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CONTENTS

Editorial

Medical Side of A. R. P. ... 73

Addresses and Articles

Evaluation of Sulphanilamide Drugs
By Dr. U. P. Basu, D.Sc., P.R.S. ... 74

Diagnosis of Diabetes Mellitus in Private Practice
By Dr. P. H. Sant ... 76

Out-door Diagnosis and Treatment of Continuous Fevers
By Dr. K. L. Varma 79

Pyrexia in Hodgkin's Disease
By Dr. K. K. Dutt 81

Clinical Observations on Megalocytic Anemia of Pregnancy
By Dr. Ramanik H. Desai, L.C.P.S., L.T.M, ... 83

Special Articles

Modern Drugs: (2) Insulin and Its Compounds
By Dr. M. S. Arunachalam ... 84

Pharmacy in India—Past and Present
By J. C. Ghosh, B.Sc. (Manchester) ... 85

Medical News 88

Epitome 89

Abstracts 90

WITH MEDICO-POLITICAL SUPPLEMENT

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WAR AND THE PROTECTION

War is at the door. The advent of war brings forth the evading and elusive enemies that swarm not only over the military forces but also on the civilian population and thereby lower down the fighting strength of the whole nation. These are the microbes that cause various infections and consequently, untold sufferings and death to the vast populace.

We should not forget it. But what is the remedy that would prevent the growth of any disease or spreading of any epidemic so that the whole nation may maintain its health and strength during this warfare to fight against heavy odds. These are the various therapeutic agents of correct potency, high standard and guaranteed stability and sterility. We can wait neither for the fighters nor for the drugs that are being produced hundreds of thousands of miles off. These must be locally produced and must be readily available in any urgency.

The physicians who have to use various remedies in emergencies should be fully cognisant of these facts. They can't meditate for finding out a clue for removing the ailment of their patients and must have everything ready in their bags. They should not confuse nor they can fumble during the crisis for finding out the standard remedies.

The Government of India is purchasing Anti-Tetanus, Diphtheria, Gas Gangrene Sera, Liquor Adrenalin, Pituitary Extract, Glucose Saline, Quinine Bihydrochloride, Biphlogiston and various other drugs from the Bengal Immunity Co., Ltd., of Calcutta as these are the requisite standard medicaments.

Whatever difficulty may arise will have to be encountered, and every one should remain fully prepared to fight against invasions by the micro-organisms. Bengal Immunity would always be at your service to offer the best armament for the protection and safety of yourself as well as that of your patient.

THE Indian Medical Journal

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Medical Side of A. R. P.

Among the many valuable aspects of A. R. P. none is more important than the medical organisation needed to render relief to the injured civilian population during and after enemy bombing. From all accounts we have heard and studied, it transpires that more than 50 to 60 per cent. of the injuries prove fatal, and that the rest is made up of minor injuries. The number of people so injured depend on the severity of the bombing and the nature of bombs used, and above all on the relative number of people caught in the open roads or fields as compared to those in air raid shelters or in their own homes. For all practical purposes one may safely presume that the number injured would be large enough as to warrant the need for an efficient medical organisation specially intended for this purpose. The question therefore is : Have the existing Official A. R. P. Organisations made arrangements for effective and extensive medical help that may be needed in times of such emergencies? We have to state frankly that we are not at all satisfied with this aspect of A. R. P., and that, except in Bengal, the arrangements so far made fall much below the required minimum. The reason is, as in politics, the profession is not taken into confidence and the Government think that everything has been done by evacuating a few hospital wards and by creating a few first-aid posts and ambulance parties. Even in Bengal, the position was no better till a new ministry was ushered when the minister in charge of civil defence sought the co-operation of organised profession, formed a liaison committee with the Presidents of the I.M.A. and the A.I.M.L.A., and budgetted nearly four crores of rupees for medical and other kinds of relief which may be needed in times of enemy attack. Not that we certify that the Bengal Minister of Civil Defence has evolved perfect plans of medical relief, but there is no doubt he has begun rightly, first by taking the leaders of the profession into his confidence, and secondly by forming a committee of non-official medical men to help him in the matter of creating emergency medical organisations in the Province of Bengal. This would show what a popular minister or a leader of the people could do, while the Advisory Governments are lamenting the lack of co-operation and tardy response from the medical practitioners in filling up the medical personnel of their first-aid posts and emergency wards. For example, the Government of Madras have expressed its inability even to provide the practitioners who are prepared to do free first-aid work in their dispensaries with the necessary equipment, while the Government of Bengal has created a number of Emergency Hospitals with paid staff and a good number of first-aid posts with full-time or part-time medical men on a reasonable remuneration. Further, it has abolished its honorary system of staffing its hospitals, at any rate for the period of emergency, just as the British Government in England have done before the commencement of the war on the ground that a honorary staff is a clog in the wheel of emergency arrangements. It is time that the Governments of Assam, Bombay, Madras and Sind—Provinces which are exposed to aerial bombing—study the Bengal Scheme and adapt and improve it in consultation with the regional organisations of the I.M.A. and the A. I. M. L. A. This is no time for nibbling arrangements and for red-tapism, and if the A. R. P. is to justify its existence by work that awaits it, it should seek popular control and direction. A work of this magnitude can by no means be easily and satisfactorily handled by a few stipendiary Government Medical Officers and by a few vacant wards in the city hospitals. More medical personnel, more emergency hospitals and at least one first-aid post in every big street of an exposed city are needed, and we wonder how the Government could fulfil its statutory and moral duty of helping the injured population if they do not stir the practitioners to action by seeking their counsel and help. It is no good excuse on the part of the Government to say that they have already advertised and appealed for their help in the newspapers and that they have no money to pay for all the doctors engaged in civilian emergency medical relief or to provide them with the necessary equipment. Money belongs to the people, and if it could not be had to save them in times of danger, it would only mean incompetence of the Government in dealing with the matter of fundamental problems connected with civilian defence. We entirely agree with Sapru when he says* :

"I do not share the complacency of certain Governors on the efficiency of A.R.P. organisations and Civic Guards. I want these organisations to be brought more and more under non-official control. I feel strongly because the very life of our

*Non-Party Conference, New Delhi, February 22, 1942.

children and women is involved. We are very vividly conscious of the dangers and we, therefore, ask that all organisations for the civil defence of the country must be under popular control."

At the same time, we appeal to the practitioners to realise that this is not the time when they should be worried with the customary follies of the Government or engage themselves in passing resolutions of protest against this or that act of their omission or commission. They must band themselves under the auspices of their local medical organisations and organise as many first-aid posts and emergency hospitals as they could and be prepared to serve the people by whom and for whom they live and practise their profession. Such a scheme would look big in paper and difficult of accomplishment without Government help, but when they come to the brass-tacks they are sure to find it not so difficult to perform even without the Government help or coming under the Government organisation. The profession must save the lives of the injured people and realising this great responsibility they must harken to this call of duty and consider no sacrifice as too great to be made on behalf of our countrymen to whom bombing is a new experience which will intensify their chronic state of unemployment, poverty and disease. Already, even the partial evacuation of people from some coastal cities like Calcutta, Madras, Bombay and Karachi has raised new problems and intensified the old ones. Our peoples' cup of misery is now full and let the medical men stand by them in this greatest hour of their need.

Addresses and Articles

Evaluation of Sulphanilamide Drugs

● **Dr. U. P. Basu, D.Sc., P.R.S.**

(*From the Bengal Immunity Research Laboratory, Baranagore, Calcutta*)

Considerable advance has now been made in the knowledge of the infections that may be successfully treated by sulphanilamide group of drugs, and it is now generally agreed that the therapeutic value of the drug where it is indicated, far out-weighs the toxic and side reactions often manifested after its ingestion. The mode of action and the precise therapeutic limitation, however, remain a matter of uncertainty ; still investigations are being extensively carried out for the last few years in search for a product where the toxicity may be minimal, but the efficacy and the range of activity the maximum.

Sulphanilamide, the most widely used drug, is a white crystalline solid m.p. 165-166.5°, easily soluble in hot water, alcohol and acetone. It is sparingly soluble in cold water—the solubility being only 1.5 per cent. at the body temperature. It dissolves both in acid and alkaline media. The ' amino ' group may be readily acetylated, and is liable to oxidation to hydroxyamino derivative in presence of air. When given to patients in therapeutic doses, sulphanilamide decreases the pH of blood and increases that of urine. This is due to the lowering of carbondioxide combining power of the blood, and subsequent excretion of excess of sodium and potassium in the urine. If the ' amide ' hydrogen be substituted such a phenomenon is not noticed and consequently no clinical acidosis takes place. The most common side reaction exerted by sulphanilamide is in the development of cyanosis. It is now being believed to be due to the formation of methæmoglobin from hæmoglobin under the influence of some oxidising substance derived from sulphanilamide. This may be the first product of oxidation—p-hydroxyamino benzene sulphonamide,—(HONH. $C_6H_4 . SO_2NH_2$)—, subsequent oxidation product—p-aminophenol ($NH_2 . C_6H_4OH$)—, or some other substance. As a matter of fact, each of the above two former products is found to be excreted along with the urine of the patients treated with sulphanilamide. It may be further noted that each agent again may produce many moles of methæmoglobin by establishing a reduction of oxidation equilibrium in the system. This phenomenon is not so pronounced in substituted sulphanilamide drugs like Dagenan, Bianicide, Sulphathiazole, etc. If the amino group of any sulphanilamide drug remains unaltered, there is a chance of acetylation of free amino group by the liver. Usually such an acetyl amino derivative is less active, and when sparingly soluble it crystallises out in the renal tubes and ultimately gives rise to renal calculi. The body always tries to rid itself of the sulphanilamide drug either by oxidation, acetylation, or both ; and the chemical changes thus involved, generally give rise to the usual toxic manifestations. Another physiological disorder that is being brought about by this group of drugs, is an increase in the urinary excretion of porphyrin. The change may be detected by estimating the non-protein nitrogen content in the urine of patients. In the study of this drug therapy, Chemistry thus plays a part not only in the synthesis of a potent product but also helps in controlling the side reactions exerted by the drug. A knowledge of the pH of urine of patients may indicate the probability of occurrence of clinical acidosis, and which may subsequently be prevented by administering small doses of sodium bicarbonate with each dose of the sulphanilamide drug. Similarly a rigid examination of the urine would show the presence of the oxidising substances that may give rise to cyanosis. This disorder may be removed by injection of one per cent aqueous solution of methylene blue. The determination of the concentration of the drug in the circulating blood along with that of its acetyl derivative (where probable) would again help in finding out the quantity of the drug that is being actually absorbed and hence potentially active.

A number of compounds of clinical importance has been discovered within the last few years, and it is now difficult to distinguish the advantage of one over the other in any bacterial infection. In meningitis, *B. Coli*, and in streptococcal infections cheaper and simple drug p-amino benzene sulphonamide (sulphanilamide) is usually the drug of choice. It is sold under various trade names, but most manufacturers mention the scientific name on the label of the container of their

products. Substitution of the 'amino' hydrogen of sulphanilamide by other group or chain, often lowers the toxicity as in Proseptasine, increases the solubility as noticed in Neo-Prontosil and Supron (a compound of sulphanilamide and quinolinic acid), or, both as found in Soluseptasin and Bisulphonamide (Injection). The replacement of the amide hydrogen by suitable substituent has, however, afforded a number of products that are more efficacious in other coccal infections. Thus, the acetylation of the amide grouping has yielded sulphanilacetamide which is being found to be a very potent and non-toxic drug against gonococcal infections. It is known in the market under the trade name—Albucid. Another equivalent product is Bi-Anicide. A similar substitution by a sulphonamide complex has again afforded a drug known as Uleron. When the amide hydrogen of sulphanilamide is replaced by a pyridine ring, the compound 2-(p-amino benzene sulphonamide)—pyridine (Sulphapyridine) obtained is very active against pneumococci pneumonia. Owing to its toxic properties it is not favoured in cases where simple sulphanilamide is known to exert its characteristic pharmacological action. A new product has been obtained, which is being believed to be less toxic and more efficacious drug. This is 2-(p-amino benzene sulphonamide)—thiazole. Bicozol is of this group. Another derivative of sulphanilamide, Sulphadiazine

$(NH_2 C_6 H_4 SO_2 NH—C\begin{matrix}N—CH\\ \\ N=CH\end{matrix}CH)$ is being considered to be of definite value in the treatment of meningitis and staphylococci infections. Sulphaguanidine ($NH_2.C_6H_4$ SO_2 NH. C (: NH) NH_2) again is potent against bacillary dysentery. It may be pointed out here that a less effective but better tolerated drug would be an improvement in sulphanilamide therapy, as any difference in action might be easily adjusted by the dosage.

In the isolation of any chemotherapeutic drug scientists have to adopt a blind method as no knowledge on the mode of action, nor any relationship between the physiological activity on the chemical constitution of the drug, has yet been established. For example, if the activity of sulphanilamide be considered to be dependent on its transformation to certain other substance by an oxidation in the system as evident from various experimental observations, why no oxidation product is being detected in cases treated with sulphapyridine. This is more interesting for the fact that oxidation of sulphanilamide is found to be necessary for bacteriostatic action on pneumococci. Similarly, from purely chemical point of view it may be noticed that sulphacetanilamide, CH_3. CO. NH. $C_6H_4SO_2$. NH_2, m.p. 219° is one-third as active against streptococcal infections as sulphanilamide, NH_2. $C_6H_4SO_2NH_2$; whereas sulphanilacetamide, NH_2. $C_6H_4SO_2$. NH. $COCH_3$, m.p. 182°, is a good remedy against gonococcal infections. Again p-(2-pyridylamino) benzene sulphonamide, m.p. 235° is less toxic but not active against pneumococcus. The isomeric compound 2-(p-aminobenzene sulphonamido)—pyridine m.p. 191°, is a definite anti-pneumococcic drug. Further, any slight alteration in the constitution of sulphanilamide or its any potent derivative completely annuls the therapeutic activity that is usually exerted by the drug. The synthesis of any new efficacious sulphanilamide drug, thus, depends much on the luck of a chemist rather than on his method of study. But once it is obtained, its chemical, physical, bacteriological and pharmacological properties must be thoroughly studied. The laborious work so far carried out has already yielded compounds to combat against certain diseases that were previously treated by complex biological products. The simplicity of administration is the chief speciality of this new therapy ; of course cheapness of the drug is an additional advantage. Again the recent observations on the utility of sulphanilamide in war burns and wound infections further indicate that this group of drugs like the aeroplanes, tanks and ships is necessary for safeguarding the national integrity and freedom of any country. Wound infections, gonococcal infections, bronchitis, and respiratory disturbances not only account for the death but also the effective strength of the army during war time ; so any degree of control of the above disorders in the army as well as in the civilian population would undoubtedly increase the fighting strength and general efficiency of the whole nation. Streptococci and *clostridium Welchii* are the two organisms that cause most of the dangerous infections of war wounds, and in this treatment too the simpler drug sulphanilamide for its rapid absorption, less toxicity and ready availability, is being generally preferred.

Still it may be said that this therapy fails in certain other infections that cause untold suffering and trouble to mankind. It would really be a service if compounds be found, even by roaming in darkness, that may be equally efficacious against typhoid and tubercular infections. A systematic work, however, demands a knowledge on the mode and/or factor of the activity of this simple compound. Be it due to the oxidation of sulphanilamide molecule in the system, inhibition of certain bacterial enzymic reaction, or anything else, the question is whether there is any change in the molecule, or formation of any complex? If so, what is its nature? This is to be solved, so that proper groups may be attached to the molecule to render it selective for bacterial types. Chemotherapy has conquered the protozoal infections, has now attacked the bacterial diseases, and who knows whether its range would be further extended to combat even against virus diseases like influenza or small-pox. We may fail, but still knowledge is power to ensure future victory.

Diagnosis of Diabetes Mellitus in Private Practice*

●Dr. P. H. Sant

(*Bilaspur, U. P.*)

This paper is based on my little experience gathered from practical observations on cases treated by me in private practice and on my natural desire to know as much about this disease, as I possibly can, specially because I myself happen to be one of those unfortunate beings who suffer from it. The number of cases seen by me is small enough. The difficulties and confusion in treating myself naturally gets reflected in my remarks while I speak of diabetes mellitus in general. The information appearing in this paper is sum total of what I have actually seen, found out, heard from professional brothers, and thought over it, in addition to what little I have read. I hope it proves interesting. I will cite a few cases in support of what I write. I shall be restricting myself to only few observations on the diagnosis of diabetes mellitus likely to be interesting to a private practitioner. I should not, and will not, bore you by repeating the fundamental information contained in the various text-books on the subject.

