant malaria?

## SELECTED ARTICLES

**The Clinical Administration of Streptomycin:**—By H. CORWIN HINSHAW and WALLACE E. HERRELL. From "*Medical Clinics of North America*".

STREPTOMYCIN is an antibiotic substance which was announced in January, 1944, by Schatz, Bugie and Waksman. During the two years which have elapsed since this announcement, a large amount of pharmacologic, bacteriologic, experimental and clinical information has been collected concerning

streptomycin. Streptomycin is of sufficiently low toxicity and has sufficiently effective antibacterial properties to give rise to the belief that it will become a useful chemotherapeutic preparation for the treatment of some important human diseases. In view of the probability that streptomycin will soon be available commercially, and the fact that it possesses some peculiar properties which must be understood if it is to be used effectively, an effort will be made in this publication to summarize that information which may be of interest and value to the clinician.

Streptomycin is derived from cultures of an actinomycete of the soil (*Streptomyces griseus*) by a process of extraction and purification which yields a highly soluble, hygroscopic powder, usually cream coloured or light tan in appearance. Streptomycin is a basic substance and is prepared at the present time either in the form of streptomycin hydrochloride or streptomycin sulphate. Although streptomycin is considerably more stable than is penicillin, it is recommended that the material be refrigerated, especially when in solution, and that solutions be freshly prepared. In earlier publications, the unit of potency was defined on the basis of its antibacterial properties, but in recent months this designation has been discontinued and the metric system has been substituted. One microgram of pure streptomycin base is approximately equivalent to the original "S" unit of Waksman; hence, 1 mg. of streptomycin is approximately equal to 1,000 of "S" units, and 1 gm. of streptomycin is equivalent to 1,000,000 "S" units.

## Dosage and Administration.

Streptomycin is usually administered by the intramuscular route and solutions containing 100 to 250 mg. per cubic centimetre are usually preferred. Some more highly purified preparations are well tolerated subcutaneously in similar concentrations, but other preparations contain irritant impurities which make this route less desirable than the intramuscular route. Streptomycin may be given intravenously, but concentrated solutions should not be administered by this route because of the occasional presence of physiologically potent impurities which might produce disastrous results. Streptomycin may be given in very dilute solution by continuous intravenous infusion, the daily dose being dissolved in 1 or 2 litres of isotonic saline solution 5 per cent. solution of glucose. The addition of 100 mg. of heparin to each litre of solution of streptomycin intended for intravenous infusion will minimize the possibility of venous thrombosis.

At the present time the minimal daily dosage of streptomycin appears to be 1 or 2 gm. (1,000,000 to 2,000,000 "S" units) for most of the infectious diseases for which streptomycin is recommended. The drug is excreted less rapidly than in the case of penicillin, but when given by the intramuscular or subcutaneous route it is advisable that the dose be administered every three to four hours, or at most intervals of six hours. It has been our practice in recent months to inject intramuscularly or subcutaneously 2 or 3 cc. of a solution containing 100 mg. per cubic centimetre every four hours, making a total dose of 1.2 to 1.8 gm. for each twenty-four hours.



Streptomycin is excreted by the kidneys for the main part and from 60 to 80 per cent. of the amount injected may be recovered in the urine. It is also excreted in the bile in a concentration somewhat higher than that of the blood serum. When doses recommended previously are employed, the concentration of streptomycin in blood serum rises rapidly following the injection to a level of 15 to 25 micrograms per cubic centimetre of blood serum and falls to a low level of 3 to 8 micrograms four hours later. These levels should be theoretically adequate to inhibit the growth of most pathogenic micro-organisms which are regarded as sensitive to this drug. Streptomycin is more active in a slightly alkaline or neutral medium than it is in an acid medium. Hence, it is preferable to alkalize the urine when it is desired that this fluid possess maximal antibacterial properties. It should also be remembered that pus is likely to be acid in reaction, a fact which may limit the effectiveness of streptomycin in purulent exudates.

When administered by mouth, streptomycin is found to possess some characteristics which are unique among known antibiotic substances. Streptomycin is not absorbed from the gastro-intestinal tract to any appreciable degree, no significant amount appearing in the blood or urine. The drug is not destroyed in the lumen of the bowel, but there it remains and can be recovered in the faeces. Streptomycin exerts an antibacterial effect on the intestinal flora, reducing the total bacterial count, but acting more intensely on the colon bacillus and allied organisms than on other bacteria.

#### Clinical Uses

The antibacterial action of streptomycin is sufficiently restricted to make it appear urgent that the drug should be used only when there is bacteriologic proof of the nature of the infecting organism. Whenever possible, tests should be carried out to determine the sensitivity of the organism to the action of streptomycin *in vitro*, especially in those instances in which this property is known to be widely variable within the species.

It is important to emphasize strongly that streptomycin is in no sense a substitute for penicillin. Penicillin is active against many bacteria, most of which react positively to Gram's stain. Streptomycin has the fortunate property of being effective against many organisms of the gram-negative type, especially those of bacillary form, but there are exceptions to this generalization. It is immediately obvious that the clinician is destined to become more and more dependent on the clinical bacteriologist for guidance in his selection of therapeutic substances in treatment of infectious disease.

Unfortunately, many micro-organisms which are initially quite sensitive to the action of streptomycin rapidly acquire a degree of drug fastness which may prevent the successful application of this remedy. In the case of some organisms of the coli-aerogenes group, drug fastness may develop within a few days of treatment. The therapeutic implications of this fact are obvious and require that the drug be given in large doses and without interruption during initial phases of the therapeutic programme. It is suggested that in most instances treatment should not

be undertaken unless an adequate supply of streptomycin is on hand to permit a thorough course of treatment without interruption, since interruption might permit the organism to acquire resistance to the action of streptomycin. Resistance is much more likely to occur in chronic infections or under those circumstances in which re-infection is prone to occur than under other circumstances.

Among the diseases which have proved to be amenable to streptomycin therapy, *tularaemia* appears to respond in the most dramatic manner. Foshay and Pasternack have described seven cases in which *tularaemia* has responded promptly and most dramatically to streptomycin administered in doses considerably less than the doses which have appeared to be required for other diseases. It appears from this report that streptomycin is an unqualified success in the treatment of *tularaemia*, and this fact will make the accurate diagnosis of this disease even more important than it has been previously.

Streptomycin has been found to be effective in the treatment of *bacteraemias* when the infecting organism is one which is susceptible to the actions of this drug. This is especially true of the *bacteraemias* due to gram-negative bacilli, including those which occur occasionally following severe infections of the genito-urinary tract.

Streptomycin is of value in the treatment of some infections of the urinary tract, which may be resistant to the action of sulphonamides and penicillin. There is a striking tendency to recurrence of such infections of the genito-urinary tract and a tendency of residual organisms to develop marked resistance to the effect of streptomycin. For this reason every effort should be made to assure adequate drainage of the urinary tract prior to institution of streptomycin therapy. Efforts should be made to dispose of indwelling catheters or to close suprapubic cystotomy incisions or nephrostomy incisions, if this can possibly be achieved before streptomycin treatment is instituted. Streptomycin should be given in doses of 1 to 2 gm. or more per day and if a successful therapeutic result is not realized within a few days, it may be assumed that streptomycin-sensitive organisms are no longer present. In the case neurogenic bladders with retention it is important that, before streptomycin treatment is started, residual urine be reduced to a minimum and an automatic bladder be established, which does not require catheterization.

