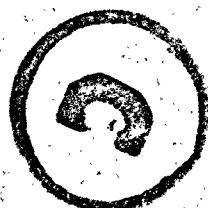


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1936

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The Antiseptic

A Monthly Medical Journal

Edited by

Dr. U. Rama Rau & U. Krishna Rau, M.B., B.S.

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Editorial & Publishing Offices: 323, Thambu Chetty St., G. T., Madras.

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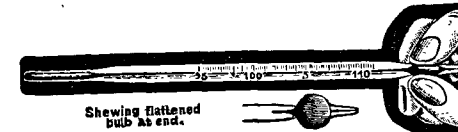
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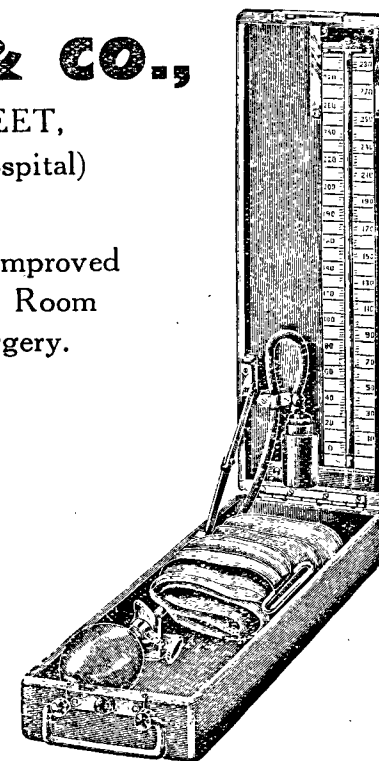
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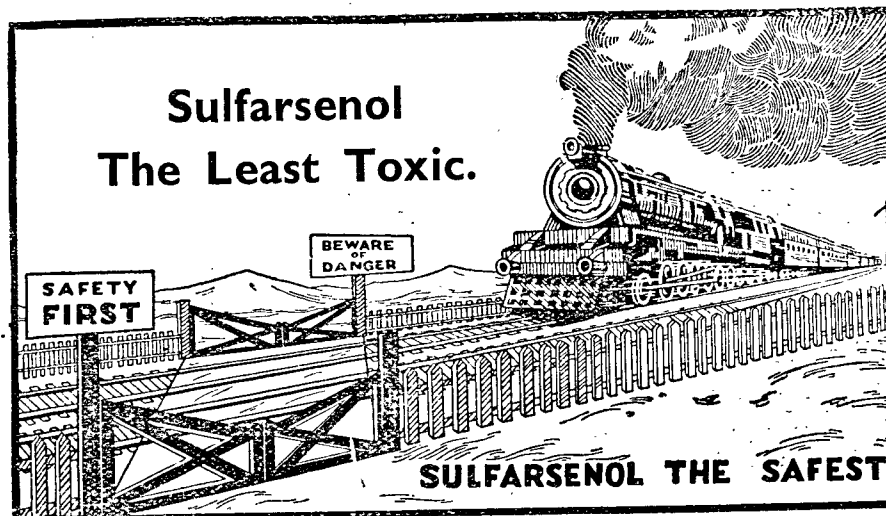
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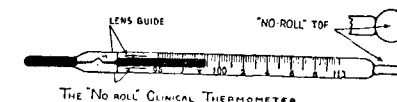


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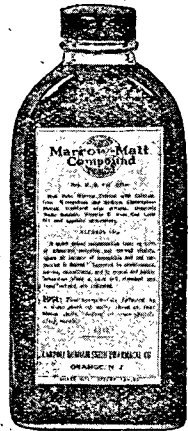
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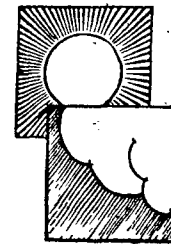
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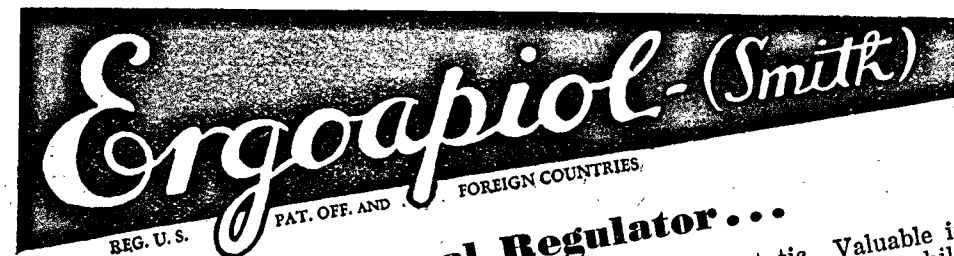
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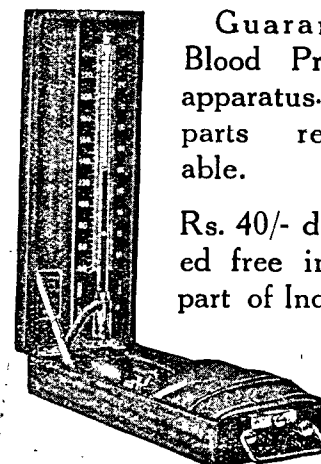
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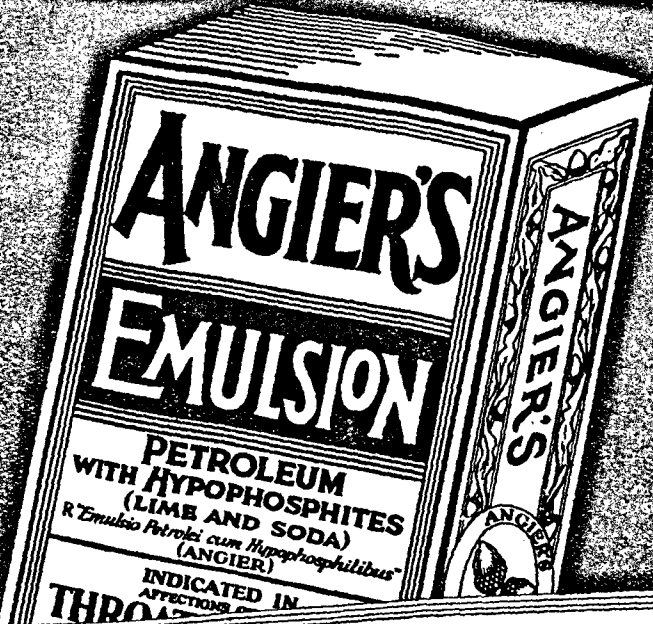
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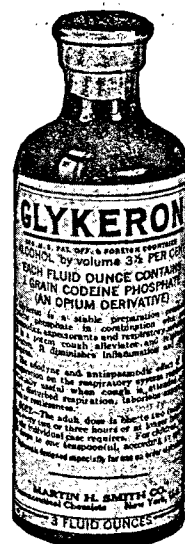
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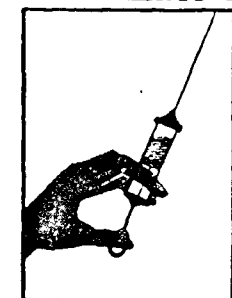
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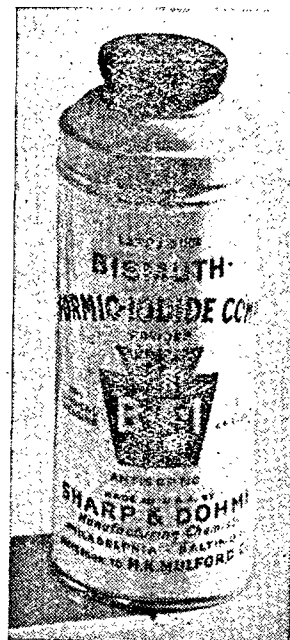
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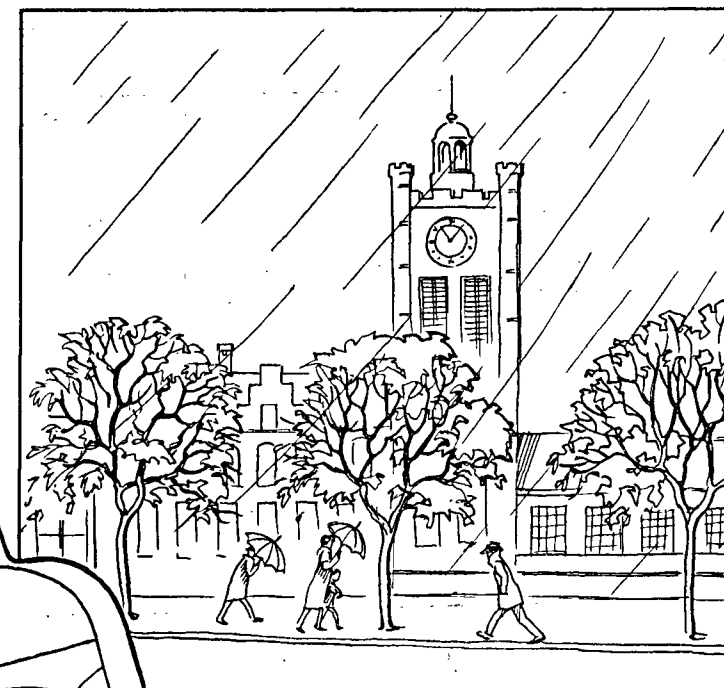
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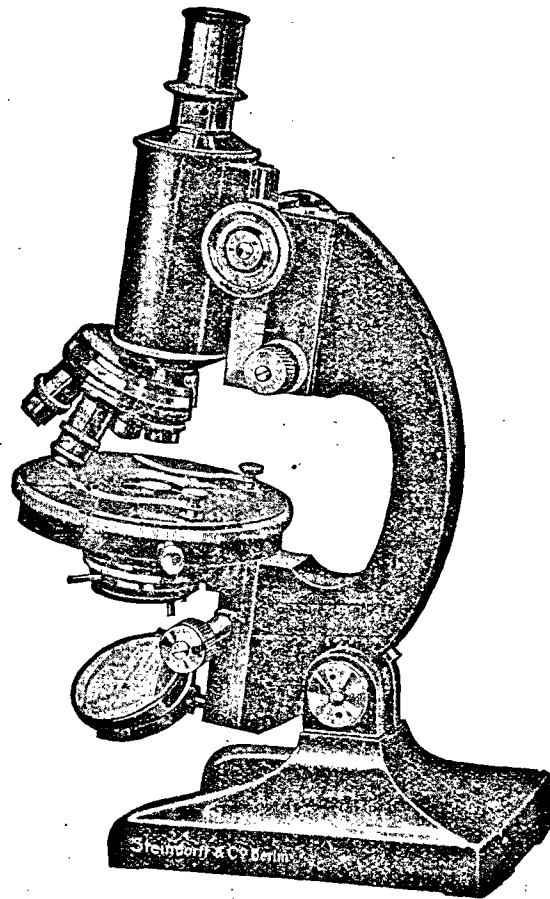
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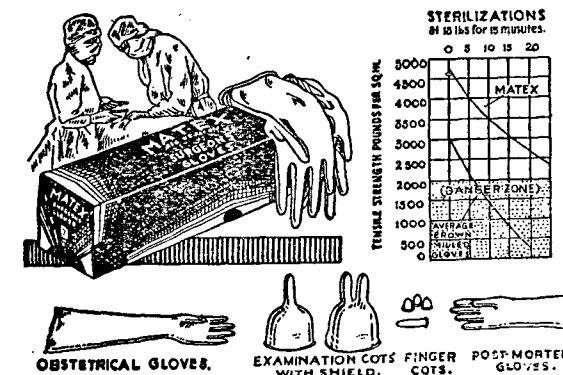
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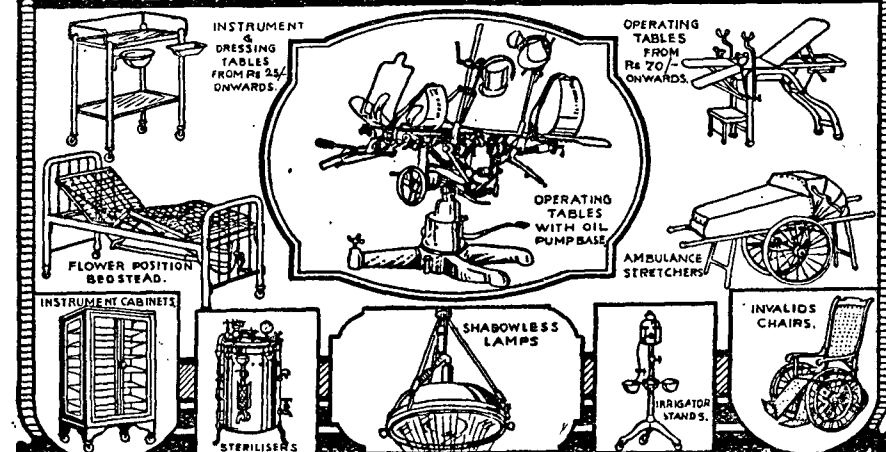
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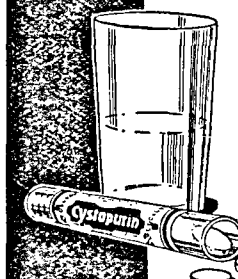
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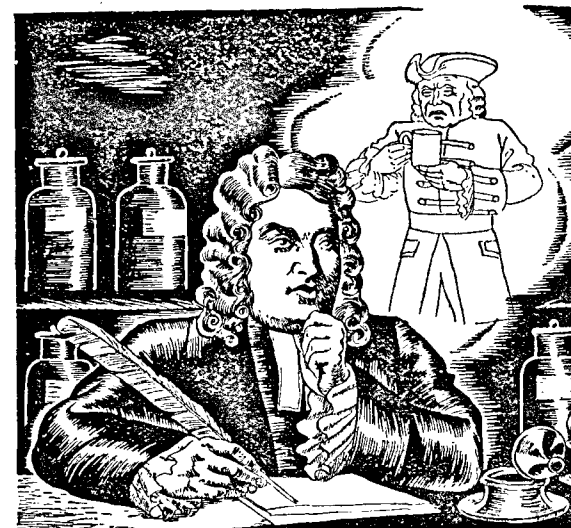


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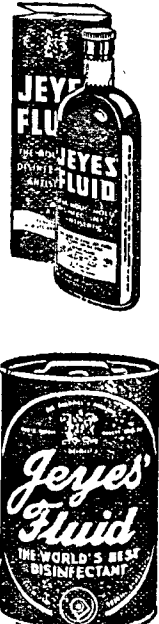
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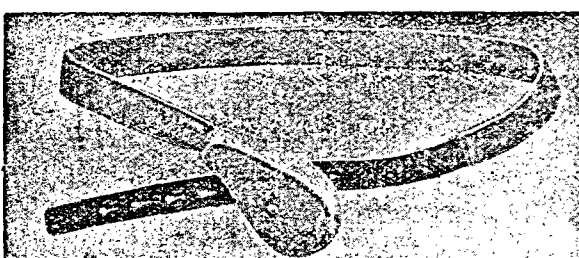
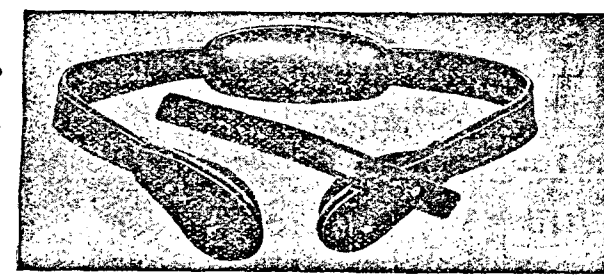
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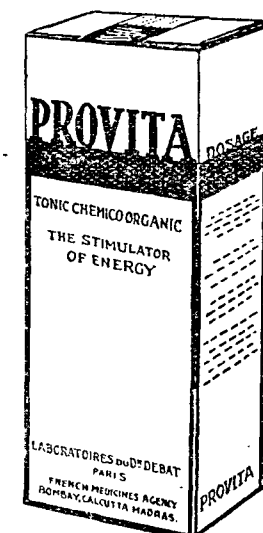
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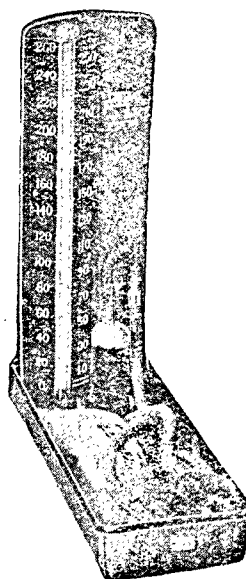
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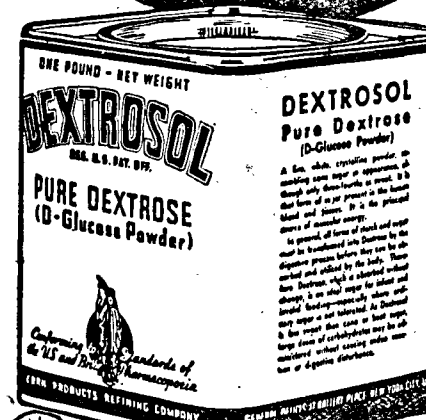
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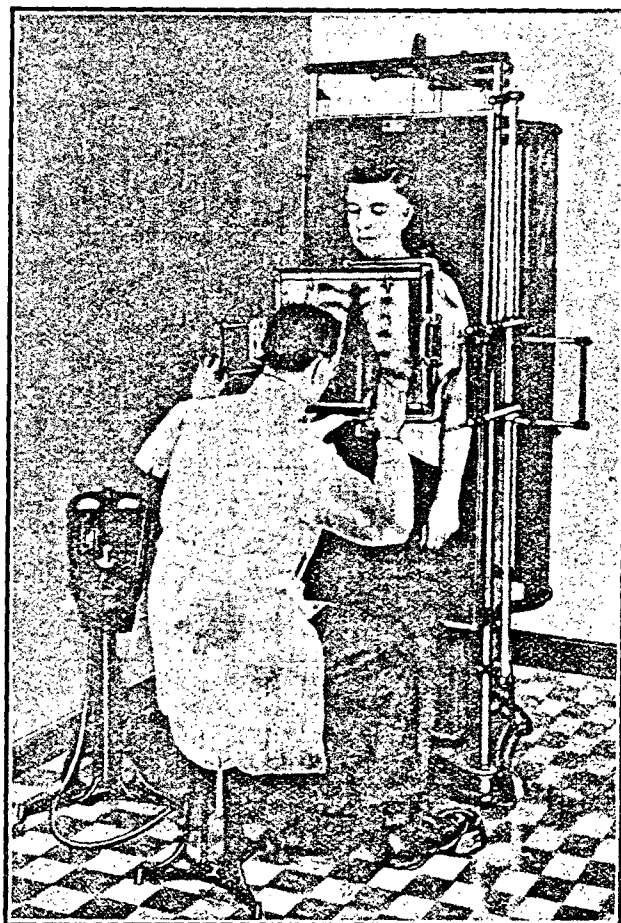
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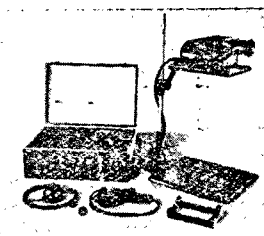
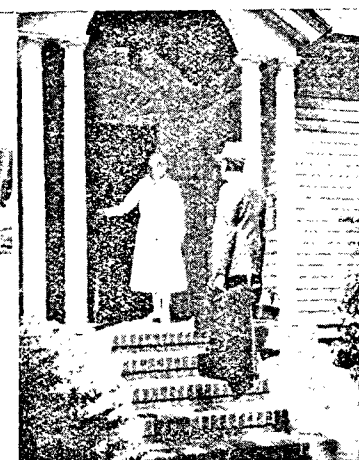


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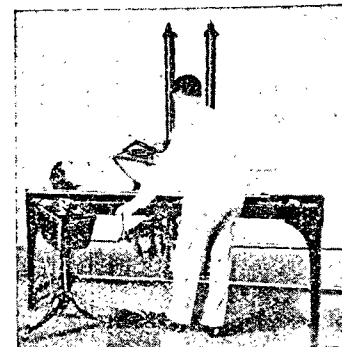


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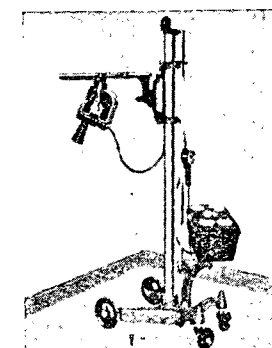
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ORIGINAL ARTICLES

A Discussion on the Therapeutics of Malaria*

Recent Views on the Use of Cinchona Alkaloids
and Synthetic Products

BY

JAGADISH CHANDRA BHATTACHARJEE, L.M.P.,

Darjeeling Himalayan Railway Hospital, Siliguri, Darjeeling

Introduction

SINCE the discovery of the antimalarial properties of cinchona bark, cinchona in the form of one or other of its alkaloids has held the field as the only specific for treatment of malaria till recently when some of the synthetic products have been put in the market. Quinine is mostly manufactured outside India and owing to its widespread demand is sold at a very high price in Indian market, which the poor Indians can ill afford to pay. The world market to a large extent is regulated by Kinabureau, a Dutch Corporation, as the cultivation of cinchona is particularly monopolized by them and the small amount manufactured in India, is quite inadequate to meet the great demand in such a big malarious country. Of course, if the Government change their policy and a large area is cultivated, India may in one day be independent of her quinine requirements and the poorest of the people may have an adequate treatment of his disease.

The problem of paucity of quinine in regard to its great

* Specially contributed to 'The Antiseptic'.

demand is not only faced in India—rather it is a problem of all malarious countries of the world and hence serious attention is being paid to its solution. A few years ago, the Health Organisation of the League of Nations appointed Malaria Commissions to consider the matter and evolve a solution. They have worked under the direction of Prof. Giemsa and others and their valuable report has been published in 1933.

A large number of people, who suffer from malaria in a poverty-stricken country cannot avail any specific treatment of their disease owing to the high cost of quinine and hence at first, their aim was to devise some means to bring about world reduction in the price of quinine. The Commission considered that for effecting a clinical cure, employment of pure quinine might not be necessary always and perhaps one or more of the alkaloids of cinchona bark could be used with advantage. Eventually, the poor may avail of a treatment, which would cost much less than what would cost a pure quinine treatment. Having this object in view, they organised an exhaustive research on the antimalarial properties of total alkaloids of cinchona bark and on its different alkaloidal mixtures. After full discussion on the subject in two conferences at London and Geneva, it was decided to suggest a new preparation of cinchona alkaloids to be termed *Totaquina*, containing standardized percentage of alkaloids of cinchona bark, which would be quite effective in the treatment of malaria.

While this enquiry was progressing, an epoch-making discovery in the field of therapeutics of malaria took place. Prof. Schulemann of Elberfeld laboratories discovered the synthetic drug *Atebrin*, which claimed to be as good as quinine, if not superior, both as a therapeutic and a prophylactic agent.

Recent advances in Malariology.—During the past few years, several discoveries of outstanding importance took place in the field of malarial research and a brief mention of the most important of them may interest our readers.

Quinine.—It does not destroy the sporozoite stage of malarial parasite. This serves to explain why it sometimes fails as a prophylactic agent. The prophylactic taking of quinine cannot prevent an attack of malaria radically, but sometimes only the clinical symptoms are suppressed or mitigated. General prophylaxis by means of administration of quinine has been a failure always. Quinine has practically no action on the sexual forms of malarial parasites, which is required for development within the mosquito hosts.

We have learnt that curative properties of quinine against malarial infection is not always permanent and relapse or recurrence of fever is liable to occur at a long or short interval after cessation of treatment. It has been found that standard quinine treatment against any sort of infection is not always successful, because, different species and geographical strains of parasites vary in their virulence and resistance to treatment, even in the same individuals. This also explains why different kinds of clinical symptoms are encountered in different malarious countries.

The occurrence of immunity by repeated attacks of malaria has been long known to the medical profession, but recently it has been clearly defined that this immunity is specific against the particular strain or species of the plasmodium and by too intensive treatment or too early treatment with quinine, the patient is prevented from acquiring this immunity or tolerance and the individual becomes a very bad subject to relapses, which are so commonly encountered by practising Physicians.

The standard treatment of malaria suggested by Sinton (1930)* and modified by Knowles and Das Gupta (1931)† has been carried out these few years and it has been experienced that long courses of quinine in moderately big but therapeutically effective doses are scarcely agreeable to any patient, though these courses are quite efficacious in effecting a cure. Intramuscular injection of quinine, though prompt in ameliorating the clinical symptoms in some instances, cannot be advocated as a routine method of treatment owing to a chance of local necrosis of tissue and septic infection of the site. Intravenous injection of quinine is gradually becoming more popular especially in comatose cases supplemented by parenteral and peroral administration of the drug. Though intramuscular quinine may be used when it is definitely indicated, yet its use too frequently by parenteral route as a routine measure is deprecated by all leading clinicians.

Cinchona Alkaloids

We have referred to above that the Malaria Commission appointed by League of Nations was engaged to consider the

* This consists of 30 grains of quinine to be given daily preceded by alkalies for seven days together with 0.15 gm. of plasmochin daily. Quinine to be continued for three weeks in smaller doses.

† This consists of 20 grains of quinine to be given daily preceded by alkalies for ten days. Plasmochin to be given during the last six days in daily dose of 0.01 gm.

means of reducing the cost of quinine and as an outcome of their research, a new preparation of cinchona bark termed '*totaquina*' has been introduced in the field of malaria therapy. So long quinine was the only drug of choice, but it is comparatively recently that a preparation containing the different alkaloids of the cinchona bark commonly known as '*Cinchona Febrifuge*' is being used. Owing to its cheapness, it has been widely used in the provincial, local and district board dispensaries as a substitute for quinine and though the genuine preparation is quite sufficient to mitigate an attack of malaria, yet the drug could be never popularized owing to its nauseating taste and colour. However, different samples of cinchona febrifuge have been found to vary in their alkaloidal contents and many of them contain very little quinine, but an abundance of amorphous alkaloids which are therapeutically inert. I enquired at the Government Cinchona Factory, Mungpoo (near Kalimpong in Darjeeling district), if the cinchona febrifuge manufactured there contains any standard percentage of alkaloids. The Quinologist informed me that even the cinchona febrifuge manufactured at the government factory is not guaranteed to have a standard composition and alkaloidal content varies from time to time according to the nature of the bark used at the factory, though the variation is slight. The average composition of cinchona febrifuge manufactured at government factory for the last few years may be given as such :—

Quinine	...	10.7	per cent.
Cinchonidine	...	5.8	"
Quinidine	...	18.4	"
Cinchonine	...	22.0	"
Amorphous alkaloids	...	23.3	"
Moisture	...	5.3	"
Nonalkaloid	...	14.5	"

TOTAQUINA.—Total alkaloids of cinchona bark as recommended by Malaria Commission contain all the alkaloids in standard percentage and has been included in the British Pharmacopœia, 1932, at their request. They have suggested that the name '*Quinetum*' should be reserved for a preparation consisting of quinine, cinchonidine and cinchonine in equal parts. These three crystallizable alkaloids can be obtained in *cinchona succirubra* in almost equal proportion. The term '*totaquina*' (B. P. 1932) is restricted to a standardized preparation containing all the alkaloids in cinchona bark. It must contain not less than 70 per

cent. crystalline alkaloids of which at least 15 per cent must be quinine. The amorphous alkaloids must not exceed 20 per cent. and non-alkaloid 10 per cent. Two types of totaquina have been recommended ; the approximate composition is given below :—

TOTAQUINA—TYPE I

	Made by extracting the total alkaloids of <i>C. Succirubra</i> .	Made by extracting the total alkaloids of <i>C. Robusta</i> .
Quinine	... 25.23 per cent.	28.46 per cent.
Cinchonine	... 27.67 "	16.00 "
Cinchonidine	... 34.13 "	47.53 "
Amorphous alkaloids	... 8.86 "	3.70 "
Moisture	... 0.99 "	1.00 "
Ash	... 0.63 "	1.67 "

Totaquina Type II is manufactured by adding to the residues of quinine manufacture sufficient alkaloids to bring the preparation to the following standard :—

TOTAQUINA—TYPE II*

Quinine	...	14.79	per cent.
Cinchonine	...	55.11	"
Cinchonidine	...	7.10	"
Quinidine	...	6.21	"
Amorphous alkaloids	...	10.47	"
Moisture	...	1.77	"
Ash	...	2.13	"

So long there has not been sufficient trial of these preparations but the few records available show that clinical results

* The object of grouping totaquina types I and II is this : Of the alkaloids of the cinchona bark, quinine has achieved the most popularity and hence the species of cinchona plant, that gives the highest yield of quinine is generally cultivated. This species *i. e.*, *C. Ledgeriana* is a very delicate plant and does not grow everywhere. Other species, such as *C. Succirubra* and *C. Robusta*, which grow abundantly everywhere are not generally cultivated owing to their low quinine yield. Now if the total alkaloids of latter two species can be utilised in the treatment of malaria, there will be an extension in their cultivation and an antimalarial treatment will be procurable at a low cost. Quinine of course will be manufactured but the residues such as cinchonine, cinchonidine and quinidine had no good market so long. By addition of a quantity of quinine to these alkaloids, a new preparation (Totaquina type II) is now available. Of course in view of the great difference in alkaloidal contents of the two types, therapeutic results are bound to vary.

Totaquina type II is being manufactured at the Government Cinchona Factory, Mungpoo, and is available to public buyers @ Rs. 13-8 per pound.—J. C. B.

obtained with totaquina type I is almost as good as with quinine for any practical purpose. They recommend a dose of 10 grains a day for benign tertian and 20 grains per day for malignant tertian and quartan infection. The clinical result with type II is certainly inferior.

Synthetic Anti Malarial Remedies

So far two *synthetic products both produced at the laboratories of Bayer-Meister Lucius, Elberfeld, Germany, have been offered for treatment of malaria. These are 'Plasmochin' (Plasmoquine) and 'Atebrin'.

PLASMOCHIN:—It is said to be *n*-diethyl-amino-isopropyl-8-amino-6-methyl quinolin and was synthesized by Prof. Sahulemann. Since 1926 it has been used extensively in all malarious countries of the world.

It was originally designed for treatment of malarial fever and when first made its appearance in the market, was prescribed too freely by the physicians as a curative agent. However after a very extensive trial of the drug, it has been found to have little, if any, action on the asexual forms of *Plasmodium falciparum*—the most common form of the plasmodium infections.

In the doses originally advocated, it has been found to produce toxic, sometimes dangerous and in certain individuals, even fatal symptoms, but on the other hand, it has been observed that the dose originally suggested, was unnecessarily high and even a much smaller dose is equally effective and addition of a small amount of quinine to it, enhances its curative property to a great extent. As a curative agent, it is useful when used in combination with quinine, in benign tertian and quartan infections, especially in cases of relapses and even a single course is sufficient for a cure.

Plasmochin as a gametocytocidal drug:—The outstanding importance in the discovery of plasmochin is not in its curative action against malaria, but is in its gametocytocidal properties. Hitherto, we had no weapon to fight against sexual forms of subtertian parasites responsible for transmission of malaria and its discovery has opened up a new chapter in malaria control. It has been observed that it kills the gametocytes in a very short time

* 'Tabetren (Howards) and 'Malarcan' (Laboratory of Pharmaceutical Chemistry, Neugersdorf) are closely allied drugs and are compounds of some sterio-isomeric bases of methyl acridin chloride and hydrochloric acid. They are cuprein compounds and therefore they are cinchona derivatives and cannot be called synthetic. Detailed clinical reports are not available at present.—J.C.B.

and thereby prevents dissemination of the disease through mosquito hosts.

Doses and duration of treatment.—It has been referred to above that at doses originally advocated, it has been found to exhibit severe toxic symptoms and recent observation has shown that in a minute dose 0.02 gm. continued for two or three days, it is sufficient to cause disappearance of crescents in peripheral blood in cases of Indian strains of malaria (Chopra and Chaudhuri, 1935). Newman and Chalam (1935) have used plasmochin as routine measure in cases of *P. falciparous* infection and found that ordinary sexual forms disappear from blood on the second or third day of plasmochin administration, though in three cases it persisted upto the eighth day. However the modern consensus of opinion is that, a course of plasmochin should be given in every case of subtertian malaria and in all cases of unclassified infection as an antigametocyte measure and it should better be spread over a period of five days subsequent to administration of quinine or atebrin. It should never be given in empty stomach as it produces severe gastralgia and must be preceded by food. It can be safely given to pregnant women as it does not exhibit any deleterious action on uterus (Chopra, Gupta and Ganguli 1933).

Toxicity of Plasmochin.—Plasmochin in moderately big doses and also in therapeutic doses in susceptible individuals produces toxic symptoms and hence should be administered under personal supervision. These are, cyanosis, epigastric pain, pain in the liver region, extreme prostration, headache, backache, palpitation and vomiting. Cases are on record in which severe myocarditis has been noticed. Even a fatal case has been reported from America, in which central necrosis of the liver was found on post mortem examination.

Toxicity of plasmochin is enhanced if administered simultaneously with atebrin and possibility of such occurrence has been expressed in three different papers, based on observations in three different places, but published concurrently in January, 1935, (Chopra and Chaudhuri; Newman and Chalam; Williams and Bhattacharyya).

ATEBRIN.—The chemical composition of atebrin, which has been synthesized in the scientific laboratories of Bayer-Meister Lucius, by chemists Mietzsch and Mauss under direction of Professors Hoerlein and Schulemann is Dichlorhydrate of 2-methoxy-6-chlor-9 alpha-diaethyl, amino-delta, methyl-pentyl, amino-acridin. It is a yellow powder of bitter taste soluble to seven per cent in water. It is issued in tablet form, each

containing 0.1 grm. ($1\frac{1}{2}$ grains) and three tablets a day administered over a period of five days constitute a course. One course of five days administration is said to cure a case of malaria and it is claimed that it equally destroys the schizonts of all three species of malaria parasites namely *P. falciparum*, *P. vivax* and *P. malaræ* as well as the gametocytes of the latter two species.

It has been referred to above that plasmochin though at first offered for treatment of malaria, could not fulfil all the aims of its originators and researches were continued to find out a more effective antimalarial remedy. As an outcome of this, atebirin has been introduced. Since its introduction it has been extensively tried all over the world by numerous workers and a perusal of the literature convinces one of its possibility of having superiority over quinine in respect of its therapeutic value, non-toxicity and short course in effecting a cure. In Malaya, the drug has been used in extensive scale by Green (1932, 1934), Hoops (1933, 1933 a) and Duncan (1933). In India, a large number of detailed reports on its treatment have been published of which mention may be made of Napier and Das Gupta (1932), Napier, Butcher and Das Gupta (1932), Chopra, Das Gupta and Sen (1933), McQueen (1933), Newman and Chalam (1935), Williams and Bhattacharyya (1935) and a host of other observers. The writer had an opportunity to try the drug personally on an extensive scale in 1931 when he was working in Jorehaut Tea Company's gardens under Dr. Manson. Since then, the drug has been used on many occasions both under hospital condition and in out practice. Throughout, the drug has been found to give uniformly satisfactory result.

Action and use of Atebrin.—Atebrin has been found to be equally effective in treatment of three types of malaria, schizonts disappearing from peripheral blood after administration of three tablets of 0.1 grm. for two or three days. It also acts upon the sexual forms of benign tertian and quartan parasites but crescents are not at all touched upon. A course lasting over five days effects a cure and in specially resistant cases, a second course may be necessary after a few days' interval. In heavily infectious cases, the drug may be injected intravenously for which stock solution is available or may be prepared by dissolving 0.1 grm. of the drug in 1 to 2 c.cm. of distilled water.

The drug is excreted in the urine, which can be detected by special tests. The excretion is not regular and goes on for several days, so there is a tendency for cumulation of the drug in the system.

The drug can be safely administered to pregnant women as it has no deleterious effect upon pregnant uterus, so much so, it can be used safely in cases of Black-water fever as it has no tendency to cause haemoglobinuria. Of course, cases are on record where Black-water fever developed in patients already under treatment with atebirin (Banerjee and Brahmachari, 1933).

Clinically, atebirin has been found to be at least as efficacious as quinine and some of the observers (Hoops) hold that it is not advisable or beneficial to give quinine as a routine measure before commencing atebirin treatment. Nevertheless, the Malaria Commission's view is expressed with due caution in this respect.*

Atebrin is said to be superior to quinine in prevention of relapses, but the observation in respect of Indian strains of malaria is not conclusive. But in chronic type of malaria, the drug is quite effective and causes rapid reduction in the size of the spleen. As a prophylactic, it has no superiority over quinine.

Toxicity of Atebrin.—The toxicity of atebirin for any practical purpose is low. The commonest untoward effect is the yellow discoloration of skin and conjunctivæ which is due to harmless deposition of the pigment of the drug underneath. It occurs in persons in whom excretion from kidney is delayed or hindered, but this passes off gradually. Amongst other things, feeling of profound depression, slight epigastric pain, feeling of uneasiness in stomach, headache, loss of appetite, diarrhoea, lowering of blood pressure may be mentioned. These as a rule disappear, when the drug is withheld.

Advantages of Atebrin over quinine.—Atebrin is easy to take, short course of treatment causes no neurotrophic symptoms like buzzing in ears, deafness etc. Also it can be used with safety in cases of haemoglobinuria and Black-water fever, in pregnant women and in persons, who exhibit idiosyncrasy to quinine.

Though immediate cost of atebirin treatment appears to be higher than quinine yet, in view of a short course and a short stay in the hospital, the cost of treatment does not seem to be uneconomical. Even if the cost is a little higher, the advantages, such as ease of administration and absence of neurotrophic symptoms are sufficient to compensate for it.

* ".....In their opinion, the new synthetic remedies now available are still in the experimental stage and they consider that the time has not yet come when any of these drugs can be recommended as substitutes for or in preference to quinine and other preparations of cinchona bark".

Summary

1. In recent years, important research works have been carried out and valuable informations obtained in the field of biology and therapeutics of malaria.

2. With a view to provide a cheap specific treatment for malaria in a poverty-stricken country, the Malaria Commission, appointed by the League of Nations considered the possibilities of introducing a new cinchona preparation termed *totaquina* containing the total alkaloids of cinchona bark in standardized percentage.

3. '*Totaquina*' has been included in the British Pharmacopœia 1932, and has been prescribed to contain not less than 70 per cent. crystalline alkaloids of which at least 15 per cent. must be quinine.

4. Two types of '*totaquina*' have been recommended—type I and type II—according to the source of preparation upto now, the clinical results so far obtained go to show that '*totaquina*' type I is as good as quinine for all practical purposes. A dose of 10 grains *per diem* is recommended for benign tertian and 20 grains *per diem* for subtertian or quartan infection.

5. So far, two antimalarial drugs of synthetic origin have been offered for treatment of malaria: these are plasmochin and atebirin.