The diagnosis of diabetes mellitus is usually arrived at by systematic urine examination and estimation of blood sugar level. The knowledge of a particular patient being diabetic is disclosed to us during the test of his urine as a part of routine examination, either to arrive at the probable cause of his malady, to find out the extent of damage to kidneys in other diseases, or quite accidently during life insurance examination. Though routine examination of urine in medical practice involves labour, loss of time and spending of a little quantity of chemicals, yet in cases which prove positive such examinations give very valuable data for diagnosis. The importance of this remark may be appreciated when we realise that it is early detection of diabetes which secures for the patient the advantages of the modern treatment. Another reason why we should spare no troubles in the early detection of the disease is that diabetes is mainly a scourge of the young and middle age, in one's prime of life, involving loss of earning and social comforts. Usual points to help diagnosis such as subjective symptoms, family history, history of previous illnesses are not only useless but often misleading, prejudicial and dangerous to rely upon, if unsupported by laboratory diagnostic methods. Frequency of micturition with nocturnal exaggeration is often found in overacidity of urine, urinary infection, congestion of urethra, diseases of prostate and such other conditions. It is invariably difficult to ascertain from patient's description whether this frequency is also accompanied by polyuria, unless 24 hours' urine is collected and measured. Many people are diabetics in spite of the normal frequency and the normal quantity of urine passed by them. Patient's information about the ants collecting round the spot of his urine may be mentioned only for being discarded, as the ants collect in many other conditions. After eliciting the point of frequent micturition and polyuria, how often a medical attendant's next question to the patient is "Do you feel ravenous hunger and extreme thirst?" Those whose answer is in the affirmative are invariably advanced cases of diabetes. Quite a number of diabetics, on the contrary, complain of anorexia. Amongst the other symptoms for which they chiefly consult their doctor, without making any reference to the underlying causative factor of diabetes, may be mentioned neuritis, nervous exhaustion, irritability of temper, insomnia or uncontrollable sleep, inability to concentrate, fainting fits, transitory local hyper-æsthesia and anæsthesia, eczema, pimples, sloughing ulcers, carbuncles, cellulitis, gangrene, wasting, emaciation, and such other symptoms and objective signs. Hidden under many such complaints we should not be surprised to find diabetes mellitus lurking as a chief underlying, if not actually the causative, factor. When sugar is detected in urine the presence of acetone and diacetic acid, albumen and tube casts must be determined, as the knowledge of their presence or absence is essential while treating the case. The cost of reagents required for these tests is most negligible in view of the important information and as the proportion of diabetics we treat to other diseases is small. In order to study the gravity or the progress of the disease under treatment or under no treatment it is usual to find out the percentage of sugar. To make these figures of percentage helpful by comparison, it is imperative that the sample of urine be freshly collected and examined, voided by the patient, with special reference to the following factors:—Time of the day or night; before meals or after meals; before or after exercise, and the quantity of water intake and season of the year. Blood sugar always rises to its highest peak after a full meal, and a sample of urine collected three hours after the full meal is expected to contain the highest percentage of sugar. Exercise reduces the level of blood sugar. Copious draughts of water and cold days naturally dilute the urine. In order to know the total grammes of sugar passed in 24 hours a sample of urine from 24 hours' collection has to be examined; the percentage being multiplied by the total quantity. A person passing 0.5 per cent. of sugar in 100 ozs. of urine is voiding more sugar than another person who is passing 2.0% in 24 ozs. of urine. It is not uncommon to meet cases with low percentage of sugar in urine with a dangerous blood sugar level. The reputation of some Ayurvedic remedies or herbal cures, as judged by their effect in lowering the sugar percentage in urine, is due to their raising kidney threshold, causing mild nephritis or in virtue of their purely diuretic property. It follows therefore that a low percentage of sugar in urine, unless accompanied by lowering of blood sugar, cannot be accepted as an indication of mildness of the malady, satisfactory progress of the case, or of efficiency of the treatment followed. In view of the facts mentioned above one can judge about the uselessness or the ridiculousness of attaching any importance to the specific gravity of urine so much talked of both by medical and lay people.

It is needless to say that detection of glucose in urine is by no means such an infallible proof which would justify us to label a patient as suffering from

* A paper read at the 31st Ahmedabad Conference, A. I. M. L. A. on 22-12-41.

essential diabetes, though in many cases, no doubt, such proves to be the case. There are some vagaries accompanying this test when positive. I am not referring to the comparative merits of different tests for glucose namely,—Fehling, Benedict, Phenylhydrazine, or Fermentation test. What I mean is, that even after establishing glycosuria the patient may not be a diabetic of the essential type. Glycosuria is met with in certain other diseases such as apoplexy, acromegaly, tumors of the brain, and physiological conditions such as pregnancy and menstruation. Persistent glycosuria is often come across in anxiety neurosis, overexcitement, hyperpituitrism, hyperthyroidism, gall-stones, cirrhosis of liver, and disturbances in the five phases of carbohydrate metabolism, namely, absorption, storage, mobilization, oxidation and elimination. Last but not the least is renal glycosuria which simply means a low kidney threshold. Only hypo-insulinism cases are the real cases of essential diabetes mellitus to be treated by diet and insulin. To label a patient as a diabetic of essential type means to prepare him for a different outlook on life, to lay restrictions on the quantity and the quality of his food, depriving him of the usual diet of his liking, to make him curtail his business and social activities and to create an atmosphere of tension in his domestic circle.

In order to exclude other factors responsible for simple transitory or persisting glycosuria, to measure the extent of hyperglycæmia, and study the reaction of diet and insulin on the blood sugar level, it is necessary to examine the sugar contents of his blood. It is necessary to estimate blood sugar on fasting stomach as well as the variation of the level caused by ingestion of carbohydrate by doing the glucose tolerance test. With the help obtained from such blood sugar estimations, some of these patients could be sent out with a more cheerful outlook on life, if their blood sugar, both fasting and after glucose tolerance test, is found normal. Some of them could be assured to belong to types of potential diabetes and put on their guard by proper instructions to avoid further risk. In other cases their blood sugar estimation immensely helps us to correctly assess the gravity of diabetes, to determine the diet required by the patient and the doses of insulin as well. The blood sugar estimation apparatus of Dr. J. P. Bose of Diabetic Research Department, Calcutta, Tropical School of Medicine, is a very convenient and handy little thing to work with. My observations are made with this apparatus. Its cost is only Rs. 65 with all the requisites and the reagents enough for about 25 tests. After the reagents supplied with the apparatus are exhausted, refilling them costs about Rs. 10 with which about twenty-five more tests could be done. The technique is quite simple enough which could be taught to an intelligent and reliable assistant, even to our compounder. The test takes about two hours at one stretch which can as well be done by pauses in between the different steps, managing other consultation work during the intervals. Alternatively, after extracting the blood it may be left as such for few hours, and the test undertaken during midday leisure hours.

(1) *Multiple two-hour test*:—The patient is not allowed to have anything in the morning except a cup of weak tea without sugar and milk if he prefers it. His urine is collected to be tested for glycosuria and about ½ to 1 c.c. of blood taken from his vein in an oxolated tube. Estimation of sugar from this sample of blood gives us his fasting blood sugar. The patient is then given 50 grammes of anhydrous glucose in 4 ozs. of water and, blood collected every half an hour for two hours. The figures arrived at from these five blood samples and five samples of urine collected before each blood sample is taken will give us the required idea of his carbohydrate tolerance.

(2) *Double one-hour or double two-hour test*:—In this after the fasting samples of blood and urine are taken the patient is given 50 grammes of glucose, the second sample of blood and urine collected immediately after one hour or two hours following administration of 50 grammes of glucose. The number of blood sugar and urine analysis will vary according to the data desired.

(3) *The simplest single two-hour test* can be satisfactory in some cases. In this test the fasting subject is given 50 grammes glucose. Sample of urine and blood taken two hours after the administration of glucose are tested for their sugar contents. If the urine is sugar free and the level of blood sugar is not above 0.120 per cent. the patient's carbohydrate tolerance is regarded as normal.

When the glucose tolerance test is normal, diabetes does not exist. Such patients escape the diagnosis of diabetes. But I must say here that reverse of it is not true. Every instance of diminished carbohydrate tolerance is not diabetes. Many other conditions have frequently proved to have been accompanied by a lowered tolerance for carbohydrate. No one has thus far succeeded in properly distinguishing between the diabetic and non-diabetic impairment of carbohydrate tolerance. Our general knowledge of the subject along with practical experience should be able to guide us. However it is much the safest rule to treat every case of diminished carbohydrate tolerance as one of diabetes until there is definite proof to the contrary, remembering full well the various pitfalls in the diagnosis and avoiding too energetic treatment, thereby reserving the benefit of doubt to the patient. The fasting level of blood sugar in a healthy normal individual is 0.09 per cent. to 0.120 per cent. The maximum rise of blood sugar after 50 grammes of glucose is within one hour, and is not above 0.170 per cent. The drop in blood sugar to the normal level takes place within one and half hour after the glucose is administered, the drop is abrupt and glycosuria does not result. This is what happens in a normal person. But in a case of potential diabetes and mild diabetes the fasting level of blood sugar is generally slightly higher than normal, though in many cases it is quite normal. Their morning urine is sugar free but in the evening sample there would be sugar. The maximum rise in blood sugar, which may be anything above 0.170 per cent., will occur at a much longer interval of about one and half hour. The fall of blood sugar is gradual and not abrupt. If the results are drawn on a graph paper it will show a long drawn out flat-top blood sugar curve suggesting delayed carbohydrate assimilation. In a case of true advanced diabetes the blood sugar goes on rising to high figures taking three to three and half hours to reach the maximum peak. The fall is also very gradual taking about five to six hours to reach the original level of blood sugar, *i.e.*, the level before the ingestion of glucose. The normal kidney threshold or the leak point for glucose is taken to be 0.170 per cent.

Case Reports

(1) Bhuvanlal. Age 26 years. Purohit Brahmin family. Consulted for nocturnal frequency of micturition. Polyuria. Quantity of urine in 24 hours 75 ozs. Persistent mild glycosuria. Blood sugar fasting 0.070 per cent., two hours after glucose

0.090 per cent. Carbohydrate tolerance normal. A case of renal glycosuria with diabetes insipidus. Few pituitrin injections brought about amelioration of symptoms, though glycosuria persisted.

(2) R. K. Y. Age 45 years. Head of an educational institution. Consulted for insomnia, emotional excitement and intermittent glycosuria. Had very anxious period owing to domestic affairs. Was declared diabetic by a consulting physician of Bombay, during patient's short stay at that place. This frightened him more. Fasting blood sugar 0.08 per cent. one and half hour after glucose 0.140 per cent. A case of anxiety neurosis. Assurances, detailed explanation of disease and rest from office work cleared glycosuria and cured his insomnia.

(3) J. S. R. Consulted only for neuritis of ulnar nerve. Routine urine and blood sugar examination disclosed his being diabetic of mild type. Neuritis cleared by strict diet charts. Patient unwilling for insulin.

(4) Mrs. K. Symptoms very suggestive of diabetes mellitus. Glycosuria fasting urine 4 per cent. Glycæmia fasting not recorded. Glycæmia on 22nd April '40, was 0.350 per cent. one hour after and 0.316 one and a half hour after glucose. Patient given very strict low carbohydrate diet charts. Forty days' restriction to this diet cleared all symptoms, urine free of glucose. Fasting blood sugar came down to 0.15 per cent. A case of advanced diabetes requiring insulin treatment.

(5) Mr. M. An American missionary. Pimples on body coming and clearing in crops. No other complaints. Urine showed presence of glucose. Blood sugar fasting on 5th March 1937, 0.266 per cent. Treated by diet and insulin. Blood sugar on 23rd March came to 0.150 per cent. Pimples disappeared like magic.

(6) Mr. B. Age 49 years. A man in business. Had recent bereavement and business financial worries. Had persistently suffered from sub-acute mild phymosis due to cracks appearing and disappearing on the prepuce for years. Venereal factor was excluded. Came to consult about anal abscess which was decided to be opened under chloroform anæsthesia. Complained of no symptoms suggestive of diabetes. During the preliminary examination before operation on 18th September, 1940, fasting urine examination revealed glycosuria, 8.5 per cent., fasting blood sugar 0.226 per cent. A case of potential diabetes since some years, made worse by anxiety and bereavement, and want of investigation for want of symptoms. Accidental diagnosis of diabetes mellitus. Patient put on insulin and operated upon when sugar free under local anæsthesia. His blood sugar on 12th October 1940 came down to 0.109 per cent. The chronic complaint of sub-acute phymosis with cracks on prepuce automatically disappeared never to appear again.

(7) S. Lal. Age 40 years. A village goldsmith and cultivator. Came to me for consultation with the classical symptoms of diabetes on 28th May 1940 as the physician treating him was out of town. He was being treated by Pancrepatin tablets and had also a few insulin injections by that physician a fortnight ago. Examination of urine revealed slight glycosuria. He was given 20 units of insulin and asked to go home to have the food prescribed for him. Half an hour after the insulin injection I was called to see him as he was serious. Patient was found to be unconscious with profuse perspiration and twitching of the limbs. The serious condition was attributed to insulin by the relatives. I also apprehended that the condition may as well be hypoglacæmia caused by insulin. In order to solve this knotty point on the solution of which the further treatment depended, immediate blood sugar estimation was done, which showed hyperglycæmia to the extent of 0.333 per cent. Patient was treated vigorously with further doses of insulin intravenously along with glucose. Complete recovery from diabetic coma rewarded the efforts. Systematic administration of insulin and diet charts of the required caloric value put him on his legs. His fasting blood sugar on the 5th August was 0.276 per cent. and 20th August it was 0.171 per cent. After two months patient returned to his village. He is examining his own urine and taking insulin himself under instructions.

(8) Mrs. K. Age 55 years. A known diabetic but not under rigorous treatment. Had absolute constipation for three days ending in vomiting, distension of abdomen, fever, and ultimately semi-consciousness. It was decided to do a laparotomy for intestinal obstruction, for which all preparations were made. I was called to give anæsthesia. The factor of diabetic coma was not thought of which was accepted as a probable cause on suggestion. It was decided to postpone the operation until urine and blood analysis were made. Catheterised specimen of urine was perfectly free from sugar. But the blood sugar estimation was found to be as high as 0.486 per cent. Intravenous administration of insulin with glucose brought the patient out of coma. Constipation yielded to purgatives and enemas. Thus the patient escaped laparotomy.

(9) M. J. Age 14 years. Seen at home in unconscious and moribund state. Was being treated by a homœopath for pneumonia for two days and for polyuria for about a month by the same person. He was given up as hopeless. Examination of the lungs, heart; spleen and liver revealed nothing abnormal. Spot diagnosis of diabetic coma was done. Insulin and glucose intravenous was administered after collecting a sample of blood. Blood sugar estimation was found to be 0.5 per cent. the highest figure recorded by me. The boy made successful recovery within three days. As long as he was having the insulin and regulated diet he was playing about and healthy. But neglect after about three months brought on the same condition again. The relatives preferred to let him die in coma.

(10) An Administrative Officer R.B.M. Aged 30 years. Came for consultation on 31st October, 1941, about a momentary fainting fit which he had a fortnight ago. General examination of every system revealed nothing abnormal. The fasting urine examination revealed glycosuria 1.5 per cent. The readings of blood sugar estimation with a glucose tolerance test were as follows :—Fasting 0.078 per cent, one hour after glucose 0.171 per cent., and one and half hour after glucose 0.184 per cent. Diet charts of required calories to suit his active life in service were given to him. Patient was asked to observe himself and report for further advice after some time.

These diagnostic methods, and correct conception and interpretation of results arrived thereby, are essential factors with which we must, and easily can, furnish ourselves, to enable us to treat cases of diabetes mellitus in private practice with success. In a few big towns the patient could be directed for investigation to specialists or to research laboratories. But the lot of most of us is to belong to that class known as "General Medical Practitioner," who has to render relief and offer advice to sufferers from various ailments, and has consequently to keep himself equipped with knowledge and materials required for that purpose. This is within the easy reach and scope of many a general medical practitioner. This is the only thing which I had been trying to show by reading this paper. I am grateful to the persons in charge of the scientific section of the A.I.M.L.A., Thirty-first Conference, for entertaining this paper.

Out-door Diagnosis and Treatment of Continuous Fevers*

●**Dr. K. L. Varma, L.S.M.F.**

(*Medical Officer, Aliganj, U. P.*)

Case-Taking

In dealing with ambulant cases of fever, it is necessary to keep notes on the following points to enable the physician to effect proper diagnosis and treatment :—

(1) Duration of fever (2) Remissions if any (3) Condition of the bowels (4) Time of greatest height of temperature (5) Circumstances prior to the attack of fever (6) Condition of the throat and nose, if there be any symptom of cold (7) General condition of nutrition (8) Condition of brain at the highest rise of temperature (9) Complaint of pain in the body like headache, etc. (10) Signs elicited.

Essential Diagnostic Features

Pulse :—This is most important thing to be noted in every case, as much information can be obtained by a study of its characteristics. It will be worthwhile to mention the fact that our people believe that by careful reading of pulse even complicated diseases could be diagnosed. We must therefore be guided by the psychology of our patients and thus win their confidence.

Normally the pulse of an Indian beats 72 to 80 times per minute ; and usually and ordinarily for every one degree of temperature there is increase of 8 to 10 beats per minute. But in certain type of fevers, there is relative slowness of pulse. It is slow in typhoid, but in tuberculosis it is rapid and thin. In tuberculosis it beats 100 times per minute or even more, when the temperature is only 99° or so.

Besides, the rate and character of the pulse and its ratio to the respiration are important for the diagnosis of certain fevers. In ordinary fevers, and in health, it is 1 : 4 *i.e.*, for every act of respiration pulse beats four times. But in pneumonia it is 1 : 2 only, that is the respiration is hurried up disproportionately, and hence pulse cannot maintain its proportion. Usually this ratio of 1 : 2 is most diagnostic of this disease.

Mode of Rise of Temperature :—It is ladder-like in typhoid, *i.e.*, first day it may go upto only 99°F., and then it may work up gradually and become continuously high. This is true for all groups of typhoid fever. In tuberculosis it is hectic, and there is typical rise in the evening. In pneumonia the temperature may rise all on a sudden and may go up like malaria with some remission in the morning and rise in the night. In malaria there may be definite cold and sweating stages, but in chronic cases and in double or multiple infections, remissions and stages may be wholly missing. Influenza and dengue show more or less similar onset of temperature as that of malaria.

Abdominal Examination :—Palpation of spleen and liver can reveal very many things. Their enlargement is indicative of malaria most commonly, and kala-azar in endemic areas. In kala-azar the spleen is very much enlarged and tough. Percussion of the abdomen would reveal the condition of the bowels, but it should always be made gently as in continued fevers, especially in typhoid, there is tenderness and tympanitis.

Chest examination :—It is, of course, very difficult for the inexperienced to assess the results of physical examination of the chest. The examination must be thorough, and daily changes should be noted. Vocal fremitus is a valuable differential sign which could be elicited by palpation. It is increased when the lung is consolidated as in pneumonia or phthisis ; diminished or absent when the lung is separated from the chestwall by fluid or air. Percussion note would be dull when the lung tissue is solid as in pneumonia or when the chest contains fluid as in effusion or thickened pleura. It must be realised, however, that between a dull and a resonant note there are various degrees of involvement which can only be learnt from experience. By auscultation we have to observe : (1) the intensity and quality of the respiratory murmur, (2) the relative length of inspiration and expiration, (3) presence of adventitious sounds and (4) vocal resonance. Generally in tuberculosis the apex is first affected and in lobar pneumonia the bases of the lungs.

Examination of tongue :—One should note if it is coated, moist or furred. The condition of margins should also be carefully seen. Typhoid tongue has got typical white coating in the centre and its margins are red and dry.

Treatment of some continuous fevers

Malaria :—The diagnosis of malaria can be made by the following points :

(1) Cold, hot and sweating stages.
(2) Normally increased pulse.
(3) Absence of other typical points of other special fevers.

In algid and cerebral malaria, and sometimes in chronic malaria and that of double infection, the typical symptoms and stages are often missing and the symptoms are most confusing.

In the absence of microscope and other diagnostic measures I am used to treat such cases with the following mixture :

℞	Quinine Sulph.	.. ..	5 gr.
	Tr. digitalis	.. ..	10 m.
	Acid phos. dil.	.. ..	15 m.
	Aqua add	.. ..	1 oz.