Streptomycin has been used in treatment of *typhoid fever* with results which were described as uncertain, but suggesting therapeutic effect. Further studies should be carried out employing larger doses given simultaneously by both the oral and the parenteral route of administration. In view of the great prevalence of typhoid infection in many sections of the earth, and the lack of any other chemotherapeutic remedy, it is immediately obvious that this subject deserves more investigation when supplies of the drug permit.

Infections of the respiratory tract are occasionally due to organisms which are sensitive to the action of streptomycin, and some success has been realized in treatment of chronic infections due to bacteria belonging to the genera *Klebsiella* and *Hemophilus*.

[ June, 1947 ]

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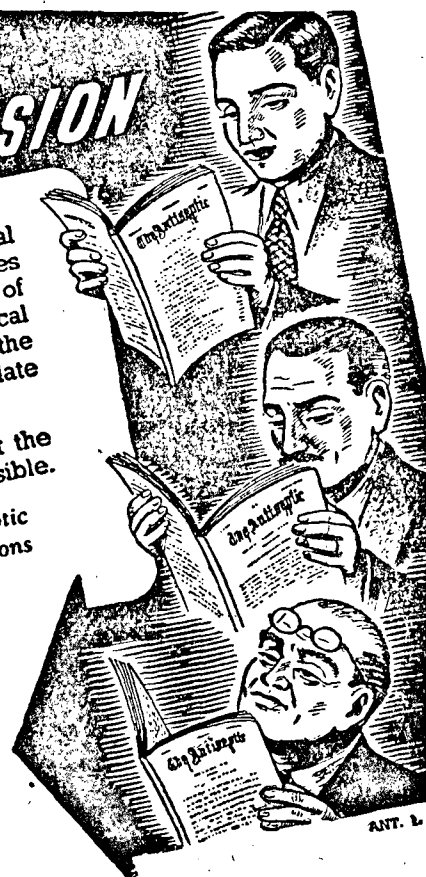
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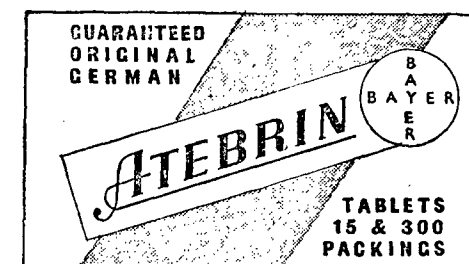
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Waksman and Schatz have reported that *Hemophilus pertusis* was found by F. R. Heilman to be highly sensitive to the action *in vitro* of streptomycin. Likewise, studies *in vivo* by Bradford and Day and by Hegarty, Theile and Verwey have shown a protective effect of streptomycin in experimental pertusis. Our colleague, A. M. Olsen, has utilized streptomycin by nebulization against some residual organisms present in the tracheobronchial tree in cases of bronchiectasis in which the patients have been treated previously with penicillin aerosol. It has also been noted that ozaena due to a susceptible strain of *Klebsiella* has shown temporary improvement, but the tendency to re-infection is so great as to suggest limitations to the form of treatment.

The use of streptomycin in treatment of bacillary dysentery has not yet been reported, but available evidence would suggest that streptomycin should be tried in treatment of bacillary dysentery and should be given by both the oral and by the parenteral route of administration.

*Mycobacterium tuberculosis* is one of the most sensitive organisms of the entire group tested. Fortunately, not only does this appear to be true *in vitro*, but also streptomycin appears to have been highly effective *in vivo* in the treatment of experimental tuberculosis of guinea pigs and of mice. Extensive studies are under way to determine the possibilities and limitations of streptomycin in treatment of clinical tuberculosis. Chemotherapy appears to be destined to have very definite limitations in the treatment of any chronic infection with the pathological and clinical peculiarities which tuberculosis manifests. Nevertheless, the fact that no other drug has proved as yet to exert any definite effect on the course of tuberculosis in man, and the great medical, social and economic importance of tuberculosis in the world to-day will emphasize the significance of any positive findings which may be demonstrated as the result of the undertakings now in progress. Only preliminary results have been reported, and these are consistent with the hypothesis that the drug does exert a suppressive effect in some forms of clinical tuberculosis. However, much more extensive and prolonged observation will be required before streptomycin can be recommended for treatment of tuberculosis.

#### Toxicity.

Streptomycin is a drug of low toxicity, and no serious toxic properties have been reported when more purified preparations are administered for periods of a week or two. However, when treatment is continued for several weeks with preparations available at this time, there develops in many cases a subjective sense of vertigo, often associated with an ataxic gait and reduced labyrinthine response to the caloric tests. Continued treatment may produce diminution of these symptoms apparently as a result of compensatory balancing mechanisms. This phenomenon is sufficiently irregular in appearance to make it seem probable that it is due to a neurotoxic impurity contained in some preparations rather than to streptomycin. We believe that preparations of streptomycin now available should not be used for prolonged periods if the patient's prognosis is good,

but the foregoing symptoms are sufficiently mild to be disregarded in those cases in which the prognosis is grave and in which the patient appears to be responding to streptomycin therapy.

Our colleagues in the Section of Pathologic Anatomy have performed necropsy in five cases in which prolonged streptomycin therapy had been administered in the doses recommended elsewhere in this paper, and with the material available to us. In none of these instances have lesions which could be attributed to toxicity of streptomycin been observed in the kidneys, the liver, the central nervous system or other organs. Streptomycin has not shown toxic potentialities in the haematopoietic system or the gastro-intestinal tract nor have disturbances of renal or hepatic function been observed despite extensive studies in search for such toxic properties.

The Choice of Sulphonamides.—By F. HAWK-LING, M.D. *From The Practitioner.*

Table Showing which Sulphonamide to Use in Different Conditions.

| Condition.                                                                | Sulphonamide.                                             |
|---------------------------------------------------------------------------|-----------------------------------------------------------|
| Haemolytic streptococcal infections (moderately severe) . . . . .         | Sulphanilamide.                                           |
| Haemolytic streptococcal infections (severe) . . . . .                    | Sulphathiazide, sulphadiazine or sulphamezathine.         |
| Otitis media . . . . .                                                    | "                                                         |
| Meningococcal meningitis . . . . .                                        | "                                                         |
| Purulent meningitis . . . . .                                             | "                                                         |
| Pneumonia . . . . .                                                       | "                                                         |
| Staphylococcal infections (if penicillin is not available) . . . . .      | "                                                         |
| Chancroid . . . . .                                                       | "                                                         |
| Lymphogranuloma inguinale . . . . .                                       | "                                                         |
| Peritonitis (for insertion after operation) . . . . .                     | "                                                         |
| Gonorrhoea (if penicillin is not available) . . . . .                     | "                                                         |
| Urinary infections . . . . .                                              | Sulphathiazole or sulphamezathine.                        |
| Wounds and burns (local application) . . . . .                            | Sulphathiazole, sulphanilamide or mixture of the two.     |
| Bacillary dysentery . . . . .                                             | Succinylsulphathiazole, sulphaguanidine or sulphadiazine. |
| Prophylaxis against meningococcal infections or rheumatic fever . . . . . | Sulphadiazine, sulphamezathine or sulphanilamide.         |

Sulphonamides, By R. N. CHAUDHURI, M.B. (Cal.), M.R.C.P. (Edin.), T.D.D. (Wales), F.S.M.F., Professor of Tropical Medicine, School of Tropical Medicine, Calcutta (From Indian Medical Gaz., February 1947).