6. Plasmochin has little curative effect on benign tertian and quartan infections, but cannot at all act upon the asexual forms of malignant tertian parasites. But it is decidedly the best gametocytocidal drug having its destructive action on the crescents. A dose of 0.02 gm. continued for two to five days is effective for the purpose.

7. Plasmochin may of course be used therapeutically in combination with quinine in cases of benign tertian and quartan infections and in cases of obstinate relapses.

8. It is a highly toxic drug in moderately big doses and also in therapeutic doses in susceptible persons and hence should be given under medical supervision. The toxic symptoms are cyanosis, epigastric pain, prostration, headache, vomiting etc.

9. Atebrin is a far superior drug equally efficacious against all the three species of plasmodia. Sexual forms of benign tertian and quartan parasites are destroyed by it but crescents are not touched upon. Atebrin is effective in the dose of 0.1 gm given three times a day over a period of five days, which is sufficient to cure a case.

10. Toxicity of atebirin is very low and not at all serious

In some cases it produces yellow pigmentation of skin and conjunctivae due to deposition of the drug underneath, which passes off gradually without causing any deleterious effect.

11. Toxicity of plasmochin is enhanced if given simultaneously with atebirin and hence these two drugs should never be combined together. In subtertian cases where administration of plasmochin is imperative, a short course may be given subsequent to the course of atebirin.

12. Atebrin has the following advantages over cinchona alkaloids:—

- (a) Effective if administered in tablet form
- (b) Short course of treatment
- (c) No neurotrophic symptoms
- (d) Can be used safely in cases of Black-water fever, in pregnant women and in cases who exhibit idiosyncrasy to quinine.

My thanks are due to Dr. S. K. Biswas, Medical Officer, D. H. Railway, for his kind interest in this paper. I am also indebted to Mr. S. C. Sen, Quinologist, Government Cinchona Factory, Mungpoo, for supplying me with some of the informations in connection with this paper.

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Temperature Types in Influenza*

BY

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I PROPOSE to confine my observations to one clinical entity namely "Fever" in Influenza. You all are aware of the extremely variable character of the disease, from a mild common cold of three days' duration, to its world wide ravages in a pandemic form where even the scourges of civilization like war, or earthquake pale in comparison with the havoc Influenza is capable of causing. I include in my review all varieties of the disease, but will content myself for the sake of clearness, with tracing the pathology of the disease as far as it relates to changes in temperature curve, as I have been struck with the uniformity of such changes and as I have been benefitted considerably by the valuable indications such changes give, for treatment, prognosis and much scientific observation in general.

I must make clear one point. The charts have been drawn by inexperienced probationers and hard-worked compounding in the midst of their multifarious duties, and are by no means ideal ones. They are also lacking, as you will easily perceive, in many additional data. History of the patient, past or present, suitable differential diagnosis, for example, a blood film for malarial parasites, a Widal's test, an examination of the sputum, of motion for tubercle and ascariasis, and other serological tests to exclude syphilis, I am sorry to say, and you may be surprised to see, are conspicuous

* A paper read before the District Medical Association, Cuddappa, and sent to 'The Antiseptic' for publication.

by their absence. You may ask, then, how and why I label these cases as "Influenza" first and on what authority. I proceed to descant on the various types of temperature of a disease entity, to the denomination of which itself, you have every right to advance an "a-priori" objection.

At this point, I crave your indulgence, and that indulgence is, the importance I usually give to a definite clinical syndrome which occurs again and again in one's practice and which imprints itself so indelibly in one's mind, that one's judgment cultivates an unconscious bias to abide by it, rather than be easily dislodged by "Bacteriological reports" from laboratories far removed from the bedside.

It is no doubt dogmatic and unscientific, but clinicians have at times to act in utter divergence of the bacteriologist and serologist. In the interpretation of bacteriological and serological as well as the more recent adventitious aids of the Radiologist, the Biochemist and the Psycho-neurologist, one has to exercise an enormous amount of judgment that the general practitioner may at times find himself not equipped with; but who at the same time is not condemned to sacrifice the delicate intuitions of a clinical discernment, which as experienced physicians assure us, is as conclusive as the most refined tests of any laboratory or diagnostic machine.

But, I have yet another, personal if private claim to consider Influenza as my special theme of study, extending over some 18 years. When I had received orders to join the Military Department in 1918, I was actually in bed with a 'new' fever characterised by 'terrible weakness' and dubbed "the Bombay" fever. As soon as I actually reported for duty at Bangalore, I was asked to treat an epidemic form of Influenza, but still within measurable proportions. Within three months, while undergoing training at Poona the epidemic had broken out in an uncontrollable form amongst the civilian population and it became very necessary that the troops, who were urgently required in the various fronts should not hail from cities where the civil medical authorities had already given up the situation as unmanageable. Our urgent training even for field service, was interrupted and thirty odd doctors were sent among the civilian population to attend to the people that were dying in tens and hundreds every day. The clinical material, that one saw every hour during the three or four weeks we were engaged in, was one not easily forgotten by any one, who actually escaped himself destruction. It was at that time, I had the misfortune to lose in the first furious

onslaught of the epidemic two close relations,—my mother and sister's husband, both during my absence on field service in Eastern Persia. For months afterwards in Cantonment Hospitals or in field Hospitals we saw nothing but the aftermath of the Influenza pandemic. And ever since, I cultivated a perennial interest about it. If to this I may be permitted to add my own experience as an Influenza patient treated in a Field Hospital in the Frontier in 1919 staying for over a month in the now desolate Quetta Hospital, I believe I have said enough to persuade you, not to doubt the genuineness of the interest in Influenza nor the circumstances governing the conditions under which I acquired such first hand knowledge.

It was then as it is even now a notorious fact, that the disease is as elusive in its manifestations as ever. From a recent number of the 'Practitioner' for May 1935, I gather that the disease has become less killing but more disabling and has departed radically in no less than nineteen clinical points. It is highly gratifying news for one like me, who along with Capt. G. Srinivasamurthi had to give a perfunctory cremation at Poona to one of our own brother officers Capt. Divaker Rao I.M.S., the first Andhra victim to Influenza Pandemic amongst medical men under orders for foreign service. The writer in the 'Practitioner' postulates an Influenza even without fever. *That is, Gentlemen, Type No. I.* This Influenza which walked about in broadlight, clubbing men and women down, like another Armageddon, now could merely become a common nuisance like a mosquito, but never contemptible on that score, mind you, but still capable of destroying civilization and causing an economic loss to the community out of all proportions to any other maiming disease.

It would appear that from a comparative table published by the writer in the 'Practitioner' that the disease Influenza has now a more gradual onset after days and weeks of a fretful irritable period are passed before a patient takes to bed. It has become more merciful to the infants and old people now. It used to be particularly fatal in the two extremes of life till lately. The fever which used to usher in the dreaded "flue" may now be a negligible quantity or be absent altogether. The pulse rate which was once high and of a gloomy significance is not now of any serious import. The face of the Influenzal victim, once dusky, and in the fair cyanosed and grey may now be anything to a muddy discoloration or pallor. The unpleasant characteristic odour of the "flue" ward has gone and the poor fellows are not particularly "smelly", and sweats though constant and

drenching are not offensive. The lungs once a dire problem with their dry rales and suffocating Bronchitis, may reveal nothing now. It would appear that the venue of toxic absorption, now has changed from the respiratory to the cardiac system. Few people are left without tachycardia lasting for months. The painful "small of the back"; painful "eyes" as though some one was driving a skewer or a gimlette through one's orbit, and the gnawing and boring agonies in the long bones, are now replaced by the horizontal knock-out "above the neck", the nose, the cheeks, the tongue and the back of the neck. The 'abdominal type of flue' is now a common variety. Pelvic pains and troubles are another unfailing feature. Psychic symptoms like sleeplessness, harassing dreams, giddiness, reeling—all these are met with more often nowadays than before. A sheer depression, affecting the victim in every phase of his life, physical, professional and social, these appear to be the worst legacy to the world of the modern Influenza convalescent. Add to this, the time honoured headache, insomnia and neuræsthenia, you will find that the new-model influenza is a whole lot, more vicious and remedy-resisting devil than the "Kill or Spare" type of the War period.

Now, Gentlemen, I wish you all to accept this fact that diseases do change their outward aspects, whether you are able to find an explanation or not for such metamorphosis. You would not have failed to notice the great amelioration in the outward signs of diseases like "Filariasis" and "Syphilis". A generation ago, enormous legs and scrotal and mammary tumours of incredible sizes, open and pulsating brains and hideous bony deformities of the skulls, and long bones due to syphilitic ravages were common and could be seen at all fairs and festivals. But now they are no longer to be seen. The large tropical abscess of the liver is also becoming rarer every day. Huge spleens also tend to become lesser and lesser in size. But side by side with the gain to humanity in such amelioration, the balance of the forces of "Samhara", for after all disease is but a weapon in the triple alliance of Srishti Sthithi, and Samhara, goes up in the increase of venereal incidence, tuberculosis, occupational diseases and diseases due to deficiency in the present day.

I would like to venture an explanation and press it for your careful consideration. The habits of humanity are changing especially as regards diet and work, recreation and reproduction. Racial poisons like syphilis and alcohol, may have something to do with totally deflecting the specificity of pathogenic bacteria. Immunity problems of the individual, which are very hard to

solve in the light of modern science are further complicated by the immunity problems of large number of mankind, grappling with war and venereals, artificial food intakes, alcohol and deleterious drug addiction. You have all heard about the artificial malaria cure of the general paralysis of the Insane. All these things point out an interesting line of investigation, as how man may disarm a few of his microbic enemies, while at the same time falling an easy prey to more insidious ones.

Adrenal insufficiency was advanced as a wide spread phenomenon of modern civilized life and "Neuraesthesia" was traced to its doors and all the faddists in America were boosting adrenal preparations for a good while. War was deemed to be the greatest adrenal-depleting factor in modern times. Close on its trial came the world wide Influenza which is now accused of depleting the thyroid. Thyroid secretion in adult life is the greatest detoxicating agency in the body. It is at the same time the most active energiser of metabolism. It is intimately concerned with the assimilation of Calcium and Iodine. Influenza of the killing type may or may not be connected with pneumonic plague. But Influenza of the maiming type, especially the Influenza described as the 1924 model, in the May number of the 'Practitioner', is a thyroid-destroying entity. Read the symptoms of adult thyroid insufficiency, not going on to the full fledged Myxoedema, and you will find a striking parallel between it and the afebrile type of the latest debilitating model of flue. I even advance the view that Gull's disease may be the chronic influenzal thyroid-Toxoemia.

Coming now to discuss in detail the one clinical entity, I am concerned with for the present, amongst the changeable items of this protean disease, namely Temperature in Influenza, you will excuse me if I take this opportunity to point out some information regarding fever in general with which you are perhaps already familiar. It is essential to bear in mind that temperature is a defensive mechanism. The lay mind is full of apprehension when there is a high temperature and sometimes a physician's reputation rises and falls in inverse proportion to the readings of the thermometer. It is our duty as honest conscientious physicians, to maintain a chart and display it prominently by the bedside of every case of fever we are called upon to treat and not to jot the reading on loose bits of paper, on the wall, or leave it to the memory tricks of the interested attendants. It is no exaggeration to say that even the latest product of our Universities woefully backslide in the matter of keeping an even improvised temperature

chart in their practice. I have often compiled by careful questionings from scrappy jottings a skeleton temperature chart for days and weeks and was able to predict with a certain amount of cocksureness the termination of fever, the manner of the subsequent rise and fall and the attendant clinical events. It is an agreeable phenomenon to watch the calm and resigned atmosphere of the sick room, when what you have foretold is in fact being fulfilled and not belied by the contretemps of the un-chart-minded prognostications, born of over optimism or the undue pessimism of a vagueness, that is, to say the least of it, unscientific in the extreme. Apart from the common joke of the fever changing from the length of its duration from malaria to influenza, from influenza to enteric, from enteric to tuberculosis or from tuberculosis to kala-azar and kala-azar to kidney or bowel sepsis, according as the fever lasted for a few days or a week or, two, or three weeks or three months, a joke so wittily published by a humorous writer in the 'Hindu,' I am emphatic that a temperature curve gives you very useful information, and it is my conviction that it sticks to some known types and relates itself to some clinically verifiable group of signs and symptoms and whenever it departs seriously from that type in the event of a new or unforeseen complication, the curve gives ample warnings which are of the utmost value. If only for these reasons while I advocate the maintaining of a chart in all fever, whether in surgical, maternity and other specialist practice, it should be the barest routine in mofussil and non institutional practice as the clinical thermometer is the sum total of the laboratory facilities at the command of the stranded medico in rural and semi-rural areas and he has to use it to his best advantage. I can discover no other means thereto except the chart; however ill drawn, perfunctory and irregular it may be, it is still a signal, a symbol, a riddle which the patients' immunity reactions are writing, like the historic writing on the wall, which he that hath eyes may read.

I have already adverted to the influenzal type No. I with "no fever". Of course you will not think of flamboyantly displaying a chart when the patient protests he has no fever. But I would ask you to do, all the same. You may get a sub-normal temperature which is a suggestive. You may get the daily remissions altered. You may get the history of the patients getting these attacks of "blues" along with dull headaches, stuffy feelings in the nose, pains in the orbits and temples and forehead, flushed and puffy face in the mornings, malar hyperæmia and slight

subcutaneous solid oedema of the face, passive congestion of the scalp, low blood pressure, diminished excretion of urea and salts, fall in the blood calcium, hypocholesterolemia, thick heavy tongue, pain in the distribution of the inferior maxillary nerve, muscular cramps, persistent periodical pains, dyspepsia of the flatulent type, headaches and scalp tenderness of various kinds of intensity and duration, rough dry skins, keratosis, eczema, articular aches etc., along with the no fever but distinct malaise and a heightened pulse of the afebrile "flue."

This is the typical E. N. T. patient who is the sport of the mofussil out-patient departments, the unfortunate shuttlecock of well meaning compounders who oblige them throat paints and ear drops, which have seldom a chance of reaching the sinuses in the antrum of Highmore or the mastoid and ethmoidal cells which are harbouring in their mucous membranes the "so called closed influenzal focus" as there is a closed "gonococcal infection" in the tubes and epididymis of the other type of infection. The eye, the Eustachian passages and the nose and lachrymal passages will also be found to give a clue to the influenzal sufferer, not to speak of the vast hordes of Tonsil owners with carious teeth and adenoids, whose intrinsic troubles are augmented by the lurking influenzal organisms in the mucous membranes of these delicate structures wherefrom they are recoverable with great difficulty and wherefrom too, they are not also eradicated easily unless a conscious connection of these obscure signs and symptoms is established with an antecedent or current influenza and these are attacked not from the specialist view alone, but from the influenzal origin of the whole syndrome with the latest therapeutic aids.

I am now going to deal with the types associated with fever. I have collected seven different types of charts which I cannot offer for your scrutiny except with an apology that they are not carefully drawn. But you will be able to observe that they bear a close connection with the type of pathological process that is involved.

Let us take No. I—*The common cold type of influenzal origin.* I do not want you to believe that every cold is of influenzal origin or every catarrh is a distinct indictment of a calcium defect. But you have sore throats in epidemics, you have a crop of sore throat each time the Municipal staff shift the black sullage from their choked drains or no drains, you have sore throats during the season of high winds, you have sore throats with each change of weather and the sore throat which attacks whole families without

sparing even a single member and the sore throats that affect the so-called weather barometers—persons so delicate that they react to every variation in the humidity of the atmosphere. Again, you have sorethroats circulating amongst the members of a club, sorethroats that every physician contracts from visiting particular patients.

These are all of influenzal origin, variously called septic sorethroats, in which in addition to B. Influenza, possibly, other streptococci are also involved. But their temperature curves show a distinct tendency to rise sharply and reach its maximum in the first twenty four to forty eight hours, and having reached its top commences falling either within the same time it took to rise or by a form of lysis almost from the moment of reaching its maximum. There is a fall to subnormal which is the only indication that the fever is going to defervesce. Even a fall to the traditional normal of 98.4 is no sure indication that the feverish bout is over. Here is the scope for the cautious prognostication, for the patient may be brewing some complication which may burst on the unwary household and put the attending physician out of court. After touching, normal the temperature may be elevated a few points merely and within the next twelve or usually within the next twenty four hours reach subnormal and all will be well for three days. There is again a secondary rise. This is not so high as the first and quickly subsides in the absence of complications. Very often the secondary rise of an important complication is anticipated by a day or two by a studded flare up which is then as high if not higher than their initial rise. It is then dependent wholly on the nature and severity of that complication to define the length of the fever. But such anticipated secondary rises and their courses are very rare, so far as the common cold is concerned. It is the usual routine in the next group of cases which I will call *moderately severe or Acute Bronchitis group* which has a time limit of 8 to 10 days.

This is by far the most interesting group and one that merits the most careful consideration of the physician. The majority of the victims under this group develop, if adults, an acute fulminating Bronchitis and if children, a Broncho-pneumonic form of influenza. The symptoms are severe from the onset. The attending physician, especially if he is a private practitioner or a novice unaccustomed to the riot of temperature curves, sees the hobgoblins of typhoid, tuberculosis, kala-azar and what not from the very outset. But the cautious-minded, phlegmatic temperament of the trained clinician with his inspection, percussion and

auscultations of the hallowed Oslerian memory, is not so easily rattled. He sees in it only a virulent toxæmic invasion of the upper respiratory tract. Sometimes not going very much further than a Tracheo-pharyngitis, or a tracheo-bronchitis or Bronchiolitis with a pleuritis or a pleuro-bronchitis, but never a lobar pneumonia. There is the typical tongue of enteric in these cases, but the typhoid decubitus, the gradually enveloping typhoid state of half open eyelids, muttering delirium, shrivelling up of the body weight and slow pulse and increasing localisation in the right lower quadrant of the abdomen, the fetid albuminuria, the characteristic motion are all missing. The temperature, with which we are mainly concerned for the present, looks, if I may so put it, almost like that of the typical typhoid chart with the second week cut out of it and the third week much modified and the patient but for his cough, breathlessness, and rapid pulse and severe aches and pains and sleeplessness, looks anything but the picture of the stuporose enteric. In his place, you have the anxious, gruerulous, consciously suffering individual, intensely worried about his illness and craving for stimulants, food and sleeping draughts if an adult and if a child, prostrated by illness no doubt, but crying and restless by day and night. The chart is irregular in the first week. This very irregularity itself is characteristic of influenza. You have the temperature going up to 103° F. or 104° F. and from thence it keeps on falling. It is in this group one constantly meets with the fall in the third or the fifth day, known as the pseudo-crisis, and thereafter either the temperature falls down by a few hops in the next two or three days by a process of one degree lysis every day or largish drops of a degree and a half, a mild hop and subnormal and normal thereafter. Very often, the common three days' cold drags on for a week or more with the characteristic fever curve of the second group tacked on to it. You have also sudden lysis and then the chart is that of a mild saddle back temperature like that of Dengue, only prolonged beyond the five day limit of Dengue and characterised by respiratory symptoms of an urgent nature unlike the bony pains which are predominant in Dengue. The chest pains or raw sternum with occasional wheezing, not unlike an acute attack of asthma, is common in the adult. Very often the fever curve changes to the third type and this is very constant with children and adults enfeebled by starvation, drunkenness, venery and ill-nourished individuals. It is surprising on what narrow margins of safety or in other words disease-resisting powers, large numbers of mankind live, and if ever any one disease

finds this out for them, it is the two week influenza curve of temperature. Very often the unaccountable variations in the temperature which has a sojourn of 10 to 15 days are due to partial collapses. A long journey in a coir cot or a bullock bandy, bowels unopened for days since the initial day of the disease, the presence or absence of other contaminating influences in the locality like mumps, measles or whooping cough which seem to dog the footsteps of the Flue Germs, complicate the curve. Peritonsillar abscess, a gumboil, a carious tooth flaring up into an ulcerative stomatitis, awakening of a tubercular gland, an attack of dysentery worm etc., all contribute their own quota in vitiating the temperature curve of the pure two weeks type of flue. The child will be running about in day time and will be chilly and feeling feverish in the evening for the first few days until it becomes sufficiently serious to take to bed, when the enforced rest will show a temporary depression in the elevation of temperature. But the initial neglect develops dreaded complication or other and the curve again faithfully mirrors it. From the 10th day onward the phenomenon, which I call "bobbing up" is evident.

I always like to imagine the temperature bobbing up in the last days of defervescence, a species of eleventh hour mobilization of the resources of immunity. When the temperature once touches normal and bobs insignificantly, it is of no moment. But when once it has touched normal and at the same time that very evening had shot up to the very level of three days back or even earlier, one can confidently predict that this bobbing will go on and continue from three days to a week more; if not bring on a relapse mild or severe, sooner or later. I wish to state that the pseudo-crisis is of less clinical import than the bobbing up of a long fever curve after once touching normal. The post critical single rise so often seen in epidemic "flue" is also of less grave significance. But the bobbing up is not and a man or a child who recovers from a two weeks' influenza which has bobbed considerably is sure to harbour the germ lurking in his nasopharynx along with a fine collection of haemolytic streptococci and constitute that large body of annual sufferers, who call themselves so liable to catch cold easily, and who periodically start mild flue epidemics in their homes and neighbourhood.

I can offer a pathological explanation for this "bobbing up"! The recent writer in 'Practitioner' says that there is in influenza a point of major impact, where the disease appears to hit the patient hardest. This means that he complains of one particular lesion at once and generally blames that for his condition whereas

it is really either an exacerbation by the disease of some previously existing triviality or the place where the disease seems to point as an abscess may be said to point. Any tiny solution of continuity may extend and become septic, such as a crack in the lip. Toothache is common. Styes in the eyelids, boils and furuncles in the ear may be much in evidence, all denoting feeble resistance to staphylococcal attack. Old pathological tendencies such as Bronchitis, Asthma and Rheumatism will be lit up, as well as any trouble in the prostate or seminal vesicles or uterine adnexa. It is very powerfully borne upon me that this "bobbing up of temperature" is intimately connected with these "points of focal impacts" and the great warning will have been given that all will not be well with that patient in the future who exhibited this phenomenon in his chart. I am as much convinced about this as about the fate of the woman who leaves her puerperal bed with a torn perineum or a subinvolved uterus or cystitis or thrombophlebitis will surely come back for further advice.

I now come to the really enteric type of flue. There is nothing particularly of a snag about the chart in enteric proper. There is the ascending staircase of the first week, the balcony of the second week and the descending staircase of the third week. You may not be content with mere 'clinical influenza' in such cases. You may go further and insist on high Widal positive, a blood culture. In fact, I agree with you entirely that such should be the criteria of scientific accuracy in such cases. I plead want of facility for having these carried out systematically for every case. My only data have been that the cases have not the typical charts nor appearance of enteric and the predominance of the abdominal types of flue, which are now said to be on the increase. I do not invite you to share this bias with me and the writer in the 'Practitioner', but you will observe that the temperature charts in these cases 'bob up' a good number of days after touching normal and happen to be almost always confined to the young subjects mostly children under 12 years.

Recently, a writer in the Indian Medical Gazette has described a number of variations he discovered in treating typhoid fever among children. I wonder if they were not some of them at least "two weeks flue". Because we were accustomed to believe that influenza was fatal in the two extremes of life, we probably believe every recovery of a young subject as a recovery from typhoid, and attribute any variation to atypical features. The author says about the temperature in typhoid in children, that he noticed perceptibly higher temperature of the skin of the abdomen

than elsewhere about the body. This is noticeable by palpation. Most mothers have persistently drawn my attention to this feature in the long continued fevers of their children and I can vouch for its corroboration in the cases of enteric fever treated amongst children in this Hospital, of whom there were as many as 23 during the past 12 months. In this connection it is also significant to note that there was a warning issued by the Public Health Authorities in the Press, about the wide prevalence of Enteric Fever in the Ceded Districts. In the corresponding period of the previous year, the hospital statistics showed only four cases amongst children.

I wish to point out, that this localised extra-warmth of the abdomen is wanting in the long continued fevers of children of other than enteric origin. The child is restless as opposed to the apathetic state of the enteric patient, is craving and rebellious for food and resists all attempts to limit his nourishment to fluids. The opposite is the case in the purely enteric types.

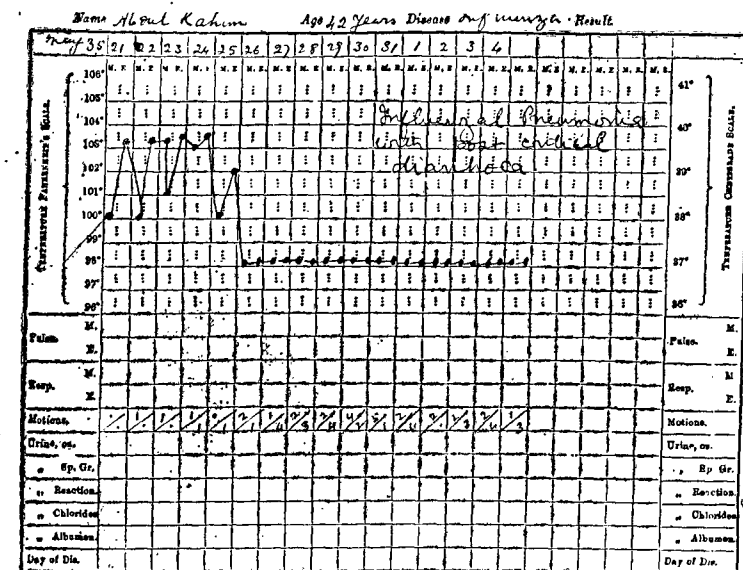
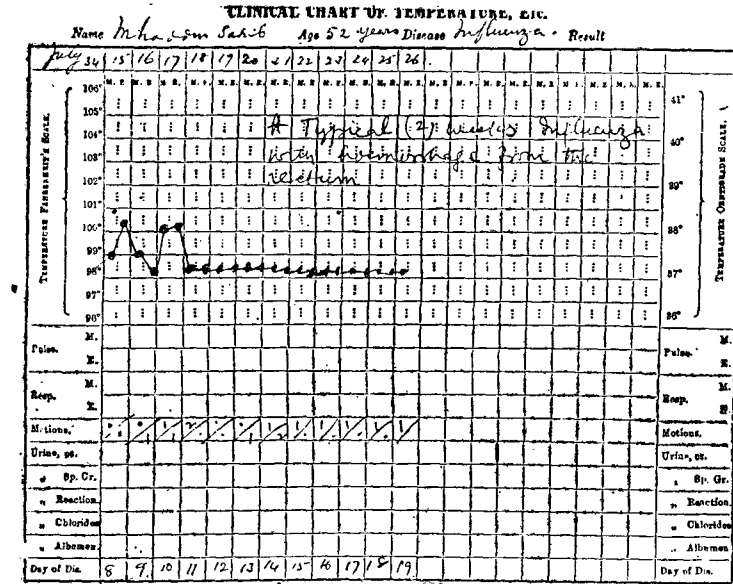
As regards the "enteric type of flue" there is this striking fact that it may range from three to five weeks with fairly sharp peaks but never above 102 to 103, except towards the close, when it may oscillate up and down for a few days before settling down to normal, when it may reach daily even 104 and might suggest pus or malaria. Often it contents itself to creep lazily every day from the neighbourhood of a degree or two above normal to 103°F., in a creepy, broncho-pneumonic fashion and soaring up again every four or five days. It is the rule for the temperature to be high and the clinical signs of dyspnoea, rapid pulse and the associated collapse symptoms to be serious in the more purely enteric infections. Whereas in the case of the Influenzal types alarming cardio-respiratory signs are met with comparatively low temperatures of 100°F. to 101°F. in the late stages of illness. Often when the patient arrives after a long and highly reprehensible stay at home of a week or ten days, with dry black tongue, extreme dehydration of tissues, by which in simple parlance is meant, the watery element of his blood and tissues have been evaporated away by the slow fire of his fever, coupled with the denial of all fluids and the plying of solid and semi-solid foods composed of cereals of all kinds; with his urine reduced to a few ounces and bowels practically unopened, and add to this a sore gum and associated glands under the jaw, the result of quack mercurial therapy, with a tendency to vomit and purge, an associated gastro-enteritis cum stomatitis; it will be a bit puzzling to meet with these unwelcome complication and a surprisingly low temperature,

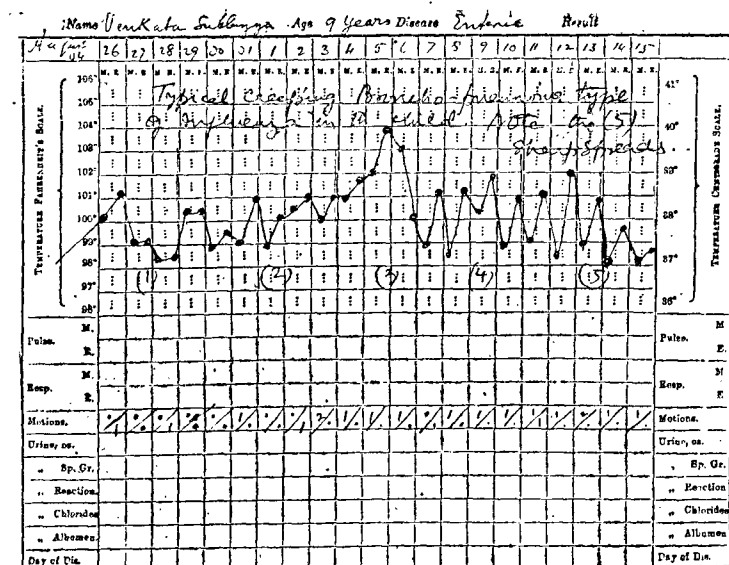
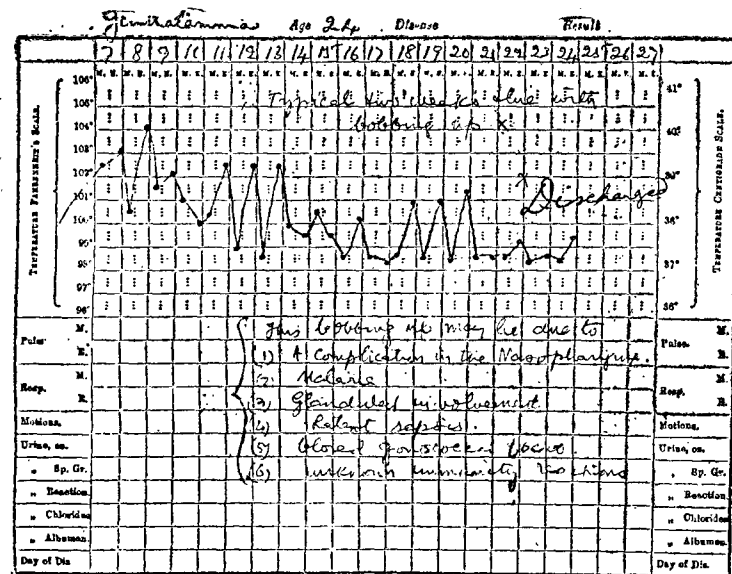
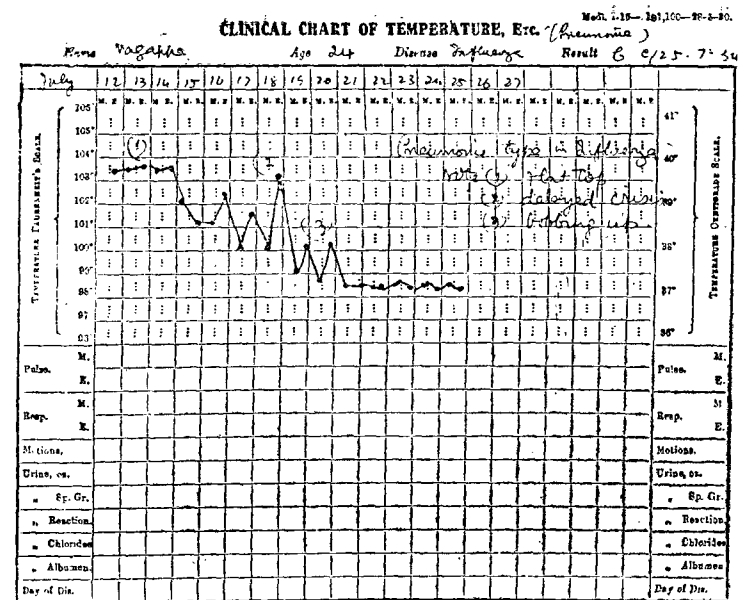
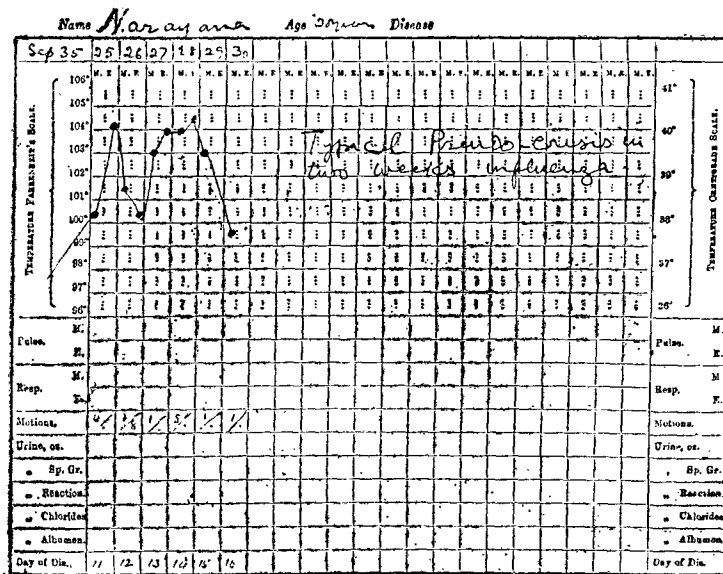
but all the same a dyspnoeic and thready pulsed individual, sweating and collapsing as though he were on the verge of pneumonic crisis with none of its encouraging features. Often for days, the patients will need camphor-in-oil, musk and pituitrin along with appropriate local remedies, when the impure temperature curve reappears again and goes on to complete its febrile course with a tendency to touch the normal and come within its neighbourhood in the third week.

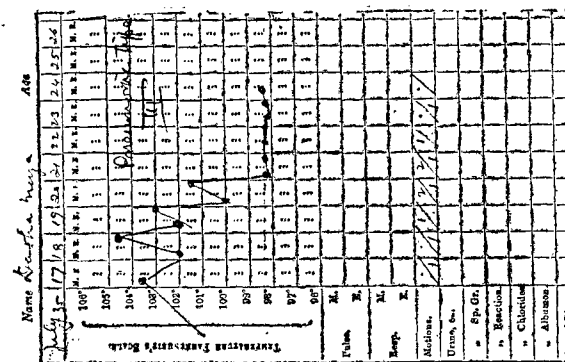
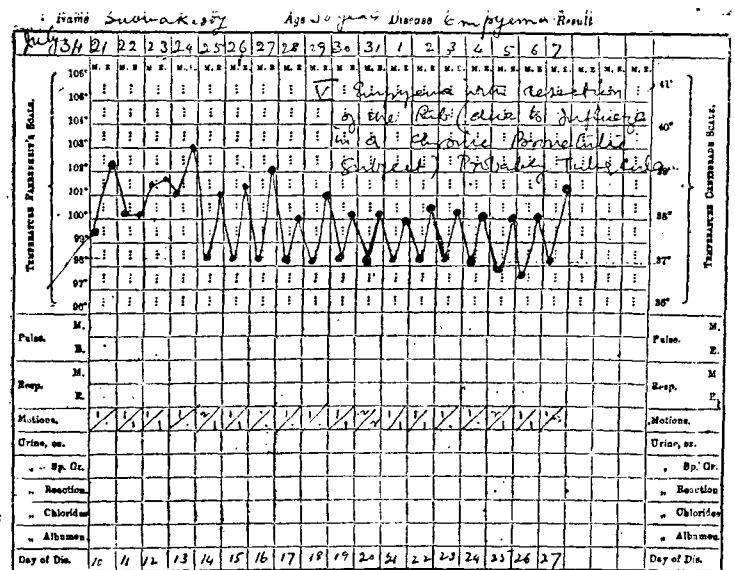
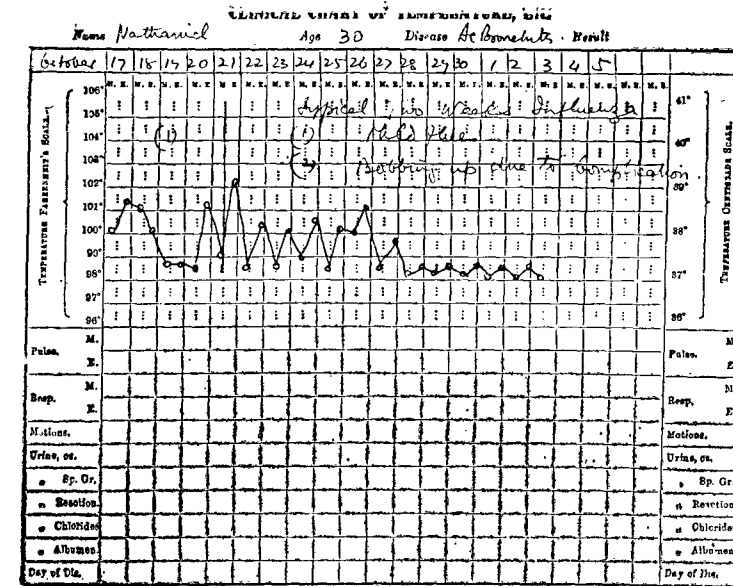
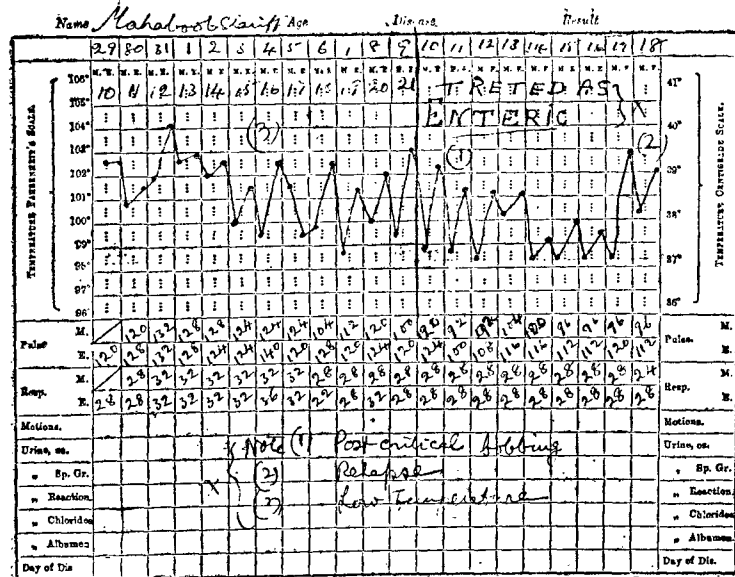
I have a shrewd suspicion that the true enteric will resent quack interference and home neglect and will become sufficiently lethal by the 10th, or the 12th day and not see the light of day at all in a mofussil hospital, generally speaking, about rural areas. It is the more hardy Influenza of the present day maiming type that resents this dehydration and responds to treatment, in some degree however late it may be instituted. Further, hospitalisation, i.e., removal of the patient to a hospital giving him a bed and a bedpan, and the plying of fluids and above all, in my opinion, the mysterious ceremonial of giving him "a temperature chart" and having the patience to mark in it the maximum and minimum temperature of the day will tend to throw some light on the present and future course of events and considerably help in treatment. It is constantly heard from books that a complication like perforation and hæmorrhage may be ushered in by a fall in temperature. I believe that neglect and late institution of proper scientific treatment of fever are in themselves the most common of complications and they also foul the temperature curves of mofussil hospitals, however admirably these curves may behave in the Institution whose staff nurses record the readings with punctillious care and accuracy.