It is always safe to clean the bowels with calomel and soda bicarb. and mag. sulph. the next morning. Then quinine in 10 grain doses in the mixture should be given. Some people do well with effervescent quinine and this is very good, when one has got catarrhal symptoms.

Effervescent quinine mixture

(1)	℞	Quinine sulph.	.. 5 gr.
		Acid citric	.. 8 gr.
		Aqua ..	.. 4 dr.
(2)	℞	Amm. chloride	.. 5 gr.
		Pot. bicarb.	.. 10 gr.
		Syr. Aurantii	.. 1 dr.
		Aqua add	.. 1 oz.

Certain people get diarrhœa with quinine sulph., hence quinine hydrochlor in such sensitive persons do better. It may be given in gelatine capsules or in mixture. If the diarrhœa be severe I often resort to quinine bihydrochlor injection and ordinary carminative mixture by mouth.

*A paper read at the 31st Conference of the A.I.M.L.A., Ahmedabad on 22-12-42.

Other symptomatic treatment, as ice cap or simple water pad to bring down temperature or for controlling delirium, like in other fevers, should be done in malaria too.

The treatment of malaria is very wide and very big volumes are written on it. But I have chosen to write here only what I do in most of the cases with great success.

Typhoid :—Diagnostic features are :—

(1) Pulse slow in proportion to the temperature.
(2) Sordes on the lip.
(3) Tympanitis.
(4) Persistent headache, which sets in even when there is no temperature. In the beginning (first two or 3 days) one is only a little out of sort.
(5) Typical ladder-like (gradual) rise of temperature.
(6) In certain cases, in about the second week, diarrhœa.

Treatment :—(1) Chlorine mixture thrice daily, (2) Salol hexamine, resorcin and sugar of milk, two powders daily.

In second week, when there is diarrhœa, oleum cinnamomi minims 2 in capsules, or in the above powders may be given thrice daily. Bismuth may also be given. For tympanitis turpentine stupes should be given. If there is cystitis a mixture containing pot. citras, spt. etheris nitrosi and Tr. hyoscymus may be given, but salol and hexamine should be stopped. For retention of urine rubber catheter (well sterilized) should be used. In hæmorrhage, bismuth salicylas and calcium in suitable mixture should be used internally, and starch and opium enemata may be given.

I am not in favour of giving any solid diet in typhoid. I give albumin water, which forms a jelly over the typhoid ulcer in the intestines and reduces the chances of further complications. I give whey and glucose too. I advocate the use of milk freely and in some cases permit biscuits.

Pneumonia :—Chief diagnostic signs and symptoms are :—(1) High temperature, (2) Pain in chest, (3) Cough (Low pitch), (4) Increased respiration of bronchial type, (5) Typical pulse and respiration ratio 1 : 2, (6) Chest signs of consolidation of lungs, (7) Moist rales.

It may be primary or secondary.

Treatment of pneumonia of all types :—In the beginning I give the following prescription to my patients, and for children I divide its dose according to the age.

℞	Tr. bryonia	.. 2 ms.
	,, belladona	.. 10 ms.
	,, digitalis	.. 5 ms.
	Syr. calci hypophos	.. 1 dr.
	Aqua chloroform add	.. oz. 1
		t. d. s.

Locally, mustard plaster on lint, liniment camphor co., or terebinth in oil gualtheria may be used for application. Antiphlogistine is beneficial if cost is no consideration.

After a day or so, if cough is intense and pain is severe the following mixture is given :

℞	Pot. iodide	.. 5 gr.
	Amm. chloride	.. 5 gr.
	Vin. ipecac	.. 5 m.
	Tr. digitalis	.. 5 m.
	Aqua chloroform	add 1 oz.

For children I do not give iodides.

Tr. nux vomica (m. 10) for each dose may be added for bad cases, and in certain cases of high respiration I often add Tr. hyoscymus (m. 30 or so). Injection of strychnine and digitaline should be given in badly compensated heart cases. Camphor in oil with ether should be injected daily to support the heart. It should be noted that the temperature in pneumonia often comes down with crisis and death is always due to heart failure and not to that of respiration. Hence an injection of strychnine with or without digitalis does a lot of good at this time of fall of temperature. Brandy is supposed to be the best stimulant and some people prefer it to digitalis, which is likely to cause fibrillation of heart. But I give both together. Brandy (dr. 3 in glucose water) should be given within twenty-four hours of crisis, and when I find their throat rattling I often add common salt to the glucose water in the dose of grain ten to one ounce.

The modern treatment of pneumonia, along with all the above treatment, consists in the judicious administration of sulphanilamide preparations, which I have really found very efficacious in the treatment of the cases. However it is very expensive and an ordinary out-door patient can hardly afford it.

I give 4 tablets of M.B. 693 daily for two days, and then 2 tablets daily till the fever comes down. After four days' use it is advisable to stop it for two days and then recommence it. Patients getting this treatment should be closely watched, for sulphanilamide causes an intractable anæmia sometimes. Finding any adverse symptoms one must stop it.

Influenza :—It has become an endemic disease common in all parts of our country. It is characterised by moderately high fever with catarrhal symptoms, headache and backache. There is marked prostration though the fever may not be high. Some people also get gastric symptoms (gastric influenza) like diarrhœa, etc.

Treatment :—It is best treated by a simple diaphoretic mixture with a drop of oleum cinnamomi per dose. Mistol and nasal plasma tablets may be used for nasal instillation and wash.

Dengue :—Like malaria it is caused by mosquito bite and the mosquito causing it is known as stegomya. It causes great aching of the extremities. Fever is relatively low in the morning but there is severe pain in the back especially in the lumbar region. Catarrhal symptoms may or may not be present. They are generally not present. There is a marked double rise of temperature. On the sixth day it often comes down and then it again rises and comes down finally on the eighth day.

It is treated with simple fever mixture with little soda salicylas for pain. It must be noted that along with soda salicylas, pot. bicarb or soda bicarb must be added, otherwise salicylates form harmful compound in the system. Quinine should also be given in 2 gr. doses with the mixture, either in tablet form or in capsules.

Gastro-enteritis in children :—The fever comes on with vomiting and diarrhœa—in some cases with vomiting only. It is often mistaken for pneumonia if the child has got some cough also, as fine crepitations sometimes appear to be heard in the base. If there is diarrhœa alone and fever is continuous, some people mistake it for typhoid. But if one remembers the above typical diagnostic points I am sure it cannot be mistaken. I usually prescribe the following :

℞	Pot. citras	.. 2 gr.
	Spt. etheris nitrosi	.. 4 ms.
	Liq. amm. acetas dil.	.. 10 ms.
	Syr. calcii hypophos	.. 15 ms.
	Aqua menth pip add	.. 2 dr.

Along with the above mixture the following powders have been found very useful :

℞	Bismuth salicylas	.. 2 gr.
	Salol	.. 1 gr.
	Kaolin	.. 3 gr.
	Sugar of milk	.. 3 gr.

If the diarrhœa be severe it is advisable to give castor oil emulsion with bismuth salicylas and tr. hyoscymus.

Food should be stopped for twenty-four hours and orange juice may be given freely.

Cerebro-spinal Meningitis :—It is better to have cases of C. S. M. treated in the hospital. The cardinal symptoms are : (1) extreme pain in head (headache), (2) pupils dilated, (3) tilting of head to one side or the other, (4) high temperature with catarrhal symptoms. The specific treatment by combined serum and sulphanilamide has given good results. Repeated lumbar puncture is essential to drain out the toxin as well to reduce the pressure.

Pyrexia in Hodgkin's Disease*

● **Dr. K. K. Dutt**
(*Cossipore, Calcutta*)

Pyrexia is the manifestation of defensive mechanism inside the body in face of the infection or disturbance. Diseases causing continued pyrexia seldom fail to show other signs and symptoms which one has to assess in order to diagnose and treat the disease. At times, the clinical observation and the findings of laboratory examination of clinical and pathological materials or both, baffles the physician from coming to any diagnosis. It may be only after intricate laboratory examination that proper diagnosis of the cause of pyrexia is settled ; but then unfortunately both the patient's vitality and physician's armamentrium will mostly be depleted. The following history of a case will be read with interest and it will show that pyrexia may be the only symptom in Lymphadenoma or Hodgkin's disease.

Hodgkin's disease is not common in this country, and in the course of the last few years there are records of only three cases, two in the *Indian Medical Gazette* by Burke, and Hamid of King George's Medical College, Lucknow, reported in 1934 one case of jaundice associated with Hodgkin's disease in a Mohammedan male aged 30. Napier, Chowdhury and Sengupta of School of Tropical Medicine, Calcutta, reported another case of Anglo-Indian boy aged 12 in 1935 from the Carmichael Hospital for Tropical Disease. In the first case, there was no enlarged lymph gland during life, although fever remained daily at 100-101°F., spleen enlarged four fingers ; Vanden Bergh immediate, direct positive ; leucocytes 1600-2400; W. R. positive ; diagnosis settled from postmortem examination of liver, showing signs of early Hodgkin's disease. In the second case, the boy had periodical fevers from September 1935, treated for K. A. for sometime and admitted to Carmichael Hospital in June 1936 as the febrile bouts could not be stopped; the temperature chart in the hospital had the appearance of Pel-Ebstein type of fever of Hodgkin's disease, patient was anæmic, spleen enlarged 1½", liver enlarged ¾" ; cervical glands small, discrete and painless and the glandular enlargement was evanescent, disappearing with the fall of temperature ; there was increase in mononuclears unusually to 41 per cent. before death and he became very collapsed from which he did not recover ; diagnosis confirmed by typical condition of the gland in histological section after death.

A third atypical case is reported in the *Calcutta Medical Journal* by Drs. Jaharlal Ghosh and Amiya K. Sen, from the Carmichael Medical College, Calcutta.

In this case a Hindu male aged 40 admitted hospital on 11-12-40, complained of progressive enlarging swelling of glands of left groin for three years, swelling of the glands of right groin for three months, swelling of the glands of neck for one month, no splenic enlargement, no fever, no failure of general health. Blood examination report :—Eosino 51 per cent., deep X-ray therapy not successful, biopsy examination of sub-maxillary lymph gland did not conform to Hodgkin's disease, but the histological study of section of a

*A Paper read at the 31st Conference, A. I. M. L. A., Ahmedabad on 22-12-1942.

lump removed from the left thigh revealed Hodgkin's disease.

My Case Report :—A Hindu Bengalee boy, aged 13 years, suffered from continued fever in October-November 1940 from which he recovered after sometime. Again he suffered from continued fever from sometime in December 1940 and came under me in the end of January 1941.

Physical findings :—The general appearance of the patient appeared to be fairly good. The temperature used to rise in the evening to 99°–101° F., daily and remitted in the latter part of night or early morning. There was no rigor or sweating, no complaint of headache or discomfort. Appetite and digestion were fair.

Spleen and Liver	..	No tenderness, no enlargement.
Lungs	..	No dullness, no crepitation, breathing normal.
Heart	..	Nothing abnormal.
Lymph glands	..	Not enlarged, not tender.

Blood Examination report :—

Total R. B. C. count	..	2,870,000 per c.cm.
Total W. B. C. count	..	25,800 per c.cm.
Hb. Value	..	52 per cent.

Differential W. B. C. Count :—

(1) Polymorphonuclear neutrophils	..	82 per cent.
(2) Lymphocytes	..	16 ,,
(3) Monocytes	..	1 ,,
(4) Polymorphonuclear Eosinophile	..	1 ,,
(5) Myelocytes	..	Nil
(6) Mast Cells	..	Nil
Other cells	..	Anisocytes and Poikilocytes.
Malarial parasites	..	None found.
Formaldehyde reaction	..	Negative.
Chopra's test	..	Negative.

Family history :—Father, died of digestive complaints about two years ago at about 48 years of age. Mother is aged about 32 years, of rather weak constitution, but had nothing particularly wrong. The patient is the third issue, the first two girls predeceased him, the first at the age of ten years from typhoid and the second in early infancy. One younger brother and two sisters are alive and they are healthy.

The diagnosis could not be settled from the above findings. The patient was otherwise alright except for the pyrexia of several hours' duration. He was attending to his studies and moving about freely with rice diet. He was put on Calci-Ostelin 1 c.c. twice a week, Calcigluconate tablets daily, complete rest and nourishing diet. Aristochin and Arrhenal powders were tried for sometime. Nothing had any effect on the pyrexia. Gradually the duration of pyrexia became prolonged with corresponding reduction of the apyrexial stage. In March 1941, the pyrexia became continuous with no remission but there was no other clinical sign or symptom found except weakness and emaciation of the patient. As the diagnosis was unsettled, the patient was advised and with difficulty admitted into the Carmichael Hospital for Tropical Diseases, Calcutta, in the beginning of April 1941. The case was followed thereto and a few points had been recorded. The patient was kept there up to end of May 1941 and repeated clinical and laboratory examination failed to give proper diagnosis. Besides a few injections of M. & B. 744*—the non-antimonial drug for K. A.—being forced without success, no specific treatment was instituted. The pyrexia continued as before and the patient was becoming more weak and emaciated. During the latter part of May 1941, about eight months after the first onset of fever, a lymph gland in front of the neck became enlarged. From biopsy examination of the lymph gland Hodgkin's disease was diagnosed and the patient was discharged.

In the beginning of June 1941, the patient was admitted into Carmichael Medical College Hospital.

* Diamidino Stilbene.

After initial hesitation, they concurred with the above diagnosis on inspection of the previous findings. Unfortunately the patient was discharged in the end of June 1941, as the poor health of the patient was unsuitable for treatment by irradiation.

The patient went back home and lived a miserable existence up to 7th October 1941. Since the biopsy examination, the left cervical lymph glands got more and more enlarged and in a month the right lymph glands were also enlarged. It seemed as if the wound caused by biopsy examination flared up the enlargement and that slight wound in the neck did not heal even before his death. The patient went steadily going downhill. The pyrexia never abated before his death and except the enlargement of cervical lymph glands, spleen or liver was not enlarged. During the last week preceding death, the patient suffered from distress in chest and obstinate cough, so that he could neither lie down nor sit at ease at that time. Presumably enlargement of mediastinal and tracheal lymph glands caused the distress. He expired on 7th October 1941 evening in course of a fit of suffocating cough, after about twelve months from the onset of fever.

Discussion :—The history of the case shows that continued pyrexia for nearly twelve months was the only clinical sign for such a fatal disease. In the second case referred to above, the Anglo-Indian boy was admitted into hospital as the febrile bouts could not be stopped. Although the case turned to be one of acute fatal case of Hodgkin's disease, yet there was no enlargement of spleen or liver and lymph glands enlarged only after about eight months from the onset of illness. The diagnosis was settled by biopsy examination in the hospital, yet it was when mischief had been irreparably made and at a late stage. In the first two cases cited previously, the spleen was enlarged. My case can be classed among those group of 25 per cent. cases of Hodgkin's disease which do not show splenic enlargement according to the *British Encyclopædia of Medical Practice*. Nonetheless the clinical symptoms of the case were rather interesting as the disease was obviously taking its fateful course quite undetected. Though treatment by irradiation has a slender chance for arresting the disease yet it is a pity that the diagnosis could not be made at a stage when the treatment could be of any avail. Not only the etiology of the disease is still undefined but also the symptomatology and diagnosis have much to be explored.

Summary :—(1) A case of Hodgkin's disease in a Hindu Bengali boy is recorded.

(2) Pyrexia and anæmia were the only manifestations to begin with and for the major part of the illness.

(3) There was absence of either splenic on hepatic enlargement throughout the illness and the lymphatic glandular enlargement appeared only at a very late stage which probably flared up after biopsy examination.

(4) Diagnosis was settled after biopsy examination when unfortunately treatment could be of no avail.

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CONTENTS

	Page		Page
Leading Article—Blundering Again	**13**	**List of Emergency I.M.D. (July to December 1940)** ..	**17**
Bengal Memorandum	**14**	**Association Notes**	**18**
Medical Councils	**16**		

Again Blundering

The three important recommendations made by the Indian Medical Council during the last two years are:

(1) The establishment of an All-India Medical Register on the basis of the Provincial Medical Registers.

(2) The need for a definite provision in the Indian Medical Council Act to enable it to appoint such number of 'visitors' as it might deem requisite for the purpose of maintaining its standard of Medical Education.

(3) The withdrawal of recognition of medical degrees of such countries which refuse to (directly) recognise Indian Medical degrees unless recognised by the General Medical Council.

It is strange that while the Government of India have accepted the latter two recommendations and passed the corresponding amendments to the Indian Medical Council Act in the current session of the Central Legislature, they have silently ignored the first recommendation in which the organised medical profession is vitally interested and for which it has been agitating since the formation of the Council. The Government seem to be blundering again by deliberately ignoring this vital defect of the Indian Medical Council Act, and thereby continuing to cause great discontent in the profession and to maintain the painful wound inflicted on the licentiates. The repetition of this stupendous blunder at a time like this when a large number of medical men are required for Emergency Medical Services is bound to create unpleasant reactions in the mind of the profession, and prove again, if any further proof is needed, that in the interest of maintaining the "superior" class of Indian Medical Service—really more steel-framed than the Indian Civil Service—the Government would not mind being unjust to the medical licentiates who form more than 75 per cent. of the profession, even in these days of acute and actual emergency.

The licentiates may well claim the recognition of the Medical Council of India by virtue of their service to the country for the last 150 years, of their educational status even as it is, and of their having been already recognised as duly qualified practitioners by the Provincial Medical Statutes. But they do not put these in the forefront of their claim which may be interpreted to mean the acceptance of a standard of medical education lower than that now laid down by the Indian Medical Council. What they therefore say and demand is this. Let the medical schools be abolished forthwith, or within the time limit (1947) suggested by the Indian Medical Council, and let the licentiate qualification be recognised by the Indian Medical Council till that period. This is exactly what the Medical Council itself has recommended; this is exactly what would be done when a Statute like a Medical Council is, for the first time, enacted with a view to establish a uniform minimum standard for the future. No sane critic, except perhaps the feelingless Government of India, would say that the Licentiates of this country are manœuvring this recognition in their selfish interest. The licentiates are the first in the history of modern medicine in this country to persistently and consistently demand, for the last forty years the introduction of one uniform standard of medical education in all our provinces, and for the abandonment of multiple standards which have stood not only against the consolidation of the profession but also against its progress in and contribution to medical and allied researches. It was Dr. Lohakare and Dr. U. Rama Rao —medical licentiates to wit—who first originated the idea of a Medical Council for India sponsoring a uniform minimum standard of medical education and an All-India Medical Register. Therefore it does not lie in anybody's mouth to say that the Licentiates are claiming this privilege for selfish ends or for the sake of prestige and power it may give them in the now cloistered medical services of our country. The Editor of the *Journal* was once asked by Sir Gordon Jolly, when waiting in deputation on the Indian Medical Council in the year 1940 along with his other colleagues* :

Question :—"Suppose your request for the establishment of uniform minimum standard is acceded to, but not your request for the recognition of the existing licentiates, what would be your attitude towards such an amendment of the I. M. C. Act?"