#### General considerations

Good and sometimes spectacular results with sulphonamides are obtained usually in the acute infections, but in the main these drugs do little good in chronic conditions. For example, in acute gonorrhoea this therapy works wonders in 4 or 5 days,

whereas in chronic gonorrhoeal arthritis little or no response can be expected. Best results are obtained if they are given early when the infecting organisms are still small in number: in pneumonia, specially, treatment should be begun before the development of the classical signs. Under-dosage is still far too frequent; if there is a real indication, they should be used boldly in adequate amount without the physician's mind being fixed on the rare event of agranulocytosis. On the other hand they are to be given indiscriminately in every low grade infection which heals up spontaneously. The importance of rapid raising of blood concentration has already been stressed. In severe infections this should be ascertained during the first two or three days or even earlier if possible; this may go far to explain failure and to suggest the next move in therapy. Likewise, the course of diseases like meningitis and septicaemia is best controlled by bacteriological examination. But if such examinations are not possible the drugs can still be used with reasonable safety and success, provided that the instructions here outlined are applied with common sense. In this connection it should be noted that the sulphonamides can inhibit bacterial growth in pathological fluids, so in sending a specimen, the bacteriologist should be informed that the patient is receiving these drugs, so that he may use the special culture medium required. Relapses can be treated with renewal of the drugs, but before doing so a white blood cell count should be made.

Ancillary treatment is as important as in any other therapy. Sulphonamides may not be a substitute for surgery and operative treatment should never be unduly delayed because they have been used. Virus infections, with the possible exceptions of trachoma and lymphogranuloma inguinale, do not respond to these drugs, but there is evidence that they have a definite place in the treatment of secondary bacterial conditions. Finally, there are no special contraindication to their use except severe hepatitis and advanced renal disease, especially with nitrogen retention. Some caution is required in pregnant and lactating women as these drugs are slightly excreted in milk and they pass through the placenta into the foetal circulation, though they need not be withheld for that reason. Racial susceptibility is worth remembering.

#### Therapeutic Uses

In this section only some of the essential points are given and it has not been possible to give greater details within the limited space.

*Hemolytic streptococcal infection, e.g., cellulitis, erysipelas, septicaemia etc.*

In *septicemia* sulphanilamide is very effective. If the response is not satisfactory, small blood transfusions (200 to 300 c.c.) are indicated. Any septic focus will require adequate treatment, but abscesses should not be incised until fully ripened, and care must be taken not to open up fresh channels of infection. Excellent results have been obtained in *erysipelas*; the spread of the lesion is stopped in 43 hours and the fever subsides in 3 to 4 days. Treatment should be continued with reduced dosage for a further period of seven days to prevent relapse. In *puerperal sepsis* sulphonamides have greatly reduced the mortality, the best results being obtained

with high blood concentrations. Quick relief follows in *acute otitis media* and *mastoiditis* both of which should be treated as severe infections, but the symptoms are liable to be masked and careful watch must be kept on the drum-head and mastoid bone as surgical intervention may be necessary. Treatment should be continued for a week to prevent relapse. If purulent discharge sets in, the infection rapidly becomes a mixed one of streptococci and staphylococci, when sulphathiazole or sulphadiazine should be preferred. Careful local treatment is necessary.

The great majority of non-haemolytic streptococci are insensitive to sulphonamides.

*Staphylococcal infections.*—In severe cases sulphonamides should not be relied on if penicillin is available, particularly in acute osteomyelitis, cavernous sinus thrombosis, severe carbuncle, septicaemia and staphylococcal pneumonia and meningitis. In its absence sulphathiazole is the drug of choice. *Septicaemia* due to this cause is a serious condition with a high mortality. Give maximal or still higher dosage, even at the risk of toxic reactions. To avoid relapse or recrudescence, treatment should not be interrupted unless a pronounced clinical improvement or a dangerous toxic reaction occurs. The minimal dose should be 12 to 18 gm. a day (2 or 3 tablets two hourly) for three days, followed by 2 gm. four hourly for a further four days. If necessary the treatment should be continued for a longer period. Blood cultures are helpful, as a guide to dosage and the length of the course. A colony of 20 or over per c.cm. is a bad prognostic sign. A co-existing local lesion such as abscess or osteomyelitis is of good omen. Small repeated blood transfusions are of great value.

Both in streptococcal and staphylococcal septicaemia full doses of sulphonamide and penicillin would seem the most promising combination, since some strains of streptococcus and staphylococcus are resistant to one or other of the drugs.

Sulphathiazole given early in *acute osteomyelitis* not only controls the systemic infection but also limits the bone infection, but it has to be combined with surgery when there is already bone damage and abscess formation. Treatment should not be stopped after the first few days when the disease may appear to be under control. The affected part should be immobilized. The cause of death is usually staphylococcal septicaemia and the patient should be treated as a case of severe infection. In *impetigo contagiosa* the drug is applied as a 5 per cent cream or paste twice in the day and night after removing the crusts and scabs. The condition gets almost cured in 5 or 6 days, but quicker results have been reported with 15 per cent suspension of microcrystalline sulphathiazole. Treatment should not be continued longer than 5 days, as patients are liable to develop hypersensitivity.

*3. Meningococcal infections* (cerebrospinal fever).—Chemotherapy has greatly reduced the mortality from this disease. It is vital to secure adequate blood concentration at the earliest possible moment and to maintain it for several days. Another point that is likely to be overlooked is the need for giving sufficient fluid to comatose patients. The

initial dose or doses, except in mild cases, should be given intravenously as soon as lumbar puncture has shown the fluid to be turbid and without waiting for bacteriological examination. The fluid may not always be purulent, but the presence of even one or two polymorphonuclear cells should arouse suspicion. The dosage is higher than usual, no infant should be given less than 3 gm. daily during the first two days of treatment, for adults during this period 12 gm. daily is an appropriate dose and for children an intermediate amount. Intravenous (or intramuscular) injections may have to be repeated if the clinical condition does not improve within 2 or 3 days. When repeating lumbar puncture only a small quantity of fluid should be removed (5 c.c.) to prevent loss of sulphonamide. With clinical improvement the dose is reduced but the drug should be continued for about 10 days.

Meningitis due to *pneumococci*, *staphylococci* and *staphylococci H. influenzae*, etc., is relatively resistant to sulphonamide treatment. In most cases the infection is secondary to a primary focus elsewhere in the body such as pneumonia, otitis and sinusitis. Examination of the spinal fluid should be made at frequent intervals so that relapse which is much more common in these infections may be detected at the earliest stage and appropriately treated with renewal of high dosage. The drug should be continued for at least a week after the temperature has subsided and for a longer period in *H. influenzae* infection which is specially liable to relapse. Remarkably good results have been obtained by combined sulphonamide and penicillin therapy in pneumococcal meningitis in which the case mortality before the advent of chemotherapy was a little short of 100 per cent. The same combination should be adopted for all these types of meningitis, although *H. influenzae* are relatively more resistant to penicillin.

*4. Pneumonia.*—In pneumococcal infection temperature usually comes down within 48 hours, but the treatment should be continued for 5 days more. Resolution occurs rather slowly and physical signs may persist for as long as a fortnight, but the drugs should not be given longer than 7 days. Age is an important factor in prognosis, and in the aged sulphonamides are not nearly so effective as earlier in life. Parenteral injections should be given in severely toxic patients or where the clinical response is poor. In some cases the drug has no effect when penicillin is indicated. Adjuvants like oxygen, good nursing, etc., must not be forgotten.