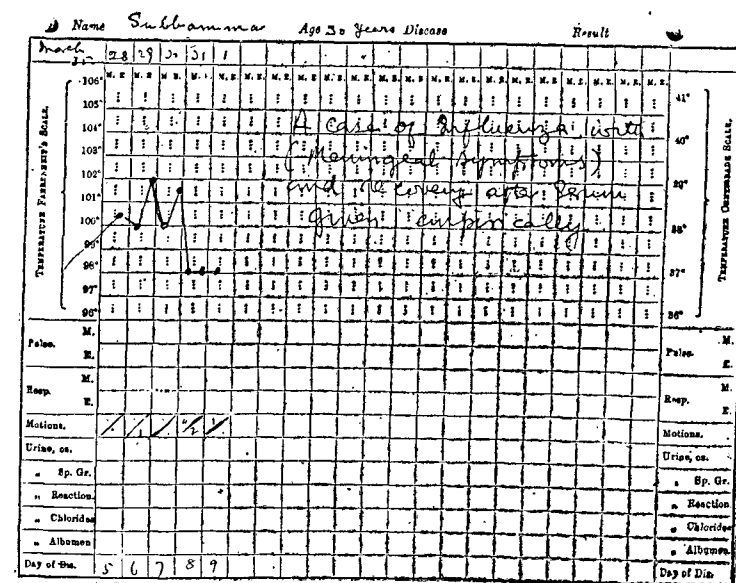
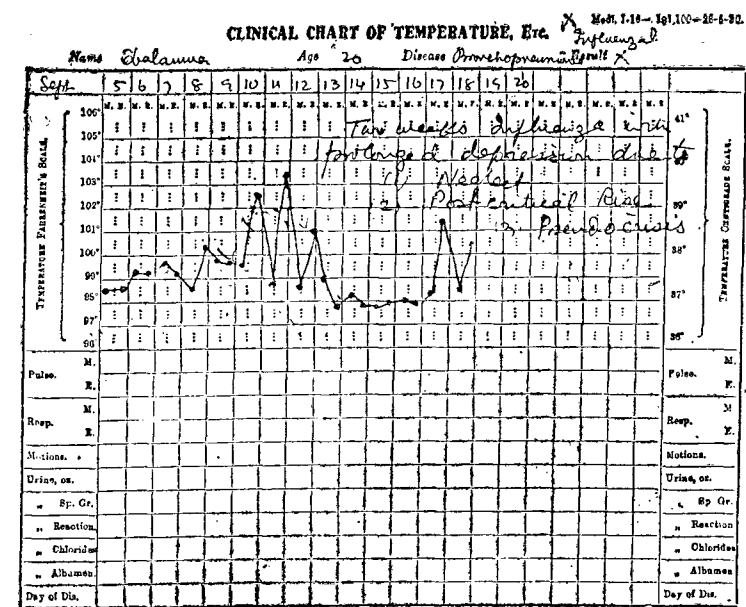
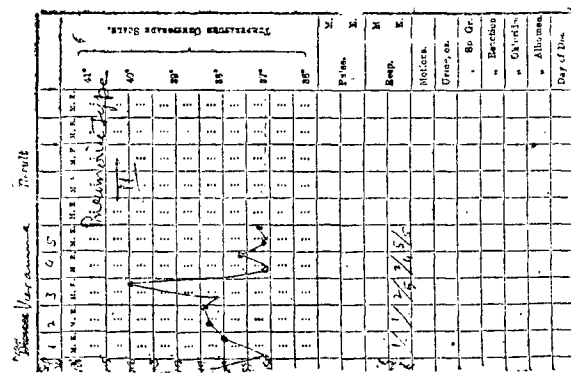
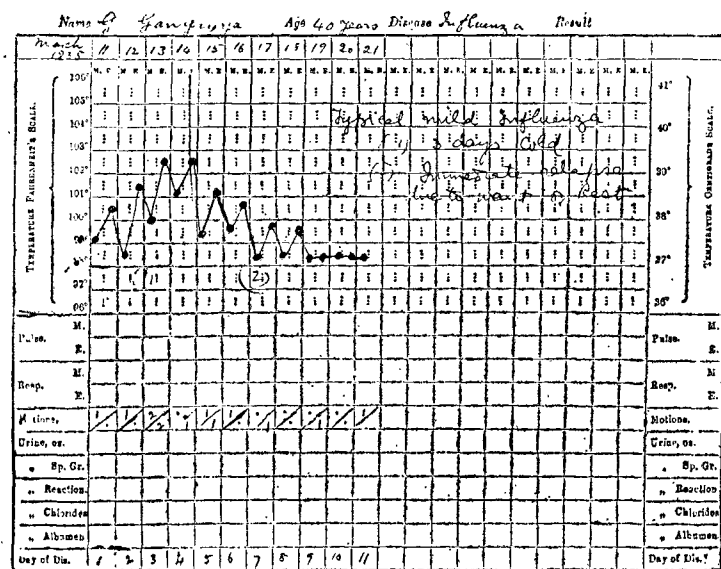
The other three varieties of temperature can all be conveniently considered together, as they refer to unresolved Influenzal attacks, recurrent types and cases of flue following surgical operations.

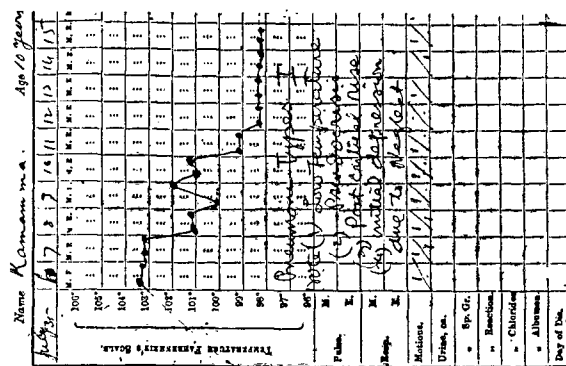
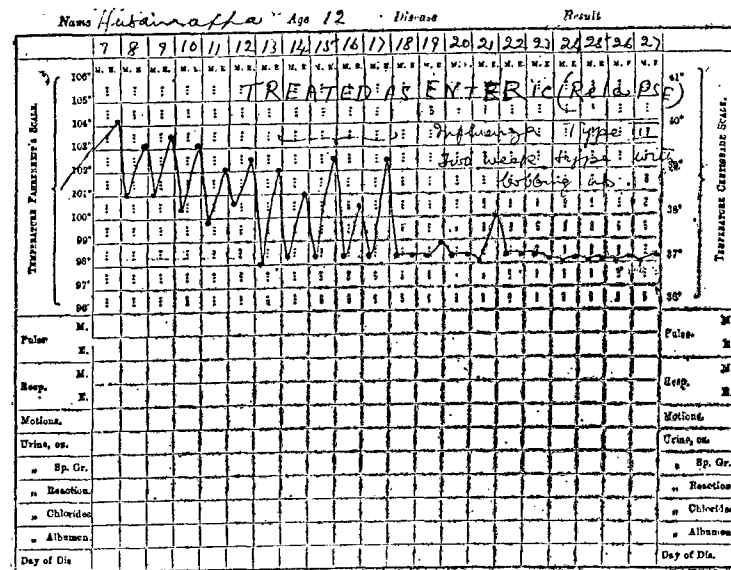
The Influenza "Unresolved" is not the same as the recurrent influenzal common cold with which I began the consideration of these characteristic temperature curves. The recurrent common cold is a recurrence of the original upper naso-pharyngeal infections whereas the influenzal unresolved types refer more to associated and troublesome disorders more in the nature of sequelae following a complicated stormy convalescence. Such are the influenzal cases occurring in tubercular subjects, influenzal cases leading to early Tuberculosis, cases pointing to urinary sepsis such as pyelitis which is very common, cases following multiple











pyæmic abscesses and cases pointing to Endo-Carditis. The influenzal origin of these cases is the essential factor to be borne in mind and the temperature indication although nothing specific, except the curves associated with the complication yields remarkably to a course of Influenza Vaccine of which there are very reliable preparations in the market, chiefly those of Parke Davis & Co. The thorough ridding of lurking sepsis in the nasopharynx and the mobilisation of immunity by a careful graduated vaccine therapy are the points that are to be borne in mind; and sufficient indications for these procedures will have been obtained by the cautious physician who has watched the tardy restoration of temperature to the normal in the two weeks and three weeks type.

The recurrent types tend to be more and more marked by the underlying regional symptoms where they localise; to speak only of two large groups, the Asthmatic and the Rheumatic. Influenza starts these poor sufferers well on the easy incline to invalidism and every rain and every trying period as a severe summer, or unusual mental and physical exertion push the victim steps lower and lower in resistance until the changes brought by the complication such as an Arthritis deformans, Bronchiectasis, a dilated heart, nephritic and arterio-sclerotic symptoms supervene and the influenzal origin is cleanly forgotten. Even for these, Vaccine therapy offers an ultimate if not a promising hope.

Lastly, I shall enumerate how a slight operation upon a chronic toxæmic ridden patient brings about a mild attack or a ten-day attack or a regular enteric like fever. This is on a par with the malaria that one saw with every trauma and every surgical operation in the wards, when 20 years ago, mosquito control and malarial therapy were both ill understood and imperfectly practised.

Time is pressing and I must only content myself with mentioning such factors in the barest outline.

An administration of chloroform seems to be enough to start a smart flue in some cases, say, for a slight operation like fistula-in-ano. The anæsthetist himself, if a flue carrier may be responsible for these events. Influenza produces abortion and the aborting woman seems to be particularly prone to catch influenza. Much needless intra-uterine interference could be avoided and ought to be avoided, if the contingency of an influenza supervening in the old days, is constantly kept in view. And also in labour proper and in the dysentery of both adults and children, such trivial procedures like extraction of teeth, opening of a deep

abscess, rapid dilatation of the urethra, street accidents can all cause the susceptible victim to develop a temperature. Persons with gland tuberculosis, and tubercular peritonitis are particularly prone to catch influenza. Pyorrhœa and bad gums and sepsis about the last molars with suspicious tongues of glossitis, syphilitic or otherwise, always give me the dread that such people will and do start an attack of flue and are dangerous risks for any protracted surgical procedure. The influenzal germ seems to be an equal associate with B. Tuberculosis as well as the pus forming and Haemolytic Streptococci and hence the good old maxim to attend to the mouth of both Doctor, patient, nurse, and anæsthetist and attendant. I am told in German Hospitals periodic cultures of the mouth of Hospital visiting staff are made for diagnostic purposes to prevent droplet infections in the cases they handle.

Placenta Prævia*

BY

Lt. Col. T. S. SHASTRY, I. M. S.

District Medical Officer, Tinnevely

Placenta Prævia means the implantation of Placenta over the lower uterine segment.

- (a) If it completely covers the internal Os, it is placenta prævia centralis.
- (b) If it reaches down to the margin of internal Os, it is marginal placenta prævia.
- (c) If it dips into the lower uterine segment, it is lateral Placenta Prævia.

The hæmorrhage which results from this low implantation is called "Unavoidable Hæmorrhage."

Aetiology

Primarily because the ovum is implanted on the lower uterine segment,

- (a) much commoner in multigravidae than in primigravidae (5% in primigravidae).
- (b) favoured by chronic inflammatory lesions of uterus like Endometritis, or sub involution.
- (c) more common in plural pregnancy, because of the large

* Specially contributed to 'The Antiseptic'.

placenta, and in single pregnancy where the placenta is unusually large.

However, the *Aetiology is unsettled* as we do not know the exact site of fertilisation, or the degree of development of ovum or the condition of mucosa preceding imbedding.

The particular variety of placenta prævia (the lateral, marginal, or central), depends on the site of imbedding and the direction in which the placenta develops.

The lower uterine segment begins to develop about the 30th week—Then it is that the most striking symptom of Placenta Prævia viz. *first hæmorrhage* occurs.

But sometimes in central placenta prævia there may be no bleeding at all until labour actually starts.

The great bulk of hæmorrhage comes from the *site* of placenta prævia, not from the placenta itself.

Symptoms

1. Hæmorrhage, most prominent; quite suddenly: in later weeks of pregnancy, i.e., 7th to 9th month; small amount at first bleeding; recurrent and severe. Irregular intervals, bleeding of varying severity—more severe with each recurring attack.

2. Pain is *not* a symptom of placenta prævia. If clots are retained in cervix or vagina, uneasiness in the lower abdomen.

3. General features of bleeding depend on its amount and the resistance of the patient. If severe, pallor, small rapid pulse, cold clammy sweats, accelerated respiration, restlessness, thirst, convulsions, death.

4. But, many cases end as *abortions* in the *early weeks* of pregnancy—About 18% of all abortions and miscarriages may be due to placenta prævia.

Diagnosis

Presenting part does not engage } Suspicion of Placenta
Bleedings as above. } Prævia.

Vaginal Examination:

1. Cervix is soft and usually taken up.
2. Os admits a finger.
3. In the fornices, Boggy mass or Spongy mass and,
4. Undue pulsation.
5. Bulging of the lower uterine segment.
6. Blood is bright red.
7. No albumin or casts in the urine.
8. Difficulty to feel presenting part through anterior and posterior fornices.

Rectal Examination, findings same as of vaginal examination.

If *cervix* is fairly dilated, enough to let in a finger, Placenta is readily felt if 'marginal' or 'central' but the 'lateral' is felt only with difficulty, and that too only on pushing the finger deeply into the cavity; not more than the margin may be felt.

Differential Diagnosis

1. *Distinguish the placenta from clots*. Placenta is firm, resistant, surface is rough, clots are soft, easily broken up, surface is smooth.

2. *Hydatidiform mole*.—History differs; no foetus; if *cervix* is enough dilated, a few vesicles can be scraped away.

3. *Flattened fibroid polypus*.—Here bleeding is small, not serious. As there is not enough dilatation of *cervix*, adequate or satisfactory examination of the inside cannot be done—so, mistaken for marginal Placenta Praevia.

4. *Intracervical carcinoma*.—Easily mistaken when in the early stage only one finger can get in through the *cervix*. But on sufficient dilatation, it will be easy. A piece may have to be sent up for pathological examination.

After delivery, examination of placenta and membrane shows the hole in the bag of membranes is very near the Placenta. But in "Accidental Haemorrhage" whose Placenta is in the normal site, the hole in the bag of membrane is at some distance from the Placenta.

Treatment

- | | |
|---------------------|--------------------|
| 1. Conservative | 2. Radical |
| (a) Palliative, and | Caesarean Section. |
| (b) Active. | |

(a) *Palliative*—i.e. you may wait or watch or temporise, only if the patient is in a Hospital or Home where emergent and skilled surgery is always available, as serious bleeding may re-occur at any time and she may bleed to death.

Ordinary or conservative, active treatment.

If (1) *Cervix* undilated.

(2) *Cervix* partially dilated and

(3) *Cervix* fully dilated.

1. *Cervix undilated*.—Shave the pubes, disinfect the external genitals and vagina, draw her to the end or edge of bed, put on Sim's Speculum (or 2 table-spoons will do well enough).

Under CHCl_3 , in lithotomy position, empty the bladder, pack the *cervix* and vagina *tightly* with long rolls of gauze or plugs of cotton wool; perineal bandage, and tie it up to a tight pad and abdominal binder.

Risk

The *risk* of this is the great liability to Sepsis, as placental site is so close to vagina, vessels are dilated widely, repeated bleedings and blood clots make infection easy and the results serious.

Hence the need for thorough disinfection as detailed above.

Give Ergot or Pituitrin.

But, *Hospitalisation* of all cases of ante partum haemorrhage is most *imperative* before anything is done.

Ineffective plugging is worse than none, leads to severe sepsis and more bleeding.

Remove the plugging in 24 hours. If then Os is not dilated use Hegar's dilators. Separate placenta and membranes all round, rupture the membranes, and do bipolar version.

2. *Os partially dilated*.—The ordinary advice is "Rupture the membranes and bring down a foot"—i.e., do bipolar version.

But, do *external* podalic version, as in this proceeding, no infection is possible. External version is often successful because pregnancy has not advanced to term, foetus is small, and presenting part is not engaged.

Having done this, bring down a foot, either through or by the side of the placenta, and through *cervix*. Often, if the placental tissue is torn and the membranes are ruptured the foot comes down itself. If it does not come, with 2 fingers bring it down, or seize the foot with vulsellum forceps. *Do as little disturbance of the placental attachment as possible.*

The rationale of bringing down the foot is the compression of the placenta between the half-breech and the uterine wall. If bleeding occurs, pull slightly on the foot and the bleeding will stop. The average time of delivery after version is 3 to 4 hours.

Do not hasten the labour after version.

Leave it alone, but watch. If it be hastened by dragging on the limb, the imperfectly dilated *cervix* gets torn, or grasps the arms and makes extraction difficult.

This results in 10 to 12% maternal, and 60 to 70% foetal, mortality. If *no hastening*, the mortality for mother and foetus is less indeed.

2 dr. of ergot by mouth, 1/50 gr. of ergotin intramuscular injection, and 1 c.c. of pituitrin hypodermically.

If Os is partially dilated i.e. admits 2 fingers:—

- (1) If placenta is lateral: Rupture the membranes *simply*. Here the head comes down and stops the bleeding. Give 2 dr. ergot by mouth, 1/50 gr. ergotincitrate intramuscularly, and 1 c.c. of Pituitrin subcutaneously.
- (2) If placenta is marginal or central: Separate the placenta and membranes all round, or perforate the placenta and go through, and rupture the membranes. Then
 - (i) do bipolar version, or
 - (ii) insert a De ribes Bag—this bag is clumsy or
 - (iii) apply a Willett's forceps on the scalp of the foetus, tie a bandage on to its handle; the bandage is brought over a pulley at the end of the bed, and 1 or 2 lbs. of weight is attached.

Advantages of the Bag

1. Acts as a dilator and stimulates pains.
2. Stops bleeding.
3. Does not come out until the Os is fully dilated.
4. Then, forceps may complete the delivery.

Disadvantages of the Bag

1. Rubber perishes, and it leaks.
2. Its introduction often causes laceration of cervix and more bleeding occurs from placenta site.
3. Risk of sepsis is increased.

Os fully dilated, or nearly so.—If head presents, apply forceps, and extract.

If breech presents, bring down a foot and complete the delivery.

Radical Treatment

But, in recent years *Caesarean Section* has come into favour—Radical Treatment.

Indications for Caesarean Section.

1. Primipara.
2. Cervix is particularly rigid.
3. Difficult labour likely *e.g.*, contracted pelvis, or stenosed cervix.
4. Vaginal examinations not too frequently done.
5. Not already septic, nor suspected to have been already infected.

6. 'Central' Placenta — particularly suitable (Maternal mortality 3.5 % foetal 7 % immediate).

7. Foetus alive and viable.

8. Already bled much and may not stand much of the manipulations of conservative treatment.

Maternal mortality generally 10 %, foetal about 15 to 20%—(7% immediate, and 22 % late).

Some Obstetricians object that Caesarean Section is too radical, not suitable to domestic treatment—requires skilled surgery and good theatre. But every case of placenta prævia must be hospitalised and get the best surgical care.

Even when the foetus is doubtful or dead, Caesarean Section is preferable, if the 'primi' has lost very much blood and is likely to die if the treatment by tearing through or digging through central placenta and pulling down a foot and waiting, or trying to hasten the completion of delivery—The shock is too severe.

Dangers of Placenta Prævia

1. Sepsis, as the raw placental site is near the vulva, and more handling is needed in the routine treatment.
2. Post Partum Haemorrhage—very grave sequel.

After-Treatment

1. Remove the placenta manually, immediately the foetus is born.
2. Give a hot intra-uterine douche.
3. 1 c.c. of pituitary extract.
4. Subcutaneous, rectal, or intravenous saline; or better, blood-transfusion.
5. Bandage the lower limbs, raise the foot of bed, (but do not keep the bandage long)—this is Auto-transfusion.
6. Keep her warm under blankets and with hot water bottles.
7. Do not flog the dying horse—not too much of stimulation by brandy, Digitalin and strychnine.

Complications

1. Shock.
2. Post-partum hæmorrhage—treatment as above.
3. Sepsis.
4. Phlebitis.
5. Persistent Anæmia.
6. Laceration of cervix if labour has been hurried after version,

Sepsis

Specially easy, because the placental site is so low and close to the vagina; very much more manual handling for the plugging or delivery increases the chances of infection more than in normal placental implantation.

Phlebitis favoured by sepsis and loss of blood because of slowing of circulation—Treatment by rest in bed, raising foot of bed, cotton-wool bandaging, etc.—takes about 2 or even 3 weeks to clear up.

Treatment of anæmia, with Iron, Arsenic, and suitable diet—Recovery from this is very slow.

To ensure success in the treatment of Placenta Prævia the following should be done:—

- (1) Immediate Hospitalisation at the first hæmorrhage.
- (2) Examine the patient only after thorough preparation and disinfection when everything is ready and at hand for treatment.
- (3) Transfusion, before or after treatment—of saline and glucose, or blood transfusion.
- (4) If the cases are seen before 'packing', or other handling has been done, Caesarean Section is the best treatment and *should be done at the first hæmorrhage*, or simple rupture of membranes may be enough for most cases.

"Packing with or without version increases shock and chances of sepsis. If not done thoroughly, it leads to more undetected bleeding.

Conclusion

Caesarean Section is not only the "Method of Election", but in fact, *the only rational form of treatment* for placenta prævia, if

- (1) The patient is a primipara.
- (2) The placenta prævia is central.
- (3) The cervix is rigid or cicatrised.
- (4) The pelvis is contracted, and difficult labour is expected.
- (5) Foetus is alive and viable.

Green-Armitage of Calcutta says "The Cervix is the determining factor for choosing to do Caesarean Section, whatever the age or parity of the patient".

"The results of Caesarean Section are infinitely better than the older and conservative methods, and this treatment is bound

to become the routine treatment in future, wherever efficient 'Surgical Care' is available as according to Munro Kerr. It has reduced the maternal mortality from about 12 to 4%, and the immediate foetal mortality from about 70 to 7% where the foetus was alive and viable before the operation".

Caesarean Section for Central Placenta Prævia

Subbulakshmi.—Brahmin, aged 20—admitted into the Government Women and Children Hospital, Vannarpet, on 28-8-1935 at 6.30 P.M.

Complaint.—Pregnant 9th month, 2nd para, has been bleeding profusely at home since 12 noon to-day (on 28-8-1935)—no abdominal pain.

Condition on admission.—Patient is blanched, pulse 140, volume fair, heart sounds feeble—lungs clear. Urine Sp. Gr. 1020; Acid reaction, albumin and sugar nil.

P. V.—There is slight bleeding, Os, admits one finger, the placenta is felt blocking the internal Os.—head not fixed, uterus enlarged to about full term pregnancy. Foetus R. O. A. position—F. H. not audible. Urine drawn, a hot vaginal douche given and vagina plugged, and a tight abdominal binder applied, at 7.30 P.M.

28-8-35 11 P.M. Caesarean Section performed by Superintendent.

Notes of the Operation

Under 'local', and 'general'.

McCann's Fundal incision—dead foetus removed. Membranes and placenta removed, they were adherent below to the lower uterine pole; placenta was blocking the internal Os.

Os. dilated to 3 fingers—probably the result of general anaesthesia. Pituitrin 1 c.c. injected. Uterine incision closed with (1) fishing gut through 2 layers (2) thick catgut No. 3 through two layers—these two sutures do not involve the decidua layer: and (3) No. 1 catgut, a running suture through the peritoneal coat only—condition fair; pulse 140, the same as before operation.

Three hours after operation the pulse was 150 per minute and very feeble. Injection of strychnine and digitalin given, and continuous rectal saline started.

29-8-35. 9 A.M. Vaginal wash given and rectal saline repeated. Camphor-in-oil ½ c.c. given: 12 noon pulse 156; Injection Digitalin given. 4 P.M. catheter passed and urine drawn off. Abdomen distended, S. and W. enema given, result poor. Pulse rapid and feeble, 160 per minute—Injection Digitalin 1/100 Gr. given; and for the distention injection of Eserine 1/100 gr. given, also pill

containing asafoetida Ext. nucis vom. Ext. belladonna and pulvis zingiberes given 4 hourly—8 P.M. injection camphor-in-oil 1 c.c.

30-8-35, Patient's condition improved. 8 P.M. temperature 99.4—pulse 130, vol. good. Oleum Recini 1 oz. given early morning. pills repeated 4 hourly. Distension of abdomen still present but less than the previous day. Injection of Eserine 1/100 gr. given.

Local.—Lochia free; vagina washed with lysol lotion, abdominal sutures painted with Tr. Iodine and dressed. 12 noon—feeling nauseous; stomach washed; dirty greenish fluid came out. 4 P.M. Bowels not moved with castor oil. Distention present, so, S & W enema given, result not good—so, at 8 P.M. another high enema with S & W, Turpentine and Asafoetida given—fairly good result after half an hour. Rectal tube was left in till next morning.

31-8-35. Fairly large amount of faecal matter passed through the rectal tube. Distention still present. Two injections of Eserine, one at 11 A.M. and another at 1 P.M. given. 4 P.M. rectal tube again inserted and antiphlogistin applied over lower abdomen as there was much tenderness. Lochia scanty.

Fifth day.—1-9-35. Temperature 100.4, pulse 104. Had two motions during the night and passed urine freely early morning. Distention of abdomen is less. Lochia red but scanty. Antiphlogistin renewed, pills repeated 6 hourly. 10 A.M. bladder distended but patient unable to pass urine, so catheter was passed.

3-9-35.—Temperature 99.8, pulse 100 volume good, passed a motion last night and urine passed early morning. Abdomen still distended, so pills and injection of Eserine repeated, and a high S & W enema given; result good

Tenth day after operation. 6-9-35. Sutures removed: pus found over the upper sutures and the wound gaped for about 2 inches.

Twelfth day.—8-9-35. Temperature 100.8—pulse 96—resp. 28. There is slight swelling of right leg and foot, and much pain along the inner side of right thigh. Lochia pale. Thrombosis.

Thirteenth day after operation. 9-9-35. Temperature 102—pulse 120, resp. 32, passing small quantities of urine—both legs very much swollen and painful—wrapped in cotton wool and kept raised. Urine examined—Sp. Gr. 1020, reaction acid, no albumin but numerous *B. Coli* and pus cells present. Condylar bladder wash and injection *B. Coli* vaccine 20 millions given, and patient put on Hyoseyamus and diuretic mixture.

Fourteenth Day. 10-9-35, passed urine freely. Intravenous

Hexamine 5 c.c. and bladder wash given. Sodii Bicarb. gr. 15 and Hexamine gr. 5 given. Both legs still swollen and painful. 11-45 A.M. patient very *delirious*—temperature 102.6° pulse 160. Morphia gr. $\frac{1}{4}$ with digitalin 1/100 gr. given. Morphia had no effect. Mix. Bromide (gr. 15) given every 4th hour. 2-30 P.M. pulse very feeble—150 per minute camphor-in-oil 1 c.c. given. 4 P.M. seen by the District Medical Officer. Bladder wash was repeated—catheter specimen of urine again examined. Reaction neutral, albumin nil. Microscopic examination—numerous *B. Coli* still found. A large quantity of Sod. Bicarb. and Glucose in water given by mouth. 10 P.M. camphor-in-oil 1 c.c. given.

Fifteenth day. 11-9-35. Bladder washed with Condylar lotion, lysol vaginal wash given. Lochia, pale, slightly offensive. Wound dressed. 12 Noon—patient *delirious*. Pt. Bromide xx gr. given 9 P.M. pulse 140 feeble. Injection Digitalin given. 10-30 P.M. patient very boisterous, so, Liq. morphine m xx given. Patient slept fairly well after 11 P.M.

Sixteenth Day. 12-9-35. 8 A.M. Patient passing loose watery stools, *urine in bed* and is still delirious. Bladder wash given. Temp. 102.4. Pulse 130. 11 A.M. Injection Digitalin given—urine cloudy, acid in reaction, few *B. Coli* present. 4 P.M. Temp. 102.4. Pulse 130, Volume good. Intravenous Cylotropin given. *Collapsed* within 10 minutes. Pulse became very feeble: so injection adrenalin 1 c.c. given.

Seventeenth Day after Operation. 13-9-35. Passed urine and motion in bed, had been boisterous the whole night, 9 A.M. bladder wash given. Urine very clear but still acid. 10 A.M. Injection Digitalin given. 4 P.M. patient *maniacal*, shouting all the time and spitting out whatever is passed into the mouth. 7 P.M. Stomach tube introduced and 20 gr. Bromide with saline and glucose and a little milk poured into the mouth. 11 P.M. patient boisterous, shouting, a tabloid of Ortol given by mouth. Also mixt. Bromide ii oz. given. Patient did not sleep at all during the night.

Eighteenth Day. 14-9-35. Patient quite conscious, complains of some head ache and pains over both arms. (She having been tied down the previous night.)

15-9-35. Patient looks much better, the swelling of her thighs and legs is less and the thighs are much softer; patient was very quiet during the day, but at night she became maniacal.

16-9-35. Swelling of her right thigh has increased again.

Twenty-second day after operation.—18-9-35. patient maniacal Pt. Bromide 20 grs. given 4th hourly.

20-9-35. Patient still maniacal. Injection of Morphia gr. $\frac{1}{4}$ given. 9 P.M. slept fairly well after that—tempt. 102. pulse 132. 10 A.M. Urine examined, B. Coli present. So bladder wash and B. Coli vaccine 50 million given. There is discharge of pus by vagina; lysol douche given. 8 P.M. Patient very boisterous, so paraldehyde one ounce given by mouth—no effect.

Twenty-seventh day. 23-9-35. Patient maniacal at 4 P.M. so luminal tablet $1\frac{1}{2}$ grs. given, and at 1 A.M. Paraldehyde 1 oz. had to be given.

Twenty-eighth day.—24-9-35. Douche given, luminal tablet repeated. A small blister formed on the left side of her *buttock* near the middle line. It had burst and left a *raw* surface which was dressed with Boric ointment, patient very quiet.

Thirty-second day after operation.—28-9-35. She is sleeping quite all right for the past 3 days without any drugs; there is low muttering delirium during the day.

Thirty-sixth day.—2-10-35. There is marked reduction in the swelling of both the lower extremities. The abdominal wound is still being dressed. Muttering continued during the day but the patient slept soundly at nights.

10-10-35. Wound appears healthy. Patient regaining her senses. Muttering delirium stopped.

Forty-eighth day.—14-10-35. Abdominal wound healed. Swelling of both legs completely disappeared. Patient has *loss of memory*.

Fifty-fourth day.—20-10-35. Mental condition improving. She is very weak and anaemic. So injection of Campolon on alternate days started.

Fifty-eighth day after the operation.—24-10-35. Patient is quite all right. She is made to sit up for an hour or two daily.

Sixty-second day.—28-10-35. Another course of campolon 2 c.c. ampoules given daily. Patient is now able to walk a little.

Seventy-third day. 8-11-35. Third course of campolon injection started, daily injection of 2 c.c. given. Patient is able to digest ordinary food.

Eightieth day.—15-11-35. 6 P.M.—patient discharged from the hospital quite healthy and well.

Special incidents or peculiarities of the case

- I. Caesarean Section for Placenta Praevia Centralis.
- II. B. Coli Infection and delirium—4th day.
- III. Thrombosis of one leg and thigh—12th day, and of both the lower extremities—13th day.
- IV. Peurperal Mania—17th day.
- V. Cured, and discharged well and healthy—80th day.



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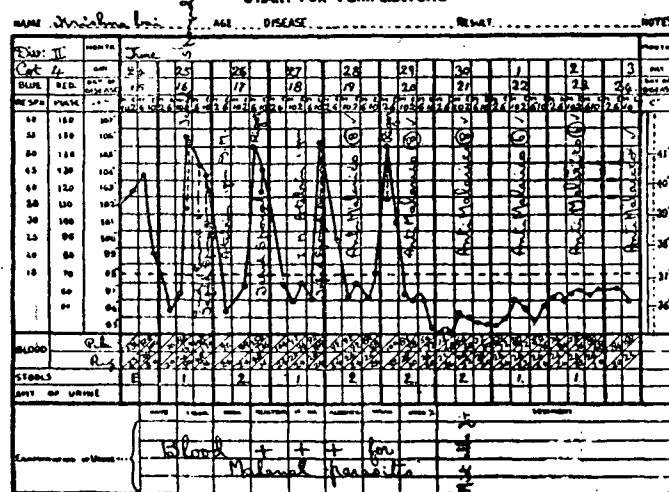
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Solar Radiations as observed in Jamnagar Solarium*

With brief Notes regarding Climatic and Atmospheric Conditions of Jamnagar during the year 1934-1935

BY

Dr. P. M. MEHTA, M.D., M.S., F.C.P.S.,

Chief Medical Officer, Nawanagar State.

It is necessary to study the geography and climatic conditions of the place where a Solarium is situated, as these factors determine the intensity of Solar Radiations at that place and their variations throughout the year, a knowledge of which is essential to fix the dosage. In this paper, I propose therefore to give the salient features of the geography and meteorology of Jamnagar.

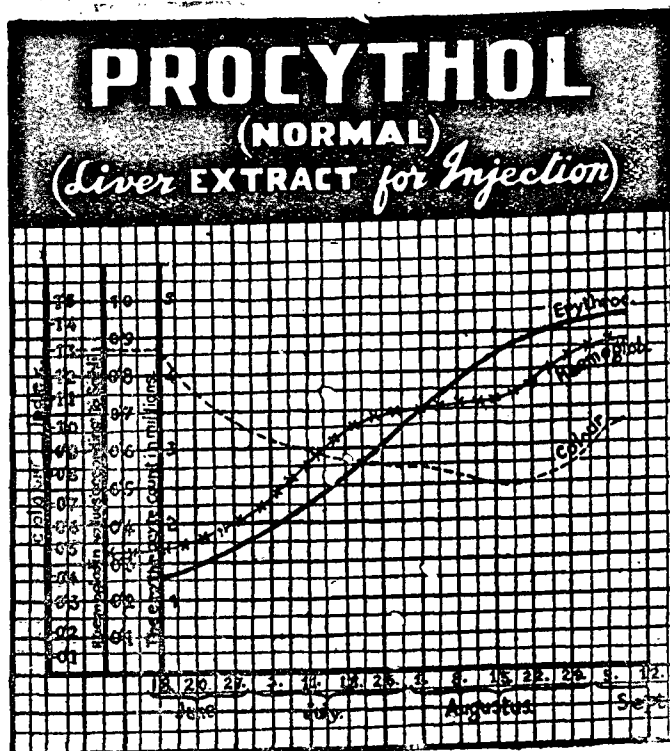
Jamnagar is the capital of Nawanagar State (also called Jamnagar State), a first class Native State in the North-West limits of the Peninsula of Kathiawar—a province of several large and small States on the West coast of India. The State is between latitudes 22-58' N. on the North and 21-43'—50" N. on the South; and between longitudes 69-11' E. on the West and 71-34'—30 E. on the East. It is bounded on the North by the Gulf and Runn of Cutch and on the West by the Arabian Sea, and the Runn of Okha (of Gaekwar of Baroda), and on the South and the East by several other States. The State is famous for its Bedi Port so well known for its development and trade in India and abroad.

The port is situated in the North-West at a distance of 5½ miles from the place where the Solarium is situated—the only one of its kind in India, and the third in the whole World.) The small village of Bedi is about 3 miles from Jamnagar. The port stands on the Bedi Creek at a distance of about a mile towards the North-West from the Rozi Creek on the Gulf of Cutch. The Flag staff station of the Island is at the Rozi temple at a distance of about 7 miles from Jamnagar.

The area of the State—the largest in the province is 37,91.3 sq. miles out of 23,500 sq. miles; the population is 4,02,192. The area of Jamnagar is 1.33 sq. miles with a population of 55,056.

Although the Province comes within the influence of the

* Specially contributed to 'The Antiseptic'



South-West Monsoon, its rain-fall records fall far short of those of the Peninsular India. The average rainfall in Jamnagar during the last 5 years comes to 23.02 inches. The amount of total rain-fall varies considerably in different parts of the State and the province. Kandorna, Kileshwar and other places generally record more rainfall than other places; while the Baradi places towards the Okha Port register generally less fall.

Places in the Gir have the heaviest rainfall in Kathiawar. The average rainfall at Rajkot is about 28 inches, at Bhavnagar about 26 inches and at Gogha under 20 inches. At times, owing to the failure of the South West Monsoon, the rainfall is as little as a couple of inches only. The average rainfall in Kathiawar is 22.59 inches.

The climate of Kathiawar is generally healthy and pleasant January, February and March are frequently foggy months. Fogs are more marked at early morning and day-break and are dispelled by the Sun in the morning. The foggy mornings are generally followed by very hot days. April, May and June are the summer months; rains generally begin in the middle or the latter part of the month of June. Again, September and October, though cloudy are very hot. The last months of the year are generally cold. In September and October or October and November Malaria is frequently prevalent in the greater part of the Province, when the climate undergoes a change.

From the barometer readings at Jamnagar for the year 1934-35 which will be found in the annexed table, it is worthy of note that upto the year 1884 the thermometer seldom went above 110 inches in the shade in Summer and never below 42" in the winter. Generally it was about 102" and 104" in the summer and about 50" and 53" in the winter in the province. Rajkot and Wadhwan are generally hotter than Jamnagar while Ahmedabad and Gujarat are still hotter.

Solar Radiations During the Year 1934—1935.