Reply :—"I do not think the licentiates would worry about this. I may state on behalf of the Association its general policy which it has been pursuing for the last thirty-four years. It is this. It has always placed the interests of the country and the interests of the profession before the immediate interests of the licentiates. We have continued to remain in this position for a long time, and we shall be content, if there is no honest way of escape, to remain as we are for a few more years."

That would indicate the true purpose of the demand of the licentiates, but it should by no means be taken to mean that the justice of recognition of the existing licentiates should be denied by the Powers-that-be. A statute which pretends to save the honour of 15,000 medical practitioners abroad but deliberately disgraces more than 60,000 practitioners at home is no statute at all. Nor is there any Medical Council in the known parts of the world which is not enacted to establish and to maintain a uniform minimum standard of medical education, and a register of qualified practitioners for purposes of law and public information.

We understand that the Hon'ble Mr. Jamnadas Mehta has given notice of an amendment to the Indian Medical Council Act with a view to recognise the licentiates within the barest limits indicated by the October 1940 resolution of the Indian Medical Council. We sincerely trust that the Government would not sabotage this amendment as on previous occasions but help to have it passed and bring it into effect at the earliest moment possible. If they do not even do this, they will stand condemned by the organised medical profession as having failed to render justice lest their vested interest in the Indian Medical Service be in jeopardy.

It may be said that this is not opportune time to abolish the medical schools, as, it was said by Sir Gordon Jolly†, financial difficulties, multiplied hundredfold by the War, together with shortage of equipment and teaching staff would inevitably delay the matter of such abolition and that therefore the question of the recognition of the licentiates by the Indian Medical Council does not now arise. But we ask where is the need at all to continue to spend on medical schools? The purpose of rural medical relief is not served because, like the graduates, the licentiates do not settle in villages owing to lack of amenities. The purpose of Emergency Medical Service also is not served, for, according to the information we possess and unlike in the last war, medical graduates who have volunteered so far are in the ratio of 4.5 to 1.25 of medical licentiates—just the reverse of their respective strength in civil life. The latter have not volunteered in any great number because they are thrust into the antiquated and anachronistic military cadre which goes under the euphemistic name of the Indian Medical Department on the magnificent pay of Rs. 75 a month! There is yet another reason for the abolition of the medical schools. The amount saved by such abolition may be utilised for training more nurses and midwives who are only about 5,000 for the 400 millions of our population, as compared to nearly 75,000 registered practitioners. One of the recent press communique of the Government observed, the reverse should be the ratio of nurses to doctors. This can be accomplished, without any fresh financial burden, by abolishing the medical schools, and diverting the money so saved to train more nurses and midwives of whom our country today are in greater need than doctors. The two provinces, Madras and the U. P., which have abolished their medical schools are none the worse for it.

Equity and prudence, experience and example demand the abolition of medical schools and the forthwith recognition of the existing licentiates by the Indian Medical Council, and the provision of a representative place for them in it.

*I. M. J., Supplement, Dec. 15, 1940, p. 161.

†Inaugural address at the 31st Conference of A. I. M. L. A., Ahmedabad, 21-12-1941, vide *I.M.J.*, March 15, 1942, p. 45.

Bengal Memorandum

(The following Memorandum was presented by the Bengal Branch of the A. I. M. L. A. to the Hon'ble Minister of Health with the Government of Bengal on 31st January 1942. One of the main points stressed in this Memorandum was the imperative need to abolish the medical schools in conformity with enlightened opinion on this subject. Of the grievances of the subordinate medical service, Bengal has got her full share—perhaps more than in other provinces. Apart from the fact that promotion to the Provincial Medical Service is too miserly, it is regrettable to learn that even a few special posts in teaching institutions, hitherto held by the S. A. Surgeons, are taken out of the purview of their cadre. Now that a new ministry has been ushered, with some really popular leaders in it, we hope that some justice may be done to the much harrowed subordinate medical service in Bengal. Hope springs eternal in human heart despite frequent frustrations!—*Ed.*)

Extracts from the Memorandum

1. *Recognition of the Association* :—This Association (which used to be consulted in the past) should now be officially recognised by the Government as one of the advisory and consultant bodies for expression of opinion on matters of Medical Education, Relief and Public Health.

2. *Medical School Education* :—It is the considered opinion of this Association that there should be no medical education in the province of Bengal which falls short of the standard laid down by the Indian Medical Council. Bengal, which was once a pioneer in starting Modern Medical Education, is now behind Madras and United Provinces which, during the Congress regime, have converted their Medical Schools into Medical Colleges. Thus it is time that the recommendations of our Association as well as of the Medical Education Conference convened by the Government of India, and those of the Bengal Council of Medical Registration and State Medical Faculty, should be given effect to without any delay. This change will not only do away with the present dual type of education and thus remove the caste and compartment system in the profession but will also allow the masses of this province to enjoy the privilege of efficient treatment so far as their medical needs are concerned. Apart from the merits of the question, if the Bengal Government do not abolish their medical schools before the All-India Medical Register is instituted by the Indian Medical Council, as per its resolution dated 26th October, 1940, our Association visualises serious inter-provincial

complications so far as registration, practice and services of the Bengal Licentiates are concerned. Therefore the early abolition of Medical School Education is not only justifiable but imperative.

3. *Bengal Council of Medical Registration* :—It has two elected seats for 319 British qualified practitioners, 4 seats for about 3,700 medical graduates, but only three seats for nearly 8,000 medical licentiates and graduates of Universities other than Calcutta. Thus it is that although the coffers of the Medical Council are filled up largely by contribution from us, yet our representation in this Council is disproportionate to our contribution as well to as our numerical strength. The Bengal Medical Council recommended the addition of one more seat to our group by reducing the nominated member by one as late as 1936, and also recommended the extension of the life of the council from three to five years. We, however, respectfully urge upon the Government to amend the Bengal Act on the model of the recently amended Madras Medical Council Act which has been approved by the profession as a whole.

4. *Governing Body of State Medical Faculty* :—In spite of the fact that the Governing Body of the State Medical Faculty is vested with the control of and the well-being of the medical licentiates of Bengal and that all its funds are derived from the medical licentiates, yet it debars them from having any real share in its administration. Recently one seat out of 16 has been provided since August 1939 for a medical licentiate, and 4 more seats have been provided for members composing the Bengal Dental Board, but our Association feels that our representation in this very important body is unjustifiably too meagre. We would urge upon you to provide at least 4 seats in this Body for the Medical Licentiates of Bengal.

5. *Rural Medical Relief* :—We would suggest an early establishment of medical relief centres in groups of villages under the charge of qualified medical practitioners with adequate staff to deal with illness, Public Health and inspection of school children. It is the opinion of the Association that this scheme should be under the control of the Government. As the greatest handicap to rural medical practice is the infestation of the villages by quacks, this Association believes that at least such restrictions as the prohibition of the use of hypodermic syringe, scalpel, and tooth forceps by the unqualified practitioners should be enforced in this province. The Poisons Act also should be strictly enforced. Besides, the bogus medical schools which produce these quacks should be suppressed by the Government. We may point out here that the Bengal Council of Medical Registration sent a recommendation to the Government to this effect sometime ago.

6. *Grievances of the Bengal Medical Service (Lower)* :—The following posts have been taken away from us, quite unjustifiably :—

(*i*) Teachers of Pathology and Physiology in Burdwan, Mymensingh, Jalpaiguri and Chittagong Medical Schools and of their Deputy Superintendentship.

(*ii*) Teacher of Materia Medica and Deputy Superintendent of the Dacca Medical School which used to be all along filled up by an assistant surgeon promoted from sub-assistant surgeon rank.

(*iii*) Assistant to the Police Surgeon in charge of the Police Morgue of Calcutta.

(*iv*) The post of clinical assistant to the Medical College Hospital.

(*v*) The post of Deputy Superintendent of the Voluntary Venereal Hospital, Alipore (which used to be held by Senior Sub-Assistant Surgeon) has been abolished.

(*vi*) Anæsthetists' post in the Campbell Hospital. We may here be allowed to point out that the present graduate incumbents are not possessed, to our knowledge, of any special training in the administration of anæsthesia.

We would request you to restore these posts to the medical licentiates.

Amongst other grievances we may here mention that a sub-assistant surgeon is not officially recognised to have officiated as Assistant Surgeon when actually he works as such in casual vacancies, not to speak of his non-recognition when he holds charge of the district during the temporary absence of the Civil Surgeon.

There is total absence of any system or scope for grant of study leave to sub-assistant Surgeons which is enjoyed by the other medical services.

Completion of twenty years of service and the attainment of not more than 45 years of age are conditions imposed on Sub-Assistant Surgeons for promotion to the Assistant Surgeon's grade. This appears to be too rigid and unreasonable and we urge upon the Government to revise this rule and encourage our group by introduction of a definite system of promotion. At least 20 per cent. of Assistant Surgeon cadre should be filled by promotion from the Sub-Assistant Surgeon's cadre.

The publication of posting and transfer of Sub-Assistant Surgeons in the *Calcutta Gazette*, as is being done in the Province of Assam, be also introduced.

There have been several dismissal of sub-assistant surgeons for non-compliance with the orders to join emergency military medical service. As many of them have changed their minds and are now willing to join the emergency service on their reinstatement as sub-assistant surgeons under the Government of Bengal, and as there is acute dearth of men for this service, we would request you to reinstate these dismissed members of the service if they are agreeable to join the emergency medical service, and to count the broken period as "leave without pay."

We feel that the medical officers of all charitable dispensaries either under the Government or under the Local Bodies should be made ex-officio members of the Dispensary Managing Committee and that necessary amendments to the Dispensary Manual should be made early.

7. *A.R.P. Medical Personnel* :—We feel that there should not be any discrimination in the fixation of allowance to the members of the medical profession, graduates or licentiates, who might volunteer their service for A.R.P. work in First Aid Post or in A.R.P. hospitals as there will be no difference in the allocation of the duties and their consequent responsibilities. We may here point out that the Liaison Committee composed of the representatives of the Medical Profession of Calcutta have unanimously recommended the payment of uniform allowance to the members of the A.R.P. Medical Personnel for the same nature of work.

Medical Councils

Madras (Meeting held on 20th October, 1941) :

(1) While recording the Government Order this Council requests that with reference to applications of such of those individuals who have been working in an honorary capacity in tuberculosis clinics in the presidency, the age-limit may not be strictly enforced.

(2) The rules relating to the procedure for election of the University representative to the Madras Medical Council may also be amended to be placed on a par with the procedure laid down for election of University representative to the Indian Medical Council.

(3) The Council agrees to have an All-India Medical Register in case the names of all practitioners on the said register are arranged in an alphabetical order and all those registered practitioners on the register are entitled not only to vote but also to stand for election to the Medical Council of India.

(4) The Council decided that D. P. H. and Hy. of the Faculty of Tropical Medicine be accepted as an additional qualification.

(5) This Council requests the Government that in view of the misunderstanding, confusion and deception caused among the public by the use of the term "Registered Medical Practitioner" both by the practitioners of the Modern Scientific system of Medicine and the Ayurvedic and other systems of medical practitioners, to direct that practitioners of Indian Medicine, whether A or B class, be permitted to use the terms 'Licensed Ayurvedic, Siddha or Unani Practitioner,' only, while the term 'Registered Medical Practitioner' be strictly confined to those who have registered under the Madras Medical Registration Act.

(6) The following resolution was moved from the chair and carried unanimously directing the Registrar

(*a*) to find out from the Bengal Medical Council whether L.C.P. & S. (*i*) of Calcutta, and (*ii*) of India are registrable in Bengal or not ;

(*b*) if the qualifications are not registrable in Bengal to write to United Provinces Medical Council and find out how Dr. Ganga Singh was registered on their medical register when it was not recognized by the Bengal Medical Council.

(7) This Council resolved that the minutes (or proceedings) of the Madras Medical Council shall be printed annually in separate volumes and made available for sale.

(8) The Madras Medical Council requests the Government that cases of proved infamous conduct in a professional respect or complaints of such relating to registered practitioners under the employ or control of the Government or Local Bodies should be brought to the notice of the Madras Medical Council by Government for necessary action, apart from any action that Government or the Local Body itself may decide upon in the matter instituted.

(9) The Madras Medical Council respectfully points out to the Government that the decision of the Government that physical fitness certificates in the case of candidates for employment in certain branches of the public service should be given by Medical Officers in Government service and that existing orders of the Government under which applicants for employment in Government service having defective vision should produce special certificates regarding eye-sight from eye-specialists in the employ of Government, are against the spirit of the Madras Medical Registration Act and that therefore no invidious distinctions should be made between Government-paid registered practitioners and independent private practitioners in the matter of issuing certificates of whatever nature.

The Madras Medical Council is of opinion that the Licensed Medical Practitioner diploma known by the short title L.M.P. does not convey the idea that the medical practitioner owning this title, is a diploma holder in medicine and surgery that the new diploma D.M. & S., conferred by the Government on those who passed out of the medical schools, indicates the real significance of the course of studies which students in the medical schools had to undergo, and that consequently the practitioners holding the diploma of Licensed Medical Practitioner will be looked down in the estimation of the public. The Council therefore requests the Government that their order relating to D.M.&S. diploma be given retrospective effect in the way they did in regard to L.M.P. diploma conferring the same on all who passed out of medical schools undergoing two and three years' course of studies though the L.M.P. diploma was introduced after the course of studies in the medical schools was increased to four years.

The Council considers further that the new D.M.&S. diploma will give rise to cleavage in the medical profession to prevent which the Government were recently pleased to amend the Medical Registration Act, 1914, a reform which has democratised the medical profession to a great extent. Such a cleavage, the Council desires to point out to the Government is not justifiable and uncalled for when it is known that the Government have abolished the medical schools and the conferment of the new diploma will cease after a couple of years and with it the diploma itself.

U. P. (18-11-1941)

The Council considered the proposals formulated by its Standing Committee regarding amendments to the United Provinces Medical Act. *Resolved :*

Preamble.—The words "certain qualified medical persons" to be substituted for the words "qualified medical men" in the recommendation.

Section 4 (1) (*a*).—The words "four members, including one lady," in the recommendation of the Standing Committee to be substituted by the words "three members."

Section 4 (1) (*d*).—The recommendation of the Standing Committee regarding one seat for the Indian Medical Association was not accepted.

At this stage it was agreed to that the seats for the graduates should be increased to six.

The following amendments were accepted :

(*i*) Substitute the following in place of 4 (1) (*d*) :

"Two members to be elected by all the medical practitioners registered under this Act and residing in the United Provinces who possess qualifications borne on the Schedules I and II to the Indian Medical Council Act XXVII of 1933 or qualifications granted by the Indian Universities established by the Acts of the Governor-General in Council and are in Government service, Railway service, or Local Boards' service."

(*ii*) Substitute the following as 4 (1) (*e*) :

"Four members to be elected by all the medical practitioners registered under this Act and residing in the United Provinces who possess qualifications borne on the Schedules I and II to the Indian Medical Council Act XXVII of 1933 or qualifications granted by the Indian Universities established by the Acts of the Governor-General in Council, one of whom to be elected only by those practitioners possessing qualifications mentioned above, other than those granted by the Universities of Lucknow and Allahabad."

Section 4 (1) (*f*).—The following was accepted in place of the recommendation :

"Three members, of whom one shall be in Government service or in Railway service or in Local Boards' service, to be elected by the medical practitioners registered under this Act and residing in the United Provinces who are not qualified in the manner prescribed in clause (*e*) ; Government servants, Railway servants and Local Boards' servants to form the constituency for the purpose of electing their representatives."

New clause 4 (1) (*g*), as follows, was added—

"One lady doctor to be nominated by the Provincial Government."

Section 32.—The following was added as a new sub-section to the recommendation of the Standing Committee :

"32 (3). Every person registered under this Act shall be entitled to be termed a doctor whether he holds the corresponding degree of a University or not.

"No person practising any form or manner of healing shall use the title of Doctor in connexion therewith unless he is registered under this Act, and any unregistered person so using this title shall be subject to a penalty not exceeding one hundred rupees for a first offence. For any subsequent or continuing offence the penalty shall be not less than one hundred rupees and not more than five hundred rupees."

"Resolved that this Council recommends to the United Provinces Government for the grant of the protection of two-third majority under Section 71 of the United Provinces District Board Act, 1922, to the Medical Officers employed and controlled by District Boards like the Secretaries and Engineers, etc.

"Further resolved that the representation made by the President, United Provinces District Board Medical Officers' Association to the Adviser to His Excellency the Governor in charge Local Self-Government Department and Medical be submitted to Government together with the resolution of the Council."

List of Assistant Surgeons who have joined the Emergency I. M. D.