In an average case of pneumonia, there is little to choose between the sulphonamides and penicillin so far as the end result is concerned, but there is a small percentage of patients over 40 for whom penicillin represents a definite advance on the sulphonamides. Generally the indications for its use are extensive pulmonary involvement, severe cyanosis and dyspnoea, heavy bacteraemia and lack of leucocytosis.

Pneumonia due to *streptococcus* or *Friedlander's bacillus* responds well to sulphonamides, although not so dramatically as in the pneumococcal disease. In *staphylococcal pneumonia* which is a very fatal disease penicillin is the drug of choice. *Broncho-pneumonia* is caused by a wide variety of agents,

against some of which sulphonamides may fail, but the difference in response seems to be more apparent at the extremes of life when the resistance to infection is poor. They are of value in *influenzal pneumonia*, provided the virus infection itself is not too severe; a leucocytosis favours the chance of a good response.

*5. Intestinal infections.*—Sulphonamide therapy has been strikingly successful in *bacillary dysentery*. In severe *Shiga* infections, the clinical response to sulphaquanidine is remarkable—abdominal pain and tenesmus are relieved in 1 to 2 days and the number of stools reduced to normal in a few days. Blood rapidly disappears although mucus persists for some time. Doses of 3 gm. four times a day for three days and then two or three times a day for four days are effective in all but the most severe infections in which the unit dose may be increased to 5 gm. Best results are obtained if treatment is started in 24 to 36 hours of the onset. In fulminating cases 50,000 to 100,000 units of concentrated anti-dysenteric serum (*Shiga*) should be given intravenously to combat the toxæmia. *Flexner* infections also respond very well, doses of 3 gm. being usually sufficient. Convalescent carriers are common among untreated patients, and these together with symptomless carriers can usually be cured by a course of sulphaquanidine. *Sonne* dysentery is rather resistant but it is a mild infection and the treatment is that of a convalescent carrier. Succinyl sulphathiazole (sulphasuccinyl) is reported to be equally effective and may be given in daily 10 gm. dosage, divided into five doses, but there has not been enough experience with it owing to short supply.

Although sulphaquanidine as a rule produces no toxic complications, large doses such as 24 gm. a day as originally used may result in high concentration in the body and if the drug is continued for more than 8 days, toxic symptoms become common. Succinyl sulphathiazole on the other hand is so poorly absorbed that it seems to be free from this danger.

These two drugs have been introduced on the hypothesis that, being poorly absorbed, they produce a higher concentration in the faeces and hence are more effective than drugs which are well absorbed. If this hypothesis is correct, then succinyl sulphathiazole should be the best drug, but so far this has not been the case. Paulley (1942) suggested that it is not the concentration of the drug in the intestinal contents but the concentration in the blood which is the important factor. It is argued that bacillary dysentery is a systemic disease with focal intestinal manifestations and treatment should be more effective when the absorbable drugs such as sulphadiazine or sulphathiazole are used. This seems to be borne out by the fact that these drugs have given as good, or even better results, presumably because, besides having some local action, they are in a better position to act on the organisms lying in the mucosa. Reports are however conflicting and, according to our present knowledge, the following recommendations may be made. In severe cases sulphaquanidine should be given; in the dosage now employed it hardly ever has unpleasant side-effects and it is not advisable to give drugs which are toxic and easily liable to crystallize out in the urine of a dehydrated patient with



oliguria. But as it is rather slowly absorbed it may be preceded by sulphathiazole during the first 24 hours. In other types of the disease, both forms of sulphonamides can be used, the dose of sulphadiazine or sulphathiazole being 2 to 4 gm. followed by 1 gm. 4 hourly, and later 6 hourly. All these drugs are not infallible and a change of drug in unresponsive cases may be an advantage. There is also some evidence that a combination of the two forms of drugs may be more desirable than either type alone in the acute phase of the disease. Succinyl sulphathiazole should be reserved for the treatment of Sonne dysentery and dysentery carriers who become bacteriologically negative after a course of 10 gm. a day for 5 days. It is also used in the pre- and post-operative stage of intestinal surgery owing to its marked property of reducing *B. coli* in the bowel—a property which is more noticeable with phthalyl sulphathiazole.

A few practical points may here be mentioned. Purgatives, high enemas and colon irrigations are contra-indicated. Fluid intake must be sufficient and, if necessary, glucose and saline injections are given intravenously. Sulphonamides should not be started in a dehydrated patient until steps have been taken towards restoration and maintenance of normal hydration. Lastly it should be noted that the dramatic relief of symptoms does not imply healing of the intestinal lesions; this usually takes some time and the convalescence should not be hurried, or there may be relapse. If possible, sigmoidoscopy and stool cultures should be made before a patient is declared as cured.

In chronic bacillary dysentery and ulcerative colitis reports are as yet inconclusive. In a few moderately ill patients sulphaquandine has given complete remission of symptoms but severe infections are unaffected. Full doses should be given, and it is often necessary to repeat the course. Where oral therapy fails, the use of retention enemata has been advocated, containing 7 to 10 gm. of sulphaquandine or succinyl sulphathiazole in 7 ounces of water or mucilage. Such enemata can be retained from 6 to 8 hours, and to assist this pheno-barbitone or morphine is given as a bowel sedative.

Penicillin and sulphasuccinyl have given very promising results in chronic amoebic dysentery which has resisted the usual courses of treatment. An initial dose of 100,000 units of penicillin intramuscularly is given, followed by 33,000 units every three hours until two million units have been given. At the same time sulphasuccinyl is given until a total of 80 gm. has been taken. This course does not eradicate the amoebic infection but can deal with the secondary pyogenic organisms that invade the ulcers in the intestine and thus bring about conditions that permit a favourable response to anti-amoebic drugs. In the absence of sulphosuccinyl, sulphaquandine may be used.

Sulphonamide therapy is also of value in non-specific colitis and in some cases of sprue along with liver injections or folic acid therapy. Chaudhuri and Rai Chaudhuri (1944) found sulphaquandine very efficacious in controlling the diarrhoea.

In cholera, sulphaquandine has already given favourable results, but trials are still continuing.

Huang (1944) obtained rapid amelioration of symptoms with an initial dose of 3 gm. followed by 1 gm. every two hours for six hours and then 1 gm. four hourly for 1 to 2 days. In India the report of the Scientific Advisory Board (1945) records good results with a different method of treatment; sulphaquandine was given in 3 gm. doses every four hours for 3 days, and then twice a day for 3 days. Such results are not obtained when treatment is started late. In any case usual steps should be taken to combat the dehydration and depletion of salts and colloids.

Finally it should be remembered that certain intestinal organisms synthesize vitamins and that sulphaquandine and succinyl sulphathiazole given over long periods can reduce the natural flora of the bowel and thus inhibit the synthesis of many factors essential to the host, e.g. thiamine, members of B<sub>12</sub> complex such as folic acid, riboflavin, nicotinic acid, etc. Further a severe intestinal infection as bacillary dysentery may in itself precipitate a deficiency state. It is therefore wise to attend to the vitamin B state of the patient when employing 'chemotherapy within the bowel'.

## NOTES AND NEWS

**Central Drugs Laboratory:**—As a preliminary step towards the enforcement of the Drugs Act and Rules, the Central Government have constituted with effect from February, 1947, the Bio-Chemical Standardisation Laboratory at 10, Chittaranjan Avenue, Calcutta, as the Central Drugs Laboratory under the Drugs Act. Its functions will be as follows:—

(a) Analysis and test of samples sent to the laboratory under the provisions of the Act and the rules by Customs Collectors and Courts of Law.