Month and year 1934.	Total Radiations			Infra Red.			Ultra Violet.					
	Min.	Aver.	Maxi.	Aver.	Min.	Maxi.	Aver.	Min.	Aver.	Maxi.	Aver.	
May	67-88	84	57-91	87	65-92	81	63-93	84	5½-52	30	23-52	37
June	3-84	50	4-91	65	0-85	50	1-98	65	0-43	18	0-49	26
July	4-64	28	12-86	61	2-72	28	16-87	60	2-30	9	6-37	25
August	24-75	13	5-100	59	5-72	13	2½-100	62	0-22	5	2-59	27
September	10-83	35	10-100	87	6-86	35	6-100	84	2-27	10	2-51	38
October	16-35	72	81-100	89	19-91	76	80-97	88	9-40	22	31-51	41
November	22-87	68	85-98	83	31-92	79	86-99	92	9-31	21	34-54	43
December	26-83	63	65-94	83	40-85	68	75-95	86	12-34	22	31-54	44
January '35	1-94	65	70-100	86	2-85	62	69-94	83	2-38	20	4-57	49
February	23-82	67	56-95	84	41-80	69	72-91	82	12-42	28	36-53	50
March	6-88	54	15-95	83	2-73	45	8-90	78	0-40	22	7-65	49
April	19-85	66	72-96	85	10-69	66	73-90	82	9-45	29	41-62	51

Climatic and Atmospheric Conditions.

Month and year 1934.	Barometer			Thermometer			Humidity.			Velocity of wind			Dir. of Wind.	Clouds.
	Min.	Max.	Aver.	Min.	Aver.	Maxi.	Min.	Maxi.	Aver.	Min.	Maxi.	Aver.		
May	29	30	29.2	70-85	76	94-105	43	91	77	5	15	9	WSW	Clear
June	29	29	29	76-88	80	87-102	50	95	53	6	20	10	WNW	WNW
July	29	29	29	71-80	77	80-93	75	98	81	6	16	10	WSW	K. SK.
August	29	29	29	74-80	77	80-92	86	94	92	5	19	9	SSW	K. SK.
September	29	29	29	71-76	74	86-94	69	97	83	2	19	6	WNW	K. NK.
October	29	30	29.3	61-76	67	89-191	34	77	60	2	8	5	ENE	WNW
November	29	30	29.9	50-69	60	67-95	23	91	57	2	8	4	SSW	ENE
December	30	31	30	49-66	56	77-88	31	90	59	3	6	4	ENE	K. SK.
January '35	29	31	30	40-56	49	57-84	16	72	43	3	6	4	SSW	SSW
February	29	30	29	49-60	55	74-95	38	95	79	3	9	4	WSW	SK.
March	29	30	29.1	63-77	74	87-104	31	86	63	4	11	8	NNW	SK.
April	29	30	29	55-78	62	81-98	38	87	63	4	11	6	ENE	SK.

K.—Cumulus. S. K.—Strato Cumulus. N.—Nimbus. K. N.—Cumulo-Nimbus.

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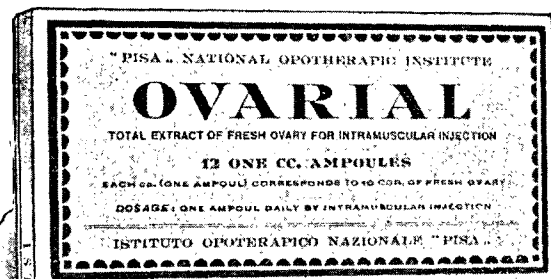
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CASES AND COMMENTS

Treatment of Opium Addicts by "Gradual Withdrawal Method"

BY

KHUSHDEVA SINGH, Captain, M. B., B. S.,

Medical Officer Incharge, State Hospital, Sunam

IGNORING at present the various causes and conflicting views regarding the initiation of this habit, there is no denying the fact that opium eating is quite prevalent in India. It is generally consumed in the form of a pill or solution in water, twice daily. There are others who take it dissolved in hot tea while Opium smoking though rare in this Illaqa, is not unknown in other parts of India.

The present economic depression has been felt all over the world, but India being predominantly an agricultural country producing only raw materials and food stuffs has suffered its brunt all the more. The income of Zemindars has fallen down tremendously while the price of Opium shows a gradual rise, with the effect that there are left many addicts who cannot afford their daily dose of Opium, and are only too willing to give up the habit and they look with an eye of joy and favour on those who can help them in their giving up this habit.

I read the article "Drug Addiction in India and its Treatment" by Lieut Colonel R. N Chopra I.M.S. in March 1935 and have treated nineteen Opium addicts, by gradual withdrawal method up to this time with a fair success in nearly every case. The routine treatment carried out in these cases was as follows:—

1. The patients were made to believe in its relevancy by every possible way and efforts were made to gain their confidence. They were advised good nourishing food, and light work of a nature that will keep them busy without causing any sort of fatigue. They were also told not to sleep in day time. Their attendants and guardians were instructed to keep strict watch on them that they do not get Opium from any source.

2. The dose of the Opium was cut down as follows:—

DAYS.	MORNING DOSE	EVENING DOSE
First six days	$\frac{3}{4}$ of the original dose.	Allowed as before.
Next four days	$\frac{1}{2}$ of the original dose.	$\frac{3}{4}$ of the original dose.
Next four days	$\frac{1}{4}$ of the original dose.	$\frac{1}{2}$ of the original dose.
Next four days	$\frac{1}{8}$ of the original dose.	$\frac{1}{4}$ of the original dose.
Next four days	Nil,	$\frac{1}{8}$ of the original dose.

No medicine like Black pepper, Nux Vomica or Gentian was added to the Opium to keep the bulk of the pill the same as the dose was gradually cut down.

3. As regards medicines the following mixture was given twice daily after meals, more or less regularly during the first week and once during the second week.

R	Tincture Belladonna	...	℥	v.
	Soda bicarb	...	gr.	10
	Tinc Cinchonae co	...	3	1/2
	Tinc Nux Vomica	...	℥	iv
	Spt Ammonia Aromatic	...	℥	xv
	Aqua Chloroformi ad	...	one ounce.	

Misce Fiat Mixture, such two doses.

Sig: One dose twice daily one hour after meals. Sleeping draught was given at bed time, regularly for the first five or six days and then it was gradually withdrawn, as the dose of the Opium was reduced. Minor sufferings were treated with Symptomatic treatment.

4. Vesicatory or Serum Therapy; The skin on the chest was thoroughly cleaned with soap and water and after that with methylated spirit and then dried. Cantharidine cerate plaster nearly of the size of a rupee was applied in the morning time and the blister was ready by the night. The skin around the blister was cleaned first with mercury lotion and then with methylated spirit. The blister was punctured with a sterilised blunt probe and the vesical fluid collected in a small narrow sterilised test tube. Two cubic centimetres of the fluid was injected in the arm on that day. The blistered space was cleaned and dressed. The process of blistering was again repeated after four days on some other part of the chest and three cubic centimetres of the vesical fluid injected. Third injection was given after six days and the dose injected was 4. c. c. The same dose was repeated after six days again.

The chief Post Withdrawal symptoms in these cases were insomnia, feeling of pain in the back, restlessness, indigestion troubles, lack of energy and twitching of the muscles especially of the calf and soles of the feet. These Post Withdrawal Symptoms were in no way proportionate to the amount of Opium taken by the addicts. Some taking 4—5 grains of Opium suffered more while others taking 10—12 grains suffered comparatively less. All patients were between the age of 20—51 and the amount of Opium taken was between 4—12 grains daily.

All are doing well up to this time and to the best of my knowledge are not taking any Opium.

Clinical Notes of a Case of Pulmonary Pthisis

with extensive but symptomless lesion, treated by
Home Sanatorium Method

BY

Rai Bahadur Dr. G. C. CHATTERJEE, M.B., F.R.I., (Lond.),

Calcutta



PLATE NO. XXIX (S. NO. 73).
Shows a big cavity extending from the 1st to 7th rib, on the left
side, in marked proliferative condition.

The patient, a male aged 30, S. No. 73 Plate No. XXIX (Hossain) a shop assistant by occupation, came to consult me in June 1933, for a complaint which was diagnosed as pulmonary pthisis by his previous medical adviser. At that time he gave a history of severe haemoptysis which occurred about a week previous to his visit to me and slight cough, but no fever. Chest examination showed an indistinct sign in the right apex. Previous to this he was in good health. Sputum being not available, Von Pirquet test was done which showed marked reaction. A course of tuberculin as an ambulant case was given which increased his weight from 101 to 113 lbs. The course was completed on 7-11-33, (see case report).

He presented himself before me after a year, when he had slight haemoptysis. Chest examination showed no sign. Weight has increased by 5 lbs.

In November of the same year (1934), he came to me complaining that he had severe bleeding but no fever. He was advised to take rest, and the bleeding stopped. Two weeks after, when I saw him, he was symptomless and showed no physical signs. Weight was 118 lbs. By a second course of tuberculin, he gained in weight from 118 to 131 lbs. He was visiting me since, off and on, more out of fear than remedy of any tangible complaint. One day, on examining his chest, I was surprised to find a definite pleuritic patch on the left suprascapular region. The right side, the site of the original lesion, showed no sign. This friction sound was replaced after two weeks by definite crepitation. While all these were happening he was absolutely symptomless—not even cough appeared. An x-ray photo was taken on September 1935. A big cavity with fibrosed wall was found over the left apex extending from the first to the seventh space, but no lesion on the right side. (Plate XXIX).

Discussion.—In a healed case, when one finds by x-ray a dark patch in the seat of the old lesion in which there is no symptom, the explanation lies in the patch having healed and undergone fibrosis, but in a symptomless case, appearance of a new lesion found

both by physical examination and x-ray, in a place where there was none before and that without any febrile reaction and loss of weight is remarkable. The radiologist who took the film tried to explain it in this way:—During the whole course of the disease, the lesion was on the left side and not on the right—it was a case of mistaken observation on my part, so that the patch now found is a cicatrical remnant of the old lesion. This supposition to explain the lesion, on the basis of the present information, seems also to me the only rational way of explaining the peculiar phenomenon attending the case. Yet the absence of physical signs on the left side at the time of my first as well as subsequent examinations may not be due to my inability to detect it, as it is possible to occur, as we see a large number of cases in which physical signs are present at one period of the disease but which disappear later on as a result of healing action, yet lesion is found by x-ray. This discrepancy is explainable by the compensatory emphysema taking place in the lung tissue surrounding the fibrosed patch, masking physical signs. Apart from the personal equation regarding the ability of a clinician or a radiologist examining a case and finding out the true condition of affairs, the fact remains, that the patient, an intelligent man, was continuously under my observation for over two and a half years and all the time was working except during periods of haemoptysis. An illustration, how much arduous labour he did without disturbing the physiological balance, may be mentioned that as an inhabitant of the recently flooded area of the Damodar, he had to undergo manual labour of no ordinary kind, to rebuild his mud-walled ancestral house, after the flood. He never had fever, very little of cough and no expectoration. How did the cavity form and how did it heal, is very difficult to explain. A pertinent question arises also when did it form? It is quite possible that the cavity was there at the time of his first visit to me, in spite of his assertion that he had the haemoptysis only a week previous to it and that he was in good health up to that time. Or it may be that it formed recently. However it does not matter much to the patient when it formed. The marked thickened wall of the cavity and want of symptoms for so long a period (excepting the haemoptysis) and keeping up his weight, show that the patch is not going to break down soon nor later on. The fact of his steady increase in weight which has been kept up for two and a half years, showed the original immunising process has been heightened very much by the treatment to keep him in a state of physiological balance so long.

At present (28-11-35), over whole of the left apex and supra-scapular region, a sort of rubbing or friction sound is audible. There is no sign to indicate that there is a big cavity underneath as revealed by x-ray.

Conclusions

1. Symptomless lesion can appear, which does not produce fever and this happens in patients treated with tuberculin. They are immunised subjects.

2. This case illustrates how the combined effort of a clinician and a radiologist can find out the true condition of a patient suffering from pulmonary pthisis and so can help in the healing of the lesion.

3. In the hands of practitioners who diagnose cases mechanically by x-ray and not by clinical methods as well, and treat mechanically by pneumothorax, without a thought being given to the immunity question, the lives of these patients are likely to be jeopardised by deaths happening due to accidents attending the operation or by interference with the natural healing action of the system.

True copy from the Progress Report Sheets of the Case

Diagnosis—right suprascapular region (lesion), Haemoptysis a week ago. V. P.

Date of injection.	Dose of Tuberculin (T. R.)	Physical signs and weight.
5-6-33	800,000	101 lbs.
13-6-33	500,000	104 „
21-6-33	300,000	106 „
27-6-33	200,000	
4-7-33	100,000	167½ No physical sign.
10-7-33	128,000	107½
18-7-33	50,000	107½ No physical sign.
25-7-33	30,000	108
25-7-33	24,000	109½
9-8-33	12,000	112
14-8-33	8,000	113
22-8-33	5,000	118½
29-8-33	3,000	113
6-9-33	2,000	115
12-9-33	16,00	114
19-9-33	8,00	113½
27-9-33	5,00	113
6-10-33	1,00	113
7-11-33	75	113

22-11-34	Slight haemoptysis.	118 lbs. chest examination shows no sign, no cough.
7-11-34 to 20-11-34	Severe haemoptysis.	No fever.

SECOND COURSE OF TUBERCULIN

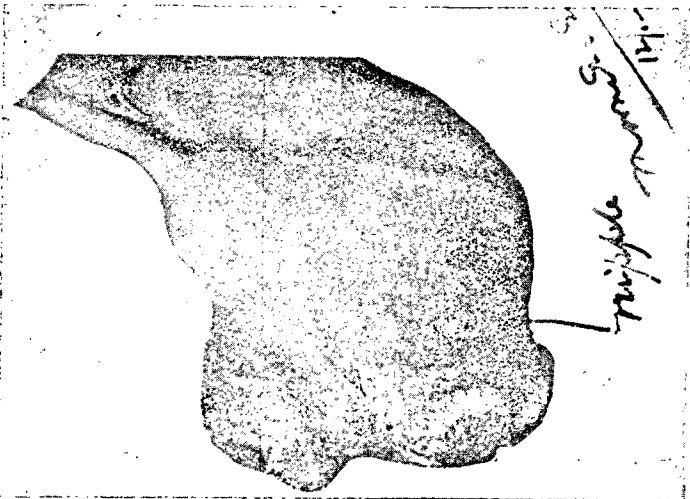
Date of injection.	Dose.	Weight.
7-12-34	300,000	118
14-12-34	500,000	119½
21-12-34	300,000	120
28-12-34	200,000	120
4-1-35	128,000	120
14-1-35	80,000	121½
20-1-35	50,000	122
28-1-35	32,000	123
3-2-35	20,000	124½
16-2-35	12,000	124
17-2-35	8,000	124½ No cough.
24-2-35	5,000	128½
3-3-35	3,000	127
10-3-35	12,000	127
24-3-35	16,000	129
1-4-35	8,000	129
8-4-35	5,000	129
13-4-35	3,000	129
22-4-35	2,000	130
24-9-35	1,800	130
6-5-35	1,400	131
14-5-35	2,800	130

Subsequent History

7-7-35	Left Pleurisy.
9-7-35	Left pleurisy.
18-7-35	Pleurisy less, 127 lbs.
30-8-35	Left definite sign—no symptoms 127 lbs.
7-9-35	Left apex-crepitation—no symptoms 129 lbs.



After Operation.



The Tumour—Side View.



Before Operation.

A Case of Adeno-Sarcoma of Breast

BY

M. ABDULLA, L.C.P.S., L.M.S.,

Medical Officer in-charge, Municipal Hospital, Vaniyambadi, North Arcot, District

A HINDU lady aged about 60 years was admitted in the hospital for treatment of a tumour of left breast. She was slightly emaciated and weak. Her face was drawn and had expression of pain; skin sallow and earthly looking; had slight oedema on both the legs. Duration of the disease was 1½ years only. Previous history unimportant. On admission her temperature was from 99 to 102; lungs congested at the bases with moist rales; heart weak and feeble with slight enlargement and haemic bruit; urine contained slight Albumin. The tumour was as big as a No. 6 foot-ball, hard and painful. The tumour was supported by a large and broad sling and left arm. It was not adherent to the chest wall. A few irregular nodules with broad and fungating ulcers were present in the front and lower portions of the tumour.

Treatment

Tr. Digitalis, Glucose and a few diuretics; complete rest and nourishing diet. Within ten days the oedema disappeared, the lungs became normal, heart improved and her urine became Albumin free.

She was operated upon. Anaesthesia "Field block" Drug used Etheocaine Solution ½ % and 1 %. No previous Atropine and Morphia was given. Time taken 35 minutes. Anaesthesia was perfect and full to the last. Operation successful and without any complication.

Operation

A curvilinear incision was made consisting of skin and sub-cutaneous tissue; the skin flaps undermined; even the small spouting arteries were ligated; the tumour shelled out partly by forceps and partly by gauze dissection; Pectoral muscles with Fascia dissected; Intercoastal vessels clamped and ligated; the lower Axillary glands enucleated and the flaps were pared and sutured with a rubber drainage tube. A tight bandage was applied. On bed a warm cup of strong coffee was given. The next day the drainage tube was removed. The post operative period was uneventful with the exception of collection of a little amount of serum under the flaps for which two sutures were removed on the 3rd day. All the sutures were removed on the 10th day and the patient was discharged.

Points of interest in this case are :—

1. Her advanced age.
2. Her bad general condition.
3. The size of the tumour.
4. The beneficial use of Ethiocain.
5. Operation without the least pain and without any shock.
6. The rapid growth of the tumour.

My thanks are due to Dr. K. Subramaniam, L. M. P. for his kind assistance during the operation.

A Case of Erysipelas

BY
PHANIBHUSAN MUKERJEE, L.M.P.,
Batera, Darbhanga

IN August 1931, a baby 5 months' old came under my observation, who while suffering from an attack of Typhoid fever developed Erysipelas, probably from a neglected scabies-like eruption in her left hand.

The rash appeared from her left wrist, spread over the whole of her fore-arm and arm, extended to the spine on the back, reached the lower border of the scapula covering the surface of that region. In front it extended to the mid-sternal line covering the pectoral region and upwards it reached the level of the neck covering the left shoulder. The rash had a broad, well-defined, erythematous, and raised margin with no bullae.

As polyvalent antistreptococcic serum was not available, I decided to try milk injections in this case.

She was given 3 injections of 1 c.c.m. of milk intramuscularly into the buttocks on alternate days.

As the injections aggravated the already existing temperature, the child used to develop convulsions, which frightened me, so I could not increase the dose of the milk.

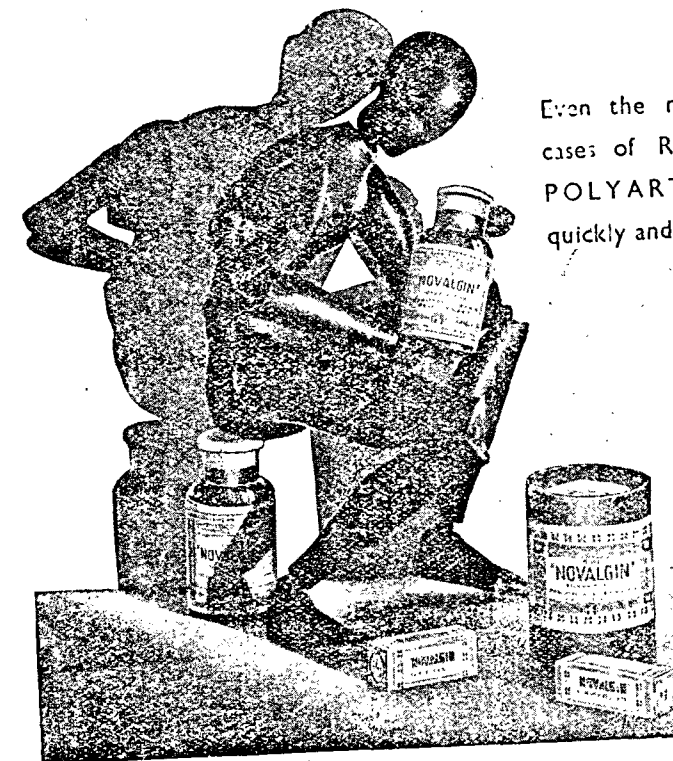
Tinct Ferri Perchlor, in 3 minim doses, was administered to her internally three times daily.

Saturated solution of Mag. sulphate having had no effect, Ichthiol lotion 10 % in distilled water was substituted.

It was painted twice daily over the affected part, which was subsequently covered with cotton wool and bandaged. The condition markedly improved under this treatment and the eruption disappeared in about 10 days.

The rash reappeared after a week on the same side, the same treatment was adopted and she recovered completely.

My object in writing these notes is to bring forward the effect of milk injections which served to shorten the course of the disease and the rash disappeared very soon.



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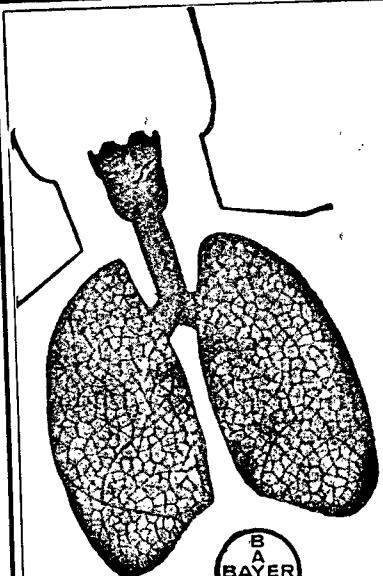
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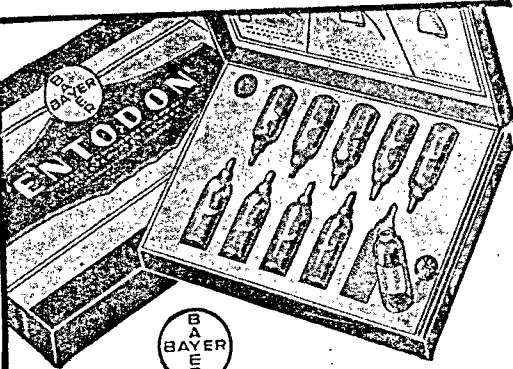
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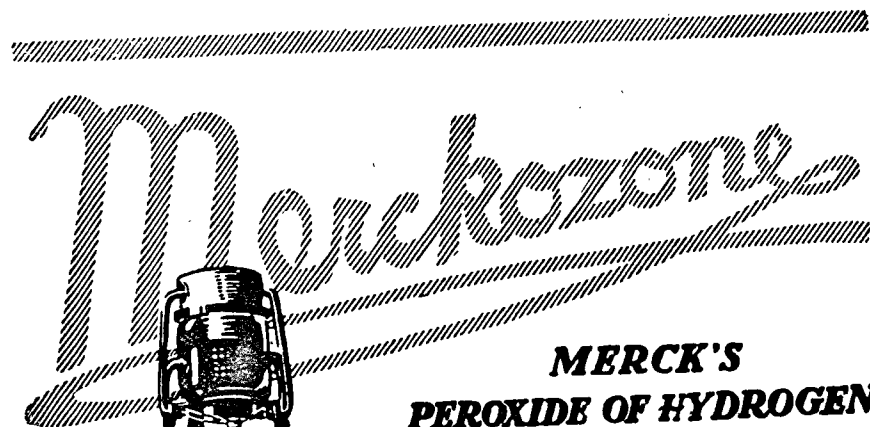
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Vol. 33. No. 1.]

[Jan. 1936.

The Antiseptic

ESTD. 1904.

A Monthly Journal of Medicine and Surgery.

Editors : Dr. U. RAMA RAU & U. KRISHNA RAU, M.B., B.S.

Editorial and Publishing Offices :—323, Thambu Chetty St., Madras.

Annual Subscription Rs. 5. Foreign, 10 Sh. Post Paid.

EDITORIAL

The New Year

'THE ANTISEPTIC' has entered on its thirty-third year of existence on the 1st of January 1936. During the year just closed, the Journal has not swerved from its policy nor retracted from its purpose of catering to the needs and safeguarding the rights of the medical profession. The publication of the Madras University Post Graduate Extension lectures and also the bringing out of the Annual Number, formed as usual, the chief features.

The Madras Medical College Centenary Celebrations was the outstanding medical event of the year. The next is the recognition by the Indian Medical Council of the graduate qualifications of the Madras, Calcutta, Bombay and Lucknow Universities. The F. R. C. S. examinations held at Calcutta proved to be a triumph for Madras. The election of our Editor, Dr. U. Rama Rau, as the President of the All India Medical Conference, which took place at Nagpur in December is, we consider, a great honour done to the Journal—an honour of which we feel proud.

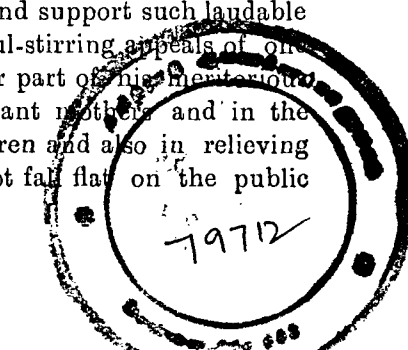
That the Antiseptic has been able to steadily progress year by year is due to many factors. To the large body of medical men who have consented to feed it by contributing valuable articles all the year round, to the various advertisers who have given it such cordial and whole-hearted support and to the large body of medical men who have so kindly patronised the Journal by subscribing to it, the Antiseptic offers its very grateful thanks. The future also lies in their hands. We trust that they will extend to the Antiseptic the same help in the future, as they have

given in the past. To all of them and the many sympathisers, we wish a happy and prosperous NEW YEAR.

The First All India Obstetric and Gynaecological Congress, Madras.

Close upon the heels of the Medical College Centenary Celebrations, Madras witnessed another event of great moment to the Medical profession—not merely of Southern India but of the whole Peninsula—and that was the holding of the First All India Obstetric and Gynaecological Congress at the Museum theatre on the 2nd, 3rd and 4th January 1936. The profession owes it to the initiative, foresight, zeal and energy of Dr. Lakshmanaswamy Mudaliar M.D., F.C.O.G., Second Obstetrician and Gynaecologist of the Government Hospital for Women and Children, Madras, and Chairman of the Reception Committee, whose one object in holding this Congress was to foregather on a common platform the obstetricians and gynaecologists from different parts of India, more especially, the large body of general practitioners in rural areas, who form the bulwark of the profession and who have to face occasionally obstetric problems of great difficulty and magnitude and exchange thoughts and attempt to solve the appalling maternal and infantile mortality problem in this country. It was most appropriate that Madras should have been chosen as the first venue of the Congress, for, Madras occupies a unique position in the obstetric world of to-day and claims the honour of having the oldest maternity institution in South India—nay—in the Far East, an account of which is given in the excellent souvenir got up by the committee and of having instituted the first training school for midwives in India and for long, the only training school in the whole of the country. Madras, again was the first city which extended through its University and Medical College, the portals of the profession to the women of the country and established the first post-graduate school in Obstetrics and Gynaecology and a diploma, by its University, in this speciality. It was also in the fitness of things that H. E. The Governor of Madras, whose sympathies to the cause of Medicine are unbounded, should have opened the Congress and Dr. Miss Ida. S. Scudder of the Women's Hospital, Vellore, whose profound knowledge and ripe experience of the obstetric and gynaecological art and science is too well-known to need special mention here, should have presided over the deliberations of the Congress.

The address of the Chairman of the Reception Committee bristles with sentiments of high hopes and far-reaching effects. Dr. Lakshmanaswami Mudaliar rightly stresses the need for post-graduate study and the encouragement of research in Obstetrics and Gynaecology. With regard to post-graduate study, he significantly observed and made the following fervent appeal in his address: "In no part of Medical Science is there greater need for post-graduate study than in the field of Obstetrics. Every one of us will realise that the time when one is in a position to understand and appreciate the practical side of Obstetrics, is when one has finished his student's career and becomes an apprentice in a Maternity Institution. And when it is further realised that midwifery has to be practised as an emergency in many cases and in the remotest parts of the country, the need for adequate training will be more easily appreciated. May I take this opportunity of appealing to your Excellency's Government, to provincial Governments in other places, and to those in charge of large Maternity Institutions to keep open the doors of the institutions for post-graduate training and subject to the facilities available, to impose no restrictions of any kind, territorial, provincial or otherwise. Every post-graduate adequately trained is an asset to the nation and an instrument of relief to the mothers of this country." As regards encouragement of research, he said, "there are problems facing the obstetrician in India, which are peculiar to this country and which must be tackled and solved in this country. The deficiency diseases in relation to pregnancy, diseases like osteomalacia which are so widely prevalent in some parts of India but which fortunately are rare in Southern India, the varying severity of the toxæmias of pregnancy in different parts of the country, the several tropical diseases and their effects on pregnancy—these and many other such problems are being tackled but there is greater need for organized research to be undertaken. May we not hope that an appeal from this Congress and through your Excellency the Governor, to the generous public will not fail to evoke a sympathetic response? May we not also hope that the various administrations in British India and Indian India will co-operate in a spirit of healthy rivalry to organise and support such laudable enterprise? We too hope that these soul-stirring appeals of one who has spent and is spending the greater part of his magnificent official career by the bedside of expectant mothers and in the tending of infants-in-arms and aged children and also in relieving the sick and suffering womenfolk, will not fall flat on the public and the powers-that-be.



His Excellency the Governor in declaring the Congress and its allied exhibition open, expressed the view that there is no cause more truly deserving of practical interest, practical assistance and financial support. "To save the mothers of India from suffering, disease and death and to rear up healthier, happier children—this is a task than which none could be dearer to the heart of any nation. Let the people of India see to it that nothing is wanting to the advancement of that cause which they can achieve by their endeavour and charity". We trust that His Excellency's Government will themselves be charitable enough to allot more funds in their budgets in the future for this noble cause.

The President, in her masterly address, set forth some of the aims of the Congress, of which the first and foremost is the establishment of an Indian Obstetrical and Gynaecological Journal in order that there may be mutual help and inspiration through the interchange of experience and knowledge. "The young practitioner", she said, "especially in a distant village soon finds that he needs help and that his experience is so limited that he is constantly making mistakes and is greatly perplexed as he is confronted with grave medical problems. These village practitioners are eager to do up-to-date work and we should facilitate them to keep pace with the medical work".

The second aim of the congress, according to the President, is to attack the obstetrical problem of the villages which is well-nigh insurmountable. "The uneducated dai steeped in superstition and ignorance frequently and unwittingly brings untold suffering and death to her patient. Many efforts have been made in the past to solve this question but it is so vast that we have often faltered because of its magnitude. We must consider what we can as a Congress do in attacking this problem". She thinks that this could be done through a central organisation whereby a frequent and careful supervision of all Obstetrical and Gynaecological work could be carried on.

Thirdly, she emphasised the need for co-operation (a) between all medical workers, (b) between District Boards and Local Bodies and (c) between the medical workers and the villager himself. "All District and Local bodies should be encouraged to co-operate with the Central hospitals in this vast work and encouraged to supply ambulances to bring patients from the villages to head-quarter hospitals where a highly efficient staff of doctors, nurses, and medicines should always be found". "Then, we must have the co-operation of the public", she said, "replacing ignorance and

superstition by well-educated medical workers and educate the villager with moving pictures, lectures, libraries etc".

Lastly, the supervision of the work of village practitioners, nurses and midwives and opportunity given to them at stated intervals to study, (perhaps for a month each year) in some large Central hospital and provision for post-graduate study for village-practitioners, who in her opinion, 'should not confine themselves to the medical problems alone but to the general uplift of the village'.

The above aims are indeed laudable and we wish the Congress will gain more and more strength as years advance and will be able to translate these aims into action and earn the lasting gratitude of the suffering womenfolk of this unhappy land.

Many interesting and instructive papers on Obstetrics and Gynaecology were read and discussed and lively interest was taken by the profession, official and non-official, men and women, to gain accurate knowledge and obtain expert guidance in this branch of medical science.

In fine, we take this opportunity of congratulating Dr. Lakshmanaswamy Mudaliar and the members of the Reception Committee for their earnest endeavours in bringing the Congress to a successful termination and for the good lead they have given to the medical profession in India for the solution of a difficult and intricate problem such as the maternity and child-welfare problem is, rendered more formidable and complex, on account of the peculiar social, religious and economic conditions obtaining in this country.

The Vizag-Medical College

The action of the Finance Committee of the Madras Legislative Council, as we learn it from the press, in rejecting the scheme to improve the Vizag Medical College, is very regrettable. The reasons for such a decision are, in our opinion, very flimsy and unsound. As everyone knows, the Medical Council of India refused to recognise the medical degrees of the Andhra University unless the Vizagapatam Medical College and the King George's Hospital, Vizagapatam, were improved. The Government, thereafter on the proposal of the Surgeon-General, recommended a scheme of improvement, the approximate non-recurrent cost of which would be about 16 lakhs and the recurring expenditure about 1½ lakhs per annum.

The reasons for the rejection of the scheme, we understand,

were, that the Committee thought firstly that the Vizagapatam Medical College was not located in a Central place in the Andhra desa and secondly, that the necessity for the Vizag Medical College could be replaced by special provision being made for Andhra-students in the Madras Medical College. It was also suggested, we understand, that the need for more medical men could be met by opening more medical schools in suitable centres in the Andhradesa. With regard to the first objection, it is only necessary to point out that the college at Vizagapatam has been built and equipped at an enormous expense and has been in existence for some years now and it will be fruitless now to think of either closing it down or shifting it to a more central place if one such exists. Further, the value of Vizagapatam as a growing city and port cannot be forgotten. The choosing of a central place for Andhradesa would be still more difficult, for Bezwada, Rajahmundry, and Masulipatam have all their own claims. The second suggestion of the Finance Committee would be impossible to carry out. The Madras Medical College is already overcrowded. To add some students from Andhra would only make the already crowded college more overcrowded and would make the available clinical material quite inadequate to the needs of the students and would subject the Madras Medical College too to the danger of not being recognised by the Indian Medical Council. To reserve a few seats from the present admissions would be very unfair to this presidency and to the large number of young men who seek admission into the Madras Medical College. The third alternative suggestion is, in our opinion, very unwise. In these days, when the cry everywhere is for raising and improving the standards of medical education and the abolition of the caste systems in the medical world, to suggest that the L. M. P. system should be expanded, is we think going against public opinion.

Considering all these things and in fairness to the large number of Andhra graduates, we trust that the members of the Madras Legislative Council will not endorse the action of the Finance Committee but will sanction the necessary amount to improve the Vizag Medical College and enable its graduates to be recognised by the Indian Medical Council. We also trust that H. E. the Governor, who has shown such an enormous sympathy for the medical profession, will ask his Government to reverse the decision of the Finance Committee.

As we go to Press, we understand that the Hon. the Minister incharge of Medical Portfolio, has tabled an official motion seeking the sanction of the Legislative Council for the extra

expenditure to be incurred for the additional staff to be appointed for one month in the current year and for their inclusion in the next year's budget and also for the necessary improvements and equipments, to the College, thereby reversing the decision of the Finance Committee. By this timely action, His Excellency's Government have given a tangible proof of their sympathy to the cause of Medical Education in this Presidency.

GLEANINGS FROM MEDICAL PRESS

Medicine and Therapeutics

Aphorisms in Cardiology.—*M. Leonard Gottlieb. New York.*

In quinidine therapy in auricular flutter, it is better to digitalise the patient first, then wait one week before instituting quinidine therapy. This procedure prevents ventricular escape due to the lowering of the circus rhythm rate by quinidine.

Quinidine is rapidly eliminated from the body; 95 per cent. in 15 minutes, usually.

Digitalis increases the rate of the circus rhythm. Quinidine decreases the rate of the circus.

Acute pulmonary oedema is accompanied by a marked rise in blood pressure; immediate phlebotomy is often a life-saving measure.

An attack of paroxysmal tachycardia may be aborted by carotid sinus pressure or quinidine sulphate.

Paroxysmal auricular fibrillation which persists for more than ten days is interpreted as being a permanent fibrillation; digitalis is not used unless marked signs of decompensation ensue, for digitalis tends to prolong the fibrillation. Quinidine may be used.

Quinidine is forbidden in patients who have experienced hæmoptysis, or who present marked venous engorgement or cardiac enlargement.

True organic tricuspid insufficiency is characterised by a systolic murmur at the tricuspid area, tender pulsating liver and pulsating veins in the neck, without the presence of heart failure,

which is the differential diagnostic point from relative tricuspid insufficiency. Pressure over the liver will sometimes intensify the murmur.

Hypertension usually precedes retinitis in the diabetic patient.

One method of differentiating cardiac cirrhosis of the liver pathologically from atrophic cirrhosis of the liver is that in the former, the hepatic veins are dilated, and in the latter, the portal veins are dilated.

Dyspnoea on exertion is one of the earliest symptoms of a failing heart.

Cardiac pain is characterised by coming on with effort, being continuous, and relieved by rest.

In all cases of hypertension, with a systolic murmur at the aortic region, and a ringing A2, luetic meso-aortitis should be considered.

A pathognomonic sign of aortic insufficiency is Duroziez's symptom—a diastolic murmur heard over the femoral artery.—*Med. Record, Aug. 21, 1935, p. 194.*—*Thro' Medical World.*

Cyclical Vomiting in Children.—Yet a further addition to the remedies for young patients presenting the too familiar syndrome of cyclical vomiting with acetonæmia. H. Weil points out that these children have marked anorexia, a distaste for fluids, with vomiting of a nervous character provoked by excitement or over-exertion, and there is usually more or less marked pylorospasm. He has had excellent result with a diet of small bulk composed of buttermilk with 2 per cent. flour and 13 per cent. sugar added. As the mixture contains roughly 1 calorie in 15 minims, enough to preserve health will be secured by 1 oz. for each 10 oz. of body-weight. (*Leipzig: Monatsschrift für Kinderheilkunde.*)—*Medical World.*

Treatment of Asthma in Children.—J. Gonzales Y. Jimenez with intense satisfaction in his treatment suggests that juvenile asthma is almost invariably due to thyroid dysfunction. His patients numbering 14 from three to eight years' old, had been the subjects of the complaint for years—mostly in the familiar (asthmatic) form of capillary bronchitis. He treated them with $\frac{1}{2}$ to $\frac{3}{4}$ grain thyroid tablets daily for several months in some of the

cases for more than a year, and without any ill effects which he ascribes to the mildness of the doses. The remarkable result of the treatment is that, of the whole 14 patients, in only a single one did it fail, and the sequel is even more notable in the child some time later having died within an hour of the administration of diphtheria antitoxin. Jimenez remarks on the extreme caution with which protein therapy should be given to juvenile asthmatics.—(*Madrid: Archivos Espanoles de Pediatria.*)—*Medical World.*

Hypertension under Sodium Chloride and Citrate.—L. Ambard notices the interesting case of a male patient with hypertension and much given to salt ingestion who suddenly was attacked by acute pulmonary oedema. Great albuminuria accompanied the condition, which became graver until uræmia set in, though at no time was there any oedema elsewhere. The sodium chloride being held to account, it was promptly and carefully eliminated from the diet, when the hypertension as rapidly decreased, but on the patient's recovery with renewal of the habit, the rise in the mercury at once returned. M. Renaud describes several cases where the administration of sodium citrate to patients with arterio-sclerosis caused a slow rise of the systolic and diastolic pressures, but both returned to the normal level on the withdrawal of the citrate against which Renaud emphatically cautions us in arterio-sclerotic subjects. (*Paris: Bulletins de la Societe Medicale des Hopitaux.*)—*Thro' Medical World.*

The Sub-Arachnoid Injection of Alcohol for Severe Pain in Malignant Disease of the Female Genitals.—Greenhill and Schmitz (*J. A. M. A., August 10, 1935, p. 406*) describe their technique using 0.5 c.c. of 95 per cent alcohol injected into the cerebro-spinal fluid through the first lumbar interspace, and conclude:

"Our experience with 27 subarachnoid injections of alcohol in 25 women with advanced carcinoma of the genitalia leads us to recommend this procedure in all women who suffer from excruciating and persistent pain that is associated with genital carcinoma. This injection is simple to carry out, it entails very few risks, and it has brought relief to 24 out of our 25 patients. Because it is simpler than any operative procedure and because the results are so satisfactory, we are now using it in preference to pelvic sympathectomy, which we advocated two years ago for the same purpose. We shall resort to sympathectomy in the cases in which alcohol injections fail. Until we know more about the late

effects of 95 per cent. alcohol on the spinal cord itself, it is best to restrict subarachnoid injections to patients in whom the malignant condition is far advanced."—*Medical World*.