17th July, 1940

Babu Lal Bali, Ram Murti Kaila, Baij Nath, Lall Chand Kapur, Des Raj Mehra, Sardis Mahon Wallang, Deva Prasad Ghosh, Pramatha Chandra Ray, Suresh Chandra De, Basudha Ranjan Bose, Arun Kanta Majumdar, Satyendra Kumar Basu, Promode Ranjan Rakshit, Kulada Ranjan Ghosh, Niranjan Kumar Das, Amrit Lal, Sodagar Ram, Cowas Ruttoshaw Kharady, Anil Baran Mukherjee, A. F. Md. Burhanuddin, Kidar Nath Prabhakar, Hirendra Kumar Sen, Achut Vasudev Limaye, Nepal Chandra Dass, Barendra Kumar Sanyal, Birnedra Kumar De, Edgar Nelson Siene, Sohan Lal Kashiram, Nemum V. Gangadaran, Mangesh Shrinivas Pandharkar, R. Bangaru Hakumat Roy, Surinder Singh, Ganda Singh, Ishwar Chandra Dikshit, K. V. Paramasivan, Rakhal Ratan Boral, Hari Ram, Rakhal Das Chowdhury, C. Sekhara Menon, M. Perama Nayagam, Birendra Mohan Banerjee, R. Lakshmipathi Naidu, T. Nagaraja Rao, S. Ramanujam, Rattan Chand, Mohammad Akram, Gopal Das, Vassan Chuharmal Vaswani, D. L. Balaraman, T. I. Mathew, Syed Zohadur Rahim, Provash Kumar Mukherjee, Manindra Kumar Basu, Birendra Krishna Pal, Sham Chand Seal, Debendra Kumar Ganguli, Pramode Ranjan Chakravorty, Pramatha Nath Bhowmik, Sakharam Yeshwant Pandit, Sohan Lal Dhami, Jai Narain Lal Sexena, Paraki Achyutarao Venugopal, M. R. Rangaswamy Iyengar, Ramuhalli Chandrasekhar Rao, Purushottam Krishna Ketkar, Jatindra Nath Mitra, Gopal Chandra Banerji, Bimalkanta Ray, Kundan Lal, Sanat Kumar Malik, Abonindra Nath Mustafe, M. S. George, Bibhabasu Dutt, Muhammad Anisuddin, Kumarlal Mukerjee, Swadesh Ronjan Bose, Cherian V. Chacko, Sudhendhu Kumar Mallick, Sudhir Rajan Datta, Indu Bhushan Ganguli, Nitya Ranjan Chakrabarty, Tilak Raj Bhalla, Jairam Shridhar Patankar, Pattam Ramkrishna Kulasekharam, Jnendra Nath Das Gupta, Praphulla Kumar Rai, Sribatsa Missra, Achanta Lingaraju, T. V. Narayanan Nambiar, Hari Laxman Marathe, Balkrishna Vithal Phase, Jogendra Nath Roy, Narendra Kishore Pande, Subramania Venkateswaran, Nand Kishore Agarwala, Naresh Chandra Guha, Kshitish Chandra Sen-Gupta, K. Cherian Philip, Sunit Kumar Bhowal, Birendra Narayan Ray, Ganes Chandra Sen Gupta, Sudhangsu Kumar Das, Hara Kanta Chakraborty, Nirmal Kumar Ray Choudhury, Nerode Kumar Sen, Schindra Nath Biswas, N. Krishnaswami, Wariomal Dayaram Wadhawani, Narayan Shrinivas Velhankar, Shresh Krishna Joshi, Shankar Vishnu Nene, Narain Singh, Ran Singh Grewal, Kabal Singh, Tarani Kanta Roy.

31st August, 1940

Promode Chandra Roy.

1st September, 1940

Sudhir Chandra Bose, Vasant Gajanan Garude, Hemendra Chandra Datta, Hrudananda Mallick, Sukhdev Singh Harnal, M. M. Koshy, Ananta Kumar Ray, Thimmappiah Venkatanaranappa Shamanna, Robert Nelson Gideon, K. Narayanaswamy, M. V. Natarajan, Subodh Chandra Guha, Joseph Anthony Stevenage, Abani Mohan Roy, Rajendra Lal Banik, Ahi Bhusen Sen-Gupta, Suparnasan Chaudhuri, Sanat Kumar Sen-Gupta, G. Ersham Victor, Keshava Datta Gupta, Rudra Datta Tiagi, Shankar Moreshwar Khanwalkar, Subodh Kumar Sinha, Sibendra Nath Sen, Goloka Behari Mohanty, Giddu Venkataramaniah, Samuel Wilfred Victor Fredericks, Kanai Lal Das, Shreedhar Sitaram Gurjar, Dibakar Mohanty, Purnendu Sekhar Majumdar, Ardhendu Majumdar, Satyendra Nath Basu, Debi Prasad Roy Choudhury, T. Vasudeva Taravanar, Gunindra Narayan Ghose, Hans Raj Khera, Mittadoddi Sreenivasa Ranga Rao, Guru Datta Dikshit, and Birendra Nath Roy.

2nd September, 1940

Manmatha Nath De Chowdhury and Debendra Bhusan Das.

16th September, 1940

Kalahari Sarkar.

27th September, 1940

Tara Prasad Maitra and Durgapada Bhattacharjee.

29th September, 1940

Manindra Saran Sanyal and Birendra Mazumder.

30th September, 1940

Dyutirindrahari Biswas, Sachindra Nath Dutta, Nripendra Nath Mukherjee, Dhirendra Nath Bhattacharjee, Birendra Nath Sarkar, Dost Mohd. Shibli, Pran Krishna Bhandari, and Bishan Das Gupta.

1st October, 1940

Raghunath Rajaram Tamboli, Debendra Kumar Rudrapal, Brundaban Chandra Das, Manger Subbiah Naganna, Vijay Singh, Gopal Prasad Mishra, Ismail Hossain Mondal, Probhat Chandra Bhattacharjee, Amal Chandra Das Gupta, Paresh Chandra Mazumder, Gopal Krishna Adhikary, Himansu Bhusan Sen, Kasisomayajula Gopalakrishna, Nem Chand Jain, Rayavarapu Suryanarayana, Pran Kumar Sen Gupta, Rabindra Nath Das Gupta, Pranakrishna Mahapatra, Om Parkash Mahajan, S. Safeer Uddin Haider, Enasatil Abraham Varughese, Raj Pal Bhatia, Shrirang Vinayak Apte, Moreshwar Shankar Vaze.

2nd October, 1940

Hari Pada Mukherjee

27th October, 1940

Ram Krishna Patnaik.

30th October, 1940

Cyril Emmanuel Tirkey.

31st October, 1940

Girija Sankar Sarkar, Jyotsna Nath Ghose, Charu Chandra Chatterjee, Sailendra Nath Sen, Ramchandra Balaji Dabir and Awtar Singh.

1st November, 1940

Ram Partap, Sailendra Prasad Sen-Gupta, Gour Pada Ray, Dharwar Lakshmanachar, Satya Narayan Lall, Abdul Jabbar Khan, B. Srinivasan, S. Venkatarama Dheekshathar, Bhagwan Das Seth, Prafulla Kumar Dora, Narayanapillay Madhavan Nair, Gopi Nath Banerjee, Purshottam Gajanan Karve, Benoy Kumar Roy, Satyendra Nath Nag, Manoranjan Majumder, Bhabendra Nath Das, Sunil Dattaray, T. I. Eapen, Nagendra Nath Das, V. Sreedharan Nedungadi, Lal Mohan Chakrabarty, Jadab Chandra Mukherjee, Kali Prasanna Mazumdar, Sohan Singh, Kamal Kumar Bose, Achyutananda Ghosh, Nikhil Nath Banerjee, Abani Bandhu Mazumdar, A. I. Chandy, N. Damodaran Pillay, Shriram Vishwanath Khasnis, Anadi Nath Bhattacharya, Suravarjhula Nagabushanam, Jitendra Nath Kar, Keshao Anant Ketkar, Pochiraju Jagannadha Rao, John Chacko, Paresh Nath Mukherjee, Shambhu Prasad Shrivastava, Shiv Singh Chohan, Inavolu Venkateswara Rao, Dattatraya Sadashivrao Pradhan, Premananda Biswas, N. S. Alasingrachar and Madhukar Raghunath Kulkarni.

2nd November, 1940

Ranajit Kumar Laha and Keerankulangara Uzhuthra Warrier.

3rd November, 1940

Shreedhar Gourishanker Puranik.

5th November, 1940

Baidya Nath Sen Gupta.

6th November, 1940

Ramendra Sundar Bandeyopadhyay.

1st December, 1940

Hardyal Singh, Sant Ram Vaidya, Bagla Prasad Banerjee, Dalip Singh Sandhu, Ripdaman Singh, Jayanty Subrahmanyam, Keshav Laxman Kumthekar, Harbans Singh, Verghese Ommen, Arttatran Misra, Syed Murtaza Husain Jafri, Keshav Moreshvar. Chitale and Sitaram Pandurang Redkar.

Association Notes

Bombay : Managing Committee meeting held on 15-9-1941 Dr. U. B. Narayan Rao presided.

Minutes of the last meeting were read and confirmed.

Branch accounts were scrutinised and passed.

Resolved that the Provincial Secretary's circulars should be placed before the General Body Meeting.

Resolved that the typewriter belonging to the above Branch be disposed off and the Secretary be authorised to sell off the same at the best price available. *Passed unanimously.*

* * * *

Rajkot (Kathiawar, Bombay) : Annual General meeting held on 8-11-1941. Twenty-four members present. Rao Sahib Dr. Lallubhai presided.

Proceedings of the last meeting read and confirmed.

Resolved that the contingent bill of Rs. 13-2-9 be passed.

Annual report on the working of the Branch was read by the Secretary and recorded.

Letter from the Registrar, Bombay Medical Council, regarding the association with unqualified midwives read, and agreed.

Office-bearers for the year 1941-42 : Rao Sahib Dr. Lallubhai C. Shah—*President*, Dr. S. A. Subedar and Rao Sahib Dr. C. G. Antani—*Vice-Presidents*, Rao Sahib Dr. T. H. Trivedi—*Secretary*, Drs. H. M. Chhaya—*Jt. Secretary*, R. L. Shah—*Treasurer*. *Managing Committee :* Drs. Mrs. Jankibai, M. L. Shah, M. D. Udani, Abdulkadir Laheji and M. G. Vasavada. Any three members will form a quorum.

The meeting scrutinised and passed the following budget of expenditure for the year 1941-42 :

Postage	Rs.	15
Stationery	,,	10
Printing charges of meeting circulars ..	,,	10
Typing and other clerical work ..	,,	24
Messenger's labour	,,	12
TOTAL	Rs.	71

An interesting report on a medico-legal case (head injury) was narrated by R. S. Dr. N. R. Ghate and many took part in the discussion.

Dr. Subedar, the Vice-President, gave a very impressive account of grievances of our class, and warned that unless those licentiates who have a very lucrative practice and are well settled in life joined the Association they will be living in a fool's paradise. He commended the example of Dr. T. S. S. Rajan, whose sincere interest of our class prompted him, when he became the Minister of Health to the Madras Government, to change the medical schools into colleges with one stroke of pen. Our other veteran workers are Drs. Narayan Rao and Shesha Rao who work courageously in safeguarding the interest of our class even against medical men of name and fame. In the end, he appealed to all those present to muster strongly under the banner of the Association. (As a result of this speech, Drs. L. D. Vyas and D. N. Dholakia were duly enlisted as members of the Association).

* * * *

Lyallpur (Punjab) : (1) Meeting held on 26-10-1941. Six doctors were present. Dr. Din Mohamed was voted to the chair.

It was unanimously decided that regular meetings be held in future.

Dr. Ved Vias Bedi was elected Branch Secretary in place of former Branch Secretary transferred.

Dr. Din Mohammad gave a few detail about cataract operation.

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(2) Meeting held on 2-11-1941. Five members present. Dr. Miss Sarwar Begam was voted to the chair.

Proceedings of the last meeting were read and confirmed.

Contingent bill for October 1941 (Re. 0-15-3) was passed.

The question of stoppage of the fee for medico-legal cases was discussed and the following resolution was passed : " This Branch protests against the stoppage of the fee for medico-legal cases done by Government medical officers (for cognizable cases) in their private capacity, and requests the Provincial and general secretaries to take suitable action.

There was general discussion about cataract operation.

(3) Meeting held on 16-11-1941. Seven doctors attended Dr. Din Mohd. was voted to the chair.

Proceedings of the last meeting were read and confirmed.

Dr. Din Mohd. was elected President of the Branch.

Dr. Ved Vias Bedi was elected as delegate of the Branch to the Annual Conference.

General Secretary's circulars Nos. 28 and 29 were read and discussed.

A case of Anasarca was discussed.

* * * *

Rohtak (Punjab) : Meeting held on 24-9-1941 under the presidentship of Dr. Hukam Chand Khosla. Seven members present.

The following resolutions were passed :

In view of His Majesty's Government in Great Britain having passed under Defence Regulations 32-B, an order on 1st January 1941 by which the hitherto unrecognised medical qualifications granted in some Dominion states and territories (including India and Burma) are made temporarily registrable in the United Kingdom, this Association requests the Government to authorise recognition of the qualifications registrable with the provincial medical councils of India so that members holding these qualifications may be eligible for the King's Commission in the I.M.S.

Proposed and carried that Dr. A. R. Luthra do attend the A. I. M. L. A. Conference at Ahmedabad to be held in December 1941, as a delegate.

Proposed and carried that Dr. A. D. Mukarji be the President for the next year.

Proposed and carried that the rural medical officers who volunteer for military duty, be posted, to the P. S. M. S. of the province from which they go for military duties, on their return.

Proposed and carried that the D.G., I.M.S., be approached again to give a full consideration to the just demand of the medical licentiates for enrolment in the Emergency I.M.S. King's Commission in the army as in the case of the medical graduates.

Proposed and carried that the difference between the British cadre and the Indian cadre be abolished as there is no difference between the two.

The accounts of the previous period were put before the house and passed.

In connection with the recruitment to military, Dr. D. R. Varma, Civil Surgeon, addressed the members of the Branch and requested them to volunteer for war service. Some of the members replied that they were willing to volunteer provided the Government accepts the terms and conditions of Emergency Medical Service proposed by and placed before the Government by the A. I. M. L. A.

Proposed and carried that the President, State Medical Faculty, be approached to lower the fees of the Membership examinations of the State Medical Faculty.

Proposed and carried that the President, State Medical Faculty be informed that the new L.M.S. course should be made equivalent to the M.B. of the University of the Punjab.

Proposed and carried that the Registrar, Punjab University, be approached to make some provisions for the medical licentiates to appear for the M.B., B.S. examination as is the case in Madras and Bombay.

Proposed and carried that the Punjab Government be requested to convert the Medical School at Amritsar into a College.

* * * *

Jorhat (Assam) : A meeting held on 16-11-1941. Six members present. Dr. D. Bhattacharjee was in the chair.

Following Office-bearers were elected for the year 1942 : Drs. A. Hakim—*President*, S. K. Sengupta—*Secretary*, C. M. Pal—*Asst. Secretary*, D. Bhattacharjee—*Auditor*.

Resolved that the budget of the year 1942 be passed as follows : Contingent—Rs. 50, Miscellaneous—Rs. 10, Propaganda—Rs. 15. Total—Rs. 75.

The account of the Branch, as audited, was passed.

Read the circulars from the General Secretary and noted contents.

* * * *

Nowgong (Assam) : Meeting held on 23-11-1941. Seven doctors present.

Dr. J. K. Barooah, Secretary, was elected as a delegate to represent this Branch at the Annual Conference to be held at Ahmedabad. Dr. H. K. Choudhury was elected as a substitute delegate to the said conference.

The members were requested to write scientific papers for the Annual Conference, as per the Branch Secretary circular No. 15.

The next Annual General Meeting of this District Branch was fixed to be held during the first week of January 1942.

* * * *

Calcutta (Bengal) : General meeting held on 21-10-1941. Dr. K. P. Sen was in the chair. About fifty members were present.

Following resolutions were passed :

Resolved that the minutes of the last meeting be confirmed.

Resolved that the contingent bill of Rs. 29-6-9 only be passed. The General Secretary be requested to pay back the advance of Rs. 9-6-9 made by Dr. Salil Dutt, Secretary, in this Bill.

Resolved that this Branch nominates Dr. A. D. Mukharji to be the President of the Ahmedabad Conference.

Resolved that this meeting discussed the manner in which the advertisement in the *Indian Medical Journal* regarding the recruitment of the I.M.D., and disapproves of it. The Editor is requested not to accept such advertisements in future.

Resolved that this Branch while appreciating the sentiments expressed by the Provincial Secretary in his Circular, records that this Branch has already enlisted 86 members in the course of this financial year, and that the members of this Branch will continue to take the same amount of interest in the welfare of the Association, by enlisting more new members. In view of the above, this meeting is of opinion that there is no need for a fresh meeting of members and non-members on 31st October 1941.

* * * *

Calcutta (Bengal) : General meeting held on 8-12-41 with Dr. K. P. Sen in the chair. About fifty members were present.

Resolved that the minutes of the last meeting be confirmed.

Resolved that this meeting congratulates Rai Saheb Dr. Probodh Chandra Roy on his being conferred the Hony. Fellowship of the State Medical Faculty by the Government of Bengal, he being the first nominated Fellow.

This meeting thanks the Government of Bengal for nominating Rai Saheb Dr. Probodh Chandra Roy as an Hony. Fellow of the State Medical Faculty of Bengal and requests the Government to confer this distinction on more licentiates in future.

Resolved that the contingent bill of Rs. 37-0-3 be passed and the General Secretary be requested to pay back the advance of Rs. 9-0-3 made by Dr. Salil Dutt, Hony. Secretary of this Branch in this bill.

* * * *

(2) Meeting held on 7-1-42 with Dr. K. P. Sen in the chair. About twenty-five members were present.

At the beginning of the meeting Dr. Salil Dutt, Hony. Secretary of the Branch, narrated all the events of the Ahmedabad Conference and he particularly stressed upon the hospitality shown by the Ahmedabad friends.

The minutes of the last meeting were read and confirmed.

The T. A. Bills of Drs. Salil Dutt, S. K. Roy Choudhury, Sachin Sirkar and Anil Maitra, amounting to Rs. 86-15-6 only per head were placed before the meeting which were scrutinised and passed for payment.

* * * *

(3) General Meeting held on 2-2-42 with Dr. K. P. Sen in the chair. About fifty doctors were present.

The minutes of the last meeting were read and confirmed.

Resolved that the contingent bill of Rs. 63-5-0 be passed and the General Secretary be requested to pay back the advance of Rs. 11-5-0 made by Dr. Salil Dutt, Hony. Secretary of the Branch in this bill.

At the request of the house, Dr. A. D. Mukharji, President of the A. I. M. L. A. narrated, with his usual eloquence, all the events of the Thirty-first Conference at Ahmedabad and he particularly stressed on the hospitality shown by the Ahmedabad friends.

The following resolution regarding the A.R.P. of Calcutta was moved by Dr. K. P. Sen, seconded by Dr. A. D. Mukharji and passed unanimously:

" The Calcutta Branch of the A. I. M. L. A. fully realises the gravity of the situation arising out of the threat of enemy Air Raids and advises its members to co-operate fully with the A.R.P. Organisation of the Government. The Liaison Committee representing the profession in Calcutta unanimously recommended equal remuneration for licentiates and graduates doing the same kind of work. This Association, therefore, respectfully urges on the Government that they should accept this as a principle of employment under the present emergency."

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Nadia (Bengal) : Monthly meeting held on 9-11-1941. Seven members were present. Dr. K. R. Roy was elected to the Chair.

Minutes of the last meeting were read and confirmed.

Branch accounts were examined and passed.