(b) Grant of certificates of registration for patent and proprietary medicines with undisclosed formulae.

(c) To carry out such other duties as may be entrusted to it by the Central Government or, with the permission of the Central Government, by Provincial Governments.

The enforcement of provisions relating to the registration of patent and proprietary medicines will commence from April, 1, 1948, but the other provisions of the Act and Rules will come into force from April, 1, 1947, as already announced.

**The Dacca Medical College:**—The available number of one hundred seats for civilian students in the newly established Medical College at Dacca for the session 1946-47 have been distributed by the Government of Bengal in the under said ratio:—

|                                       |     |
|---------------------------------------|-----|
| Muslims.....                          | 40. |
| General.....                          | 35. |
| Scheduled Casts.....                  | 5.  |
| Women .....                           | 10. |
| Government nominated candidates ..... | 10. |

Of the ten seats each, reserved for women and Government nominated candidates, five will be allotted to Muslims and one to Scheduled caste candidates.

Every candidate is to go through the Selection Committee for his admission in the college and if the number of suitable candidates from a particular community falls short of the number seats will be occupied by selection from other communities.

**College of Physicians and Surgeons of Bombay:**—The Council of the College decided to institute post-graduate Diplomas in (1) Dermatology and Venereology, (2) Oto-Rhino-Laryngology (3) Orthopaedics, (4) Anesthetics (5) Radiology (6) Anatomy (7) Physiology.

**T.D.D. (DELHI).** The University of Delhi starts a Diploma course in Tuberculous Diseases on 1st March, 1947. The course of training will be for 9 months 5 months in Delhi and 4 months in Kasauli. An examination will be held at the end of the course. The successful candidates will undergo 3 months' internship in a recognised tuberculosis institution. At the end of the period they can apply to the University for the Diploma.

**T.D.D. COURSE (MADRAS)** Applications for admission to the Madras T.D.D. Course should be addressed to the Surgeon General with the Government of Madras, Madras. It is understood that the University of Madras contemplate taking over this.

**T.D.D. (MYSORE),** Applications for admission to the Mysore University T.D.D. Course should be addressed to the Registrar, the Mysore University, Mysore.

**T.D.D. (CALCUTTA)** The University of Calcutta have decided to start the T.D.D. Course.

**Tuberculosis Diseases Diploma (Madras):** there are two courses for the Tuberculosis Diseases Diploma—one conducted by the Government of Madras mainly reserved for L. M. P. and D. M. S. candidates, the other conducted by the University of Madras for M.B., B.S. Applications for admission to the former have to be sent to the Surgeon General with the Government of Madras and for the latter to the Principal, Medical college, Madras. One course has just now started and the next course will be in July 1947.

The length of the course is one year. Six months of this are conducted in the Madras Medical College and associated institutions mainly for study of Pathology and non-pulmonary tuberculosis. Six months are spent at the Union Mission Tuberculosis Sanatorium where lectures and practical training in the diagnosis and treatment of pulmonary tuberculosis are given. The fee payable to the Sanatorium is Rs. 100/ per month by each student. For details regarding fees payable to the Medical College, Madras, reference may be made to the Principal, Medical College, Madras. The fee payable for the examination is Rs. 50/.

The number of candidates for each course is limited to 12.

The Union Mission Tuberculosis Sanatorium takes a limited number of fully qualified nurses for a post-graduate nursing training in tuberculosis.

The course is for nine months and a diploma is given by the institution after the completion of the course to candidates who pass the examination instituted by the Sanatorium.

## BOOK REVIEWS

**Hinduism and Modern Science:** By Dr. M. A. Kamath with a foreword by Prof. C. Kunhan Raja, Price Rs. 4/8/-. Can be had from the Author, Planter's Lane, Mangalore, South India.

This is an interesting book and its author aims to show that Hinduism is a repository of many scientific facts which are corroborated as such by modern science. As Prof. Kunhan Raja observes in his Foreward, the book meets a real need in our present-day life, because it dispassionately discusses the question whether there is any radical opposition between the ancient Hindu ways of life and thought and modern science. To us, medical men, the chapters on "The Daily practices of the Hindus", "The Hindu Dietary" and "The Hindu ideals of marriage" will throw a flood of light on the ancient Hindu laws on Public Health and personal and environmental hygiene, besides giving them, in other chapters, the gist of Hinduism in all its aspects. We like the book immensely and heartily recommend it to our readers.

**Therapy in Tropical Anaemias:** Published by Teddington Chemical Factory Ltd., Post Box, 229, Bombay.

It is a well-set-up brochure on the therapy of Tropical Anaemias, and fully illustrated. It evaluates the importance, and place of whole-liver extracts refined liver extracts and folic acid in the treatment of tropical anaemias. It also discusses the etiology, prognosis and treatment of the common anaemias as met with in our country. We congratulate the publishers for having been able to review the vast literature on Tropical Anaemias and liver extracts within the compass of 22 pages. We think this publication would be highly useful to the medical practitioners. They can have it free from M/s W. T. Suren & Co., Post Box No. 229, Bombay 1.

## LETTERS TO THE EDITOR.

**Plight of the Ex-Medical Officers of the Civil Pioneer Force:—**

Civil Pioneer Force was organised for the purpose of Civil Defence by the Government of India and placed under its Department of Labour. We were commissioned with the same status as was given to the I.A.M.C. Officers.

We were 10 or 11 from Bengal, of whom two were medical graduates. All of us were given hopes of brighter future in the post-war period. But when

the war was over we were left in the lurch. Our position may be stated briefly:

- (1) No arrangement has been done for our post-war resettlement.
- (2) No Gratuity.
- (3) We were allowed to hold our rank and uniform, but this is futile if it is not honoured.
- (4) During the War we were given so many resettlement forms to be filled up and sent to the authorities. But when the victory was won, we suddenly became unknown and unwanted.

I shall relate to your readers the story of my own personal experience after demobilisation. During 1944, I was put in charge for a period of 6 months of a 200 bedded military hospital in India's Eastern front. My name was twice recommended for mention in Despatch. I had recommendations from distinguished persons in the Army. With all these credentials, I interviewed the medical resettlement bureau at my own cost who gave me the advice to apply to the Chairman of the Narayangunj Municipality. I saw the chairman of the Narayangunj Municipality and he told me that he did never ask the Resettlement Bureau to send a doctor. He was however generous to offer me a job on Rs. 50/-a month! Of course I refused.

It is said that we can "Graduate" ourselves and thus improve our position in Service. We have spent 5 to 6 years in Active Service and if we are to spend again 2 to 3 years in school going the entire part of our active life will be gone. And then, what shall we do with graduate diploma in our old age while economic difficulties are pressing us from all sides.

I hope the Association will take up actively the consideration of the problems of ex-service medical licentiates, and approach the present interim Government for a just solution of these problems.

LT. K. CHATTERJEE.

#### A.I.M.L.A. Deputation to the Hon'ble Member in charge of Health, Government of India.

(We publish below the text of the Memorandum submitted by the All-India Medical Licentiates' Association to the Hon'ble Gaznafar Ali Khan, Member in charge of Health, New Delhi, on 12th May 1947.)

The representatives of the Association who waited in deputation were Drs. M. L. Kapur (President), V. D. Sathaye (General Secretary), G. K. Kulkarni (Finance Secretary), K. C. Wohra (Treasurer), S. A. Bokhary (Provincial Secretary, Punjab), and Dr. Hari Ram.

Dr. A. Viswanathan, Editor of the I.M.J., who was asked to join the deputation could not do so owing to his ill health.