Local Quinine Therapy in Diseases of the Eye.—In a paper before the Chicago Ophthalmological Society in November, 1934 (published in the *American Journal of Ophthalmology*, 18: 631-637, July, 1935) E. Selinger reported the use of quinine bisulphate in the local treatment of trachoma. A saturated aqueous solution of quinine bisulphate was applied to the fornix and palpebral conjunctivae with a cotton applicator after local anesthesia with $\frac{1}{2}$ per cent. pantocaine. Cold compresses were then applied to the eyes for a few minutes. The patients were given at first a 2 per cent. and later a 4 per cent. quinine bisulphate ointment to be applied to the conjunctivae twice daily. No other medication was used except atropine and hot compresses in cases with pannus and corneal ulceration. Animal experiments showed that neither the normal nor the traumatized cornea was injured by quinine bisulphate in the concentrations used for the treatment of trachoma. Quinine was tried in these cases because it is not only an astringent and a bactericide, but also penetrates deeply into the tissues when applied locally to mucous membranes. It destroys pathological accumulations of lymphoid tissue by its action as a protoplasmic poison, and inhibits new invasions of the tissues by cellular elements. The author has found that treatment with the quinine bisulphate is less painful than the use of the copper sulphate stick. The therapeutic effects were good and the course of the disease considerably shortened.

Selinger also reports (*Archives of Ophthalmology*, 13: 829-832, May, 1935) the use of quinine bisulphate in the local treatment of interstitial keratitis and old corneal opacities. In syphilitic keratitis, antisyphilitic treatment is also given. In both conditions the 2 per cent. quinine bisulphate ointment was applied twice a day. In interstitial keratitis, the infiltrations became less dense and photophobia and blepharospasm were much relieved. In cases of old corneal opacities, there was a notable decrease in the density of the opacities and a definite improvement of vision within two to six weeks after the quinine treatment was begun.—*Medical Times*.

PROCEEDINGS OF CONFERENCES, SOCIETIES, ETC.

The XII All India Medical Conference, Nagpur, 1935

Resolutions

1. (a) Resolved that in Clause 8 of Section 3 of the Lunacy Act [IV of 1912], the words "in the United Kingdom" be deleted, and the same be replaced by the words "with a Medical Council of any of the Provinces in British India".

Clause 8, Section 3 of the Lunacy Act as it is:—

"Medical practitioner" means a holder of a qualification to practise medicine and surgery which can be registered in the United Kingdom in accordance with the law for the time being in force for the registration of medical practitioners, and includes any person declared by general or special order of the Local Government to be a medical practitioner for the purposes of this Act".

Clause 8, Section 3 of the Lunacy Act as amended:—

"Medical practitioner" means a holder of a qualification to practise medicine and surgery which can be registered with a Medical Council of any of the Provinces in India in accordance with the law for the time being in force for the registration of medical practitioners, and includes any person declared by general or special order of the Local Government to be a medical practitioner for the purposes of this Act".

(b) Resolved that in clause 1 of Section 5 of the Lunacy Act [IV of 1912], the words "one of which certificates shall be from a Medical Officer" be deleted and replaced by the words "from two registered medical practitioners".

Clause 1, Section 5 of the Lunacy Act as it is:—

"An application for a reception order shall be made by petition accompanied by a statement of particulars to the Magistrate within the local limits of whose jurisdiction the alleged lunatic ordinarily resides shall be in the form prescribed and shall be supported by two medical certificates on separate sheets of paper, one of which certificates shall be from a medical officer".

Clause 1, Section 5 of the Lunacy Act as amended:—

"An application for a reception order shall be made by petition accompanied by a statement of particulars to the

Magistrate within the local limits of whose jurisdiction the alleged lunatic ordinarily resides, shall be in the form prescribed and shall be supported by two medical certificates on separate sheets of paper, from two registered Medical practitioners". *Proposed by*—Dr. Jivraj Mehta. *Seconded by*—Dr. Bhupal Singh. *Supported by*—Capt. P. B. Mukerji.

2. In the opinion of this Conference the standard of education imparted in all the medical institutions in the country should conform to the minimum standard of qualification laid down by the Indian Medical Council. *Proposed by*—Capt. P. B. Mukerji. *Seconded by*—Dr. U. B. Narayan Rao (Bombay). *Supported by*—Dr. G. K. Kulkarni, (Nagpur).

3. This Conference is of opinion that a separate cadre should be instituted for teaching appointments in medical schools and colleges. *Proposed by*—Dr. R. A. Amesur. *Seconded by*—Capt. P. B. Mukerji. *Supported by*—Dr. B. K. Vinchure.

4. This Conference draws the attention of the Government of India and of the U. P. to the fact that the rules recently framed under the Poisons Act by the Government of U. P. are inconsistent with the Provisions of Section 9 (i) of the Government of India Poisons Act (Act XII of 1919) and requests the Government of India to direct the U. P. Government so that the said rules may be deleted so far as they apply to medical practitioners possessing registrable qualifications. *Proposed by*—Dr. Bhupal Singh. *Seconded by*—Dr. Paranjpe (Nagpur). *Supported by*—Dr. Sen Gupta (Nagpur).

5. This Conference deprecates the growing abuse of hospital facilities by persons of means, thereby depriving the poorer sections of the public of medical assistance and private medical practitioners of income which would accrue to them from services to those who are well able to pay for treatment: this Conference therefore suggests that steps be taken to prevent this abuse of hospital facilities and charitable dispensaries. *Proposed by*—Dr. K. S. Ray. *Seconded by*—Dr. A. Said. *Supported by*—Dr. A. K. Sen.

6. This Conference considers it dangerous in the public interest to allow vaccination and food inspection performed by non-medical persons and therefore requests the municipalities and other public bodies to appoint medical men for these purposes. *Proposed by*—Dr. U. B. Narayan Rao. *Seconded by*—Dr. A. K. Chakrabarti.

7. This Conference is of opinion that the medical inspection of school children should be made compulsory.—*From the chair.*

8. This Conference deprecates the policy of excluding the press from the proceedings of the Indian and certain Provincial Medical Councils and suggests to the Medical Councils concerned to remove this ban. *Proposed by*—Dr. U. B. Narayan Rao. *Seconded by*—Dr. A. Said.

9. Having regard to the incessant and urgent demand for the improvement of public health, this Conference invites the attention of the Government to the necessity for giving much greater attention than in the past to this subject and providing larger funds with a view to improving existing public health facilities especially hospitals, and expanding the activities of this department particularly in rural areas.—*From the Chair.*

10. This conference urges the imparting of a knowledge of elementary biology, sanitation, hygiene and nutrition in all schools and colleges as being calculated to stimulate the improvement of public health and increase the physical and economic standards of the people.—*From the Chair.*

11. This Conference calls attention to the great advantages of Indian medical men, both official and non-official joining the Indian Medical Association as addition of large numbers enables the Association to speak on their behalf with authority and strength and thereby enabling it to protect and advance the interests of Indian medical men collectively and individually, and undertake constructive work for the benefit of the country.—*From the Chair.*

12. This Conference is of opinion that the rates of fees paid by various Insurance Companies for the examination of proponents by their medical officers are not commensurate with the time and labour spent in examining such cases and it considers it advisable in the interests of the Insurance Companies that the fees paid for such examination should be adequate. *Proposed by*—Dr. (Miss) Thungamma. *Seconded*—Dr. K. B. Bivapurkar.

13. This Conference expresses its disapproval of the attitude of the Government of India with reference to the delay in implementing the recommendations of the Drugs Inquiry Committee and urges upon the Government of India and the Provincial Governments the paramount need of :—

(a) Enacting necessary legislation, both Central and Provincial, in the shape of a Pure Drugs Act and a Pharmacy Act in India, and of any subsidiary Provincial Acts for each Province, which may be required under the circumstances.

(b) Of establishing a College of Pharmacy in every Province for the training of Pharmacists and compounders.—*Proposed by—*Dr. P. T. Patel. *Seconded by—*Dr. A. C. Ukil. *Supported by—*Dr. A. K. Sen.

14. This Conference resolves that the Government of India be requested to draw a scheme, (1) for prohibition or in the alternative, regulation of medical practice in India by foreign medical men holding qualifications from countries which have no schemes of reciprocity with India; (2) the prohibition of medical practices by quacks and charlatans whose ministrations are a menace and a danger to public weal. *Proposed by—*Dr. R. A. Amesur. *Seconded by—*Dr. T. N. Ghosh.

15. This Conference requests the C. P. Government to give immediate effect to the C. P. Medical Registration Act which has already been passed. *Proposed by—*Dr. G. K. Kulkarni. *Seconded by—*Dr. L. V. Paranjpe.

16. This Conference urges upon the Government of Central Provinces the urgent necessity of establishing a medical College in the Province teaching up to the minimum standard of qualification required by the Medical Council of India. *Proposed by—*Dr. Kulkarni. *Seconded by—*Capt. P. B. Mukerji.

17. This Conference recommends that instruction in Conception Control Methods should form part of the Curriculum in Medical Colleges and Schools and in the training of health Visitors, Nurses and Midwives. *Proposed by—*Dr. P. T. Patel. *Seconded by—*Dr. (Miss) J. F. Karani.

18. This Conference welcomes the proposal for instituting sickness insurance and recommends that insurance should be made applicable to all workers, and further that the Indian Medical Association should be consulted in the formulation of the Scheme. *Proposed by—*Dr. Jivaraj Mehta. *Seconded by—*Dr. (Miss) Thungamma.

19. This Conference places on record its deep sense of gratefulness to the C. P. and Berar Medical Association for having shouldered the responsibility of organising the XII All-India Medical Conference and making it an unqualified success.—*From the Chair.*

20. This Conference expresses its grateful thanks to the Chairman and the members of the Reception Committee and the volunteers for the excellent arrangements and the hospitality extended to the delegates of the Conference.—*From the Chair.*

BOOK REVIEWS

The Hair and Scalp: A Clinical Study (with Chapter on Hirsuties)—By Agnes Savill, M.A., M.D., M.R.C.P.I., 1935 pp. 288. London: Edward Arnold & Co. Price 12/6d. net.

This is a book that is sure to interest all readers—physicians and laity who are interested in the preservation and natural upkeep of the scalp and hair. The book is based on notes collected by the author before the war and observation made by her after the war and contains much new information not found hitherto in books on similar subject.

The opening chapter deals with the molecular structure of the hair.

All the common disorders of scalp and hair are well written and arranged in a manner that renders reference easy. The chapter on hair dyes is particularly interesting and will be found of considerable help not only by those practising this art but also by those interested in hair dying. The last chapter is written on Hirsuties or hypertrichosis. The last few pages contain various useful prescriptions in the treatment of maladies of scalp and hair. We congratulate the writer on her useful book and wish it all success.

Incompatibility in Prescriptions and How to Avoid it With a Dictionary of Incompatibilities.—By Thomas Stephenson, D.Sc., Ph.C., F.R.S.E., F.R.C.S., Editor "The Prescriber" 1935 p.p. 62, Fourth Edition, revised and enlarged. Edinburgh: The Prescriber Offices.

This little book by the well known author who needs little introduction to our readers being the editor of the Prescriber, is in its fourth edition.

This work originally appeared as a series of articles in the Prescriber and were collected and published in the form of a booklet of 32 pages in 1915. Ever since, it has gone through several reprints and editions which speak highly of its usefulness. Ten more pages have been included in this edition but re-written where necessary and reset in new types. We recommend this volume strongly to all our readers as a very useful guide in their routine work.

ACKNOWLEDGMENTS

Calendars from Messrs Bhalla Brothers, Rawalpindi :—We acknowledge with thanks the receipt of two beautiful English made calendars for 1936 from Messrs Bhalla Brothers. We are informed that these will be sent free to Medical men who order for Rs. 2/- worth of "Amar Tel". (Registered.). Copies can also be had from them by sending five annas worth of stamps.

Horlick's Indian Calendar for 1936 :—We have received a copy of the 1936 wall calendar which is being widely distributed in India by the Horlick's Malted Milk Company, Ltd.

This firm's calendars are always conspicuous for their interest and artistic excellence. The present one is no exception, though in subject matter it represents a departure from the calendars issued in the past, which have generally illustrated famous scenes or subjects from the mythology or history of India.

The 1936 calendar carries a magnificently printed illustration of the impressive and colourful scene in St. Paul's Cathedral, the heart of the Empire, during the Thanksgiving Service held there on the occasion of the Silver Jubilee of the King Emperor. There are two smaller illustrations, one of Their Majesties driving in state to the Cathedral, and the other showing them kneeling in prayer.

It is impossible not to be impressed by this vivid souvenir of the Jubilee of a Sovereign who so well deserved the congratulations and tributes of respect which poured in from every part of his Eastern Empire on that great occasion.

CORRIGENDUM

The Antiseptic, December '35 issue, page 814 line 6 for 'but seems to be more toxic than plasmochin or at least more disagreeable symptoms are produced than by plasmochin' read 'but it is not more toxic than plasmochin. Its combination with plasmochin seems to increase the toxic action of plasmochin or at least to render more disagreeable symptoms caused by plasmochin alone. Otherwise such a combination would be ideal, as plasmochin is gameticide and atebirin schizonticide'.

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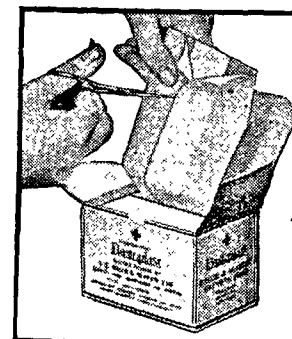
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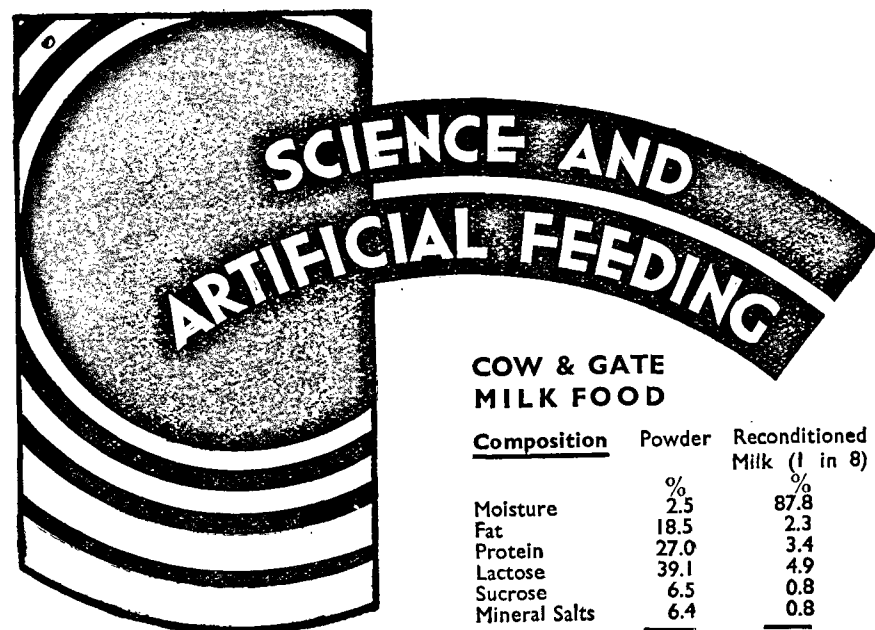
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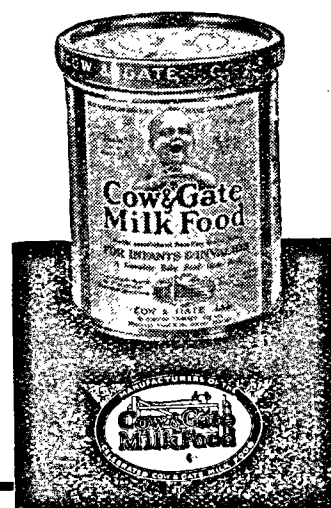
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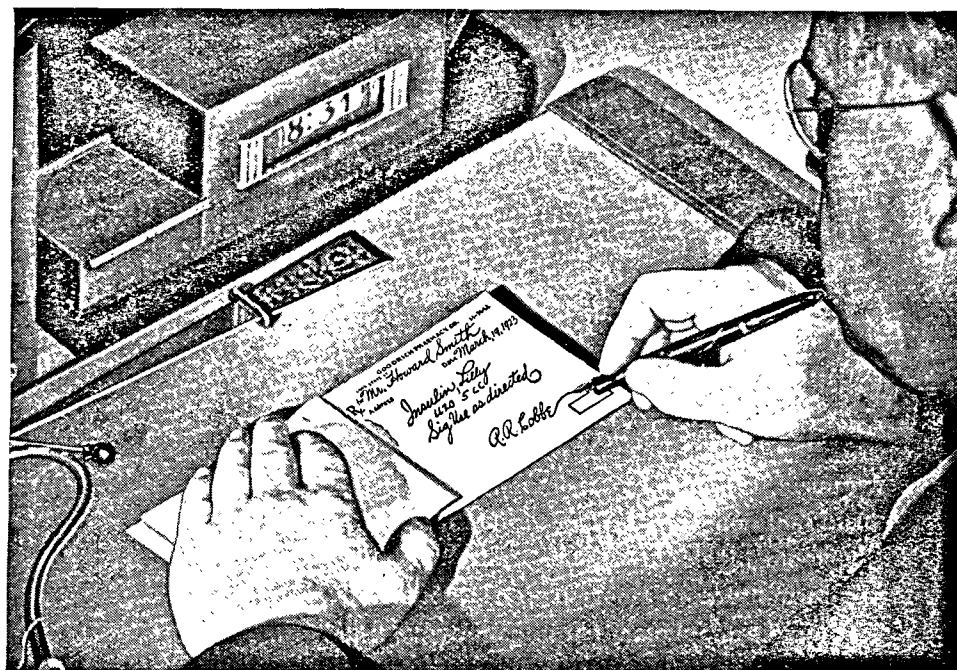
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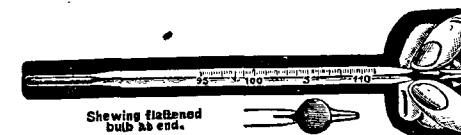
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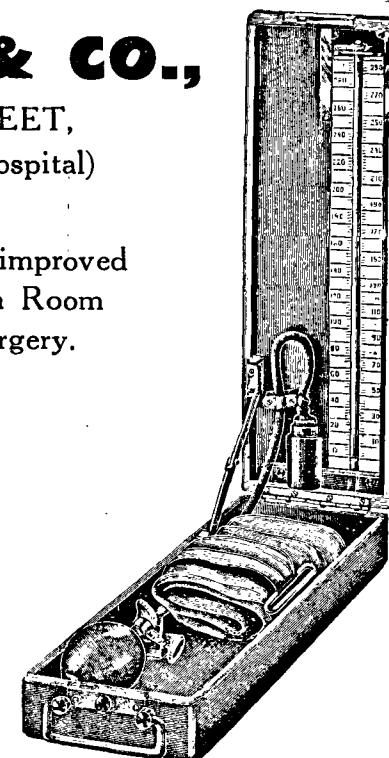
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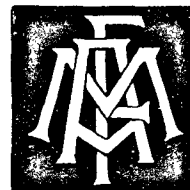
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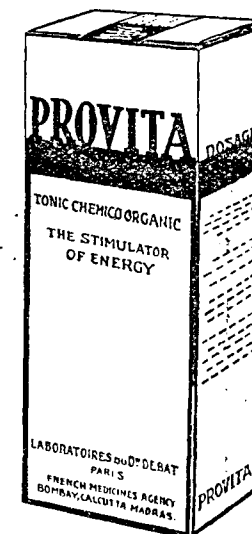


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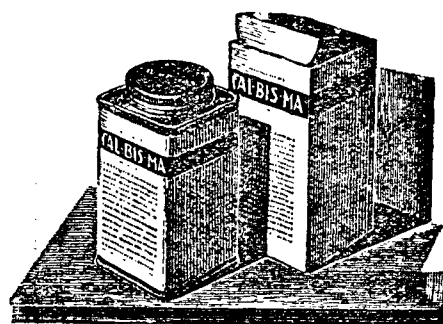
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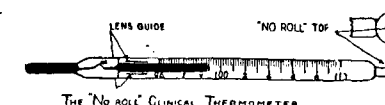


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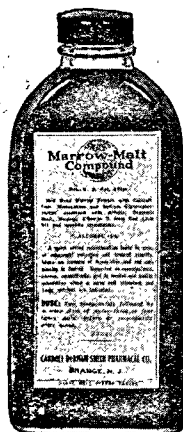
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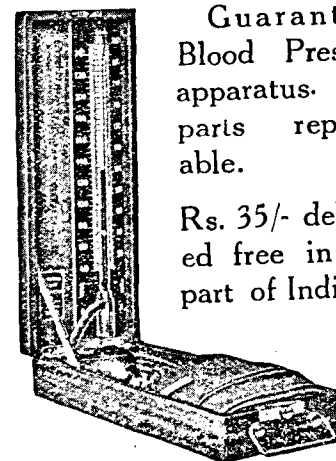
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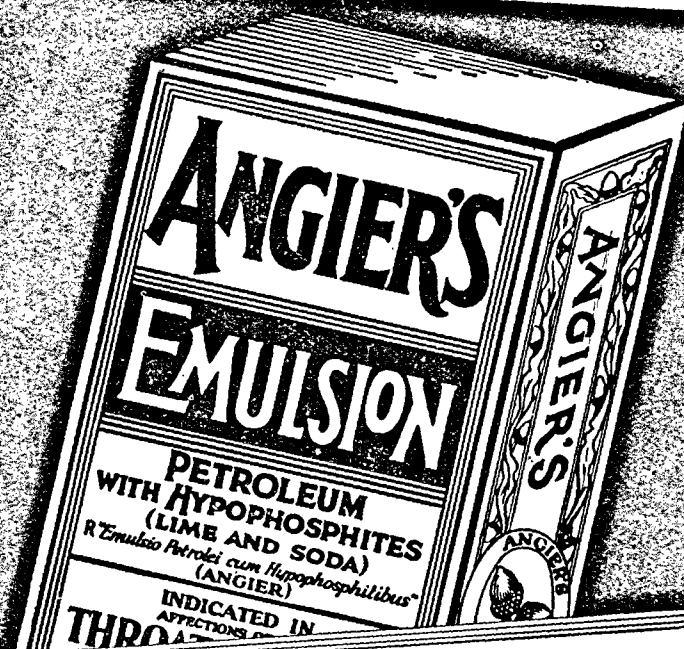


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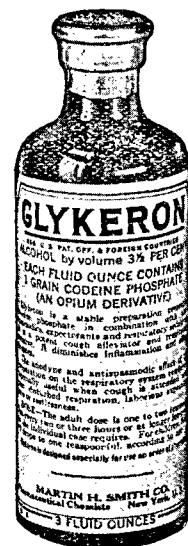
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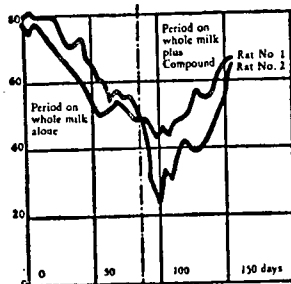
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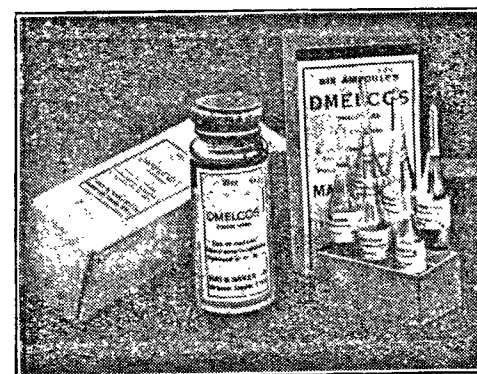
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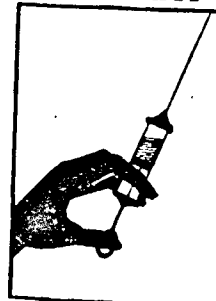
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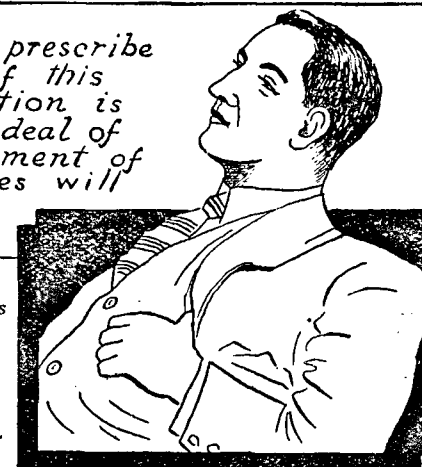
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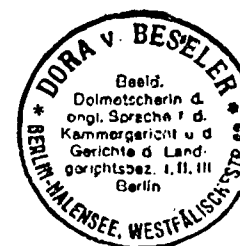
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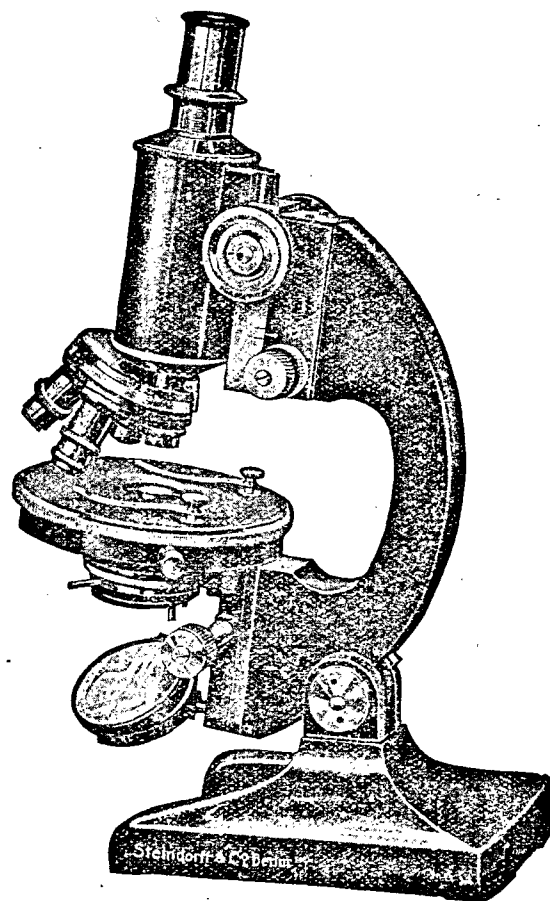
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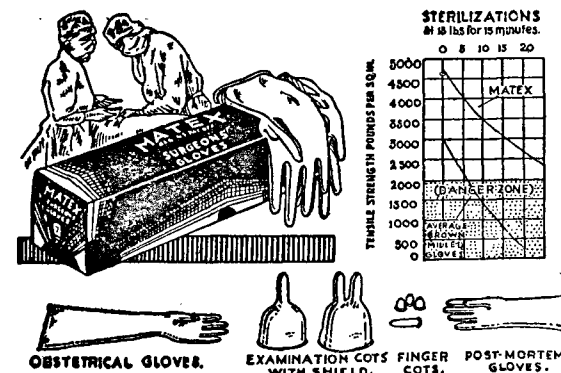
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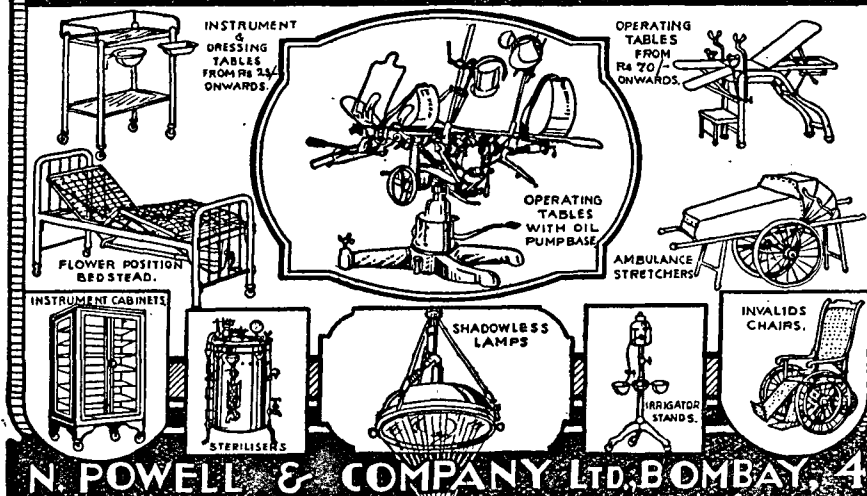
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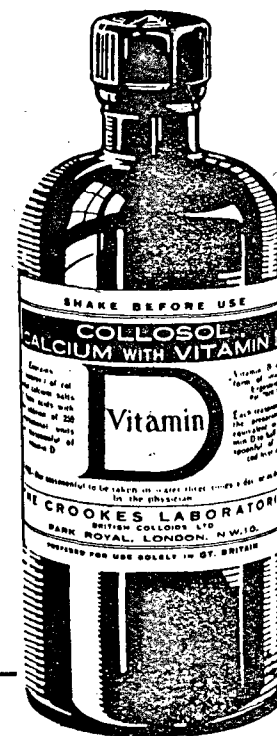
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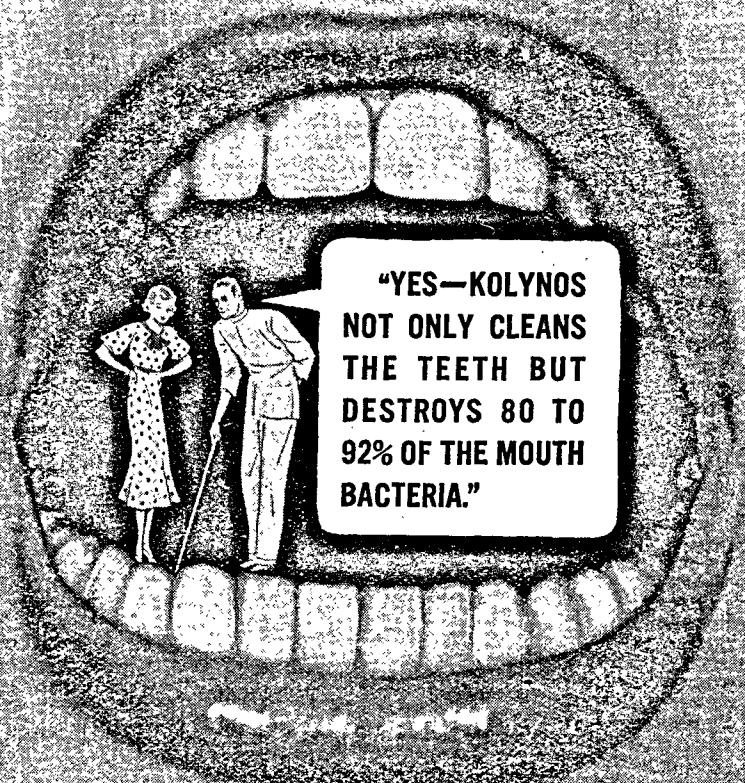
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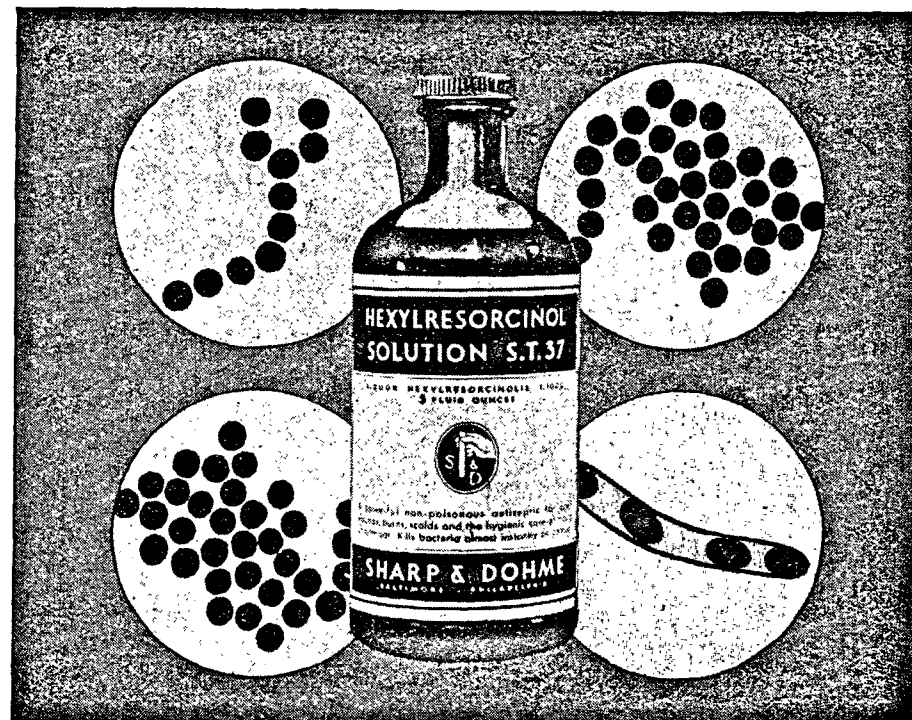


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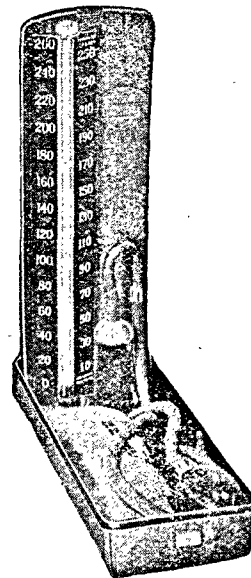
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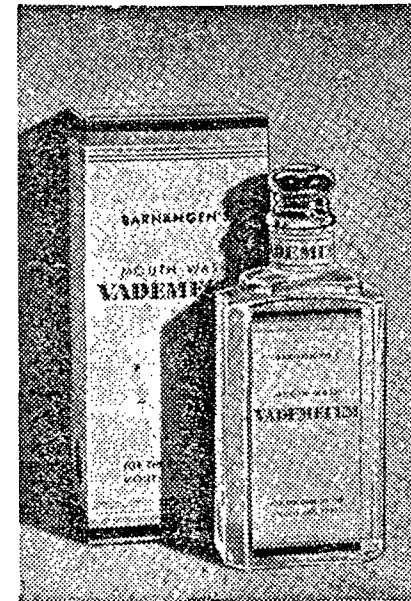
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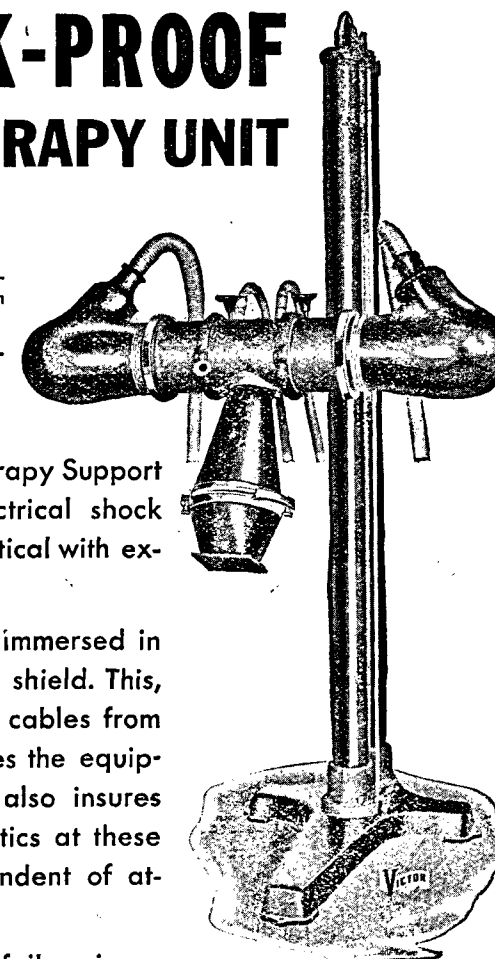


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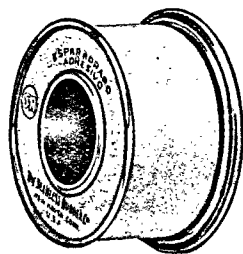
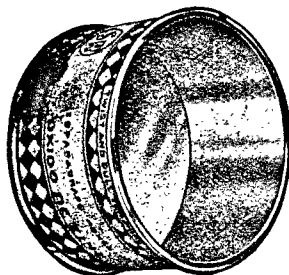
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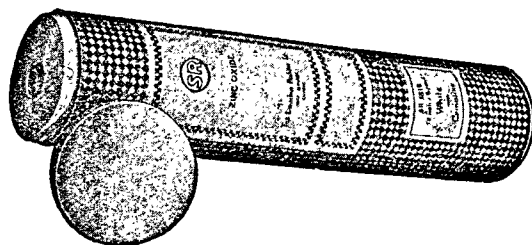
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The Antiseptic

ESTD. 1904.

A Monthly Journal of Medicine and Surgery.

Editors: Dr. U. RAMA RAU & U. KRISHNA RAU, M.B., B.S.

Editorial and Publishing Offices:—323, Thambu Chetty St., Madras.

Annual Subscription Rs. 5. Foreign, 10 Sh. Post Paid.

ORIGINAL ARTICLES

On the Arterio-Encephalography*

BY

Professor Dr. LADISLAW BENEDEK,

Director of the Clinic for Nervous Diseases in Debrecen and
Rector of the University (for the years 1935—36) Debrecen, (Hungary.)