Resolved that a copy of the letter of Dr. Amesur be forwarded to Dr. B. C. Bhaora, who is also a member of the local branch of the I. M. A., to move the resolution suggested by Dr. Amesur at their next meeting.

The circular of Dr. A. N. Roy, the Provincial Secretary, was discussed by the members and they all promised to do their best in the matter of increasing the number of the members of the Association.

* * * *

Krishnagar (Bengal): Meeting held on 7-12-41. Dr. K. R. Roy was in the chair.

Minutes of the last meeting were read and confirmed.

Branch accounts were examined and passed.

Circular No. 27 from the General Secretary declaring the name of Dr. A. D. Mukharjee as the elected President of the A. I. M. L. A. by huge majority of votes, were read before the members present and it has been resolved that :

" The members of Nadia Branch express their hearty congratulation to Dr. A. D. Mukharjee on his being elected a second time as President of the A. I. M. L. A. for the year 1941-42. A copy of the above resolution be forwarded to Dr. A. D. Mukharji for information.

Circulars Nos. C/4/42 and C/5/42 from the Provincial Secretary were read before the members and discussed.

Exhibition of several important skiagrams was held by Dr. S. C. Dutta of Sadar Hospital with clinical demonstration.

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Burdwan (Bengal) : Ordinary monthly meeting held on 15-11-1941 with Dr. B. B. Banerjee in the chair. Seventeen members were present.

Confirmed the proceedings of the last meeting.

Dr. A. D. Mukherjee of Calcutta, President of our Association, attended the meeting and enlightened the members about the present-day problems of our class and its Association.

Contingent bill for the month of October 1941 amounting to Rs. 1-14-3 was passed.

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Burdwan (Bengal) : Meeting held on 15-12-41 with Dr. Ahibhusan Mukherjee in the chair.

Confirmed the proceedings of the last meeting.

Considered the draft resolution to be moved at the ensuing 31st A. I. M. L. A. Conference to be held at Ahmedabad, and the delegates from this Branch were advised accordingly.

The contingent bill for the month of November 1941 amounting to Rs. 2-8-0 was passed.

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(2) A Special Meeting of the above Branch was held on 23-1-42 with Dr. B. Banerjee in the chair.

The letter of District Magistrate No. 1042 A.R.P. dated 20-1-42 was read and discussed. Resolved that this meeting, while expressing its sympathy with the object mentioned in the aforesaid letter, requests the Secretary of this Branch to correspond with the District Magistrate with a view to ascertain the details and to enable this Branch to form a sub-committee for the organisation and working out the suggested scheme.

* * * *

Mymensingh (Bengal) : Meeting held on 1-12-1941. Twenty-two members were present. Dr. H. Bagchi was in the chair.

Dr. B. Chaudhuri, Secretary, in a short speech narrated the work done by this Branch during the Membership Campaign Month of November 1941. Altogether 36 new members have been recruited within the month and there is a good chance of getting many more during this month and the next. Drs.

A. Talukder, S. Patranabis, A. F. Ali Hasan and D. C. Roy deserve special mention as they were mainly responsible for recruiting many members, and the Branch Secretary is sincerely thankful to them for their active co-operation. He and some other members visited a few out-station places and recruited several members by direct personal contact. Also, in collaboration with the Provincial Secretary, he issued appeals to 360 non-member licentiates of the district, with the result that the above Branch now consisted of 121 members in its Register upto the end of November. He announced that more than 30 per cent. of the licentiates of the above district have already become members of the Association ; at the same time he requested the members not to think that their membership campaign has been successfully finished but, on the contrary, to imbibe the idea that it has only successfully begun. Not a single member, he concluded, should rest content until cent per cent. of the licentiates of the district have become members.

The propaganda bill of Rs. 15/1/- spent for the campaign was scrutinised and passed.

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Mymensingh (Bengal) : Emergent meeting held on 5-12-41 with Dr. A. Talukder in the chair.

This Branch resolves to make an elaborate arrangement to meet and honour Dr. A. D. Mukharji, President of our Association, during his visit to Mymensingh on the 15th instant. The Branch Secretary is requested to make arrangements befitting the occasion.

A bill for Rs. 12-6-0 spent by this Branch during the membership campaign month was scrutinised and passed.

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(2) Meeting held on 31-1-42 with Dr. H. Bagchi in the chair.

Resolved that an Executive Committee meeting of this Branch be held within a week to chalk out a plan for successfully holding at Mymensingh the Ninth Bengal Provincial Medical Conference during the ensuing Easter holidays.

Resolved that the contingent bill of Rs. 23-14-0 of the Branch from October to December 1941 be passed.

In view of the growing work of this Branch it requests the General Secretary and the Finance Committee to sanction at an early date the cost of an almirah for this Branch which will be about Rs. 26.

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(3) Executive Committee meeting held on 7-2-42 with Dr. H. Bagchi in the chair.

Resolved that for successfully holding the ensuing Provincial Medical Conference here during the Easter holidays a general subscription of Rs. 2 from medical men and Re. 1 from medical students, and Rs. 4 as reception committee membership from the former and Rs. 2 from the latter be realised.

This Branch hopes to get generous donations from its past and present members over and above the aforesaid subscriptions.

Resolved to hold a general meeting very soon to pass the above resolutions and to elect the office-bearers for the ensuing conference.

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(4) Meeting held on 11-2-42 with Dr. H. Bagchi in the chair.

This Branch resolved to hold the Ninth Provincial Medical Conference here during the Easter holidays, on the 5th and 6th April 1942, provided the international and local conditions permit.

This Branch elects the Branch Secretary, Dr. B. Chaudhuri, as General Secretary for the ensuing Conference. Other office-bearers will be elected later on.

This Branch considers and confirms the resolutions Nos. 1 and 2 of the Executive Committee meeting held on 7-2-42.

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Guntur (Madras) : The inaugural meeting of the Guntur Medical Licentiates' was held on the 9th November 1941. Dr. D. V. Venkappa of Madras, the Provincial Secretary of the A. I. M. L. A. addressed the gathering on various medico-political topics.

Dr. G. V. Hanumantharao presided.

The following are elected as office-bearers for the official year:—Dr. T. Chidanandam—*President*, Dr. V. Venkateswararao—*Secretary*, Drs. K. Ganesrao, C. Ramadas, P. Vidyasagar—*as Managing Committee Members.*

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Bilaspur (C. P.) : Special Annual Meeting convened on 23-11-1941. Dr. P. H. Sant was in the chair. Nine members present.

Dr. R. P. Pandey was at home to all the members. In the morning interesting discussions took place on clinical subjects such as Tuberculosis of lungs, Hypertonia, Leprosy, Cancrum oris, and Psychosis due to chronic constipation. One case of each of this disease was collected by Dr. R. P. Pandey for clinical demonstration.

In the afternoon, the minutes of the last meeting held on 12-9-1941 were read and confirmed.

Resolved that Dr. P. H. Sant be elected as the delegate from this Branch to the Annual Conference at Ahmedabad. *Unanimously carried.*

The Annual Report was read and unanimously adopted with a vote of thanks to the Secretary.

Following Office-bearers were elected for 1942 : Drs. P. H. Sant —*President*, M. N. Sengupta—*Secretary*, S. K. Vaidya—*Joint Secretary.*

Dr. C. V. Lankey read out a case on Peripheral neuritis and it was resolved to send it to *I. M. J.*, for publication.

* * * *

Annual Report, Bilaspur Branch : An amount of Rs. 7 was realised from the members for contingency. The expenditure so far is Rs. 6-12-3 and a balance of annas three and pies three only is left. The expenditure spent was towards postage only for despatching correspondence. As the balance left is too short, the members were requested to pay up their subscription of Re. 1 each for 1942.

During the year 1941, six new members were enrolled. At present the strength is fifteen. This Branch lost the services of three members owing to their transfer to military duty and another member to civil duty. With the help of Dr. Sant and the Secretary, this Branch is now heading the list of all the Branches in this province.

One Annual and four ordinary meetings were held. Out of these, the meeting held on 20th April 1941 was most striking. On this day four new members were enrolled. There was a discussion on Diabetes. Dr. R. L. Pandey was elected as Joint Secretary. Dr. Kaore's suggestion for publishing the names of A. M. O.'s and S. A. H. O.'s in the *I. M. J.*, was discussed.

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Bhandara (C. P.) : Meeting held on 20th August 1941.

Resolved that the following office-bearers be elected for the year 1941-42 : Drs. R. M. Pohane—*President*, G. V. Dawoo—*Secretary*. *Members* : Drs. Md. Yusuf Khan, L. D. Deshpande, G. R. Wywahare.

Managing Committee : Drs. R. M. Pohane, L. D. Deshpande and G. V. Dawoo.

Standing Committee : Drs. R. M. Pohane and G. V. Dawoo.

(2) Meeting held on 1st September 1941.

Resolved that Dr. G. V. Dawoo be elected as a delegate to the Annual Conference at Ahmedabad.

Resolved that the C. P. Provincial President and the Provincial Secretary should act in strict accordance with the Rule No. 65c regarding the formation of the Provincial Standing Committee, and not to elect a representative on behalf of the Association, on any Government body by the ' unitary ' method as it is being done at present.

Resolved that the following rules of the U. P. Branch be amended below to Rule No. 65c of the Association, as a permanent guide with certain modifications and on generalised lines, for electing a representative on any Government body on behalf of the Association.

Resolved that this Branch disapproves of the action of the C. P. Provincial President and the Provincial Secretary in not consulting two of the Standing Committee members of this Branch regarding the nomination of a member on the C. P Medical Examination Board, Nagpur for 1942, in spite of all suggestions and resolutions made from time to time, in the matter of such nominations.

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Chapra, Saran (Bihar) : Meeting held on 27-11-1941. Dr. S. D. Bannerjee was in the chair. Eight doctors present.

Clinical cases were discussed.

G. S. Circular No. 29 was read.

Contingent bills for October and November 1941 were passed unanimously.

NOTICE

The Secretary, Mymensingh Branch, writes that the 9th Bengal Provincial Conference announced to be held on 5th and 6th April 1942, has been postponed due to War coditions.

Clinical Observations on Megalocytic Anæmia of Pregnancy *

● **Ramanik H. Desai, L.C.P.S., L.T.M.**

(*Hon. Superintendent, S. M. Maternity Hospital, Nadiad*)

The first account of the disease was published in India by Margaret Balfour, in the year 1927. The disease is very common in India in comparison with Great Britain and the continent. The course is rapid and mortality is great. Megalocytic Anæmia of Pregnancy is not a hæmolytic anæmia, but it closely resembles pernicious anæmia, clinically and hæmatologically, but it does not recur like pernicious anæmia. There is leucocytosis rather than leucopenia of pernicious anæmia, and gastric secretion is normal in majority of cases.

It is thought by some to be due to dietetic deficiency, specially deficiency of vitamin B complex. Some think it to be a kind of toxæmia of pregnancy. Definite liver changes are found within the liver pointing to toxæmia of pregnancy (Mitra 1931). There is degeneration of liver cells at the centre of the hepatic lobule and hæmorrhagic area beyond it. It starts suddenly in the later months of pregnancy, and there is rise of temperature, sometimes accompanied by rigors. Patient complains of extreme weakness, and diarrhœa may be present. There is extreme progressive pallor and yellowish tint of the skin. Oedema of the limbs and face is very common. Urine may show albumen. Vomiting may be present, soreness of the tongue and bleeding from the gums is noted. Burning sensation of the fauces and epistaxis may be complained of. Liver and spleen may be enlarged, delivery may be premature, but there is no post-partum hæmorrhage. As the disease advances there is rapid pulse, dilatation of the heart and even orthopnæa may be present.

Treatment :—Keep the patient in bed. Giving nourishing diet and glucose is beneficial. Large doses of iron are required. Ferri et Ammo Citras in 1 to 1½ dram doses is required, liver extract should be injected daily. first dose being 5 c.c. followed by 2 c.c. subsequently, Marmite is given in 2 to 4 dram doses if the patient can tolerate it well. Whole blood may be injected daily 10 to 20 c.c. from the husband. Grouping is not required. It should be injected intramuscularly. Transfusion of blood in large doses is dangerous. Chatterjee found low blood cholesterol in cases of hyperchromic anæmia of pregnancy. He injected cholesterol 2 c.c., 5 per cent. solution in olive oil every other day intramuscularly. All his patients improved. Probably whole blood gives good results due to the presence of cholesterol in healthy blood.

Table showing the details of the cases treated

No.	Age	Para.	Edema	Vomiting	Temperature	Albumen	Liver and Spleen	Result
1	17	1	present	absent	present	..	palpable	recovered
2	19	2	,,	present	absent	nil	nil	died
3	24	2	,,	,,	present	present	,,	recovered*
4	26	4	,,	,,	absent	nil	,,	died
5	25	3	,,	,,	,,	present	,,	,,
6	30	2	,,	,,	,,	,,	,,	,,
7	38	11	,,	nil	,,	,,	,,	,,
8	21	2	,,	present	,,	nil	,,	recovered*
9	25	4	absent	,,	present	,,	palpable	,,
10	22	1	present	nil	nil	,,	nil	died
11	16	1	,,	present	present	,,	,,	,,
12	17	1	,,	,,	,,	,,	,,	,,
13	30	3	,,	,,	nil	,,	palpable	,,

*The three cases were treated with injections of blood, all recovered.

Blood was examined in the first three cases. Total R. B. C. being 2 millions, and hæmoglobin from 30 to 40 per cent W. B. C. showed marked leucocytocysis. Nucleated red cells were detected.

References

(1) The British Encyclopædia of Medical Practice, Vol. I

(2) Chatterjee, Jan. 6, 1940. *Lancet.*

*A Paper read at the 31st Conference, A.I.M.L.A., Ahmedabad, on 22-12-1942.

SPECIAL ARTICLES

Modern Drugs

(2)

Insulin and its Compounds

One of the most popular of modern drugs is Insulin —and lately insulin compounds. Much valuable information about this drug has appeared in the columns of the *Journal* during the last three years, and my task now is only to assemble these facts in a consolidated manner.

The Difference between Insulin and Insulin Compounds

Insulin is soluble, quick and strong in its action. When ten units of insulin are injected, its hypoglycemic effect does not last for more than five or six hours, and hence the need for repetition of the injection, particularly in a severe case of glycosuria. On the other hand, insulin compounds—such as Insulin Retard or zinc protamine insulin—are relatively insoluble due to the addition of small quantities of zinc and protamine, and when 10 to 20 units of these compounds are injected the duration of their hypoglycemic effect goes up to 18 to 24 hours even. The site of injection becomes a small store-house of insulin which is only slowly liberated from this area, and the highest hypoglycemic point is reached only after 10 to 15 hours after injection. But these compounds balance carbohydrates more slowly than the soluble insulin. From this it is obvious that in all cases where quick action is required, as in diabetic coma, reliance should not be placed on insulin compounds. In fact the proper role of insulin compounds is in mild cases of diabetes and in reinforcing the action of insulin in severe cases during nights. By this, the number of insulin injections required could be greatly minimised.

Oral Insulin

Some proprietary firms claim to have manufactured a potent oral insulin, but this is not proved by experience. So far as known at present, insulin or insulin compounds cannot be administered orally since it is destroyed by proteolytic ferments of the stomach and the intestines. It can only be given with effect by subcutaneous or intravenous injection, preferably the former. The latter is reserved for severest cases where very quick results are needed.

The Uses of Insulin and its Compounds

Their use in diabetes mellitus is well-known. Recently, they have been successfully used in the treatment of chronic wounds, of burns, and of anorexia caused by tuberculosis and some forms of toxæmias of pregnancy.

Insulin in Diabetes

Two important considerations are : when and how much insulin should be given in a case of diabetes? *When insulin should be given :* It should be given in cases of diabetes which in spite of maintenance diet shows persistent glycosuria. It should certainly be given in diabetes with severe ketonurea, coma and surgical complications. But if the disease could be controlled by diet, insulin is best avoided. At the same time it must be mentioned that while insulin is being given, diet also should be regulated according to the needs of the individual and the dosage of insulin. As Bose* says : "The patient undergoing insulin treatment should be clearly made to understand that insulin is only a valuable adjunct to the dietetic treatment, and that it can, in no sense, be considered to be a substitute for the other and that, to get the full benefit of insulin there must be a more or less constant relationship between the dosage of insulin and the quantity of diet allowed in individual cases." *How much insulin should be given :* This, of course, depends on the carbohydrate tolerance of the patient. The total amount of available glucose (calculated from the patient's diet) *minus* the total amount of glucose passed in the urine will approximately indicate the degree of carbohydrate tolerance of the patient. As a rule one unit of insulin is given for every two grammes of glucose over the limit of patient's tolerance. Generally the dosage of insulin required is given in two parts—the larger part—say 15 units—is given 20 minutes before the morning meal, and the smaller part - say 10 units—is given 15 minutes before evening meal. In very severe cases, protamine zinc insulin is given at bedtime—say at 9 or 10 p.m. Mild cases can be treated by a single dose of protamine zinc insulin just before breakfast, the dosage of insulin being according to body requirements.

It is wrong to believe that once insulin is given it has to be continued throughout life to keep the diabetes in check. There is no doubt that judicious use of insulin would result in the restoration of normal carbohydrate tolerance in course of time—say within a year or two.

Care should be taken against overdosage which may result in hypoglycemic shock or coma. If that supervenes, liberal quantities of glucose should be given.

It should always be remembered that when large doses of insulin are given, as in diabetic coma, sufficient quantity of glucose should be given along with it or immediately after it. Particularly is this true when insulin is given for non-diabetic conditions such as anorexia, hyperemesis gravidarum, and surgical shock.

Insulin in other Diseases

Recently, insulin has been put to use in the treatment of chronic wounds, various kinds of surgical shock, anorexia, malnutrition and toxemias of pregnancy. Usually not more than 10 or 15 units per day are given, and *it is always accompanied by glucose by mouth or vein.* The good effects of insulin in such cases are due to the stimulus which it gives to the rehabilitation of carbohydrate metabolism.

M. S. ARUNACHALAM, L.M.P.

* A Hand-book on Diabetes Mellitus, 1939.