On behalf of the Government, Dr. Butt and Mr. Menon, besides the Hon'ble Gaznafar Ali Khan, were present.

Dr. V. D. Sathaye read the Memorandum. He was followed by Dr. M. L. Kapur who explained the position of the licentiates very clearly.

Each point raised in the Memorandum was fully discussed. It appears that the Hon'ble Member has promised to do his best and was in sympathy with the claims of the Licentiates, though he was not very hopeful about the amendment to the I.M.C. Act on the lines

desired by the Association. He was afraid that the bogey of foreign reciprocity would be raised again to exclude the licentiates from the purview of the Indian Medical Council.

But, may we ask those who desire establishment of foreign reciprocity whether they have got it during the last 14 years of existence of Indian Medical Council, during which time it remained without recognising the licentiate qualification?

We hope that wiser counsels would prevail and the Act amended on the basis of recognition of licentiate qualification. (Ed. I. M. J.)

We are grateful to you for allowing us to meet you in deputation personally and explain to you the various grievances of the Medical Licentiates in this country and we trust we will be able to convince you of the legitimacy of our grievances which remain un-redressed for the last so many decades.

#### (1) Our Association

The All-India Medical Licentiates' Association is 41 years old. It has been representing the interests of over 40,000 Medical Licentiates of our country comprising of all communities. One of its main objects is to work for the abolition of water-tight compartments in the medical services and medical registration and thereby to establish legal equality of opportunities to all registered medical practitioners. It may be stated at the very outset that the Association has gone to the furthest limit of accommodation with vested interests by consenting to and actually succeeding in the abolition of medical schools. This it did in the hope that, apart from its desire to contribute to the growth of sound and efficient and uniform standard of medical education, the existing medical licentiates would be recognised by the Indian Medical Council, and those in subordinate medical service would be absorbed in the Provincial Medical Service. This hope has not so far materialised mainly because those medical men who advise the authorities on these matters, Central and Provincial, are the very men who are against the medical licentiates to prop up their own class of medical men.

During the war our Association fully co-operated with the Government and took up the responsibility of recruiting Medical Licentiates to the I. A. M. C. with the full conviction that our timely assistance during the war would compel the Government to do justice to this class of medical men in the post-war reconstruction of this country. But then we little knew that our hopes will be shattered so hopelessly.

#### (2) Indian Medical Council Act of 1933

The spirit of accommodation shown by the licentiate class was not reciprocated with the same spirit of accommodation by others. The Indian Medical Council Act of 1933 is a fine specimen of injustice done to them. The very basis of the preamble of this Act is absolutely faulty. Every legislation must be based on the central idea of promoting the best interest of the constituents for which the legislation is enacted. That is the main basis of any legislative measure. On this touch-stone the Indian Medical Council Act of 1933 falls flat. The preamble, the schedule and its rules and regulations have been designed in such a way so as to eliminate from its scope a large fraternity of medical men who have served the country in peace and war. In fact, with the hope of getting foreign recognition to the Indian Medical Degrees, the framers of the Act have ruthlessly trampled down the very life-breath of legislation. It may have satisfied the vagaries of the vested interests for the time being but the harm it has done to the body politic of the largest section of the medical fraternity can never be repaired unless by orientating anew the entire basis of the Indian Medical Council Act. The nemesis of retribution has, after all, fallen over the Indian Medical Council! The Council refused to recognise the vast bulk of medical men in its own country—the medical licentiates—in the hope of getting recognition of the medical graduates from abroad but that hope has not been realised as many countries refused direct reciprocity with India.

We understand that the Indian Medical Council has now recommended to the Government of India to amend the Act so as to establish an All-India Register which would include three separate categories:

- (1) Those holding qualifications at present included in the schedules of the Act.
- (2) Those possessing qualifications granted by the Licensing Bodies in British India.

(3) Those Indian Nationals who hold foreign qualifications not recognised by the Indian Medical Council or registered by the provincial medical council.

We oppose this compartmental system in medical registration because in our opinion the compartmental system is vicious as that is bound to increase the separatist tendencies and consequent superiority and inferiority complexes. The second category visualised in the amendment of the Act is no longer needed now, because it has almost become the policy of the central as well as all provincial Governments to abolish the medical schools. Excepting Bengal all other provincial Governments have abolished medical schools and Bengal is also on the way towards abolition. In such circumstances it is needless to create a second category and classify the present medical licentiates under that category. It should be the aim of every medical registration to create one uniform composite register once the minimum medical qualification is decided upon. As regards the contemplated third category, it is necessary to create a uniformity in registrable qualification of the Indian Medical Council with those of Provincial Medical Councils. But in recognising foreign degrees or diplomas the principle of reciprocity must be strictly adhered to. In this connection we wish to bring the following fact to your kind attention. The Government of South Africa admits licentiates in service but the same licentiate becomes unqualified for carrying on private practice once he is out of their service. That is really a queer logic. The Indian Government should take note of this injustice done to her nationals and deal with such Government in a befitting manner. In our opinion the Indian Medical Council should not recognise the degrees or diplomas of the universities coming under the jurisdiction of such recalcitrant Governments. In that way we will be able to maintain the honour, and the prestige of our nationals. We therefore, submit that instead of the three categories there should be one uniform register and all the medical men possessing registrable qualification should be brought under that one register.

The other amendments we suggest are as follows:

Change of Preamble: The present preamble runs as follows:

"To establish a uniform standard of higher qualification in medicine for all provinces."

#### Statement showing the position of Medical Personnel in Services in India.

|                                       | I. M. S.                                                                                                                 | Medical Graduates    | Medical Licentiates                                                                                            |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------------------------------|
| Minimum General Qualifications        | Matriculation of a British University or I.Sc. of an Indian University                                                   | I. Sc.               | About 50% I.Sc. About 50% Matriculation                                                                        |
| Professional Course                   | 5 years course                                                                                                           | 5 years              | 4 to 4½ years                                                                                                  |
| Main subjects taught                  | Anatomy, Materia Medica, Physiology Pathology, Medicine, Surgery, Midwifery, Medical Juris, Ophthalmology, Hygiene, etc. | Same as I.M.S.       | Same as for Medical graduates. Even text Books are the same                                                    |
| Pay                                   | Rs. 450 to 3,500                                                                                                         | Rs. 200 to 1000      | Rs. 60 to 200                                                                                                  |
| Facilities for Post-graduate students | Given study leave periodically                                                                                           | Same as for I. M. S. | Nil.                                                                                                           |
| Administrative Position               | 100%                                                                                                                     | 20%                  | Nil.                                                                                                           |
| Contact with Population               | 1% of population                                                                                                         | 10%                  | 90%                                                                                                            |
| Position in Last war                  | Pay of rank and Overseas allowance                                                                                       | Same as for I.M.S.   | Started as 2nd Lt. on Rs. 400 and as Lt. after 6 months on Rs. 450 thereafter same as for I.M.S. upto Lt. Col. |

There is no justification whatsoever to perpetuate these watertight compartments in the medical service of a province. The difference in the professional education between the licentiates and the medical graduates and the I. M. S. officers is not so material as to warrant such wide disparities in their respective conditions.

The I. M. S. is bound to disappear in due course. There would be no licentiates seeking service 20 years hence since almost all the medical schools have been abolished. We feel therefore that our demand for institution of one composite medical

It should be changed into,—

"To establish a uniform standard of minimum qualification in medicine for all provinces"

The word higher in the existing preamble clearly indicates that it was used merely to exclude the licentiates as otherwise it could not legitimately be done. The real function of any medical council is to establish a minimum standard of medical education and to maintain it by suitable recommendations and periodical inspection of teaching institutions. That is the main function of a medical council.