IN my sketch on arteriography which has been carried out on a great scale at our clinic, I can report on only that very small fraction of our entire collected data, which goes to qualify its symptomatological value and throw light on the limits of its efficiency, and even to present it as a possible aid in the solving of neuropathological problems. These data are from the monograph which I am now publishing in collaboration with Professor Huttli. It is not necessary to emphasize, that just as craniorontgenography in general, arteriography is to be considered as *one* among the important guiding data in the unified symptomatological picture, but which cannot justify the mechanizing of neurological diagnostics. As simple osteography, as ventriculo and encephalography, and my combined percussion-transonance-method, present various aspects caused by intracranial processes, so arteriography introduces a new dimension. For this enrichment of our diagnostical inventory recognition is due, in the first place to Moniz, then Lohr, and Jacoby, and others.

As was reported, we used therapeutically at our clinic as

* From the Clinic for Nervous and Mental diseases in Debrecen (Hungary); specially sent for publication in 'The Antiseptic'.

early as 1922 the intracarotideal injection of opaque colloid solution without operative liberation of the carotids. This procedure was rendered possible by our special assuring apparatus. However, the necessity of exact synchronisation in collaboration with the Röntgenology made the operative technique unavoidable.

As to this latter, the opening of the carotids on a larger area seems to be necessary on account of the frequent anatomical anomalies. The covering of the artery must be carefully removed. The local narcosis should be spread also to the branches of the plexus cervicalis through the sternocleidomastoideus. The syringe should be quite full of thorotrast to prevent the influx of blood into the syringe, which would dilute the contrast liquid and impair the effect, and also promote thrombosis.

Thorotrast in 25 per cent solution of the colloid thorium-oxyde cannot itself cause any alteration: *e.g.*, a patient received on one occasion repeated injections of 30 cc.m. each, on both sides. We consider it better to inject direct into the carotids internal. After the injection the needle is at once withdrawn, because of the danger of thrombosis. Our experience leads us to believe that the alteration of the circulation-speed plays also a part in thrombosis.

Altogether we have observed thrombosis in five cases. Our experiments on animals in this regard are now being performed. In one case of diabetes insipidus arisen from chronic basal meningoencephalitis, directly after the introduction of thorotrast, there appeared an epileptiform paroxysm. There was transitory paresis in one case of parasagittal meningioma. In two of our cases we observed slight improvement.

Between the simple angiogram and the osteogram in most normal cases, we found approximative topographical relations. Respecting these I refer only to the following:—

- (a) The top point of the carotids-siphon is the tangent point of the line drawn between the ophrion and inion.
- (b) The upper point of the siphon lies between 57 and 60 per cent of the distance measured from inion.
- (c) The perpendicular drawn to this line at the top point intersects the projection of the upper skull wall between the bregma and obelion.
- (d) Behind and under the imaginary line connecting the foot-points of the basion and lambda, in normal vessel topography no artery filling is observable,

- (e) The *artere du pli courbe*, with its terminal branch (the *a. angularis*) forms with the upper horizontal (*Linea horizontalis supraorbitalis*) an angle of about 30°.
- (f) The axial direction of the *arteria temporalis posterior* is within this angle and runs toward the lambda.

Attention is to be given in reading arteriograms, since, as the siphon and the art. cer. ant., the Sylvius-group and their branches are bent not only in one but in several planes, *i.e.*, their complex curvatures are to be imagined not planimetrically but stereometrically. The simple arteriogram is an orthogonal, and not seldom an oblique projection, the line parts connecting the basal points of which refer to sections which form a different angle with the projection plane. The stereoscopic pictures enable us to study more deeply the three-dimensioned arterial net-work and to present it true to reality in arteriography as well as in arterio-encephalography. The taking of stereoscopic pictures required some supplementary device. This was constructed by Dr. Rencz and manufactured by the firm Metalix (Ing. Hatscher). This consists of a special case-shifter and synchronmotoric electric works, whose switch can be mounted on the syringe. The pictures are read with Beyerlein's stereoscopic reader and measurer. The blood-speed can also be concluded by means of this apparatus, that is, the time-difference (0.5 sec.) between the exposures of the complementary pictures is enough to make a remarkable difference in the richness and shade of the vessels. (The principle of the Caldes' radio-carroussel is similar.) We believe it can be stated that the circumstances of the arborisation rendered by stereo-arteriogram give enlightenment on several such questions which seem unsolvable by simple angiography. For example, the circumstances of the origin of the Sylvius-group mostly appear very clearly, *e.g.*, in several cases it proves that when the simple exposure displays the presence of a short trunk and the origin of the apparently equally calibrated group-constituent vessels, the stereogram permits of determining a main artery. The measurements in this regard are being perfected. In the simple arteriograms the appearance of the trunk formation is promoted as the axial artery of the group (which corresponds mostly to the *artere du pli courbe*,) after having branched into the *arteria temporalis anterior* and *posterior*, the *arteria rolandica*, *parietalis anterior* and *posterior*, (which occurs in quick successions), suddenly becomes thin that it should progress with its terminal branch towards the gyrus angularis.

The stereograms permit of better penetration into the relations of the knot-formation. We cannot consider them to be pathological vessel-alterations, miliary aneurysms or restricted vessel-hyperplasies, but appearances arising from the sharp change of direction in the course of the vessels; at such times the arteries suddenly become parallel with the central ray. Accordingly the formed knot is the foot-point of a lengthwise section met axially by the X-ray, and conforms to a longer matter-column.

With the increase of the intracranial pressure, several parts of the arterial net-work break their connections with the more central branches. At such times the branches of the arteria pericallosa and callosomarginalis can scarcely be distinguished from the phlebographical structures. Then the stereoangiograms guard against error as they show plastically the continuations of the tributaries. The peripheral branches of the arteriae ascendentes (*i. e.*, the "candelabre") are often hardly to be distinguished in the simple arteriogram from the tributaries of the a. pericallosa and callosomarginalis, while in stereogram the difference is quite clear. This distinction is of great significance, as some tumour-types, mainly the parasagittal meningiomas, press down the a. pericallosa (and callosomarginalis) forming a sag, and compress their peripheral branches.

The analyses of stereograms lead us to the conclusion that we must adopt other axes in making the exposures, besides the hitherto typical (transversal, upper-horizontal etc.), axial lines, since the view-points of the stereograms are quite different.

Here it is possible to refer only to some few instructive observations. First, I should like to say that the carotideal angiography is applicable with success in the case of thrombangeitis obliterans; in such a case just it has assured us in our diagnosis; for the carotids interna of the affected right side did not fill, and in consequence of obstruction the opaque liquid flowed back under the bifurcation into the carotids externa, and the filling from the contralateral side spread (through the arteria communicans anterior) over the a. cerebri ant. of the obstructed side. The combined arterioencephalography indicated, a striking distension of the ventricle system in consequence of hydrocephalus ex-vacuo retractorius; conforming with this the right posterior horn extends deeply backward in the brain substance, in comparison to the left. The clinical picture was characterized by paroxysmal headaches, transitory paresis of the extremities, Jacksonian convulsions, disturbances of vision accompanied (in

ophthalmoscopic appearance) by spasmodic contraction of the retinal arteries, vascular crises of the limbs with omission in the arterial pulsation, and local syncope, later asphyxia. The sphygmo and plethymographical finding also confirmed my clinical diagnosis.

We carried out experiments with arteriography regarding the pathogenesis of the cerebral commotion. To this aim we produced a dull head-trauma by a stroke without fracture on the parieto-occipital region of narcotized animals. The arteriogram taken exactly one minute after the trauma, shows in a striking manner the contraction of the extra and intracranial arteries. The thorotrast (2 cc.m.) was injected in the arteria carotids communis preceding and following the experimental trauma.

The facts given, prove sufficiently the value of arteriography not only in diagnostics but also in research-work.

Some Misconceptions about Mental Diseases*

BY

BANARSI DAS, M.B., D.P.M., P.M.S.,

Superintendent, Mental Hospital, Agra.

TO the vast majority of medical men and women the subject of mental disease is something distasteful if not positively revolting. In this respect they share the views held by the general public, who generally visualize a mental patient as some one of a dangerous character and more of a ferocious beast than a human being. Now-a-days most subjects are freely discussed in the news-papers, even sex problems and birth control. But mental disorders are completely ignored. The fact is that people shut their minds tightly against this subject and treat it as a sort of hidden plague. When a person suffers from a physical illness of any kind he receives sympathy in a generous measure from all those around him. But if he has the misfortune to fall a prey to mental disease his friends recoil in horror and whisper of the awful fate that is said to have befallen him. He becomes as good as dead, and though resurrected, may never dare to take his place again; or if he does, he is almost certain to feel the altered attitude of his friends. Nothing can be further from reality than this alarming and dismal picture, which lives in the popular imagination, for insanity is a recoverable illness and, even in cases

* Specially contributed to 'The Antiseptic'

where the treatment has been by no means ideal, the percentage of those who recover is high. There is, moreover, nothing in the behaviour of the insane that cannot be seen on occasions in the sane. States of excitement and over-activity, despair and rage are all experienced at times by those who are perfectly sane.

There appear to be three great reasons for this harsh attitude. These are an unreasonable fear, a fixed idea that mental disease is quite incurable, and a belief that insanity is invariably a family or hereditary malady.

The first reaction of the public towards mental disease is certainly one of fear if not of definite horror. The insane person is one of whom to be afraid, one who is dangerous and who must be prevented from doing physical violence to others. It will doubtless surprise many to learn, and it is no over-statement to say, that in nearly every case the very reverse obtains. The insane person is usually himself afraid and often indeed suffers agonising terror; it can easily be understood, therefore, that while he may do harm to himself, it is very rarely, almost never, that he tries to harm others unless he is teased or provoked by them. It seems, indeed that actual physical fear of the insane person is the chief reason for his being so shunned, neglected and ill-treated. He rarely receives treatment in the early stages of his illness, and hardly ever sees an expert until the disease is fully developed and he has been admitted into a mental hospital. As a result of this attitude towards mental disease, the general public takes no interest in mental patients. While vast sums can be collected for general hospitals or special institutions, for tuberculosis for instance, the mental hospitals have to be maintained entirely at Government expense. The active fear of the insane also accounts in part for the apprehension which many people have of becoming insane themselves. There is a sort of terror of the unknown and mysterious disease. The strain of mental conflict may produce mental illness in those specially sensitive and susceptible.

Many people have a fixed idea that once a patient is certified and put into a mental hospital he will never go out again or even if he recovers sufficiently to be able to leave the hospital, he will certainly never be the same again. Only those, who have had the care of mental patients during their illness and who have watched them get well and who have followed their subsequent career, can realize how complete can be the return to the normal. It can be said with confidence that acute mental disease is every bit as curable as any other acute illness if it comes under skilled care early enough.

A lot of medical as well as laymen have a firmly embedded belief that mental disorders are almost always inherited. If it is known that one member of a family, even of a previous generation, had had mental illness that family lies under a sort of ban and people shake their heads wisely over its most innocent actions. They find it difficult to believe that any member of such a family can be normal. The merely dull and ordinary members appear to them to be half witted, the energetic ones queer and the clever ones as quite mad. The family itself keeps it a close secret but suffers from apprehension which may precipitate a breakdown. Unfortunately heredity cannot be completely put out of court as a predisposing factor in mental diseases. But it is equally true that it plays no part in a large proportion of cases of insanity.

The general practitioner comes in contact with mental disease in the early stages. It is for him to give correct advice to the relatives, to dispel their fears, to adopt towards mental illness the same attitude as towards physical disorders and to treat the subject openly if any progress is to be made in the treatment of this group of diseases. When there is no longer any fear, shame or scorn connected with it, when the relatives cease to apprehend a stigma, passing to them through being connected with the patient, then we shall indeed begin to tackle the question and to make real progress. Not till then will those, who specialize in the work, be able to see the beginnings of the illness instead of only the fully developed stages of it. We shall then begin to learn in a way that we cannot do at present for the early stages are still almost exclusively seen by the family doctor who has neither the time nor the special knowledge necessary for the treatment of mental illness. In any case why should he be expected to be able to treat this malady, the most complicated of all specialities and one demanding infinite time and patience. It is just as unfair as to expect him to trephine the skull or to perform a hysterectomy.

So far I have dealt with misconceptions commonly found both among laymen and medical practitioners including, of course, Government medical officers who are made of no superior clay. Now I shall turn to the wrong notions prevalent specially in the medical fraternity. The most remarkable feature of mental disorder is generally a disturbance of the emotions. The patient laughs or cries without apparent reason. No synthetic chemist has yet produced a drug which will make an unhappy person happy or a happy one unhappy. Yet many of our professional brethren seem to pin a pathetic faith to some well advertised insanity cures or strong hypnotics. They fail to understand the

great harm they are doing to the patient by turning his case into a chronic one and by reducing the chances of ultimate recovery. The same doctors would never dream of wasting a moment before calling for proper surgical aid in a case of appendicitis or intestinal obstruction. Although nobody now believes in hysteria having anything to do with the womb yet valerian is still thoughtlessly prescribed owing to ignorance of the psychopathology of this disorder.

The science of psychiatry is probably the youngest speciality in the field of medicine. Its rebirth is associated with the ever memorable name of Freud about 30 years ago. Happily Freud is still alive and commands universal respect among psychologists throughout the world in spite of differences of opinion that were bound to arise. We owe the concept of the unconscious to his great genius and through his thesis he has thrown a flood-light into the darkest recesses of the human mind. It has revolutionised our ideas about mental disease and placed psychopathology on a firm foundation. Those medical men who qualified 20 or more years ago will remember their visits to the mental hospital as a necessary evil. One felt so depressed to see fellow beings lodged behind bars like animals in a zoo. They were mostly naked with straw for bedding. Those, who could be made to work, had to work like prisoners in a jail. Their clothes were of the prison pattern. They ground atta, pressed oil and pulled water just like convicts sentenced to hard labour. Physical chastisement was not unknown and the death rate was high. On the other hand now-a-days every effort is made to get away from the jail idea and to emphasize the hospital aspect of these institutions. Instead of high walls low railings are provided with shrubbery to conceal them. Restraint is reduced to the barest minimum. With sufficient staff there need be no restraint at all. Hard labour of jail type has been abolished. Beds are provided and the patients are properly clothed. Light open air occupation is arranged for suitable patients as a remedial agent. No set task is exacted. Much attention is paid to recreation in the shape of games and music. Every effort is made to restore patient's self-respect and balance of mind by humane methods of treatment. An atmosphere of kindness and hopefulness surrounds the patient. In this peaceful environment he soon settles down in the absence of the emotional conflicts and tension of the previous environment. It is strange but true that newly admitted patients usually show a marked change for the better within a few days of admission into the mental hospital.

A patient can be admitted into a mental hospital as a rule only on the authority of an order issued by a competent magistrate or judge and based on medical certificates, which are in the nature of affidavits by the certifying doctors. This is often misunderstood to resemble the procedure of sending a criminal to jail on a magistrate's warrant. In fact there is no comparison or relationship between the two cases. A mental patient usually has not the insight to seek treatment for himself and owing to this loss of insight into his condition he cannot form a sound judgment as to how long he should remain in the hospital. Usually his mental state is like that of a child and he has to be kept in the mental hospital even against his wishes. In the eye of law this is illegal restraint and the procedure of medical certification and reception through a magistrate has been prescribed to remove the legal objection.

The method of getting a patient discharged from a mental hospital is even simpler. A voluntary patient can be admitted and discharged on his own written request. One admitted on petition can be sent out on a request from the petitioner. Each mental hospital has several visitors both official and non-official including doctors, who visit the institution at least once a month and can order the discharge of anybody, who is fit to go out. In many places patients are also sent home on parole for short periods before they are finally discharged. Lastly almost anybody can be got out of a mental hospital by some one filling a bond of responsibility for the patient's good behaviour at home.

I have made a hasty survey of a few misconceptions that need removal from the minds of the profession and the laity. I hope I have said enough to stimulate interest in this sadly neglected field of medicine and trust some of my audience will assist in the good work by spreading the truth and dispelling untruth.

Medical Education in Ancient India*

BY

D. V. S. REDDY, M.B., B.S.

Dept. of Physiology, Medical College, Vizagapatam

I. Vedic Period

IN the earliest Sanscrit documents, Rig Veda and Atharva Veda, Medicine is wholly theurgic and treatment consists of the usual versified spells and incantations against the demons of disease or their human agents, the witches and the wizards. But a class of people specially intended and trained for the alleviation of human suffering had already come into existence as shown by the reference to Physicians in the list of ancient occupations mentioned in Rig Veda. These Physicians lived in houses surrounded by medical herbs and had to go out in search of patients. In some verses of Atharva Veda, these charms are recommended to be accompanied by the employment of appropriate herbs. Hence Atharva Veda is considered by Macdonnel to be the oldest literary monument of Indian Medicine. As tribal wars became frequent, injuries like arrow-wounds, sword-cuts, broken-limbs, had to be attended to and this necessitated the formation of a specialised branch of medicine, namely surgery. In Mahabharata, one may read how skilful army surgeons came to Bhishma, with necessary medical and surgical appliances, when the great warrior lay wounded on the battlefield.

During this Vedic period (roughly before 1500 B. C.) education consisted in handing down the language of the hymns from the Patriarch to his sons and nephews by making the boys repeat these stanzas until perfect mastery was attained. Later still, learned associations or schools came into existence. Young men began to seek teachers other than those available within the limited family circle or village. Celebrated teachers, itinerated throughout the country instructing groups of disciples. But the method was still entirely oral. All the popular modes of teaching and lectures became stereotyped in the Brahmanas and Upanishads. Writing was introduced from Mesopotamia in about 800 B. C., but was first used for trade purposes only. It was much later, that sacred books were committed to writing. The dissection of sacrificial animals also facilitated the beginnings of anatomy. In Chandogya Upanishad, Narada mentions as part of

* Specially contributed to 'The Antiseptic'.

his previous studies "Butha Vidya" and "Sarpa Vidya". During the period of Panini (7th Century B. C.) the subjects of study included, in addition to the four Vedas, "Sarpa Vidya, Bhutha Vidya and Visha Vidya". The teaching of medicine now entirely was in the hands of brahmin priests who gathered at the famous centres of Benares and Taxilla. At about 500 B. C. even the Kshatriya and Vaisya youths were allowed as students under Brahmin teachers. Special schools for different branches of sciences became a prominent feature about the 6th Century B. C.

II. The Golden age of Ayurveda

The authentic history of Hindu medicine may be said to commence at about 800 to 600 B. C., the golden age of Ayurveda, when keen minds observed and experimented, recorded and taught, the fruits of investigation as well as those of contemplation. The fundamental principles of this "Science of Life" are brilliantly expounded in the two famous codes, Sushruta Samhitha and Charka Samhitha. Captain Johnston-Saint of Welcome Historical museum, has pointed out very clearly that in the fields of rhinoplastic surgery, Vaccination for small-pox, toxicology, psychotherapy, midwifery and medical hygiene in addition to the justly famous Hindu Materia Medica and Hindu Surgery, this ancient Hindu science, actually antedates by centuries many a modern triumph on which present day Western civilisation preens itself as the discoverer.

Ancient Hindus excelled all other nations of their times in operative surgery. F. H. Garrison, the famous medical Historian says, "The surgical arm of treatment in India reached the highest point of development attained in antiquity". Susrutha's elaborate description of 121 surgical instruments including Catheters, Syringes and Speculums, the detailed instructions given for handling them, his description of the operation theatre, the preliminary preparation of the surgeon before operation and other directions will come as a surprise to Modern Medical men. It has been said that the Hindus knew of every operative procedure except the use of ligature. They amputated limbs, treated fractures by splints, performed lithotomy and Caesarean section, couched for cataract and were especially adepts in skin grafting and plastic surgery. Dr. Hirschberg of Berlin thinks that "the old plastic surgery of Europe took its new flight when the cunning devices of Indian workmen became known".

The preliminary qualifications insisted on by Susrutha for students applying for medical study includes a high standard not

only of bodily and intellectual efficiency but also of aesthetic and moral traits. He also prescribes an elaborate ritual and oath before beginning medical study. The physician was expected to be learned and proficient in many other sciences. Susrutha's great work is accredited to be a reproduction of the lectures of his great master, Danvanthri, on *Salya thanthra* or major surgery. Garrison also pays a tribute to the very clever method of teaching surgery by making the student practise rapid dexterous incisions on gourds, cucumbers, and other soft fruits, or leather bags filled with water. The hollow stalks of water lillies and the veins of large leaves were punctured and lanced as well as the blood vessels of the dead animals. Flexible models were used for bandaging and amputations. Plastic operations were practised upon dead animals. "In so teaching the student to acquire ease and surety in operating by going through the motions", the Hindus were pioneers of many recent wrinkles on the didactic side of experimental surgery".

Charaka Samhitha is a compendium made by Charaka from an earlier one of Agni-Vesa based upon the lectures of his master, Athreya, the most distinguished professor of medicine at Taxilla, before the 6th century B. C. Charaka prescribes the rules for construction of hospitals for rich men and details their equipment and staff according to the practice of his day. Charaka also advises that the prospective student of medicine should carefully select the branch of science and the proper type of text book.

A word may be added here about the place of anatomy in the medical curriculum of ancient Hindus. Both Susrutha and Charaka insist on a sound knowledge of anatomy before one practises medicine. Susrutha clearly recommends dissection particularly for those hoping to be surgeons and gives minute directions for the preparations of bodies for dissection and the method of studying the structures of body. The ancient Hindus seemed to have been untrammelled by the prejudices and customs of a later age. Defilement due to the touch of a dead bone or corpse was easily purified by touching a cow or gazing at the sun.

While there is no unanimity of opinion among the scholars with regard to the age of Charaka and Susrutha, there seems to be a consensus of opinion that both of them could not have lived later than the 6th century B.C.

Hindu medicine was therefore at its zenith at the commencement of Budhistic period. Dr. Hoernle in his "Studies of the medicine of India," says that there existed in India "in the age of Buddha, two great Universities in which all sciences including

medicine were taught by Professors of world-wide renown." Needless to add that these two Universities were Kasi or Benares on the Ganges and the still more famous Takshasila on the Jhelum in the west. Jivaka, the famous Physician, contemporaneous with Buddha was a distinguished student of the latter University. With the advent of Buddhism based on Ahimsa, medical relief became universal. Medicines were distributed free to the poor and to the pious men. We read in Mahavagga that Visaka, asking for eight boons of Buddha, mentioned amongst them, the privilege of bestowing "food for sick, food for those who wait upon the sick and medicine for the sick."

3. Budhistic Period

Owing to various causes amongst which one was the new creed of Buddhism, Indian surgery received a check and gradually declined. The teaching of Buddha permitted the lancing of a boil and did not totally prohibit the use of knife but so subjected the science of surgery to shackles and limitations that it almost disappeared. During this period, however, Hindu medicine is considered to have extended its influence throughout the empire of Darius I (522 to 486 B.C.) from Indus to Macedonia. At the time of the invasion of Alexander (323 B.C.), the Indian Doctors cured cases of snake bites in which Greek physicians were powerless. Alexander collected round himself the most famous Hindu doctors probably the alumni of Taxilla, and ordered that any soldier bitten by snakes should instantly repair to the Royal Pavilion for treatment. From Megasthenese, we learn that physicians were held in great honour. Starbo mentions that these physicians cured diseases by diet rather than by medicinal remedies, which were chiefly unguents and cataplasms.

Asoka, the Great "provided medicines of two kinds—medicines for men and for animals." In the scheme of life of Buddhist priests of 200 B.C. was included the assistance of the sick; they had hospitals for pregnant women and hospitals for travellers. Buddha-doss is said to have established the system of state physicians, one being appointed for every ten villages on the great roads of India.

It may not be out of place here to refer to the revolution in the out-look of oriental scholars. It was Dr. Wise, who first dared to express the opinion based on his researches that Greece and Egypt alike may both in their scientific relations with India have been the learners and not the teachers. To quote Captain Johnston-Saint again, "If we were to speak the truth, we must call Greece not the parent of our modern medicine but its nurse".

4. Early Centuries of the Christian Era

During the early centuries of the Christian Era, Ayurveda was still extensively studied and practised. Royle comments on the references to Indian drugs in Galen and Pliny and Dioscorides. It was also about this time that Dhanya Kataka on the Krishna was the most famous university where Nagarjuna, the Aristotle of Buddhist lore, lived and inspired students. Besides being the father of Indian Chemistry, he was also a great philosopher, logician, and debator. In the field of Medicine his name was one to conjure with. He himself revised the famous Susrutha Samhitha. His eye prescriptions were well-known in China. His recipes for several diseases were so efficient that they were inscribed on public pillars in various parts of India. The college of Science at Dhanya Kataka, of which the most brilliant Principal was Nagarjuna, sent out numerous disciples some of whom attained great eminence.

Fahian, (398 to 414 A.D.) a contemporary of Chandragupta Vikramaditya, describes the charitable dispensaries in the town of Pataliputra thus, "the nobles of this country have founded hospitals to which the poor of all countries, the destitute, the cripple and the diseased may repair. Physicians inspected their diseases and according to their cases ordered food and drink, medicines or decoctions, everything in fact, that may contribute to their ease." V. Smith points out that no such foundation was to be seen elsewhere in the world at this date, the earliest hospital in Europe the "Maison Dieu" of Paris having been opened in the 7th Century A.D.

Vagbhata, the Elder, the author of Ashtanga Sangraha (compilation of Octopartite science) is believed to have lived about 4th to 6th century A.D. Vagbhata, the second, the author of a shorter and more popular text-book, "Astanga Hridaya Samhitha," is supposed to have flourished about the 7th or 8th century, A.D. Some scholars hold that it is this second Vagbhata, who is referred to, by the Chinese Pilgrim, Hiuen-Tsang when he states that "eight branches of medicine existed formerly in eight books but lately a man epitomized them into one book." This book was recognised as the standard throughout India at that time.

5. International centre for Medical education

The same pilgrim who resided ten years in Nalanda University from 675 to 686 A.D., has noted that medicine (Chikitsa vidya) was one of the subjects in the curriculum of the university but was not meant for all as a career. "If one liked only, he studied

Medicine in the university". The method here was entirely a tutorial one, individual attention being the chief mode rather than professional lecturing. The students had to copy manuscripts dealing with their study, from the magnificent library "Dharma Ganya". The students first mastered languages and then studied arts or medicine and finished off the college course with philosophy. Foreign potentates built colleges for their students at Nalanda. Nalanda supplied medicine for the sick and had a hospital for the bikkus. Recent excavations discovered what has been probably a bhishack-sale or a medical seminary where drugs were compounded. This famous centre of learning flourished from 4th to 10th century A.D., and must have sent out numerous bikkus and physicians to all parts of India, nay even to Tibet and China. Hieun-Tsang also mentions that King Siladitya II (610 to 650 A.D.) erected in all highways of towns throughout India "Hospices provided with food and drink and stationed there physicians with medicines for travellers and poor persons." He also mentions the existence of "charitable institutions for the poor, the orphan and the destitute called Punyasalas which provided food, clothing and medicines."

Though surgery had almost disappeared by this time, Hindu medical science was still showing some signs of life as evidenced by the fact that great scholar-physicians successfully practised and added to the existing store of medical knowledge. Dr. Hoernle has proved that Madhava, the author of "Nidana" (Nosology) Dridhabala, the redactor of Charaka and Vagbhata II flourished in the period between the 7th and 9th century A.D. at no very great interval from one another.

It must also be admitted that during the 8th century, India enjoyed an international reputation for its schools of medicine and pharmacy. During the heyday of the Abbaside califfs of Bagdad, the ministerial family of Barmack sent scholars to India, there to study medicine and pharmacy. Hindu scholars were invited to be the chief physicians at Bagdad. Dhanin was the director of the Barmack's Hospital at Bagdad, and Kanaka was the court physician of Haroun-al-Rashid. The Kaliffs and the court patronised sanskrit learning and ordered translation of books on Medicine, Pharmacology and Toxicology into Arabic. Charaka Samhitha had already been translated into Arabic by the beginning of the 8th century and his name Sharaka Indinus occurs in the works of Avicenna (980—1037), Rhazes (850—932) and Serapion (about 800 A. D.). Sushruta Samhitha translated before the end of 8th century and known as "Kitale-I-Sushrud", is

often quoted by Rhazes as an authority on surgery. Vagbhata's Astanga Hridaya Samhitha was one of the medical works translated and is quoted by Rhazes as "Sindhi Sara" or Charak of Sind. According to Mukkopadyaya, Madhava's Nidana was also translated into Arabic by the order of Haroun-al-Rashid.

6. The decline.

But soon afterwards this intercourse with India was cut off and the Arabs were swayed by Greek learning communicated to them by the labours of the Nestorian physicians. Albouruni, who travelled through India in the early part of the 11th century does not seem to have been very much impressed by Hindu medicine at the time while he extols the philosophy, mathematics and astronomy of the Indians. It is true that he does not seem to have made a special study of Indian medicine. He simply uses the current translation of Charaka available in his large library of Greek and Arab writers. He seems to have translated however a Sanskrit treatise on "Loathsome diseases" into Arabic. He also refers to the fourth path of liberation, called Rasayana, an art restricted to certain drugs, operations and compound medicines to restore health and to give back youth to fading old age. It is a great pity that Albouruni, familiar with the works of the great Arab physicians as well as with those of Hippocrates and Galen, does not give a more detailed and critical picture of the state of medicine in India about 1000 A. D.

There are ample evidences however, to prove that there were two independent and famous international centres of medical learning from 8th to 12th century; an ancient one, showing early signs of decay in India, (probably at Nalanda) and a rising school of Persia, which later became celebrated for its distinguished physicians, Rhazes and Avicenna. This Arabic or Unani medicine considered by competent authorities as the progenitor of medieval European medicine was based, according to Hakim Ajmal Khan, on the Sanskrit medical treatises translated from 750 to 960 A. D.

The tragic story of the decline and total fall of Indian medicine is briefly told. The Brahmin ritual fettered the hands of the surgeon. Various branches of medicine passed into the hands of the priests. Charms and amulets began to take the place of drugs and herbs. The Doctor fell from the high social position he held. Reliance was placed on the learning of the past. Mistakes and corruptions began to creep into old manuscripts. The glorious day of ancient Indian medicine was over and darkness spread its wings over the Indian continent.

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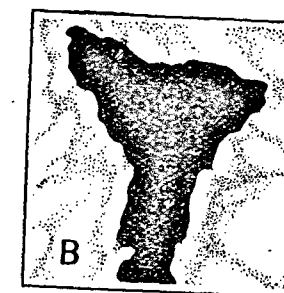
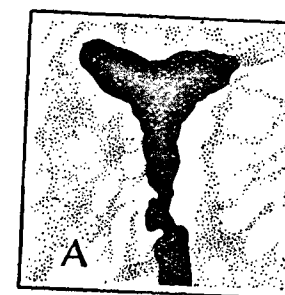
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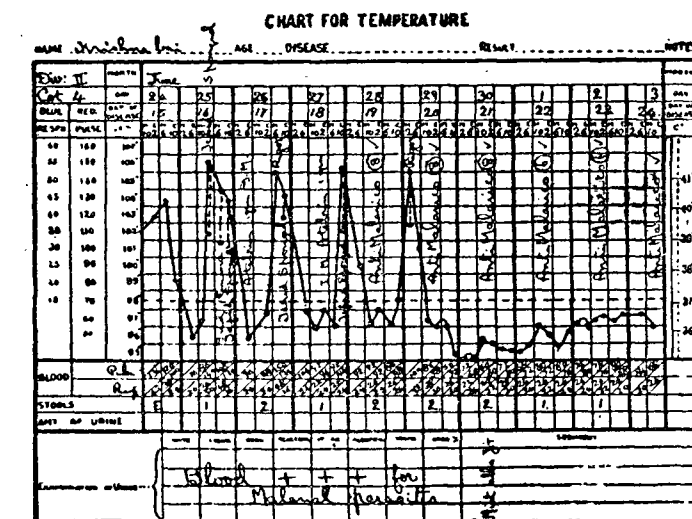
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2. The types of movements observed.
3. The paths of its progression.
4. The relation of time to those movements.
5. Other changes observed in the bacillus during progression.

We began to observe the movements at 2-35 p. m. and continued to watch the progression to the periphery till 3-30 p. m. when the field somehow got disturbed and could not be re-located till 4-20 p.m. At 4-20 p. m. the bacillus was found lying in a state of non-motility nearly a quarter radius of the field ($\frac{1}{4}r$) beyond the periphery in the direction of 12-30 o.c. and we made ourselves sure of its identity by taking into account its morphology, the land-marks in the field, the distance it could have traversed in the interval and the absence of any other T. B. in one full radius range of it.

After that, several slides were prepared from the same patient and stained as far as possible "under the same conditions" and search made for a motile bacillus but though the slides abounded in dead T. B., despite a diligent search, no living member could be found till the morning of the 4th February when again fortunately sputum from the same case brought us face to face with a motile stained bacillus. The movements were noticed at 10-30 A. M. and the progression watched and as soon as the periphery was arrived the bacillus was again brought to the centre and so on. The bacillus came to a final standstill at 11-23 A. M. after giving us ample chance to study it.

Morphology of the Motile Bacilli

Both the motile bacilli were thin and long, beaded in appearance, acid-fast and of human type. They were morphologically indistinguishable from other Tubercle Bacilli in the slides, which were found lying singly or in small groups scattered throughout the various fields. The bacillus encountered on the first occasion was a bit longer than the other bacilli in that slide and consisted of 3 dotty and 2 roddy beads with a tiny clear space in the middle. It presented the appearance of two small bacilli lying end to end but as the two segments exhibited progression together, it was taken as one bacillus (might be in a process of transverse division.) The second bacillus was of the same size as other T. B. in the slide and consisted of 3 roddy beads.

No flagella were detected.

Types of movements observed.—The motility exhibited by the

two bacilli was of such a definite character that it could not have been an artifact. We are convinced of its vital nature and our scepticism has melted away.

The following factors were noted in single or in various combinations to constitute the observed movements:—

- (1) To and fro gentle lashing.
- (2) Rotation on its centre.
- (3) Curving to one or the other side with one half fixed, approximately forming letter C.
- (4) Simultaneously curving of both ends in opposite directions, approximately simulating the form of S.
- (5) Bending to an obtuse angle (observed only in the first bacillus).
- (6) Sometimes getting thick and short to nearly $\frac{3}{4}$ of its original length (associated with disappearance of the beaded shape).
- (7) Sometimes getting thin and longer to nearly $1\frac{1}{2}$ of its original length.
- (8) Fanning with front or back half with the other half fixed in the same plane.
- (9) Fanning with one half in one plane and the other half fixed in another plane.
- (10) Quick writhing motion and suddenly becoming a thick elongated dot, and then quickly regaining its long form (only observed in the 2nd bacillus.)
- (11) Progression.
- (12) Changing directions.
- (13) Movements in vertical depths *i.e.* getting out of focus sometimes. Sometimes found in the same plane as other fixed T. B. and sometimes focussed in a plane where other T. B. could not be seen.
- (14) A blast of wind from the window quickly glided the 2nd bacillus in less than a minute through $\frac{1}{3}r$ of the field. (This movement may be mechanical).

Paths of progression

The 1st bacillus moved from centre of the focus towards the periphery in the direction of 2 o.c. and reaching the junction of outer $\frac{1}{3}$ and inner $\frac{2}{3}r$ of field began to move a little backwards and inwards and then again towards 1 o.c. of the field where it was lost at periphery and later found dead lying approximately $\frac{1}{4}r$ out of periphery in the direction of 12-30 o.c.

The 2nd bacillus moved from centre to 7 o.c. of the field and reaching the periphery was brought back to centre wherefrom it moved towards 6 o.c. and had just reached the junction of upper $\frac{2}{3}$ and lower $\frac{1}{3}$ of the field radius when it was hastened by a blast to periphery, wherefrom for the second time it was brought to centre and it moved through a curved path towards 8 o.c. and came to a standstill after rotating on itself in that radius approximately $\frac{1}{4}$ distance from the centre. No shaking of slide or tapping of table could make it move any more.

Time factor.—The path of progression and time relations to those movements are represented in the accompanying diagrams. Radius of the field is taken as a unit and measurements in its fractions are nothing but approximate.

1st bacillus:—1st 25 mts— $\frac{2}{3}r$ i.e. $\frac{2}{75}r$. per mt.
next 20 mts— $\frac{1}{2}r$ i.e. $\frac{1}{40}r$. per mt.
next 7 mts— $\frac{1}{6}r$ i.e. $\frac{1}{42}r$. per mt.

2nd bacillus:—15 mts $\frac{1}{3}r$, 10 mts— $\frac{1}{3}r$, 5 mts— $\frac{1}{3}r$,
8 mts— $\frac{2}{3}r$.

It is clear that though in the 1st bacillus movements proceeded at more or less a uniform pace, in the second bacillus the rate has been quite irregular. Obviously it would be futile and in fact ridiculous on our part to infer velocity or rate of progression from the meagre data at our disposal.

Viability

In the case of the first bacillus it is hard to make out exactly the time it lived as a stained specimen, for it was missed at 3-20 p.m. and found dead at 4-20. Taking into consideration the path it had traversed in the interval, one can say approximately that it must have died sometime in the vicinity of 3-45 p.m. Thus it lived one hour and ten minutes in the slide to which time can be added another 10 minutes for staining and spotting. The second bacillus lived 53 minutes under the microscope.

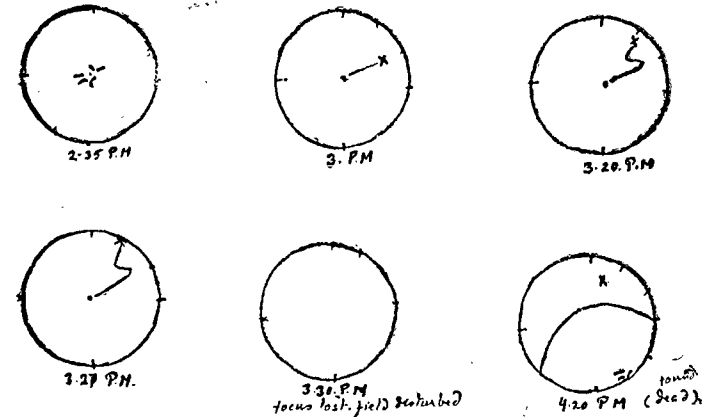
Other changes observed in the motile bacilli.

The second bacillus was mainly submitted to this scrutiny.