Pharmacy in India—Past and Present

● **J. C. Ghosh, B.Sc. (Manchester)**

(Principal, School of Chemical Technology, Calcutta, Retired Pharmaceutical Chemist, Government of India Medical Stores Department)

In the very early days of medical practice in India both chemistry and pharmacy were evolved as handmaids of medicine. The earliest Indian physicians spoken of in the *Rig Veda* were the twin gods *Asvinikumaradwaja*. The importance of the *Asvins* and of medical relief to humanity is noticeable from the fact that the *Asvins* among others were particularly mentioned in verse 15, chapter 11, of *Bhagavad Gita* as well. Moreover, *Atharva Veda* is the repository of Indian medical and pharmaceutical knowledge of no mean order composed with what we have under modern scientific development. Medicine and pharmacy in India are, therefore, as old in origin as the vedas. The ancient physicians in all countries were their own drug collectors, producers and dispensers. On the separation of pharmacy from medicine in Europe in later days, the subjects of drug collection, production and dispensing fell within the purview of pharmacy. The Arab physicians during the seventh to thirteenth century were the pioneers to relegate the responsibility of drug production, investigation, etc., to drug manufacturers. The bifurcation introduced by the Arabs continued, for it was they who largely developed the medical science, pharmacy and chemistry in those days and whose achievements in several cultural directions were unique when Europe remained engulfed in medieval darkness. Pharmacy was thus reorganised early to constitute a special work requiring skill and knowledge. In 766 A.D., the first pharmacy was established in Baghdad. The teaching of pharmacy then became a recognised branch of learning under the Arabic influence and schools of pharmacy were established in various cities, one of the earliest being at Basra. The preferential treatment given to pharmacy under the Arabic culture was adhered to in the West when medical science there gradually emerged from empiricism since the sixteenth century. Modern machinery, as also scientific and technical personnel, were required with the growth of pharmacy in Europe and America. Pharmacy laws were introduced and the pharmaceutical profession there is now considered to be as highly developed as any other scientific profession. In India, however, which happened to be the cradle of pharmacy during the vedic period, and where, under the Buddhistic civilisation (327 B.C. to A.D. 1200) and later *Tantric* culture, there arose an order of physicians, pharmacists and surgeons whose skill is still worthy of our admiration, pharmacy did not receive the same preferential treatment as is mentioned above. It is regrettable that India is conspicuously backward since the seventeenth century, both industrially and scientifically, in pharmacy in spite of the impetus it received from the Arabic pharmacy under the Mahomedan rule, there being as yet no pharmacy laws in the country, nor trained pharmaceutical people to a recognisable extent. The position appears to be deplorable when it is remembered that there was no pharmaceutical progress here in the real sense during the last two hundred years while the West progressed in rapid strides during the period. The brief summary below explains what is going to be developed in India.

2. Modern pharmaceutical industry as in vogue in Western countries and as stimulated here by war efforts now and twenty-five years ago, is chiefly concerned with the preparation and preservation of substances for medicinal use. As its principles both in respect of preparation and preservation have a wider application, namely, the manufacture of heavy and fine chemicals, coal and wood tar distillation products, development of forest resources, of analytical methods, and of equipment, etc., the industry is more comprehensive than is usually thought of. The scientific side of this industry is varied enough and includes a knowledge of the diagnostic and other characters of medicines and of the crude ingredients from which they are prepared. As such the scientific side is first known as pharmacognosy or pharmacography, and popularly as Materia Medica, when it treats of the source, characters and varieties of crude drugs. It is pharmacology when it deals with the action of drugs on the animal organism. It is therapeutics when concerning itself with the uses of medicines in curing diseases. These aspects apart, the chief scientific function of pharmaceutical industry is predominantly chemical, comprising as it does inorganic and organic chemistry, physical and physiological chemistry. Moreover, the industry is largely dependent on physics and biology. It is also concerned with bacteriology as knowledge thereof is required in connection with the preservation of raw ingredients and manufactured products. There is a further extension of the industry to other applied sciences, namely chemotherapy and toxicology; it may be reasonable to expect more extensions in the future.

As explained above pharmaceutical industry at present involves the application to it of several sciences. In other words it is applied science *par excellence.* Its main divisions are fourfold, namely,

(1) *Galenical :*—These are preparations of drugs, which are generally obtained from the animal and vegetable kingdoms by certain established processes of maceration, percolation, decoction, expression, solutions, etc., and which have no definite chemical composition.

(2) *Chemical :* or chemical preparations having a definite chemical constitution. These are acids, alkalies and their salts; anæsthetics, alcohols and their derivatives, hypnotics, disinfectants, antiseptics, alkaloids, soaps, glycerine and similar other preparations.

(3) *Bio-chemical :* or special biological products, such as sera, vaccines, toxins, antitoxins, and organotherapeutic substances, namely, adrenaline, gland extracts, insulin, etc.

(4) *Synthetic remedies :* or special drugs derived chemically from "intermediates" of coal tar, such as saccharin, antifebrin, antipyrine, etc., also from the study of the relationship between chemical structure and physiological action which is known as chemotherapy.

The fourfold divisions which indicate the features of modern pharmacy are only broad classifications having no strict line of demarcation between these groups in many cases. The galenical preparations were the oldest and still continue to be important in the domain of pharmaceutical industry, the name *Galenical* being derived from Galen (A.D. 130—200) who was the last of the great classical Greek physicians of Europe and who raised the art of healing in that country from a rather discredited calling to the dignity of an honoured profession. To show how modern pharmacy differs from what it was in the past some remarks may be made here. Ancient pharmaceutical preparations, as handed down from remote ages, were more or less shrouded with mysticism and with practices attended with magic, spells and incantations. Their origin in all countries is claimed to be divine. These preparations have, however, a more historical basis in the West than in the East. In Europe Hippocrates (about 450 B.C.), who is known as the father of rational medicine, was a Greek physician. From ancient tombs and ruins of towns in Egypt documents—Papyri—containing prescriptions have been unearthed. Historically some of them are as old as 4000 B.C. These prescriptions contained formulæ and minute directions as to the manner of administering the medicines. Similar antiquity and details are also the characters of pharmaceutical knowledge as found in *Atharva Veda* in India with the difference that the knowledge there is said to be revealed. In the West this knowledge originally spread through the Egyptians, the Hebrews, the Babylonians and Assyrians, the Greeks and the Romans. In later periods (eighth to twelfth century A.D.) the torchlight of pharmaceutical knowledge was carried in Europe by the Arabs who are authentically known to have borrowed it from India, *vide* " Alberuni's India."

With regard to the main fourfold divisions of modern pharmaceutical industry I propose to confine my remarks to such points as have direct reference to the application to the industry of applied science and as may be conveniently covered within the scope of this paper. These remarks are also meant to show how pharmacy is gradually progressing and how close is the relationship of applied science with pharmaceutical industry and what its possibilities are to promote the health, wealth and happiness of the country. The ingredients of galenicals under group (1) of pharmaceutical industry are obtained from the animal and vegetable kingdoms. As is the case in every country, the use of animal and vegetable remedies has its origin in magic. Animal medication was in operation in ancient Egypt, in Rome and in medieval Arabia and Europe. This was also the case in India, a well-known example being the use of *Brihat Chhagaladya* Ghrita. Transfusion of human blood is used in modern medicine. Of all the animals used medicinally none was so universally esteemed by mankind as the snake. Snake poison was an old remedy and is still being tried. Suchikavaram, an ancient Ayurvedic preparation consisting of snake poison as one of its important ingredients, is believed to be potent heart tonic. In the British Pharmacopœia (1898) sixteen animal substances were included, namely, leeches, cantharides, cod-liver oil, cochinea, honey, laud, suet, spermacetic beeswax, wool-fat, milk, sugar, musk, ox bile, pepsin, pancreatic solution and thyroid gland. Many changes are being introduced, there being both omissions and additions as results of experience and research replacing superstition. The list of vegetable drugs in use in the East and the West was a formidable one from the earliest period. This was the case under the belief that the plant world is endowed by Providence with remedies for all ills. In spite of the pruning knife of persistent research in the West, the B. P. (1932) still retains nearly a hundred vegetable drugs. It is understood that the Indian Pharmacopœia as found in *Charaka*, the earliest methodised medical treatise of the post-Vedic and the pre-Buddhistic period, mentions over 2,000 vegetable drugs, the medicament in that period having consisted chiefly of herbs and simples.

Before any thing further is said on the subject of vegetable and animal drugs, it may be remarked that certain pharmacopœial rules are required to be observed both in the East and the West in respect of collecting crude drugs. These rules are based on the biological fact that the active principles of plant vary greatly in amount at different periods. Moreover, they are not uniformly distributed throughout the plant, but are more plentiful in some parts than in others. Hence it is necessary not only to gather different plants at different seasons of the year, but different times, in order to obtain the best and most reliable drugs. There is a great deal more to be said here to show what honest and scientific galenical pharmacy means, how it may be therapeutically active, and what industrial possibilities lie here. The expert knowledge and care that are called for in growing and collecting vegetable drugs are equally necessary in respect of drugs of animal origin as will be seen from the following examples :—Pancreatic solution of the B. P. is a colourless liquid containing the digestive principles of the *fresh* pancreas of the pig. The preparation is most active when the animal from which it is obtained has been fed shortly before being killed. Pepsin is a yellowish white amorphous powder, being the enzyme obtained from the mucous membranes of the fresh and healthy stomach of the pig, sheep or calf. The strength required is that it should dissolve 2,500 times its weight of hard boiled white of egg. There are similar rules in ancient Hindu books of medicine in *Charka*, *Susruta*, etc.

Coming to the manufacturing processes we find the need for expert knowledge and care to be as essential for manufactures as in the case for growing and collecting raw drugs. A pharmacist, who has to deal not only with raw drugs but also with chemicals and other substances such as starches, fats, waxes and oils, is required to be trained in chemistry, physics, botany, pharmaceutics, bacteriology and other subjects as are referred to in the opening lines. The selection of raw drugs and the standardisation of manufactured products is a highly technical work involving microscopical examination and the application of several physical, chemical and physiological tests which are indispensable if the work has to be done conscientiously, correctly and scientifically. The pharmacist in Western countries has to satisfy himself whether the drug he is going to buy or sell is of the nature, substance or quality demanded for medicinal use. This demand brings a pharmacist to the most crucial point in his profession as he is

liable to prosecution in those countries under the " Food and Drugs Act " if his preparation is not up to the standard laid down in the British or other standard pharmacopœias of the West. A similar obligation will shortly be imposed upon all pharmaceutical work in India under the new Drugs Act (1940) and the proposed Pharmacy Act to be enacted by the Government of India. Pharmaceutical industry is fraudulent and prejudicial to health if it is not conducted methodically and scientifically. The establishment since 1937 of a Biochemical Standardisation Laboratory in Calcutta is a good beginning for the industry to proceed on scientific and honest lines in India and no pains should be spared to popularise the Laboratory and to make the people know what is going on there, what its utility is, and how they are to be trained. The recently issued triennial report of the Laboratory shows what useful work is being carried on there, giving a new direction to pharmacy in India.

The evolution of scientific pharmaceutical industry in the West and of *orthodox* pharmacy in the East constitutes fascinating chapters in the History of Pharmacy and I have been obliged to omit altogether even a brief reference to it and to scientific processes in order to adjust this paper to the space limit at my disposal. Starting the modern pharmaceutical industry with the manufacture of acids and alkalies I may mention that there are over 1000 alkali works alone in the British Isles. Each item of this industry, or a part thereof, is big enough to absorb several large industries. Precise and honest work is not possible without a thorough scientific training. This remark is true of all industries but it especially applies to *Manufacturing Pharmacy*, as the preparations are for human consumption, being intended to alleviate pain and not to prolong it, although the latter effect is what is bound to ensure when inferior or wrongly selected drugs are used. Moreover, the sphere of modern pharmaceutical industry is so varied and wide that one should specialise himself in the line he adopts. It is impossible to expect everything, whether microscopical, chemical, physiological or bacteriological, to be done by one and the same man. Each subject has now-a-days expanded so largely that it is the work of a life-time to be thorough even in a fragment of a subject. Further, in all technical subjects there should be a close co-operation between universities and factories by allowing university teachers to do factory work and the factory chemists to take up university teaching. Such co-operation is needed to assure increased efficiency to our universities and to develop our industries on scientific lines. India still badly lacks an organisation for the promotion of pharmaceutical education, trade and industry. The Drugs Act (1940), thanks to the strenuous efforts for years of Sir Henry Gidney, Sir R. N. Chopra, his colleagues and others, was passed by the Government of India over a year ago. It is indeed the first milestone reached in the journey undertaken since 1919 when the School of Chemical Technology, Calcutta, first published its pamphlet on " Indigenous Drugs of India," preceded by a pamphlet on "Drug Manufacture—What it means." An All-India Pharmacy Act which, as announced in the " Statesman " of the 17th July last, is expected to be the next instalment, will provide the consummation long sought for. This will implement the recommendations made by the Drugs Inquiry Committee appointed by the Government of India in 1930 and will bring this country into line with the other civilised countries of the world in respect of pharmaceutical practice and legislation. The legislation here, it is feared, will not be complete and no impetus imparted to Indian pharmaceutical industry unless the publicity given at present to adulterated and spurious drugs through advertisements and the post office is brought well under control. The School of Chemical Technology, Calcutta, has done its best towards checking the evil by the efforts it has made from getting Pharmacy Laws introduced into the country and further by its publications and products since 1919 and expects the public to co-operate with it.

MEDICAL NEWS

Health of the British and Indian Army in India

The effect which war has had on the general health of the personnel of the British and Indian Army is revealed in the annual report on the Health of the Army in India during 1940.

The general health of the personnel of the British Army during 1940 has not been so good as in the immediately preceding years. Among factors which may have effected the incidence of disease, it is mentioned that owing to the demand for field medical units for overseas service, the establishment of regular medical officers and assistant surgeons has fallen to a level only just sufficient to maintain the administration of hospitals in India. Numerous and frequent changes in the medical charge of units and the inexperience of young medical officers have had an effect in lowering the standard of medical and sanitary supervision and in interrupting the continuity of anti-malarial work. The tendency to treat in hospital cases which could be treated as out-patients was also noticed in some districts.

The general health of the personnel of the Indian Army also has not been so good as in 1939 or in the years immediately preceding. But considering that intensive training was in force; that there was a great deal of unavoidable overcrowding and that an unusually large proportion of the troops consisted of elderly reservists and youthful recruits, the health of the Indian Army during 1940 can be considered to have been satisfactory.

Malaria was the principal disease affecting both British and Indian other ranks which showed a considerable increase in incidence as compared with 1939. In the Northern Command malaria once again resumed its position at the head of the list of diseases, after having been reduced below first place for three consecutive years. Without anti-malaria measures in this Command, which were effective, the admission rates might well have soared high.

The two serious outbreaks of heat exhaustion which occurred in the middle of the hot weather were reported from British units which had reveille excessively early and kept their men shut up in barracks most of the day. Owing to great increase in troops movements necessitated by war conditions, special measures were adopted to safeguard military personnel undertaking long train journeys in the hot weather. There is a growing realisation that it is better to keep the men actively employed during most of the day during summer.

During 1940 many medical officers were specially trained in advanced hygiene with a view to their becoming hygiene specialists. This training was carried out by means of lectures, practical demonstrations and by attachment to the office of Deputy Assistant Directors of Hygiene. This scheme proved to be a success and many competent hygienists were turned out during 1940. Special lectures and demonstrations on hygiene and sanitation were given to each class of emergency commissioned I.M.S. officers and I.M.D. personnel undergoing training at No. 1 Company I.H.C., Rawalpindi throughout the year.

Very great improvements have taken place in the past twenty-five years in the water-supplies of military cantonments in India; and these improvements are each year, slowly but gradually, being added to. The water situation in most stations of Brigade size and upwards is now satisfactory, with a chlorinated pipe supply to the barracks. There are still, however, some exceptions. Plans to improve the situation in these places have been held up owing to the war. The situation in the majority of the smaller stations is little changed from what is was twenty-five years ago.

Development of Nursing Service in India

A survey of nursing in India is to be carried out by means of a questionnaire issued to Government departments, local authorities, voluntary hospitals, organisations of various kinds and to individuals interested in the training and conditions of service of nurses.

This survey will provide much valuable information on which to base recommendations for the development of a sound nursing service in India.

The number of registered nurses in India is approximately 5,000 against a total of 60,000 registered doctors. It is felt that a reversed proportion of nurses and doctors would be more in keeping with the duties which each profession has to perform.

One of the reasons why more hospitals in India do not train nurses is the shortage of an adequately qualified administrative and teaching staff. Rapid progress can only be made if facilities for post-graduate study are provided in India for nurses who have shown special ability and aptitude for administrative or teaching posts.

While the proposal has the general support of provincial Medical Departments and various non-official nursing and medical organisations, the extent to which Provincial Governments will be prepared to support the school by sending students for training and later by absorbing them into their nursing services is still to be explored. This information when obtained will be of the greatest help in formulating concrete proposals for the establishment of an All-India Post-Graduate Nursing School.

In order to secure uniformity of aims and standards throughout India and to facilitate interprovincial reciprocity in the recognition and registration of nursing certificates, the establishment of a Central Nursing Council has been recommended by the Central Advisory Board of Health.

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The D. G., I.M.S., writes, informing the readers of the *Journal*, that owing to the extreme difficulty in obtaining supplies of Atropinae Sulphas and Cocaine Hydrochloride it is imperative that stocks of these drugs should be conserved to the utmost possible extent. As far as possible its use should be restricted to ophthalmic practice and replaced by Tinctura Belladonnae B. P. wherever practicable.

EPITOME

Ind. Med. Gaz., Jan. 1942

		Page
	Superficial keratitis—*Aykroyd and Varma*	1
	Tinea Imbricata—*Dey and Maplestone*	5
(1)	Scurvy in the famine areas—*Khan*	6
	Achlorhydria and anæmia—*Bhende*	13
	Lung syphilis—*Helig and others*	15
(2)	Normal blood pressure in Indians—*Chopra*	21
	Sterilisation of snake venom preparations—*Chopra*	23

(1) **Khan,** from a study of famine conditions in Hissar (Punjab), finds that scurvy is one of the results of such conditions. Thirty-two cases were treated by him with fresh juice of *amla* or a powder prepared from the dry fruit. He observes that the results of treatment were dramatic and comparable to those treated with pure ascorbic acid. He also refers to the efficacy of germinated grain as a prophylactic of scurvy.

(2) **Chopra,** from data collected by him with regard to the B. P. in Indians, finds that:

(*i*) The average systolic pressure in Indians is lower than that in Europeans. For any age-range previously enumerated this difference varies from 5 to 14 mm. Hg. About 53.7 per cent. of Indians have their systolic pressure between 100 and 119 mm. Hg. against 20.5 per cent. Europeans for the same range. For higher ranges, *e.g.*, 120 to 139 mm. Hg., the percentage of Europeans increases up to 54.6 against 32.9 only for Indians.