Composition:—At present the Indian Medical Council is an official-ridden body. The present composition of this body must therefore be changed so as to allow sufficient non-official elements in its administration. We therefore suggest that instead of one member as at present, two members may be elected from each Provincial Medical Register.

#### (3) A. M. O's Conference in November, 1945

In the Conference of Administrative Medical Officers of all Provinces in November 1945, it was resolved, we learn, to abolish subordinate Medical Service and the rank of S. A. S. and grant us pay on a scale of Rs. 150 to Rs. 450. This was the time when the services of Medical Licentiates in military and civil during the war time compelled the authorities to make this decision. But now it seems that their recommendation has gone into oblivion, perhaps because the future of medical men in higher medical services would be jeopardised if licentiates are allowed equality of opportunities with them.

Our Association is anxious to know if the recommendations of A.M.O's Conference held in November 1945 had been forwarded to all Provincial Governments; if not, we respectfully pray an early enquiry be held as to the cause of withholding such an important recommendation.

#### (4) Licentiates in Military and Civil Services:—

Our Association has been agitating for the last 40 years for the abolition of the different medical cadres in the provincial and other services. The following table will show the existing pattern and how it is worked.

service and the absorption into it of the existing members of the subordinate medical service on pro-rata scales of pay is not in any sense an extreme demand. This is fully justified by the needs of the time and the merits of the case. Your department may be fully aware of the great services of the medical licentiates in the establishment and upkeep of the national health. They have been, and are, in charge of nearly 90 per cent of hospitals and dispensaries in our country. The slogan of inferior qualification is raised only when the licentiates demand equal treatment in service and fair opportunities for promotion to higher ranks. We can quote high authorities in support of our demand. What

Major General Sir Gordon G. Jolly, Ex. D. G. I. M. S. said is literally correct:

"The licentiates have made good and established their position as medical officers. Never can they, as a class, be thrust back to their former subordinate status and menial pay."

His successor, Lt. General J. B. Hance, said with equal emphasis:

"May advice to the Licentiates is not to rest on their laurels gained so far. .... Whatever material distinction there was in service conditions between the graduates and the licentiates has been swept aside by the offer of King's Commission to the latter. They should not only endeavour to retain what has been achieved by their persistent demand voiced through the All-India Medical Licentiates' Association, but by a continued service of a high order to establish their position that when the time for post-war reconstruction comes their claim to take their rightful place in the community of medical men in the country cannot be resisted."

Thus you would see the full justification in our proposal for the establishment of one Provincial Medical Service to which all registered medical practitioners should become eligible by means of a competitive examination. We would, therefore, request you to recommend the following to all the Provincial Health Ministers and Military Authorities as well as to the Member in-charge of Railways who is in charge of the Railway Medical Service.

(1) Abolition of the Subordinate Medical Service and rank of S. A. S. and creation of one unified Medical Service on the lines of the I. A. M. C.

(2) Granting of pay rising from Rs 200/- to Rs 500/- per month.

#### (5) Basic Doctors

We wish to invite your attention to the Bhoré Committee report regarding the term basic doctor (vide page 375-76). We submit that the present personnel of the licentiates should be considered as Basic Doctors for the purpose of service. According to the recommendations of the Bhoré Committee the Medical Licentiates fully conform to its definition of Basic Doctors. Their knowledge and skill have been well tested and they have shown their ability in the spheres entrusted to their care and hence it will be a great injustice if they are compelled to undergo the degree course just to get themselves classified as basic doctors. If the present test of five years' course is rigorously applied, then probably 50% of the present medical graduates will not satisfy the test. We, therefore, request you to consider the present licentiates as Basic Doctors.

#### (6) Amendment to the Indian Medical Degrees Act of 1916

It is now an accepted opinion that there should be only one standard of allopathic medical education in our country, our Association fully shares this opinion. It has become highly necessary to amend the Indian Medical Degrees Act in such a way that the State Medical faculties (Punjab, United Provinces and Bengal) the Examining Boards (Madras, Assam, Central Provinces, Bihar & Orissa) and the College of Physicians and Surgeons (Bombay) should not be allowed to continue to confer diplomas, under-graduate or post-graduate, as originally empowered by the Act. In fact, most of these bodies have now become defunct by virtue of the abolition of medical schools in many provinces, and what is now required is to legalise this natural phenomena by amending the Indian Medical Degrees Act so as to obtain uniformity in the standard of medical education in our country.

#### (7) Special Training Abroad

The Government of India have selected a number of Medical graduates for special training and study in the United Kingdom and the United States of America. Even Nurses and the Veterinary Surgeons have been given these facilities. So far not even one licentiate has been selected for such a purpose. It looks as if they have been deliberately omitted. There are many licentiates working in the various branches like Public Health, Tuberculosis, Malariology etc., from whom suitable selection could be made in furtherance of the programme of the Government. We appeal to you to rectify this injustice.

#### (8) Conclusions and Summary

(1) Those medical men who advise the authorities both Provincial and Central on matters relating to the Medical Licentiates are the very men who are against them on the ground ostensibly of their inferior qualification but really to prop up their own class of medical men.

(2) That is why inspite of acknowledged merit and services of the medical licentiates, and of their total substantial contribution to the upkeep of the national health, the services have been run on water-tight compartments and the licentiates have always been put at the bottom. This tendency, instead of changing for the better by the effect of passage of time and circumstances became worse till today it has become almost unbearable. Not only in services but also in medical councils—Provincial and Central—this tendency is manifest in full force.

(3) The myth of "inferior qualification" of the medical licentiates has been falsified by the output of their work in quantity and quality and by the results of the enquiry conducted by the British Medical Mission in 1943.

(4) The Association suggests the following measures for your acceptance and action:

(i) Amendment of the Indian Medical Council Act as indicated in the Memorandum.

(ii) Institution of one Provincial Medical Service open to all registered medical practitioners by means of a competitive examination and absorption of the existing licentiates in service into it, thus abolishing the subordinate medical service and the rank of S. A. S. The centrally administered Railway Medical Service also be reformed on similar lines.

(iii) The Indian Medical Degrees Act of 1916 may be so amended as to effect abolition of the State Medical Faculties and Examining Bodies with a view to permanently establish one standard of allopathic medical education.

(iv) The demands of the licentiates in military service and the demobilised licentiate medical officers may kindly be gone into and justice done to them in the following manner:

(a) They should be taken into the Provincial gazetted medical service.

(b) They should be eligible for permanent commissions in the Indian Army without being compelled to obtain the M.B. B.S. degree.

(c) They should be given the war gratuity, the service gratuity etc., without much red tapism.

(d) Those licentiate officers who were commissioned officers from the I. M. D. cadre of the Indian Army should not be reverted to the pre-war status but absorbed into the commissioned ranks of the Medical Branch of the Indian Army and the present pension rules which deprive an I. M. D. officer of getting any equitable pension even after 25 years service should be revised.

(v) The non-selection of any licentiate for special study on selected subjects in foreign countries is a rank injustice to the licentiates of this country. We request you to see that at least a few licentiates are selected for this purpose at a very early date.

(vi) The All-Indian Medical Licentiates' Association should be given due representation on all committees appointed by the Government in matters of Public Health, medical research and education and also in the post-war development Offices set up by the Government at the centre and in the provinces.

We thank you, Sir, for the patient hearing you have given to us.