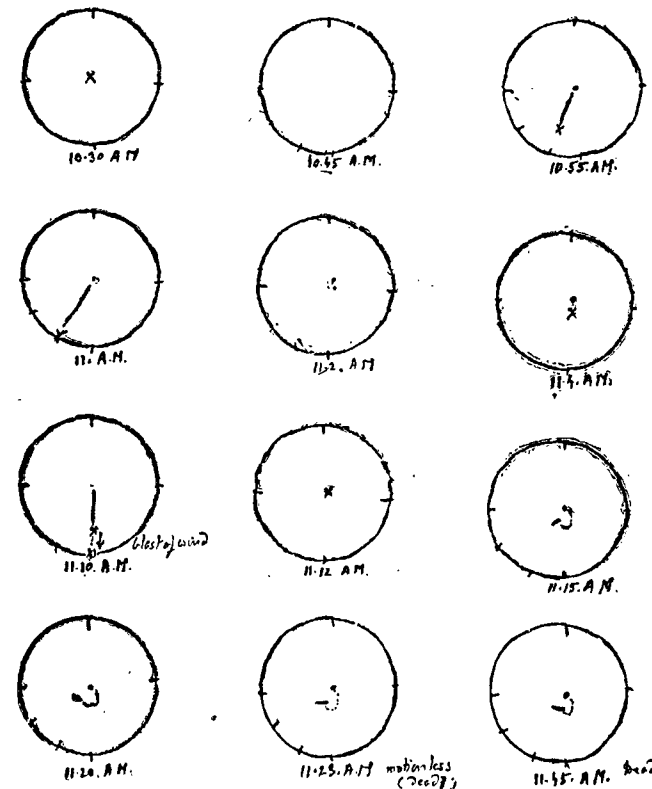
- (1) Variation in depth of stain with changes in length during movements—getting more deep red when short and thick than when long and thin.
- (2) When motile (2nd Bacillus) consisting of 3 tiny roddy dots with intervening spaces; when dead each rod looking bit longer and somewhat dumb-bell shaped.

Motile Tubercle Bacilli under Microscope (R.L.S.).
(Location & Time relations).

1st Bacillus (31-1-35)



2nd Bacillus (4-2-35)



- (3) The dead bacillus looked longer as a whole than when alive.
- (4) The stain became slowly darker and darker with the progress of movements and in the dead bacillus the stain was of definitely much darker hue than when the bacillus was first observed moving.
- (5) When living the bacillus was found moving in different planes *i.e.*, sometimes in the same plane as other dead bacilli and sometimes not: when dead fixed in the same plane as others.

These are in brief the facts that came under our observation and we are recording these to be criticised or later on confirmed by observations of the better located than we. Being perfectly conscious of the storm of criticism that would have to be faced with the announcement of this finding, no less than 6 other medical persons were invited to witness the motility in the bacilli. Though no adequate explanation could be offered to explain the way the bacilli escaped death though got stained, yet all attested to the observed facts that:—

- (1) the bacilli were stained T. B. or microscopically indistinguishable from T. B.
- (2) that they were vitally motile.

While making this announcement two difficulties of practical importance present themselves to our mind and these are:—

- (1) How did the two bacilli escape the destructive action of the staining method?
- (2) In which space did the bacilli move in the film?

Though difficult questions, answers to these are conceivable.

We are only sorry that we had not at our disposal a microscope camera to take a moving picture. Further investigation on the subject is proceeding and will be announced in due course.

Summary

Motility observed in two bacilli indistinguishable from Tubercle Bacilli under microscope is put on record. The various movements observed with the path of progression and time relations are described.

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Medical College, Patna.

Headache*

BY

RAM KISHAN HANDA, B.Sc., (Hons.), M.B., B.S., L.O.,

Radiologist, Eye, Ear, Nose and Throat Specialist, Massy Gate, Rawalpindi.

MY plea in taking up this subject for discussion is that this is one of the most common of ailments, yet the patients' demand for one anna worth of headache cure and the dispensation of the same by a chemist or even by a fully qualified general practitioner from his private dispensary, finishes the whole story about its aetiology, pathology, diagnosis, treatment etc. If this my short paper goes a little way in stimulating you to a little more consideration of this ailment I shall feel amply recompensed for my labours.

Headache, as every one of you knows, is rather a symptom in numberless diseases, than a disease by itself. It is met with in the following diseases:—

- (1) *Diseases of the Brain*:—Tuberculous meningitis, acute cerebro-spinal meningitis, haemorrhagic pachymeningitis, serous meningitis, acute febrile polyneuritis, cerebral abscess, softening of the brain, tumours of the brain, cerebral syphilis, acquired hydrocephalus, anaemia of the brain, traumatic neuræsthenia.
- (2) *Digestive System*:—Acute gastritis, chronic gastritis, constipation, acute yellow atrophy of the liver.
- (3) *Cardiac diseases*:—Cardiac hypertrophy, aortic incompetency.
- (4) *Diseases of the blood*:—Anaemia, chlorosis, pernicious anaemia.
- (5) *Kidney diseases*:—Uraemia, chronic interstitial nephritis.
- (6) *Endocrine diseases*:—Acromegaly, Addison's disease, myxoedema.
- (7) *Infectious diseases*:—Cerebrospinal fever, hay fever, malaria, pneumonia, smallpox etc.
- (8) *Systemic diseases*:—Gout, arrhythmia, osteitis deformans, migraine.
- (9) *Diseases of the Eye*:—Glaucoma, corneal ulcer, iritis, iridocyclitis, refractive errors.
- (10) *Diseases of the Nose*:—Paranasal sinusitis.
- (11) *Throat Diseases*:—Adenoids.
- (12) *Alcohol headache*.

* Specially contributed to 'The Antiseptic'.

Pathology of Headache and Diagnostic Hints

1. The seat of the origin of headache may be the skin of the scalp itself. It is easy to recognise this, because of the local pathological conditions which can be easily demonstrated if the physician simply cares to look for it. Moreover, the symptom in this condition is more of a local pain, than what is our actual conception of headache.

2. The pain may be due to the inflammatory condition of the superficial cutaneous nerves distributed over the scalp-neuritis. This results from an exposure to the cold blasts particularly in patients of rheumatic tendencies. If the scalp area is palpated carefully one finds that the course of distribution of the pain is along the course of the nerves.

3. Again, pain in the nerves may be a reflex, the reflex originating from the teeth, paranasal sinuses, or the orbit and its contents. Such pains are first felt locally at the root of origin of the reflex, then along the nerves that supply these organs, then along that particular division of the trigeminal nerve which sends its branches to the organ, then along all the divisions of the trigeminal nerves, and lastly even to the fibres of the neighbouring nerves. The character of such pains is shooting, just as is the case with all nerve pains.

4. The pain may be located in the extracranial muscles and facia, that is to say, it may be myositis and fibrositis. In such rare cases, the cause again may be rheumatism. On palpation the whole of the scalp may be sore and tense and all movements active or passive of the muscles aggravate the pain.

5. The pain may be located in the paracranium. This is most commonly syphilitic and is aggravated while warming in bed.

6. Syphilitic and tuberculous caries of the cranial bones may also be the source of pain. Diagnosis is easy.

7. The pain may originate in the meninges. This is the most common seat of pain in the head, meninges are very sensitive to intracranial pressure. When the pressure is increased or on the other hand when it is decreased, in both cases, dragging of the meninges is brought about. Hence the pain. Inflammatory conditions of the meninges also cause pain. Such pains are throbbing or bursting in character. In case the pressure is generalized the pain is felt all over the scalp. But in case the increase of pressure occurs only in one of the cerebral compartments, the pain is localized only on the area above it. Headaches due to the increase of intracranial pressure are relieved by the decrease of

pressure. They are aggravated by all those factors that tend to increase the pressure, as for example, sneezing, coughing, stooping and physical exertions.

It is not possible for me to deal with all causes of headache. I shall therefore confine myself to a selected few.

Headaches of Nasal origin

Headaches of nasal origin are most often referred pains through the branches of trigeminal nerves. The reflexes arise as follows :—

- (1) By irritation of the nerve terminals in the mucosa lining the nasal cavities or the para-nasal sinuses. The irritating agent may be :—
 - (a) Product of disintegration of the purulent material.
 - (b) Toxic matter produced by the infecting micro-organisms.
 - (c) Pressure on the nerves exerted by the inflammatory swelling of the mucosa.
 - (d) Pressure exerted on the nerve terminals on account of the mucous membrane from one side of the nasal cavity coming in direct contact with the opposite wall *e.g.* of hypertrophied turbinates on the deflected septum.
 - (e) From ulceration of the mucous surface.
 - (f) Irritation of the nerve terminals may also be brought about in consequence of the vacuum produced in a sinus cavity when the air contained in it gets absorbed and the fresh air cannot enter on account of the blockade occurring at the ostium of the sinus by inflammatory swelling of the mucosa.
- (2) Pain may also arise from disturbance of blood and lymphatic circulation occurring in the basal meninges on account of the close proximity of the sinuses in which acute exacerbations of the chronic inflammation occur.

Diagnosis

1. Frontal sinus pain is limited to the supra-orbital region and is remittent in character. It has an almost regular periodicity. The patient awakes from sleep with headache. The intensity of pain gradually diminishes and then ceases altogether in a couple of hours. This is because in the erect posture maintained during the day time by the patient the frontal sinuses are in the most favourable condition to drain.

2. A dull pain between the orbits is significant of ethmoiditis and is accompanied by a sense of weight over the vertex of the scalp. These sinuses also drain in the erect posture.

3. Pain originating from the sphenoid sinuses is most excruciating and extends through the temples to the vertex. Discharge is favoured in the erect position. Besides, in this case there is often subjective appreciation of bad odour.

4. In acute maxillary sinusitis the pain is felt in the region of the sinus, but in chronic sinusitis it is felt along the distribution of the supra orbital nerve. In this condition the drainage is favoured in the lying down position.

Inhalation of steam or cocaine and adrenalin spray allays the pains of sinus origin, since they contract the mucous membrane, open the ostia, and consequently allow free drainage of the pent up secretions.

Headaches of Ophthalmic origin

1. *Glaucomatous headache*: In acute glaucoma it is easy to recognise. The condition is rather a referred pain. In chronic glaucoma when there are no local signs, history would help much. The pain comes on in the after-noon and ceases with the sleep. Myosis, the state of pupil during sleep—is the chief factor in the relief. Disturbance of visions, haloes round the lights, excitement etc. as for example during a visit to the pictures bring the pain on.

2. Error of refraction and disturbance of the muscular equilibrium bring about headache after prolonged exertion and are seldom present on waking in the morning. Slight error of refraction and a trivial muscular imbalance causes persistent headache; because the eyes are put to constant strain to avoid diplopia. Nature cannot tolerate diplopia, to avoid it, irregular muscular efforts are brought into play. When such efforts fail to achieve this object, the image begins to be suppressed. Then the pains also cease.

Migraine

Migraine is characterised by recurrent intense headache often associated with vomiting and a peculiar disturbance of vision called the aura, as an aura only a slight confusion of vision is most common. The rest of the conditions e.g. transient attacks of aphasia, hemiplegia, ophthalmoplegia etc. are extremely rare.

Migraine is usually met with in early youth, tends to diminish in severity after the middle age and frequently disappears in old age.

Pathology is unknown but there are a number of explanations.

- (1) It is said that it is due to paroxysmal distension of the lateral ventricles due to congenital abnormality of the Foramen of Monro.
- (2) In a small minority of cases it may be due to focal infection of the para-nasal sinuses.
- (3) Error of refraction has been found to be the determining factor in certain cases.
- (4) Then there are protein sensitivity, alimentary toxæmias etc.
- (5) Dr. Thompson of Birmingham mentions a few cases. All were females. The attack had some relationship with the menses. In those cases the headache disappeared during pregnancy.

In text books of Anatomy diaphragmatic sella is described as a fold of duramater which almost completely roofs in the pituitary fossa leaving only a central aperture through which the Infundibulum passes. As a matter of fact such a condition is only a rarity. In a very great majority this diaphragm is only represented by a crescentic fold of the dura stretching only between the clinoid processes. It is only in rare cases that this fold completely roofs in the pituitary body and it is in such cases that migraine seems to occur.

Menses has a definite relationship with the pituitary body. During this period it becomes hyperactive and swells. This swelling produces tension on the diaphragm and hence the headache.

Evidently therefore anything that prevents this distension of the pituitary body will relieve the headache. Injections of the extracts of the anterior lobe will replace what would otherwise have to be produced by it. Hence anterior pituitary extracts Theolin, ovarian follicular hormones etc. relieve in certain number of cases.

The aura and other eye symptoms can be explained by the fact that the nerves going to the eye lie in close proximity to the pituitary fossa. Pressure on the internal carotid artery gives rise to distal spasm on the cortex and the meninges and cause the aura.

Skiagrams of the pituitary fossa in certain cases revealed the calcification of the diaphragm. I should therefore suggest an X-ray picture as one of the resorts in the matter of diagnosis.

Diseases of the Kidneys

Diseases of the kidneys lead to general high blood pressure

Although this does not lead directly to the rise of intracranial pressure also, yet it perhaps leads to increased secretion of the cerebrospinal fluid. Hence the tension in the meninges and the consequent headache.

In uraemia the headache is persistent in character and there are temporary exacerbations. Pain is deep seated and boring in character.

Investigation in a case of headache is never complete without the examination of urine.

Diseases of the Digestive system

Among the diseases of the digestive system, constipation is perhaps the most common cause of headache. Constipation leads to autointoxication, which in turn leads to changes in the intracranial pressure. Opening of the bowels and particularly the passage of flatus is followed by relief of headache. Such headaches are throbbing in character. Beating of the heart produces alternate rise and fall of the intracranial pressure.

Diseases of the Brain

1. *Cerebral tumours*.—These tumours lead directly to raising of the intracranial pressure. Hence lumbar puncture relieves such headaches. The headache is continuous, dull aching.

When the tumour is in the posterior fossa the pain may extend down to the neck. When it is in the anterior fossa it may be accompanied by neuralgic pains in the face. The optic neuritis and vomiting which has no relationship with meals are the diagnostic signs.

2. *Cerebral abscess*.—Headache may or may not be present. It may be severe or dull. All this depends upon the situation of the abscess.

3. *Cerebral syphilis*.—Gumma is the chief form of cerebral syphilis in which headache occurs. Symptoms are the same as those of the cerebral tumours.

4. *Tuberculous meningitis*.—This disease is common only in children. The headache is continuous and is accompanied by fever characteristic of tuberculosis.

5. Mental worries, cares, neurasthenic conditions are also common causes of headache. In such cases the headaches are relieved by the change of environments, freedom from worries, anxieties and rest. The treatment should be tried for months.

Next I append a number of questions which should be put to the patient by the practitioner to facilitate the diagnosis.

1. Where do you feel pain?
2. When do you feel the pain?
3. Is the pain continuous or remittent? In the latter case enquire when does it come about and when does it cease.
4. What is the character of the pain?—throbbing, bursting, splitting, shooting, dull, heavy will describe the pain.
5. What factors aggravate and what relieve the pain? Put some leading questions to elicit the answers.
6. Enquire about any symptoms of cerebral disorders which may suggest a focal lesion *e.g.* difficulty in speech, numbness, visual disturbances etc.
7. Any history of head injury, a skiagram will help.
8. History of syphilis and Wassermann's test.
9. Enquire about any history of the middle ear disease and have a clear look of the tympanic membrane.
10. Then investigate the ophthalmic conditions and errors of refraction. As already explained slight errors are more prone to cause headache.
11. Then examine the urine.
12. Enquire about any aura also.

CASES AND COMMENTS

Two Cases of Pneumococcal Meningitis

One Primary and the other Secondary

BY

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Case 1.—A female of about 50 years of age was admitted to hospital in a stuporous condition, she could be aroused by shaking, but no history could be obtained from her. A history of fever for three days and nose bleeds for one day and unresponsive for five hours was obtained from the servants.

On examination the patient was a well developed, well nourished middle aged female rather restless, with dried blood about lips and nose, a large bruise at the root of the nose, left temple, inner side of left elbow, left knee and on right knee cap. The pupils were pin point in size, no reaction, fundi were normal, neck muscles very rigid, Kernig's sign was negative on

both sides, no alteration in reflexes. Temperature 102° F. pulse 124, respiration 34. When aroused she asked for water and complained bitterly of pain in the back of her neck and frontal headache.

Laboratory reports of blood smear, no abnormality except a leucocytosis of 75%. Cerebro-spinal fluid showed pus cells, and pneumococci in excess. The patient died suddenly 18 hours after admission.

The interesting factor in this case is the confused history, the bruising led one to believe it to be a case of injury, either meningeal hæmorrhage or skull fracture. Also there was no previous history of any foci of pneumococcal origin. The bruises, we learned later, were due to a fall the day before admission.

Case 2.—A baby of 1½ years was admitted to hospital with the following history from the mother, pneumonia 13 days before fever for 3 days, constipation until 2 days previous, then diarrhoea with about 8 motions in 24 hours. Temperature 103.4° F. pulse 156, respiration 58.

On examination, the patient was a well nourished, very pale, irritable baby girl. The muscles of the face twitched, pupils were dilated and reacted sluggishly to light, fundi were negative, the neck muscles stiff, Kernig's sign was negative, slight increase of tendon reflexes, frontal sinus was tense and pulsating.

Laboratory report of the blood showed Hb. 30%, total white count 6,400 red cells anaemic with anisocytosis, poikilocytosis, and pessary forms in excess. Urine showed hyaline and granular casts, red cells, and coliform bacilli. The baby was treated with calcium, iron, liver and diet for 1 week when the parents took the baby home. The condition showed some improvement, the twitching stopped and the irritability was less.

Ten days later the baby was seen in convulsions and calcium and parathyroid were given with no relief, the next day a spinal puncture was done, the fluid was under pressure, turbid, and cytology showed pus cells and pneumococci. The baby died the next day.

Here again the history was confusing because of the extreme anaemia and irritability. In both cases the diagnosis was completely overshadowed by other prominent symptoms.

A Bountiful Freak of Nature and A Pathological Enigma

BY

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IN making a report of the following two cases, I may be permitted to point out at the very outset that I do not pretend to bring before the members of the medical profession anything of positively educative value. My only claim to being allowed a few columns in this journal is that the cases under report possess certain rare and curious features that cannot fail to provoke imagination in the thoughtful reader.

The first case which I have characterised as a bountiful freak of nature relates to a patient who consulted me a few weeks ago about 2 abortions she had, one closely following the other. She was then 19 years old. She was married a year ago and she became pregnant two months after the marriage. When the pregnancy had advanced 2 months, she had her first abortion. Thereafter for five months her period were quite regular. Then she missed 2 periods, but as before aborted again when she was pregnant 2 months. It was a month after this second abortion that she consulted me and forthwith she was admitted into the hospital.

On examination, curiously enough, were discovered 2 vaginal openings, of which the left was smaller than the right, and each opening, separated by a septum, led to a cervix of its own. Here, therefore, was a rare instance of double-uterus.

A week hence she got her menses, the discharge being from the left uterus, which on manual examination was, however, found to be the smaller of the two. It was, indeed, too small to allow a speculum to be introduced into, but the right one was of normal size.

Since the two previous abortions took place naturally and without any trouble, it is presumed that the conceptions had taken place in the bigger uterus. But since the patient gets her menses regularly once a month, and the discharge was now discovered in the smaller one, it has to be argued that both the uteri are functioning alternately.

The patient, though discharged for the present, has been instructed to return when she gets her next period, to see which uterus would function this time.

On the whole, this case promises to be a worthy subject of observation and study.

The second case was that of a patient 24 years old admitted into the hospital for a tumour in the lower abdomen, with extreme anaemia and swelling of both the upper and lower extremities and joints.

Some eight years ago the patient began to get occasional pain in the abdomen. She also began to lose weight and turn anaemic. She came of age at 14 and thereafter her periods had been quite regular. She had undergone various treatments for the tumour, and swelling and pain, before she consulted me; but to no purpose.

The patient was kept in the hospital for a month, and first treated for anaemia and swelling: but no improvement was made. She was then operated upon, when a tumour of the Omentum was discovered. It was of the size of a big cocoanut, with dilated blood vessels of the thickness of a thumb, and filled with a mucilaginous fluid.

Strangely enough, the third day after the operation the swelling of the extremities disappeared and the patient was discharged in time, completely cured. She is now quite healthy and strong without any trace of complaint.

Now, how could tumour of the lower abdomen cause extreme anaemia and swelling of the upper extremities?

A Few Facts Regarding Cerebro-Spinal Fever

as seen amongst the patients of the Campbell Hospital, Calcutta

BY

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THE disease is distributed in a sporadic manner all over the city including the suburbs. But the number of admissions is seen to be more from the Manicktolla and Kidderpore sides. The disease is more seen among the labouring class of people, hailing from the upcountry. These people generally live in ill-ventilated and overcrowded bustees at Calcutta. The peculiar feature of this epidemic is that it spreads in a locality in a different way as compared with other epidemic diseases. The disease is constantly present throughout the year, but the distribution is always scattered throughout the length and breadth of the city. We could not gather any information, that more than one person

has ever been attacked simultaneously in the same house, nor in two contiguous houses, of the same locality. We think that the incidence of the disease depends more or less on the susceptibility of individual persons. There are in the community a certain percentage of people who are liable to catch the infection more easily. When other circumstances are favourable, the meningococcus gets a firm footing in the soil of such susceptible hosts for its growth and development. We think that the disease is not very contagious, as shown by the absolutely lack of accidental infection amongst the workers, who come in close contact daily for hours together with the patients.

The disease is more prevalent during the winter months and the number of admissions is maximum during the month of February. The incidence of the disease is highest between the ages 15-35 years and the mortality is also highest during this age group. The disease is most fatal in old people over 50 years. The incidence of the disease in infants with post-basic involvement is not common here.

The onset of the disease is sudden in the majority of cases. The man was feeling allright and there were absolutely no premonitory symptoms; he becomes acutely ill all on a sudden and he is down with high fever, accompanied by rigor, maddening headache and vomiting. Unconsciousness sets in quickly and the patient is boisterous and delirious. Stiffness of the neck may not be marked and the signs may not point towards meningitis. But dilation of the pupils with congestion of the eyes, profound toxæmia with marked prostration and unsteadiness of the nervous system are the most prominent signs. Kernig's sign may or may not be present but Brudzinski neck sign is present in the majority of cases. Stiffness of the neck may be absent or very slightly present but pain in the sub-occipital region is more constant. Such cases belong as per our classification to the most severe fulminant type and the patient is generally carried off during this initial stage of septicæmia, generally within 48 hours, if no improvement follows after lumbar-puncture and serum administration. The signs appear to be generally extrameningeal because the patient is in the initial septicæmic stage and the final metastasis of the meningococci to the cerebrospinal system has not yet set in.

The diagnosis of cerebrospinal fever with such extrameningeal signs and symptoms is therefore extremely difficult clinically but it can at once be settled if immediate blood examination and lumbar-puncture are done. The blood picture will show a high

leucocytosis (25,000—30,000) with a marked increase in the percentage of the polynuclears to about 80—90%. The lumbar-puncture fluid will be turbid or hazy in appearance and the cerebrospinal fluid will be found to come out under great tension.

Majority of the admissions in our hospital belong to this hyper-acute or fulminant type which is responsible for the high mortality figure of about 60%. The mild cases do not usually come in the hospital and are probably treated as influenza outside, and all cases belonging to this type generally recover after two or three lumbar-punctures, in our hospital. The chronic cases are really troublesome patients, they become, so to call, living skeletons and the majority are carried off by intercurrent complications. Sometimes, this chronic state suddenly flares up into an acute condition, which is really interesting and dreadful. This acute flaring up seems to be due to an intermittent discharge of meningococci which were so long living within the locked-up pockets inside the meninges and this recrudescence usually terminates in fatality. We have done a few blood cultures during this stage and almost all of them have shown positive growth of meningococcus. Sudden deaths in convalescent patients, though very rare have been seen in our hospital.

The patient was definitely improving day by day and convalescence was found to be well established. He was allowed a full diet and to move out of bed; we were contemplating to discharge him from the hospital as cured but to our utter surprise we found one day that he had become suddenly worse again. Acute bursting headache was complained of and the patient became unconscious and delirious, even convulsions were sometimes seen. The tension and volume of the pulse were seen to be extremely low and the patient usually developed respiratory embarrassment with cyanosis and profuse sweating and died within a few hours. This seems to be due to a sudden and direct effect on the vital centres by the meningococci or their toxins.

There are two diseases which are commonly mistaken as cases of cerebrospinal fever and instances are not rare when cases are admitted as such from the out-patients department. But on thorough investigation of such cases in the ward, they are found to be otherwise. These two diseases are, malignant tertian Malaria and Lobar-pneumonia. They sometimes simulate exactly the typical picture of epidemic cerebrospinal meningitis.

(To be continued.)

Three Cases of Krait Bites

Treated Successfully with Chloride of Gold and
Potass Permanganas

BY

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SINCE middle of June to middle of July 1935, I had the chance to treat three cases of snake bites, two of which (1st and 3rd cases) were definitely known as Krait bite cases as the snakes were seen by the victims immediately after they were bitten by them and in one case (2nd case) the snake was not known, but the signs and symptoms convinced me that it was a case of Krait bite. In all the three cases fang marks with ecchymosis were clearly visible. Their details are as follows:—

Case 1.—A Hindu male aged about thirty years, named Basdeo was brought to the hospital on the 19th June, 35 at about 8 p. m. for treatment of snake bite. He told me that he went to answer the calls of nature and as he was coming back he was bitten by a snake. It was a bright night and he could see a blackish snake with white dots, so he took it to be a Krait. Immediately after the bite, he tied a ligature strongly on the bitten toe and came straight to the hospital. He showed me two fang marks with ecchymosis and blood drops on the tip of his right second toe and said that the incident might have happened 15 minutes before. He complained of giddiness and of strong sensation. His description and the symptoms gave me reasons to believe that he was bitten by a Krait. At first, I gave a subcutaneous injection of a sterilised solution of potassium permanganate ($\frac{1}{2}$ gr. in 2 c.c. distilled water) at the seat of bite and fifteen minutes later, I gave 1 c. c. of a 10 % solution of Chloride of gold intravenously. After the first injection, when the ligature on the toe was removed he fainted but soon came to his senses and no further trouble developed. After the second injection his burning sensation subsided and though he had no further trouble, he was detained in the hospital for the night and in the next morning he was discharged as cured.

Case 2.—A Hindu girl aged about 15 years, named Meto was brought to the hospital on the 23rd June at 3 a. m. for treatment of snake bite.

She was brought in an apathetic condition. Nausea with

profuse salivation and paralysis of the tongue and larynx supervened. Eyelids drooped down, pupils contracted and paresis marked on both the legs. Two fang marks with ecchymosis were clearly visible with blood drops on the dorsum of the right palm. On enquiry, her relatives told me that the girl was sleeping on the floor on a mat and she woke up when she was bitten by a snake and cried that she was feeling a burning sensation on her right hand, probably being bitten by a snake. Seeing that she was growing senseless, they carried her on their shoulders to the hospital. During admission she could answer my question with difficulty and on asking she complained with a nasal voice that she was feeling an extensive burning sensation extending from the seat of bite towards her shoulder and the chest. She also complained difficulty of respiration and of swallowing. Her symptoms indicated that she had been under the toxic action of venom and as the snake was not known, from her symptoms I took it to be a case of Cobra bite (Colubrine poisoning). I therefore injected 40 c.c. of antivenin serum (made at Kasuli) at 10 c.c. doses after every 15 minutes intravenously. This treatment did not bring the desired effect and her condition became more serious and her respiratory difficulty was increasing more and more. Under such a condition I took the chance to treat her with chloride of gold and potass permanganas, as, in the first case these two drugs were efficacious. Therefore, I injected 1 c.c. of 10% chloride of gold solution into the vein and noticed perceptible improvement in her condition within half an hour. I then injected subcutaneously into the seat of bite a sterilised solution of potass permanganate ($\frac{1}{2}$ gr. in 2 c.c. of distilled water). A little after the last injection, she began to talk and her paralytic symptoms gradually subsided. Within two to three hours she regained her senses and fully recovered when she returned home as cured. Her relatives reported to me that on reaching home she had no further trouble.

Third case—Shrini, a Brahmin male of 20 years, was bitten by a snake on the 9th July. I was called at 2 A.M. to attend the case at his house which was in the vicinity of the hospital. On my arrival I saw that a ligature was tied strongly on his right upper arm a little above the elbow joint. He showed me two fang marks with ecchymosis and blood on the tip of right little finger, and complained of an acute burning sensation and a nauseatic tendency. He also told me that he saw the snake when it was disappearing and it was a Krait. I at first injected subcutaneously a sterilised solution of potassium permanganate ($\frac{1}{2}$ gr. in 2 c.c. of distilled water

into the seat of bite and 1 c.c. of a 10 % solution of chloride of gold into the vein. The two injections were given at an interval of half an hour. After the first injection his ligature was removed and with its removal, he vomited a little quantity of gastric fluid and the nausea became more intense. With the injection of chloride of gold, his burning sensation and nausea subsided. After these injections he had no further trouble and no further action of venom toxin was developed. In the morning he came to the hospital and he saw me in his normal health.

Summary.—In the cases Nos. 1 and 3 the snakes were known as Krait while in case No. 2 the snake was not known. In the former two cases, the absorption of venom was retarded by ligatures, being tied around the limbs a little above the seats of bites. Thus in both the cases fibrine ferments were localized and the venom had not the chance to preponderate general neurotoxins. The injection of potass permanganas into the seat of bite destroyed the venom toxin being oxidised. If any toxin was absorbed into the system, the injection of Chloride of gold neutralized that. In the second case, no ligature was given; so the venom being unopposed was generalized in the system very quickly, which caused the symptoms of neurotoxin, for treatment of the case at first I tried with antivenin serum, supposing it to be a case of Cobra bite. Prior to it, I had the chance to treat successfully one case of Krait bite with potass permanganas and Chloride of gold, which struck into my mind to try those drugs in this case. I therefore injected potass permanganas and Chloride of gold in this case as well which neutralized the toxin even after such a length of time. The desired effect of potass permanganas and Chloride of gold and for the reason that Krait is a common species of snake in this country, I took the case to be also of Krait bite. Having received three cases within a month's time and by treating them successfully with potass permanganas and Chloride of gold, I have come to the conclusion that these drugs for their caustic action might have neutralizing power of Krait venom.

Report on Two Cases Treated with Gadil Calcic Wassermann

BY

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Bangalore

Mr. K., Age 25, had suffered from low evening rise of temperature for six months before he came under my treatment. Weight 98 lbs. Anaemic, and generally run down although there was not marked emaciation. Normal weight before the evening rise of temperature was 118 lbs.

On examination, moist rales were found at the apices of both lungs and in the inter-scapular regions behind. Rest of lungs no abnormal sounds. Diagnosed as Incipient T. B. Von Piquet skin test gave a doubtful positive reaction.

Was given bi-weekly injections of Gadil Calcic 2 c.c. ampoules, switching on to the 5 c.c. ampoules after the first three weeks. Fever began to subside slowly and weight to rise until at the end of six weeks' time the fever had stopped, and the weight risen to 105 lbs.

Diet.—Mainly eggs, milk, one teaspoonful of brandy, meat soups, cream etc.

Injections bi-weekly 5 c.c. ampoules were continued until about 70 were taken in the course of twelve months. The lung signs had completely disappeared by this time from both sides, and the final weight when patient was discharged from treatment was 126 lbs.

Case of Neurasthenia of a very intense type

Mrs. D. Age, 45. weight 84 lbs. Intense Anaemia. Had been unable to sleep for months when she first came under treatment, had been given Medinal and Adalin almost every night for sleep for months. Was having a nervous diarrhoea.

Gadil Calcic Injections were started with the 5 c.c. ampoules straightaway. Began to get natural sleep after the third injection (given bi-weekly), and has been sleeping well ever since. There was no need to give a single dose of sleeping draught. After twenty injections, the weight had risen to 98 lbs. after which the patient stopped away from further treatment.

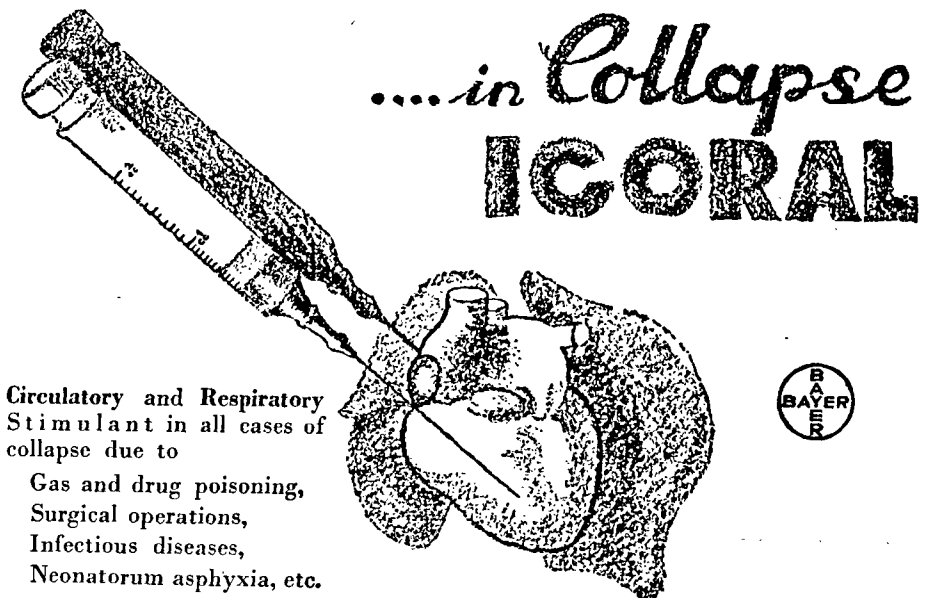


In Œdema 'SALYRGAN' (a mercurial diuretic)

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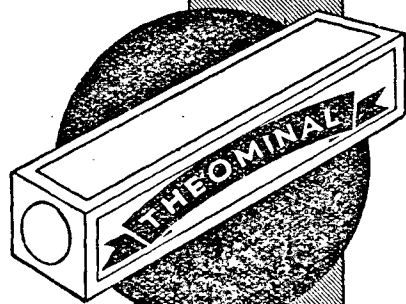
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ESTD. 1904.

A Monthly Journal of Medicine and Surgery.

Editors: Dr. U. RAMA RAU & U. KRISHNA RAU, M.B., B.S.

Editorial and Publishing Offices:—323, Thambu Chetty St., Madras.

Annual Subscription Rs. 5. Foreign, 10 Sh. Post Paid.

EDITORIAL

King George The Fifth

THE whole world—not merely the British Empire—mourns the death of His late Majesty King George V, which occurred on the 21st January 1936, after a short illness. This tragic event, coming as it did soon after the rejoicings of his Silver Jubilee, which are still fresh in our memories, has heightened and intensified our sorrow. King George V was the greatest and wisest constitutional monarch that ever sat on the British Throne and while, after the Great War—the greatest war that was ever recorded in world's history, ancient or modern, the passions, prejudices and personal idiosyncracies of many a mighty monarch in Europe, have cost them their thrones, the tact, prudence and above all, the overwhelming sympathy of King George V, for the poor, oppressed and down-trodden millions committed to his care, had placed him more firmly on his throne than ever before, "Uneasy lies the head that wears a Crown", so goes the saying, but this was true in the case of Kings two or three centuries ago, who struggled for supremacy over Democracy and not now. If King George V ever felt uneasy during his reign, it was because of the sufferings of his subjects. In fact, his X'mas Message which is quoted here-under gives a glimpse of his true self:—"I am thinking", he said, "not so much of the Empire itself as of the individual men, women, and children who live within it, whether they are dwelling here at home or in some distant outpost of the Empire". His closing words were: "I send to you all, and not the least to the children who may be listening to me, my truest

Christmas wishes and those of my dear wife, my children, and grand-children who are with me to-day." The message was heard throughout the world, and drew for the millions who heard it, a picture of the great ruler as one who cared for his subjects as a father. Apart from sympathy, the entire absence of racial bias was another great characteristic trait in him. He looked upon and treated his black, brown or yellow subjects equally with his white subjects and this endeared him to the numerous coloured races over whom he was destined to rule.

His late Majesty had always a soft corner in his heart for India and the Indians. He visited India twice, once as Prince of Wales, and again as King Emperor. At the conclusion of his early visit, he made the following significant observation:—"I cannot help thinking the more I have heard and seen, that the task of governing India will be mainly easier if, we, on our part infuse into her a wider element of sympathy. I will venture to predict that to such sympathy there will be an ever abundant and genuine response". This feeling was later on reflected by his readiness, rather insistence, to go to India and be crowned, personally and not through proxy, as Emperor of India. India was then on the throes of an intense agitation over the Partition of Bengal, effected by the then Viceroy, Lord Curzon, against public opinion. King George V's timely intervention and advice resulted in the annulment and unsettlement of that 'settled fact', in the transfer of the capital from Calcutta to Delhi and in the creation of Bengal into a Governor's Province. This was a notable example of his sympathy for India and the Indians. During his tour to South India, he lent his name for that portion of the City of Madras, inhabited by the native population and long known by the name of 'Black Town' and got it re-christened into 'George Town', thereby obliterating the racial stigma attached to it. His statue in the busiest and most crowded part of George Town, opposite the Pachiappa's College is a standing monument of his abundant sympathy and absence of racial prejudice, that characterized his reign.

To the Profession of Medicine, King George V was always a sterling friend. Medicine enlisted his interest, not merely because it was one of the great professions, which the occupant of the Throne may be expected to patronize, but because he saw in it an ordered service for the relief of suffering and for research into the causes of diseases. It appealed to the sympathies of a very humane King, and although his name is not associated, as is that of his father, with any medical movement of a significance comparable

to the foundation of King Edward's Hospital Fund, it has been abundantly apparent that in deed as in will, he realised the importance, in all the social history of to-day, which underlies medical service. His deep interest in the voluntary hospitals of the country was manifested in the aegis which he extended to the voluntary hospital movement, where he carried on his father's work, and the fact that during his reign it became as an established tradition that members of the Royal Family should be heads of hospitals; and that the Royal Family should take part in a practical manner in all developments of medical charity.

Such a great and good King-Emperor is no more. We offer our sincere condolences to Her Majesty Queen Mary, to His Majesty, King Edward VIII and the other members of the Royal Family in their bereavement.

The silver lining in the thick clouds that had enveloped the world on that fateful day was the accession of H. M. King Edward VIII as King of England and Emperor of India. His Majesty's first act was to do away with the third person, "The King", and address the House of Commons in the first person singular 'I'. This is significant as it expresses his desire to be one among the people and not above them. His world-wide travel and intimate and first hand knowledge of men and things will, we trust, stand him in good stead and enable him to faithfully follow the footsteps of his illustrious father. We pay our humble and loyal homage to His Majesty's person and throne and wish that His Majesty King Edward VIII, Emperor of India, will live long and happy to rule over us.

The Late Col. Bhola Nath, C.I.E., I.M.S. (Retd.)