(*ii*) The average diastolic pressure of Indians is also lower than that of Europeans. This is approximately 8 to 9 mm. Hg. less. The pulse pressure naturally is also proportionately low but between the ages of 35 to 60 years it attains almost the same height as in Europeans.

(*iii*) Amongst the various communities in India, it has been found that the people of the north (Punjab, U. P. and Delhi) do have higher systolic and diastolic pressures than the people of the east (Bengal, Bihar and Orissa) and south (Madras). The bracing climate of the north, better diet and higher standard of living would possibly account for this difference.

(*iv*) People on mixed diet have slightly higher blood pressure than those on a purely vegetarian dietary.

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Jr. I. M. A., Jan. 1942

	Cholera toxin—*Banerjee*	95
	Immunity response to non-specific antigens—*Gosh*	100
	Posterior subcapsular opacities of lens—*Das Gupta*	103

* * * *

Cal. Med. Jr., Dec. 1941

(3)	Placenta prævia—*Mangaldas Mehta*	613
	Behaviour of kidney in cholera—*Dutta*	621
	Insomnia and its treatment—*Ghosh*	621

(3) **Mehta** outlines the following principles of treatment of placenta prævia:

The maternal mortality is much higher in domestic than in institutional practice, as the facilities for the various life-saving measures for restoring the patient are not available in domestic practice.

The delay in treatment may seriously prejudice the chances of success.

As hæmorrhage is by far the chief cause of maternal deaths every attempt should be made to prevent loss of blood before, during, and after delivery.

As sepsis is a frequent cause of death, all manipulations should be reduced to the minimum, and should only be undertaken if everything is ready for eventualities.

Institutional treatment is always the best, because of expert medical aid, aseptic surroundings, and immediate available help.

Treatment mainly depends on *severity* of bleeding.

If the bleeding is slight and patient not in labour, put the patient to rest and under sedatives and supervise till she delivers.

Whereas if the bleeding is severe and if one or more of the following condition are present Cæsarean section after blood tranfusion is indicated, *viz.*, (*i*) Os closed, (*ii*) complete placenta prævia, (*iii*) elderly primipara, (*iv*) patient wants a live child, and if it is alive and viable, (*v*) disproportion.

In cases where Cæsarean section is not indicated the choice is between the following treatment:—

(*a*) Willett's forceps.

(*b*) Pressure of half Breech. If vertex presenting: After external version, or bi-polar version or internal version, pull down one leg. If breach presenting: pull down leg.

(*c*) Rupture of membranes and put tight abdominal binder, if placenta does not cover internal os and cervix well dilated with strong labour pains.

(*d*) De Rib's Bag is out-of-date and is not used.

Rupture of the membranes and application of a tight binder with a vulval pad and T-bandage is ideal for placenta prævia of the incomplete variety, provided the bleeding has not been severe and good pains are present and the os is dilating.

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Med. Bulletin, 7th Feb. 1942

Diagnosis of early pregnancy—*Purandare*	53

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Med. Digest, Jan. 1942

Sick dieting—*Viswanathan*	1
Anæmias of pregnancy—*Patel*	4

* * * *

Antiseptic, Jan. 1942

Modern concepts of tubercular evolution—*Eisenstaedt*	1
Weight factor in quiescent tuberculosis—*Chatterjee*	9
Stilboestrol—*Kumar*	14
Hippuric acid test for liver function—*Joseph*	10
Postural methods in treatment—*Subba Rao*	27

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SPECIAL JOURNALS

Leprosy in India, Jan. 1942

Lepromin test—*Dharmendra and Lowe*	3
Treatment of leprosy with diphtheria—formal toxoid—*Chatterji*	20
Leprosy and blood groups—*Lowe*	23

* * * *

Indian Jr. of Ven. Dis., Oct.–Dec. 1941

Symposium on modern treatment of gonorrhœa—*Govinda Nair and others*	137
Treatment of scabies—*Choksey*	156

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Annals of Bio-chemistry and Experimental Medicine, Vol. 1, No. 3, 1941

A. N. Roy and others, writing on the agglutination reaction in experimental animals in response to plasmodium knowlesi antigen, concludes as follows:—

(1) Agglutinating anti-bodies appear in the sera of monkeys infected with P. knowlesi after the acute phase of infection passes off. The titre of agglutinin increases with the duration of infection.

(2) Super-infection causes a rise in the titre of agglutinins, at least in some cases.

(3) It has been possible by artificial immunisation of monkeys with antigens of dead P. knowlesi to produce agglutinins in their serum.

(4) Absorption of the specific agglutinins from the immune sera could be obtained by parasitised R. B. C. as well as cell-free parasites.

Other articles deal with (1) splitting of the combined ascorbic acid of urine (Sen Gupta), (2) available iron in fish (Saha), (3) stability of nicotinic acid (Gosh), and (4) urinary excretion of combined ascorbic acid by normal and tubercular subjects (Banerjee and Guha).

Ind. Jr. of Ped., Jan. 1942

Pfieffer bacillus meningitis—*Elias and de* .. 1
(4) Avitaminosis and vitamin therapy—*Chaudhuri* 11
Mode of action of vitamins—*Basu* 24

(4) **Chaudhuri** makes the following observations regarding specific vitamin therapy in children :

Complete reliance on dietary therapy is not recommended, when frank deficiency symptoms are in evidence. Specific therapy must be undertaken.

Indiscriminate use of vitamins is not consistent with patient's interest. In practice it is convenient to combine fat and water-solubles in separate groups. Specific therapy offers many advantages over natural ones, inasmuch as the dosage can be exact and also parenteral administration assures its absorption. Rapid and dramatic effects are observed in some cases.

In xerophthalmia injectible halibut liver oil ½–1 c.c. (Davitamon-A, 20,000 I. U. per c.c.) should be used. No untoward effect is usually seen. This should be followed by oral cod liver oil for an extended period.

In scurvy, 25–100 mg. of ascorbic acid daily by mouth. A sodium salt may be given intravenously.

Rickets can be prevented and cured in two ways : (1) by irradiation of the skin with ultra-violet rays and by ingestion of vitamin D. Ultra-violet rays convert the previtamin D (7-dehydrocholesterol) present in the skin to vitamin D. The vitamin D is absorbed from the small intestine, 1,000 I. U. is necessary for cure. Vitamin D from animal sources is more potent than others.

In the administration of vitamin B complex, two points must always be remembered : (1) there is hardly any storage of vitamin B in the body and (2) because of its solubility it is more likely to be lost during preparation of food or during diarrhœal state.

In beri-beri, pure crystalline thiamin chloride has a dramatic effect. For infants 5 mgm. by injection dissolved in normal saline is given, 10 mgm. by mouth. In adults, 20 mgm. in 10 mgm. doses. In pellagra nicotinic acid amide has advantages over other salts. In adults 500 mgm. daily in 50 mgm. doses orally or parenterally in normal saline. Increase of skin temperature and vasodilatation is occasionally seen but less frequently with amide than with other salts.

Riboflavin is given in 3–5 mgm. doses.
Vitamin K is given in 1–5 mgm. doses

Vitamin B_6 and yeast adenylic acid are better given combined as Brewar's yeast 75–100 gm. It contains all the elements of vitamin B complex and also enzymes.

Abstracts

CARCINOMA OF THE UTERUS. Douglas MacLeod.

'Post-Graduate Medical Journal,' Sept. 1941, p. 140.

Carcinoma of the cervix uteri is the commonest type of malignant disease affecting the female genital tract, and, indeed, probably the commonest site for all malignant disease in women. It comprises nearly 90 per cent. of all cases of carcinoma of the uterus.

The commonest age at which the disease occurs is between forty and fifty, though cases have been reported in women as young as twenty. Wilfred Shaw gives the age incidence as follows :—

Under 20	.. ..	Nil
20–30	.. ..	3.6 per cent.
30–40	.. ..	24.7 ,, ,,
40–50	.. ..	36.7 ,, ,,
50–60	.. ..	23.8 ,, ,,
Over 60	.. ..	11.1 ,, ,,

Its incidence is definitely related to child-bearing since the majority of cases occur in parous women, nulliparous women being affected in only 50 per cent. of all cases. It is probable, therefore, that injury or disease of the cervix such as chronic cervicitis plays an important part in the incidence of carcinoma, a fact which should be borne in mind when performing hysterectomy for simple conditions. For the same reason subtotal hysterectomy should only be performed in exceptional cases.

The majority of cases of carcinoma cervicis do not survive without treatment for more than eighteen months from the onset of symptoms, though individual growths occasionally vary in their malignancy, as elsewhere in the body. The prognosis is worse in the endocervical type, not only on account of its different pathology but also on account of the fact that the diagnosis is liable to be missed in its early stages without careful examination and investigation.

Attempts have been made to classify cervical cancer into grades of malignancy according to their histological characteristics. Broders at the Mayo Clinic classifies them into four Grades. Grade I represents the adult, highly differentiated type of epidermoid carcinoma, whereas Grade IV comprises the very cellular types of growth consisting of undifferentiated embryonic cells. Grades II and III cover cases occupying intermediate positions. This classification is not generally used in this country.

Symptoms

Haemorrhage :—It cannot be too strongly emphasised that the earliest symptom, and often the only symptom, is bleeding. This bleeding is irregular and may follow intercourse, douching or exercise, or may occur for no obvious reason. Unfortunately it frequently occurs at the time when the menopause may be expected and is only too readily attributed by the patient and her medical adviser to this event.

For this reason attempts have been made in America and other countries to induce women to submit themselves for examination at regular intervals during this dangerous period. Cases occurring after the menopause and during pregnancy are usually diagnosed earlier for obvious reasons.

Discharge :—Later, the growth becomes infected and a characteristic foul-smelling discharge makes its appearance.

Pain :—Real pain is a late symptom and nearly always indicates spread of the growth to surrounding structures. When the parametrium and the obturator nerve are involved pain may radiate down the inner side of the thigh to the knee ; when the bladder is involved micturition becomes painful ; if the rectum is involved there will be pain on defecation.

When the growth has extended to the side wall of the pelvis and the whole of the pelvic cellular tissue is involved, pain in the groins and the back may be severe and difficult to relieve. In the late stages of the disease if vesico-vaginal or recto-vaginal fistulæ have occurred the patient presents a pitiful spectacle. On the other hand, it is surprising how well a patient will occasionally appear with most advanced disease.

Cause of death :—At least 50 per cent. of the patients die from uræmia after urinary infection has resulted from ureteric involvement in the parametrial spread. For the remainder, toxaemia, exhaustion and haemorrhage supply the immediate causes of death.

Diagnosis :—The diagnosis of cancer of the cervix depends on the association of a history of irregular bleeding with certain physical signs. Ectocervical growths are friable and bleed readily on touching, and inspection of the cervix with the speculum will show the presence of growth or an ulcerated area with everted edges. Schiller's test may also be of assistance. It depends on the fact that healthy cervical epithelium contains glycogen and stains a dark brown with Lugol's iodine solution, whereas precancerous and cancerous areas do not. The test is used fairly extensively on the Continent, but in this country it is felt that should any doubt exist as to the diagnosis biopsy is the safer procedure. In the case of endocervical carcinoma friability is absent in the early stages and the cervical epithelium appears smooth and healthy. On the other hand, the cervix itself feels hard, and is large and characteristically barrel-shaped, and it cannot be too strongly emphasised that at this stage a thorough investigation with a curette should be performed in any case with a suspicious history.

In more advanced cases limitation of movement of the cervix occurs in varying degree. In all cases in which a diagnosis of carcinoma has been made, rectal examination will give valuable information as to the extent of spread to the parametria.

Differential Diagnosis

Diagnosis of carcinoma should not be difficult in those cases of irregular bleeding where the cervix is friable and bleeds readily, but occasionally certain conditions may stimulate carcinoma.

A simple cervical erosion should present little difficulty, for it is not friable, has the feel of velvet, and does not bleed freely on examination but oozes from many small points. On the other hand, an ectropion associated with an irregularly hypertrophied cervix may present considerable difficulty and it is in such cases as these that a biopsy of the cervix must be done.

The cervix in endocervical cancer is barrel-shaped and feels hard and rigid, whereas in chronic hypertrophic cervicitis the enlargement is not so typically barrel-shaped and is elastic. Further, in the absence of an erosion there is usually no history of bleeding. Here, too, a curettage of the endocervical canal should be performed in cases of doubt.

A fibroid polypus, especially if it is a large one and undergoing necrosis, may resemble a fungating carcinoma very closely. There is irregular bleeding and a foul discharge, but the mass is not friable.

Other conditions have been mistaken for cervical cancer, such as an incomplete miscarriage with necrotic placenta appearing through the cervix, and rare conditions such as tuberculous disease and gumma of the cervix, etc. In all these histological examination may be necessary before establishing a diagnosis.

Clinical grouping of cases of carcinoma cervicis :—The League of Nations system of grouping is now universal and should be strictly adhered to if any knowledge is to be gained from results of treatment. Each case of carcinoma must be carefully examined and placed in one of the following four groups. Only a brief description of the groups will be given here.

Group I :—The growth is strictly limited to the cervix. There is no limitation of movement.

Group II :—(*a*) The growth has extended on to the vaginal vault.

(*b*) There is some infiltration of one or both parametria, but it has not invaded the pelvic wall and fixation of the cervix is therefore not incomplete.

(*c*) There is some extension to the body in the case of endocervical carcinoma.

Group III :—(*a*) There is complete infiltration of one or both parametria, and it has invaded the pelvic wall resulting in complete fixation of the cervix.

(*b*) The pelvic lymph nodes are invaded.

(*c*) The lower third of the vagina is involved.

Group IV :—The bladder or rectum are involved. The carcinoma has extended to the vaginal outlet and there are distant metastases.

It is evident that such a grouping is only a clinical one and has no pathological foundation. Many cases which appear clinically to be in Group I will at operation be found to have metastases in the lymph nodes and therefore will fall into Group III.

Further, it is obvious that statistics of results from radium treatment will vary if grouping is not strictly adhered to. Also it follows that a case in which there is some doubt as to the actual group should always be put in the earlier stage, otherwise the proportion of favourable results in the less advanced grades will be unduly raised.

Treatment

Controversy concerning the relative values of operation and irradiation continues to rage. Only one thing appears certain, that no hard and fast rule is possible. The question is not which is the better, but when should either be used. It is clear that the greatest scope for radium lies in cases where operative measures present difficulties and dangers, and as radium technique improves this scope will tend to increase. *Pari passu* with this, a diminution in the scope for operative treatment may be expected. But so long as irradiation remains ineffective in dealing with lymph node secondaries operation will remain the treatment of choice in certain cases, the problem being to know where to draw the line of demarcation between the two methods.

SACRAL ANAESTHESIA IN OBSTETRICS.—Poole (J. Obst. & Gynec. Brit. Emp., 1941 : 48: 84) gives a summary of his observations: (1) The use of a regional anaesthetic eliminates certain of the disadvantages common to the general anaesthetics and hynotics now available. Sacral anaesthesia is a practical form of regional anaesthesia for obstetric use. (2) The technique of sacral anaesthesia is not difficult, but practice is required for consistent success. (3) Percaine, 25 to 45 cc. of a 0.1 per cent. solution in normal saline, provides an anaesthesia of satisfactory quality ; such an anaesthesia is adequate for internal manual manipulations or for suture of the perineum, but is insufficient for delivery by the forceps unless this is easy. (4) The average duration of the anaesthesia is 4 hours. The solution should be injected at such a time that delivery is calculated to take place, considering all the features of the case, within the time following the injection. (5) Following the injection, the uterine contraction may decrease or disappear. They will reappear strongly within half an hour provided they were strong and regular before the injection. If they were not strong and regular before the injection, this form of anaesthesia is unsuitable and should not be employed. (6) Obesity is a contraindication, mechanical difficulties making the injection uncertain or impossible. (7) The method is free from complications to mother and child. (8) The solution was employed in 32 cases, of which 10 were deemed failures. Analysis of the causes of failure showed that in every case such failure was preventable, being due either to too early administration of the anaesthetic, incorrect technique of injection or faulty selection of case.

FALLACIES IN CARDIAC DIAGNOSIS.—Unfortunately, more uncertainty exists and errors are probably more often made in the diagnosis of diseases of the cardiovascular system than in disorders of any other system. The conscientious practitioner finds himself less confident in matters pertaining to the heart and blood vessels than he is in other fields of medicine. This state of affairs is dependent primarily upon the persistence of a few fundamental misconceptions. The first is that the presence of any one of the so-called cardiac symptoms—namely, shortness of breath, œdema and pain—or the presence of any murmur spells heart disease. Secondly, it is just as fallacious to feel that every heart over which no murmurs can be heard is essentially healthy and normal. Thirdly, the idea that every irregularity or disturbance of the heart mechanism indicates myocardial damage is wrong. Fourthly, if the heart rhythm is regular and slow, it does not necessarily follow that the myocardium must be fundamentally sound. The fallacy of such conceptions should be obvious.—From *Synopsis of Diseases of the Heart and Arteries*, by George R. Herrmann.

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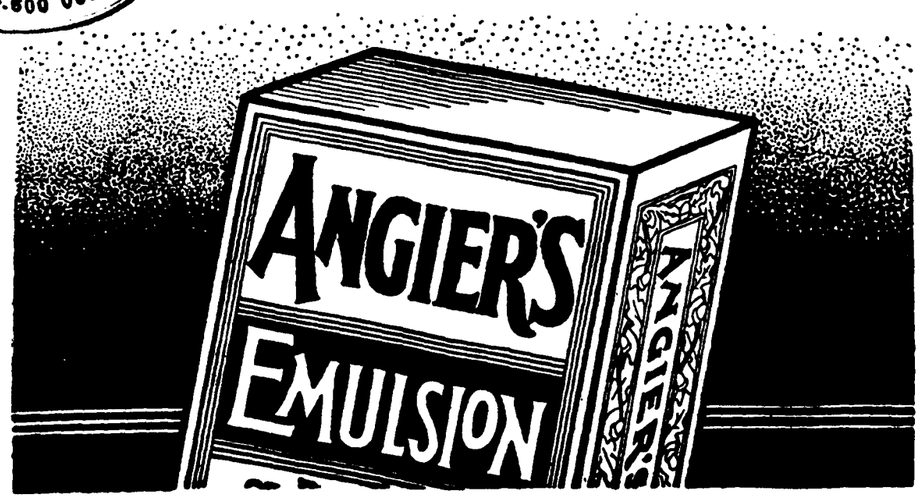

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