- |                                    |                                             |
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NEW DELHI, } Members of the Deputation,  
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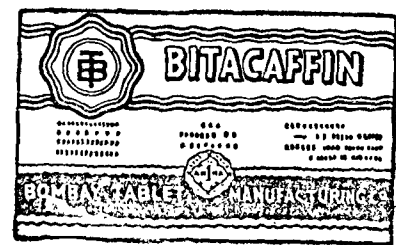
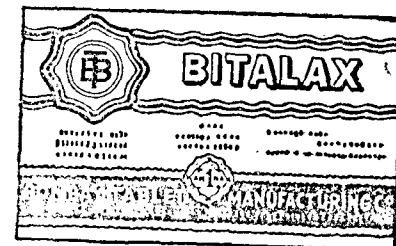
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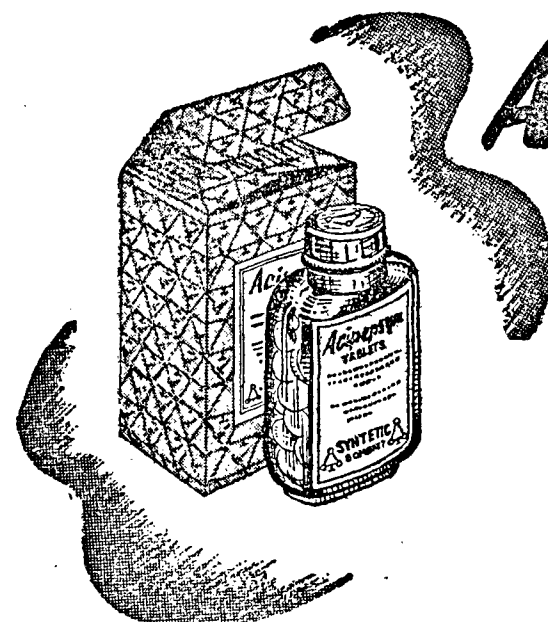
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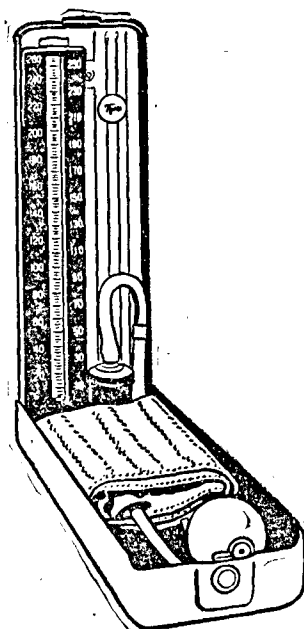
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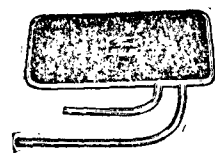
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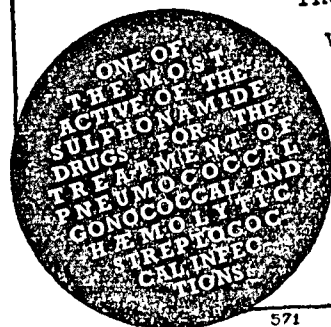
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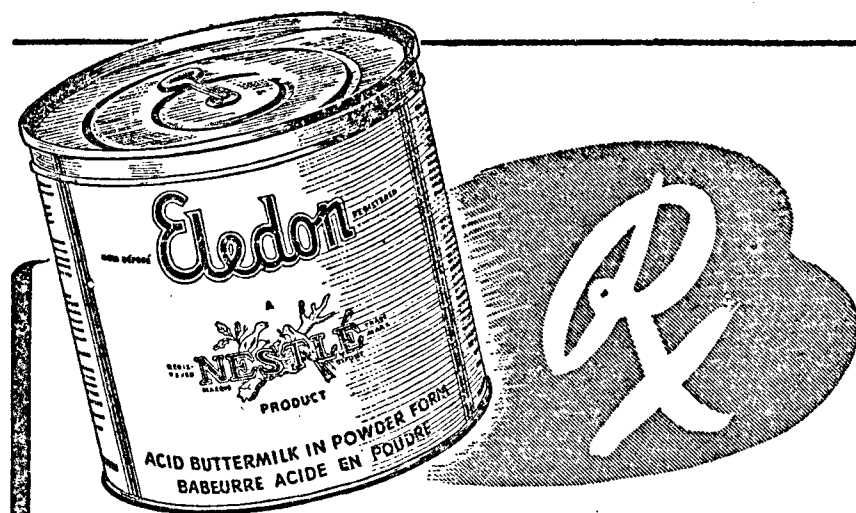
I.C.I. as one of the leading manufacturers of organic chemicals in the world, has long recognised the importance of developing research in this field, and has, indeed, built up one of the world's most important biological and chemotherapeutic research organisations. This organisation comprises a number of special units, such as the Medicinal Chemical Research Unit, the Pharmacological Unit, and the Physiological and Biological Units. The necessary supply of small laboratory animals is maintained by a special breeding unit.

During the recent war years, the activities of Imperial Chemical (Pharmaceuticals) Limited were almost exclusively devoted to the research and production of medicinal products for the fighting forces. Now that this emergency work is over, attention is being focussed on fundamental research on the many important diseases which affect the health of great populations throughout the world. One vital result of this policy has been the discovery of "PALUDRINE".

Imperial Chemical (Pharmaceuticals) Limited is represented in India by Imperial Chemical Industries (India) Limited to whom all enquiries should be addressed.



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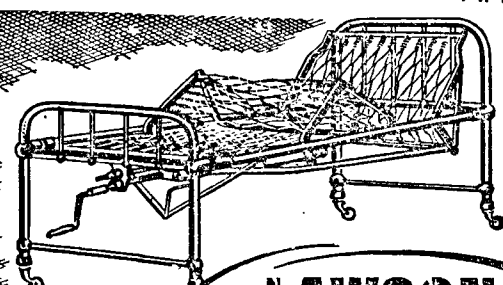
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## Memorandum

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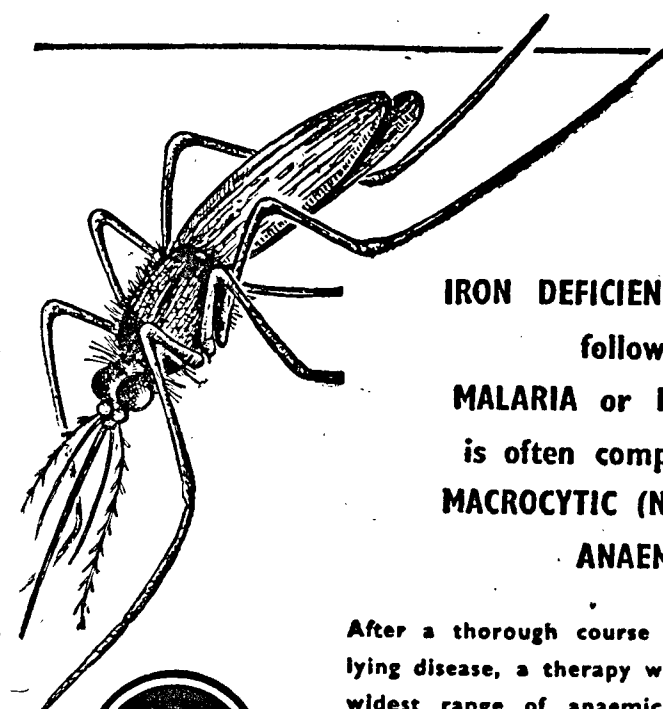
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