We deeply regret to record the death on 31st January 1936, of Col. Bhola Nath, I.M.S., (Retd.), ex-President of the Indian Medical Association, of heart failure, at the ripe old age of 70. He had rendered yeoman services to the cause of medical Profession in India and in his capacity as President of the Indian Medical Association, had toured through Southern India in November and December last, with a view to open more branches of the Association in this part of the country, to enlist members and thus strengthen its numbers. The long train-travel and the extra strain on his depleting energy must have told upon his health and precipitated his death. It may, therefore, be said without fear of exaggeration, that he died in the thick of the fight for the uplift of his professional brethren. His gentle manners,

joyial disposition and persuasive tongue gathered many friends for him, while his frankness and open criticism of men and things created also many enemies. He had the courage of his convictions and always called a spade, a spade. His denunciation of the Indigenous Systems of Medicine as unscientific and empirical, drew forth an outburst of indignation and a storm of protest from the votaries of those systems from one end of the country to the other. Nothing daunted, he stuck to his opinion in his subsequent explanation of his speeches to the public. His intensive and extensive propaganda, at his own expense on behalf of the Indian Medical Association, is a great asset to the Association and his death is therefore an irreparable loss to the Association. We offer our sincere condolences to the members of the bereaved family.

A brief Life-Sketch of Col. Bhola Nath

Born in the Punjab in 1866, a Rajput by caste, Col. Bhola Nath had his medical education in England, where he qualified for M.R.C.S. and L.R.C.P. in 1893. In 1894 he entered the Indian Medical Service and belonged to the Madras Cadre. From 1897 to 1898, he was doing duty in the North West Frontier. In 1899 he went to England on furlough and returned to India in 1901. He was then posted to Kamptee (Central Provinces) and from there he was transferred to Belgaum, where he served till 1902. In 1902, he was posted to Madras as Superintendent, Medical Stores, but as it was done by a mistake, he was asked to report himself to the Surgeon-General Madras, for Civil Duty. But, as Col. Bhola Nath insisted on his being treated equally with the European Officers, in the matter of postings, which the Surgeon-General could not accede to, he was reverted to Military Duty. From 1902 to 1904 he was in Somaliland and from there he was re-transferred to Belgaum in 1905. After serving in this station till 1908, he took furlough to pursue post-graduate studies in England. In 1909, he was posted to Aurangabad. Later, he went to Persia and after serving there till 1913 returned to India and took furlough. He was re-called to duty while on furlough on account of the Great War and served in Rangoon and Burma from 1914 to 1915, when he was ordered to Mesopotamia where he remained till 1919. He was mentioned in the despatches for his meritorious services during the War and was decorated with the title of C. I. E. He was the Chairman of the War Economy Committee appointed during the War. He also served on the Lovatt Committee and was promoted to the rank of Colonel in

1919. From 1919 to 1924 he served on the Selection Committee for the Indian Medical Service. He was the Secretary of the Red Cross Society and St. John Ambulance Association. After retirement he enlisted himself as a member of the Indian Medical Association in 1927. In 1929, he was Chairman of the Reception Committee of the All India Medical Conference held at Lahore. He was elected President of the Indian Medical Association in 1935. He survived his wife by a month.

GLEANINGS FROM MEDICAL PRESS

Surgery

Ingrowing Toenail.---This is a misnomer and a misdescription, as has been pointed out by others. It is only a special disabling variety of paronychia. Even the most advanced forms rarely need any operative interference. Like many affections, the treatment must be carried out with scrupulous care; any let-up is fatal. Place the foot in a bowl of hot boric lotion; prepare a few thin wisps of long-staple cotton wool. Soak one of them in some carbolic lotion of 5 per cent. strength. With the flat end of a probe or orange stick, press the strand of carbolic wool gently in between the nail and the overgrown flesh. Try to do this all round the nail cuticle. Let it stay there for fully ten minutes. The purpose of this is not to kill the germs, because no antiseptic can do that. It will sterilise the surface and put out of action any organisms not ensconced, but the main purpose is to take advantage of the anaesthetic action of carbolic. The next step is to replace the cotton wisp with one dryly impregnated with some antiseptic powder which may in addition be freely sprinkled over the site. This time push the wisp as far under the ledge as the patient's fortitude will permit; but do not be rough. As this operation is repeated, it will be found to be done quite readily without pain of any kind. Again the object of the application of an antiseptic is *not* to kill the invading organisms. They will be destroyed by the overpowering army of defenders, because it is an axiom that no enemy within the gates of a fortress or citadel can prevail against a defence unlimited in numbers and equipment *unless reinforced*.

The barricade of antiseptic wool, so long as it is only lifted momentarily to change guard, will effectually check all attempts

to reinforce the entrapped enemy front line with the breach so closed.

Wrap up the toe in a liberal dressing of antiseptic wool or boric lint. Within an hour or two all pain will have subsided. The dressing must be changed at least twice in the 24 hours. While preparing for this, it is as well to instruct the patient to place the foot in the hot boracic bath which facilitates the removal of the plug and keeps reinforcements at bay. Within a very few days the swelling and inflammation will decline and even quite excessive infiltrations will creep back to the normal contour. The dry antiseptic powder used is finely powdered boric acid. The principle upon which the treatment of all localised infections should be based, is that the front line enemy organisms inevitably perish or are placed *hors de combat*, and embalmed in pus. The condition then must just as inevitably result in cure so long as no fresh onslaughts are permitted through the breach by holding it intact and inviolate. Pus is pushed out to be received by a dressing that renders it unfavourable to bacterial growth but nothing is allowed in, care being taken to leave no pass-word.—*General Practitioner of Australia and New Zealand*. July 15, 1935, p 85. —*Thr' Medical World*.

Conservative operation for "Bunions".—EARL D. McBRIDE, Oklahoma City (*Journal A. M. A.*, Oct. 12, 1935), states that the operation that he previously described and termed "a conservative operation for bunions" has fulfilled the surgical requirements and the patients' expectations, as has been shown in an analysis of thirty-nine consecutive cases. The results thus far obtained confirm the advantages suggested originally. The principle of the operation is similar to a step advocated by Silver. The valgus position of the toe is corrected by releasing the adductor tension from the outer side of the base of the proximal phalanx, and the improvement is maintained by shortening the capsule formed by the abductor hallucis. Experience with the procedure brought about the necessity of classifying the cases into types according to the length of time the deformity has existed, the age of the patient, the roentgen appearance of the sesamoid bones and the severity of the deformity: 1. In patients less than 30 years of age in whom there is a confirmed deformity, thickened painful bursa, no bone atrophy and the sesamoids are not displaced the adductor tendon is detached and transplanted to the outer side of the metatarsal head. The capsule on the outer side of the articulation is freed thoroughly, and if necessary the flexor brevis is tenotomized

to relax completely the proximal phalanx. The external sesamoid is not removed and little or no excision of bone is made from the inner side of the metatarsal head. The bursa is sectioned so that the abductor hallucis is shortened. 2. In patients aged from 30 to 60 in whom there is a fixed deformity, large painful bursa, bone hypertrophy, or irregularity and the sesamoid is removed and as much bone is excised from the inner side of the metatarsal head as is necessary to satisfy the cosmetic demand. 3. In those persons who are past the age of 60 and in whom there is a possibility of circulatory deficiency the procedure is contra-indicated. In all cases great care is used in respect to trauma and retraction. Release of the adductor tension and excision of the hypertrophied bone and bursa may be accomplished when there is no definite evidence of circulatory deficiency. 4. In patients of any age who have arthritis of rheumatic nature surgery should be postponed until acute or subacute inflammatory activity has entirely subsided. The plastic operation is not suitable when the articular surfaces are unsuitable for painless function of the toe.—*Thr' Medical Times*.

The Diagnosis of Endocrine Conditions in Infants and Children.—Messrs. B. Gorden, Brooklyn, N. Y.

Laboratory Findings:

Hypothyroidism:

1. Decrease in B. M. R.
2. Tendency to a fasting hypoglycemia.
3. Increased sugar tolerance.
4. High blood cholesterol.

Hypopituitarism:

A. Anterior pituitary lobe deficiency:

1. High blood uric acid (above 3.5 mg. per 100 c.c. of blood).
2. Decreased or absent specific dynamic action of proteins.

B. Posterior lobe deficiency:

1. High blood chlorides (above 500 mg. per 100 c.c.).
2. Salt retention as determined by determination of NaCl in urine before and after the ingestion of 10 grams of NaCl.
3. Water retention.
4. Tendency to a fasting hypoglycemia.
5. Increased sugar tolerance in most of the cases.

Hyperparathyroidism:

1. Hypercalcemia (12 to 19 mg. per 100 c.c. of serum).
2. Hypophosphatemia.
3. Increased urinary output and disturbance of calcium balance.
4. Increased phosphorus output in urine.

Hypoadrenalism:

1. Low blood pressure
2. Sluggish response to adrenalin injection.
3. Tendency to a fasting hypoglycemia.
4. Increased sugar tolerance.
5. Increase in nitrogen metabolites in blood.
6. Lymphocytosis.

Laboratory findings serve only as confirmatory evidence and should never take precedence over clinical observations.—*Medical Times*.

Studies of Hepatic Function.—By A. Cantarow, *Arch. Int. Med.* (1935) 56:529.

Hyperbilirubinemia, or abnormal retention of bromsulphthalein, or both, were present in seventeen of twenty-two patients with portal cirrhosis. Visible jaundice was present in eight of twelve patients with hyperbilirubinemia.

Although ascites usually precedes the development of visible icterus, varying degrees of hyperbilirubinemia may be present in many cases before ascites can be demonstrated.

Retention of bromsulphthalein was noted in 77.3 per cent of the cases in this series, at times having been exhibited by patients with normal serum bilirubin values (seven cases). The relationship between retention of dye and the presence of ascites was not so consistent as was the relation of the latter to the degree of hyperbilirubinemia.

This dissociation of the retention of dye and that of bilirubin is practically never encountered in obstructive types of hyperbilirubinemia and suggests that primary impairment of the function of the hepatic cells is of fundamental importance in the production of hyperbilirubinemia in cases of portal cirrhosis. Similar observations were made in four cases of splenic anemia (Banti's disease).

Hyperbilirubinemia was present in ten of forty-two cases of congestive heart failure, in only two of which there was visible jaundice. Abnormal retention of bromsulphthalein was present

in fourteen cases. The severity of the condition appeared to be more consistently related to the degree of retention of dye than to the concentration of serum bilirubin.

Marked impairment of excretion of dye may occur in the absence of hyperbilirubinemia. Although not conclusive, this observation suggests that some factor, probably pulmonary infarction, other than hepatic functional impairment is necessary for the production of hyperbilirubinemia in patients with congestive heart failure.—A. B. M. S.—*Abstract from Current Literature*.

Treatment of Severe Diabetic Acidosis:—by Alexis F. Hartmann, *Arch. Int. Med.* (1935) 56:434.

As a result of a critical study on eighty-six patients with diabetic acidosis treated at the St. Louis Children's Hospital during the past twelve years, the author and his co-workers came to the conclusion that the most effective method of treatment demands the use of alkali (sodium bicarbonate or racemic sodium lactate), together with insulin, Ringer's solution, and solution of dextrose. When sodium lactate is used instead of sodium bicarbonate, the dextrose solution may be omitted. The method of treatment of severe diabetic acidosis which is recommended at the present time includes:

1. Immediate parenteral administration (one half intravenously, the remainder subcutaneously and intraperitoneally) of 60 c.c. of a sixth-molar solution of racemic sodium lactate per kilogram of body weight;
2. Immediate administration of 2 units of insulin per kilogram of body weight;
3. Administration of 40 c.c. of Ringer's solution per kilogram of body weight as soon after the administration of sodium lactate as possible;
4. Repeated administration of insulin six hours later in a dose of one-half unit per kilogram of body weight;
5. Transfusion of citrated whole blood or plasma (20 c.c. per kilogram of body weight) if oedema due to reduced plasma protein develops.—A. B. M. S.—*Abstracts from Current Literature*.

Splenomegaly in Children with Early Hematemesis.—R. H. Smith and S. Farber (*Journal of Pediatrics*, 7: 585-608, November, 1935) report 15 cases of splenomegaly with early hematemesis in children; these cases show definite characteristics that distinguish them from Banti's disease; and warrant their classification as a distinct disease entity. These characteristics

are: Splenomegaly; early hematemesis accompanied by a decrease in the size of the spleen; increase in the size of the spleen when blood loss is restored; normal blood count except immediately after hæmorrhage when there is a secondary anemia; no development of cirrhosis of the liver and ascites in the late stages. Of the 15 cases reported 7 had died at the time this report was prepared; the eighth death occurred before publication of the report from extensive thromboses, intestinal perforation and hæmorrhage; splenectomy had been done in this case, but there were recurrences of hæmorrhage after operation. In the other fatal cases, death was due to recurrent uncontrollable hæmorrhage except in one instance in which death was due to postoperative pneumonia, possibly embolic in origin; in one case the hæmorrhage was complicated by extensive thromboses. In 3 of these fatal cases splenectomy had not been done. Of the 7 patients living, all but one have had splenectomy done; this patient is recovering from the second hematemesis and will have the operation done as soon as possible. One was operated only three months ago; one patient has been well for five years; one has had multiple attacks of thromboses, but no hæmorrhage. The other 3 have all had recurrences of hæmorrhage. In one of these cases in which the vessels in the gastrohepatic omentum were ligated a year after splenectomy, there was one slight hæmorrhage two years later, but no further recurrence for three years. In the patient operated three months ago, ligation of the vessels was also done. The authors conclude that the primary pathologic lesion in these cases is portal or splenic vein obstruction due, in most cases, to thrombophlebitis secondary to infection in some other part of the body. As splenectomy alone does not prevent recurrence of hæmorrhage, it is suggested that ligation of vessels going to the stomach and esophagus "offers a further means of treatment with the possibility of a greater success". A high platelet count prior to operation in these cases indicates danger of post-operative thrombosis; the count may be so high as to constitute a contra-indication to splenectomy.—*Medical Times*.

Medicine and Therapeutics

Ocular Therapeutics.—Dilation of the pupil can be produced by first instilling physiologic salt solution, then from 3 to 5 drops of 1: 1000 solution of epinephrine (adrenaline), and applying through the lid, a positive galvanic current of 1 ma. for one minute. Mydriasis begins after from ten to fifteen minutes, and lasts about an hour.

In case of retinal embolism, improvement can often be obtained by the sub-conjunctival injection of solution of acetylcholin. About 8 minutes should be injected at a time, half being injected under the upper part of the conjunctiva and half under the lower part, on the temporal side. The procedure is painful for some five minutes.

In ophthalmia neonatorum and gonorrheal ophthalmia, good results are usually obtainable by the instillation of a combination of 1% solution of silver nitrate and 2% methenamine. The same treatment is beneficial in trachoma and in corneal infections. It is also good for painting or spraying the nose in cases of dacrocystitis.

Tuberculous iritis can be favorably influenced by injecting a little of the patient's own blood into the anterior chamber, due, no doubt, to the well-known antagonism between the patient's blood and the b. tuberculosis.

Patients who suffer irritation from atropine or hyoscine, given for purely pupillo-dilator purposes, can be relieved by the instillation of epinephrine (adrenaline). If the atropine is given for its vaso-dilator effect, it is of course irrational to offset it by epinephrine.

According to Velhagen, carbaminoylcholin has a much more powerful effect upon the sphincter muscle of the eye than pilocarpine, and is only slightly inferior to eserine, constricting the pupil and lowering the intraocular tension in glaucoma. It is somewhat less toxic than eserine, and causes practically no subjective symptoms.

One of the best cautery-stimulants for marginal and mild simple ulcers of the cornea is a weak solution of trichloroacetic acid, from 2 % to 5 %. On touching the ulcer with this solution, it turns like the white of an egg, but within a few hours usually undergoes marked improvement.—*The Eye, Ear, Nose and Throat Monthly*.

Prognosis and Treatment of Severe Gastro duodenal Hæmorrhages.—UMBER (*Deut. Med. Woch.*, August 9th, 1935, p. 1265) reviews his experience of 1,852 clinically definite cases of ulceration of the stomach or duodenum observed during the past sixteen years in his hospital. In 433 of these cases severe hæmorrhage occurred, terminating fatally in forty-one cases. Thus, after medical treatment, 9.5 per cent. of all the ulcer cases terminated fatally in association with a hæmorrhage. In as many as twenty-one of the forty-one fatal cases, valvular erosions of arteries of the stomach or duodenum were found, post mortem,

to be the source of the hæmorrhage. In Professor Umber's opinion, large fatal hæmorrhages in cases of old-standing ulceration are almost invariably due to such arterial lesions, even when they are overlooked post mortem or not mentioned in the records. In thirty-nine cases the patients were transferred to the surgical side of the hospital with an operation in view. Records were available for thirty-two of these cases, twenty-five of which were discharged as cured after resection (nineteen cases) or gastro-enterostomy (six cases). The remaining seven patients died in spite of an operation. Incidentally it should be noted that, among the cases coming to operation, the ulceration was located in the stomach in as many as twenty-three cases—an observation suggesting that severe duodenal hæmorrhage is comparatively rare. As for the choice between conservative and operative treatment, the author is in favour of giving the former a fair trial, as in 82 per cent. of his cases it was followed by arrest of the hæmorrhage. But when it recurs in spite of proper conservative treatment, when the hæmoglobin curve declines, strength fails, and the pulse rises to 100 to 120 or more, an operation is indicated. Cases marked by recurrences of hæmorrhage should, if possible, be operated on in a free interval. The author attaches great importance to irrigation with iced water to rid the stomach of clotted blood; and he has found this measure remarkably effective in the relief of nausea and vomiting.—*Medical Times*.

CORRESPONDENCE

An appeal to the Subsidised Medical Practitioners of the Madras Presidency

Friends,—This is the tenth year in the life of our Association and looking back, one may feel encouraged, if not elated, at our achievements. A handsome compliment has been paid to the manner of our working, and the amount of our success by Dr. U. Rama Rau, in the course of his Presidential Address at the XII All India Medical Conference held at Nagpur in December last. Says he, "Unfortunately these rural practitioners have been placed under the control of Local Boards.....and, had become the victims of persecution by one party or the other. But these men are made of sterner-stuff. They formed themselves into an Association, held Annual Conferences, waited on

deputations to the Minister and the Surgeon-General, got their grievances redressed, and thus firmly secured their position. They are better off now".

But the wearer alone knows where the shoe pinches. I should be excused if I refute Dr. Rama Rau's statement in one respect. It is true that some of our grievances have been redressed, but we have not as yet firmly secured our position. There are still many grievances to be redressed, and added to this, we have lost in fundamentals, quite recently though.

It behoves us therefore to continue our activities. Organised agitation is the only panacea, and no words therefore can be more encouraging than those spoken by the Hon'ble Dewan Bahadur S. Kumaraswami Reddiar, Minister for Public Health to the Government of Madras, at the time of opening the fifth Conference of the Licentiates in Indian Medicine, held at Madras on 29-12-35. He is reported to have said that "it need scarcely be said that in modern times nothing could be achieved without organisation, agitation and collective action. The catalogue of grievances which you have presented to me would receive the best possible consideration at my hands. Your Association was started only five years back, and there are other associations started much earlier, whose grievances had not been redressed. I am mentioning this not as an excuse, as to why your grievances have not yet been redressed, but only to state that you need not be discouraged in not having met with success in your efforts to improve your condition, nor get dis-spirited because you have not achieved your object. I would ask you to keep up your agitation till you succeed".

A very practical advice so brimful with incentive, and I would appeal to my brethren to take up the cue, and give me their whole-hearted co-operation.

S. RAMASUBBU, L.M. & S.,
Honorary Secretary,

The Madras Provincial Subsidised Medical
Practitioners' Association.

Viraganur. }
5-1-36.

PROCEEDINGS OF CONFERENCES, SOCIETIES, ETC.

The Trichinopoly District Medical Association

Proceedings of the Annual Conference held on 20-12-35 & 21-12-35
in the National College, Trichinopoly

The sixth Annual Gathering and Conference of the Trichinopoly District Medical Association was held on 20th and 21st December 1935 in the National College, Trichinopoly. The proceedings commenced at 10 a.m. on 20-12-1935 under the Presidency of Dr. C. E. R. Norman. Dr. P. A. S. Raghavan, Secretary of the Association, presented the Annual Report which showed all round progress in the activities of the Association. An interesting feature was the holding of Joint Meetings with the neighbouring districts. The year under review was marked by the starting of the Association's monthly journal "The Miscellany," which was becoming very popular. Another notable feature of the activities of the Association was the formation, under its auspices, of the Central Medical Association of South India consisting of the various District Medical Associations in Tamil Nad.

After the adoption of the Annual Report, at the suggestion of Dr. T. S. S. Rajan and Capt. Sangham Lal, the following office-bearers were elected :—

President : Dr. C. E. R. Norman, Secretary : Dr. P. A. S. Raghavan, Treasurer : Dr. R. Sambasivan, Committee Members: Capt. Sangham Lal, Dr. R. Kalamegham, Dr. M. Balammal, Dr. V. Iravatham.

Dr. Norman welcomed the members and visitors and after detailing the services of Col. Bhola Nath and paying him a high tribute for his organising capacity, requested Col. Bhola Nath to open the conference. Capt. Sangham Lal, in seconding the proposition detailed the work of the Col., in service and after retirement and said that the Indianization of the I. M. S. was, in no small measure, due to the services of men like Col. Bhola Nath. Dr. T. S. Balasubramanyan who had served with Col. Bhola Nath during the war, gave his reminiscences of the work of the Colonel.

In opening the Conference, Col. Bhola Nath impressed on the necessity for an All India Medical Association on the same lines as the British Medical Association and quoted from the welcome-address of Dr. Norman last year which expressed the same sentiments. It was imperative that Medical men here should organise themselves as they did in England and be in an

authoritative position to voice forth Indian Medical opinion in the Councils of the country's Government, in matters pertaining to the health and welfare of the nation. They must have a ministry of health with a medical man in charge of the portfolio. It was regrettable that in India, infant mortality was 20 to 30 per 1000, and maternal mortality, 60 per 1000. The expectation of life was 23 to 25, while in the West, it was 50 to 55. Though this state of affairs was due to India's economic condition, yet it could be improved by the organisation of medical activities. It was a pity that though many factories are manufacturing indigenous medicines, yet the locally manufactured medicines and drugs were not cheaper than the exported ones. He also pointed out the defects of medical education in the country, and condemned the practice of posting officers without experience of subjects handled by them for teaching work. There was no provision here for postgraduate studies. Another draw back in India was the division of the profession into compartments as service, non-service and quasi-service. He appealed to all medical men to join together and play their rightful part in the country as a whole.

In proposing a vote of thanks to the Colonel, Dr. Rajan detailed the work of the medical men in the Assembly during the Assembly session and said that their work was guided largely by the activities of the Indian Medical Association. He impressed upon those present, the need to strengthen the hands of the Indian Medical Association which was the premier Association in India.

The question whether the Trichinopoly District Medical Association should become a branch or be affiliated to the Indian Medical Association was left to be decided at the next monthly meeting. The conference then adjourned for breakfast, at which Dr. Norman was the host.

The afternoon session commenced at 2 p.m. with a lecture on "Some Aspects of Radio-Therapy" by Dr. P. Rama Rao, D.M.R. (Vienna). He detailed the various ailments in which X-Rays and Radium were very effective.

He also showed a number of skiagrams showing the progress of treatment.

Dr. R. Kalamegham read a paper on 'Pseudo-cardiac-pain' which was sent by Dr. P. S. Varadarajan of Madras.

Dr. T. Muthuswamy Chettiar then read a paper on 'Bronchial-Asthma.'

After 'Tea-Party' given by the French Medicines Agency, the gathering was shown a cinema film on 'Dysentery' by the

Havero-Trading Co. At night there was a dinner party given by Dr. Mathuram.

The 2nd day's proceedings commenced at 10 A.M. on Saturday, the 21st inst. under the Presidency of Capt. Sangham Lal I.M.S., F.R.C.S., D.O.M.S., when Dr. Shankar Rao L.M. & S., L.O., read an interesting paper on 'Complications in Cataract operation', after which there was an interesting discussion. Dr. T. S. Doraiswamy L.M.S., read a lucid paper on 'Eye-symptoms in general practice' and pointed out the various eye diseases, which point out systemic diseases. After a discussion, Capt. Sangham Lal made a few remarks summing up the two papers. The Conference adjourned for breakfast, given by Capt. Sangham Lal.

The afternoon session commenced at 2 P.M. with Dr. Norman in the Chair, when Dr. T. V. S. Shastry delivered an exhaustive lecture on 'Private Practice'. This was followed by keen discussion on the various aspects of medical practice.

In his concluding speech, Dr. Norman made a few remarks upon the lecture of the evening and thanked the various members and the visitors who had attended the conference at great personal inconvenience and made it a success.

The Secretary then announced that the following companies had contributed the amounts noted against them, for the Association Building Fund.

Havero-Trading Co., Ltd. Bombay	...	Rs. 25
International General Electric Co., Ltd.	..	15
T. M. Thakore & Co., Bombay	...	10
'Ezra Bros' Madras	...	10
Bengal Immunity Co.	...	10
Sivaram & Swamy, Madras	...	10
French Medicines Agency	...	10
Total Rs.	...	90

Dr. D. V. Venkappa of Madras congratulated the Committee on the great success of the conference and thanked them for the excellent arrangements made. After a lunch party given by Messrs. Ezra Bros., through their representative Mr. K. Iyengar and after a film-show by the Havero Trading Co., on 'Blood-circulation', the conference dissolved.

The Trichinopoly District Medical Association'

(Registered)

The 7th Inaugural meeting of the above Association was held at 5 p. m. on Wednesday, the 15th January '36, in the Golden Rock Railway Hospital, Trichinopoly, when about 40 doctors

attended. Dr. C. E. R. Norman, the President of the Association was 'At Home' to the members and extended a special welcome to Lt. Col. Newcomb, Surgeon-General with the Government of Madras, who was present on the occasion. The Surgeon-General made a few remarks congratulating the Association on its activities and the cordiality prevailing amongst the medical men, there. After thanking the Association for giving the opportunity of meeting so many medical men and after bidding farewell, he departed.

Dr. C. E. R. Norman moved a resolution which was carried unanimously, sending fraternal greetings to the Tinnevely District Medical Association on the 18th inst., on the occasion of its Annual gathering.

Dr. P. A. S. Raghavan the Secretary moved a resolution that the Trichinopoly District Medical Association be affiliated to the Indian Medical Association. This was seconded by Dr. R. Sambasivan and was passed without any opposition.

Dr. V. Iravatham of Thirukkattupally demonstrated an interesting case of "Septicaemia" in a boy aged 10 and Dr. Norman demonstrated a case of "Empyema" in a boy of 10 operated upon in the Golden Rock Railway Hospital and later treated by Ultra-Violet-Rays.

Dr. P. A. S. Raghavan then delivered a lecture on 'Ultra-Violet-Ray-Treatment' giving his personal experiences and quoting from different authorities. He emphasised that ultra-violet ray treatment was a specific in Rickets, Tetany, Surgical Tuberculosis, Erysepeles etc., and could usefully replace other treatments in skin diseases as eczema, lupus, acne, boils, adenitis, etc. It may also be used as an adjunct in the treatment of all other diseases especially of anaemias in syphilis, asthma, intestinal Tuberculosis and general debility. After a few remarks by Dr. R. Sambasivan, and the President's concluding remarks and with a vote of thanks to the Host, the meeting terminated.

The East Godavari District Medical Association, Cocanada

Anniversary Celebration

The Anniversary of the Association was celebrated with great eclat on 18-1-36 in the Pydah Venkatachelapathy Town-Hall premises.

The members numbering 63 from all over the District met at Tea at 4-30 p.m. The business meeting commenced at 6 p.m. with Captain J. S. McMillan, I.M.S., President, in the chair,

The first item on the Agenda was the reading of the annual report by the Secretaries. Then, the question of modification of rules was taken up. Dr. V. C. Kamaraju moved that the rule No. 9, Page 2 of the Rules Book, dealing with the management of the Association, saying that the President of the Association shall always be the District Medical Officer, be modified, that the President shall ordinarily be the D. M. O. the word 'always' being deleted and substituted by 'ordinarily'. This was passed unanimously.

Another resolution which was moved and passed unanimously dealt away with the special seat on the managing committee reserved for women in view of the limited number of women members on the rolls.

The election of Office-Bearers was then dealt with and the following were elected on the management.

President: Captain J. S. Mc.Millan, I.M.S. *Secretaries*: Dr. V. C. Kamaraju, L.M.S., Dr. P. Adinarayanaswamy, L.M.P., *Members of the Managing Committee*: Dr. T. Kanakaraju, L.M.S., Dr. Ramasubramanyam, M.B., B.S., Cocanada, Dr. Chelapathy Rao, L.M.P., Prattipadu, Dr. B. S. S. Prasada Rao, L.M.P., Samalkot.

The budget for the year 1936 was taken up and passed. It was resolved that in view of the inadequate circulation of Journals a Bulletin be issued by the Association containing amongst other things, important extracts from all Journals once in three months and that a copy, be issued free to each member and that the scheme be worked for a year to see if funds permitted. Another resolution was passed that in view of the slackness of members in paying subscriptions and the large amount of arrears remaining, that hereafter a member should be notified when he is in arrears for three months, that unless he pays his subscription within the next three months, his name would be removed from the rolls after one month's final notice.

The number of Journals subscribed for by the Association was increased. It was resolved that the following be obtained for the Association.

(1) "The Indian Medical Gazette", 2 Copies; (2) "The Practitioner", 1 Copy; (3) "The British Medical Journal", 1 Copy; (4) "The Antiseptic", 1 Copy; (5) "The Medical Annual", 1 Copy; (6) "The Journal of South Indian Medicine" 1 Copy; (7) "The Journal of the Association of Licenciates, Madras" 1 Copy.

The question of affiliation to the Indian Medical Association was taken up. There was a heated discussion. There was a strong opposition from the Government Servants who argued

that in the absence of definite instructions from the Surgeon-General, they should not be forced to join and that in case subsequently, the Surgeon-General would not permit them to continue in the Association, it would lead to some amount of dissolution in the Association. The other members were of opinion that in view of unnecessary fears it need not be postponed but it should be passed immediately, being the ideal in itself and the Government servants may secede if necessary later on, if so ordered by the Surgeon-General.

The President expressed, that although, he himself would always be glad to see the Association merged in to an All India organisation, in view of the opposition from the Government Medical Officer, it would be unwise to risk the dissolution of the existing Association, which was built up at great trouble, and that no note be taken on the subject until every member had an opportunity to carefully study the rules of the All India Association previous to a special meeting, when the question of affiliation would be discussed.

A resolution was passed congratulating Dr. T. Kanakaraju, on his election to the Senate of the Andhra University. There was dinner at 8-45 p.m. and the guests dispersed at 9-30.

The Tinnevely District Medical Association, Palamcottah

Palamcottah, 18th January 1936.

The Seventh Annual gathering organised by the Tinnevely District Medical Association commenced at 3-30 P.M. on Saturday the 18th January 1936, in the Centenary Hall, Palamcottah. members numbering 90, including all the lady doctors were present. Twenty-seven members of the Travancore Medical Association, four members of the Trichinopoly District Medical Association, four members of the Tuticorin Medical Union and one member of the Madura Medical Association graced the function.

The business proper of the meeting commenced at 3-30 P.M.:

The Secretary Dr. N. Isaac, read the minutes of the last meeting held at Koilpatti, which were passed.

Then discussion regarding the monthly subscription for membership was taken up; and the majority agreed that a sum of rupee one be fixed for each member without any distinction.

The Scheme of the Federation of the District Medical Associations of the Tamil Districts was read out by Dr. Raghavan, the Secretary of the Trichy District Medical Association.

The following modification of Rule No. 10 was unanimously passed:—

Delete sub section 6 and in sub section 7 substitute "Two members" for "one other member" and number this as sub section 6.

Then the election of Office-bearers was proceeded with.

Lieut. Col. T. S. Shastry, I.M.S., was re-elected as President.

Dr. T. N. Govinda Ayyar, M.B. & C.M., was re-elected as Vice-President.

Dr. K. Rama Ayyar, M.B.B.S., was elected as Secretary and Treasurer.

The following were elected as the members of the Managing Committee;

- | | | |
|---|---|-------------------------|
| 1. Dr. Mrs. E. Bernard Carr, (for lady member). | 2. Dr. G. S. Narayana Ayyar L.M.P. (for Rural Medical Practitioners). | |
| 3. Dr. T. S. Vaikuntaraman, L.M.P. | | } For the General Body. |
| 4. Dr. K. V. Muthiah Pillai, L.M. & S. | | |

Dr. K. R. Venkoba Rao, L.M. & S., was elected as the Auditor of the Association.

The guests were entertained to Tea and light refreshments. After a group photo, the gathering were entertained to good music.

Lieut. Col. T. S. Shastry, I.M.S., the President of the Association offered a hearty welcome to all the members and guests and the President of the Anniversary.

Then, Lieut. Col. Clive Newcomb, B.A., B.Ch. D.M. (Oxon), M.R.C.S., L.R.C.P. (London), F.I.C., F.C.S. (Oxford), I.M.S., Acting Surgeon-General with the Government of Madras, opened the proceedings as the President of the Reunion.

The Annual Report of the Association was read by the Secretary and was adopted.

Lieut. Col. T. S. Shastry, I.M.S., delivered an interesting lecture on the "Principles of Surgery of Breast Cancer" followed by a case note of excision of both breasts in a male, which was operated by him at the Government Head Quarters Hospital, Palamcottah. A case of Elephantoid filarial leg treated by a new operation suggested by Dr. I. M. Orr, M.D., F.R.C.S., of Neyyur, and done by Lieut. Col. T. S. Shastry, I.M.S., was read by Dr. G. S. Narayana Ayyar, L.M.P., of Moolaikaraipatti. This operation was a striking success.

Mr. Kumar T. Narayana Menon, delivered an interesting lecture on "My own Experiences of Heliotherapy in Switzerland", in a charming address.

Mrs. How-Martyn of the International Birth-Control League delivered a brief and striking lecture on "Birth-Control".

Messages for the success of the function from Dr. C. E. Norman, L.R.C.P., & S.G., D.P.H., etc., President of the Trichinopoly District Medical Association and Dr. Simpson, M.B.Ch.B., Durbar Physician, Trivandrum, were read out.

The President, Lieut. Col. Clive Newcomb, I.M.S., brought the meeting to a close by his eloquent and appreciative address which is reproduced here.

With a note of thanks proposed by Dr. T. N. Govinda Ayyar, M.B. & C.M., to the guests, and members of the three medical Associations, and to the musicians, the meeting terminated with a thanking speech from Dr. Mrs. Poonen Lukose, M.B.B.S. (Lon.) L.M. (Rot.), of Trivandrum, on behalf of the guests.

Thereafter an excellent Dinner wherein about 150 members of the Profession participated, was served—the European portion for the Surgeon-General and some of the guests, and the Indian portion for all others. The grand banquet was brought to a happy close late at night after Toasts proposed and replied to as below:—

The King Emperor:—Lieut. Col. T. S. Shastry, I.M.S.

The Association:—Dr. T. N. Govinda Ayyar, M.B. & C.M.

Reply:—Lieut. Col. Clive Newcomb, I.M.S.,

The guests and visitors:—Lieut. Col. T. S. Shastry, I.M.S.,

Reply:—Dr. I. M. Orr, M.D., F.R.C.S.

Thirty-seven members of the Profession (including 5 from outside) attended the Demonstration of the Birth-Control methods given by Mrs. How-Martyn at 9-30 A.M. on the 19th instant. This was very intimate, detailed, and instructive. The President Lieut. Col. T. S. Shastry, brought it to a close with a hearty vote of thanks to the distinguished Lecturer from London at 11-30 A.M.

At 7-30 P.M. on the 19th instant, a Cinema show was given at the Eye Clinic of Dr. L. Mahadevan, M.B.B.S. (Madras), D.O.M.S. (London), by the Havero Trading Co., by Mr. Sarathy and Soltner on Evipan Sodium anaesthesia, Amoebic Dysentery and Rivanol treatment and Blood-circulation. This show ended at 9 P.M. with a hearty vote of thanks to all the 3 gentlemen by Lieut. Col. T. S. Shastry, I.M.S. This was attended by 15 members.

The concluding speech of Lieut. Col. Clive Newcomb, B.A., B.Ch., D.M. (Oxon.), M.R.C.S., L.R.C.P. (Lond.), F.I.C., F.C.S. (Oxford), I.M.S. Acting Surgeon-General with the Government of Madras, who kindly presided over the Seventh Anniversary of the

Tinnevely District Medical Association, on 18th January 1936 was as follows :—

Mr. President, Ladies and Gentlemen :—I thank you for the honour you have done in asking me to preside at this meeting of the Tinnevely District Medical Association and I am fortunate that such a well-attended meeting should take place on a day when I could be in Palamcottah.

I was very interested in the report of the year's work and glad to notice that this District Medical Association is evidently a very popular and well-run organisation which bids fair to reach the ideal of including every Registered Medical Practitioner in the district. The requests and opinions of an Association which can speak as a Corporate body for all classes of Medical men in an area, is bound to carry a great deal more weight than any society which tends to forward the views of only a section of the Medical community. I am very gratified to note that at the time we were holding our College celebrations in Madras those old boys of the College in this district who could not manage to go to Madras were holding a similar if smaller, meeting here. Although I am only an adopted son of this alma mater I yield to none of the real sons in their affection for this College of ours. The activities of the Association are various and above all the scientific advantages arising from it and I am sure, the chief benefit which you all derive from the Association, are the opportunities it gives you of meeting your fellow practitioners from all over the district getting to know them and hence tending to see and appreciate their difficulties and explaining to them your own. I think we must all agree that there are too many castes and divisions in the medical profession in India which should be united into a more or less homogeneous body as is largely the medical profession in England. This, I think, must be the ideal of nearly everyone though we are not all of us equally agreed as to the methods by which this should be effected. This Association by arranging those meetings at monthly intervals and making them sufficiently attractive to bring together large numbers of the practitioners of the district, is advancing towards this ideal by a method which no one could cavil at. We are very fortunate this afternoon to have Mrs. How-Martin here and to hear her views on this very interesting and somewhat controversial matter of birth-control. We are also fortunate as doctors in having listened to the lecture of Mr. Narayana Menon on a special sort of medical treatment from the patient's point of view. It must be very rare indeed that a meeting of medical men should be addressed on a medical subject

by a lay patient who is not himself a medical man and who gives us the impressions of a medical treatment from the other point of view. I know it is usual in such societies that the Secretary and Treasurer does most of the work and I am sure the Society owes a debt of gratitude to Dr. Isaac. Useful and such work as it could not have been so useful but for Colonel Shastry, your energetic President, whom I have to thank for this kind welcome and I am sure it is mostly due to him that this society is in such a flourishing state.

The Tinnevely District Medical Association, Palamcottah Palamcottah, 19th January 1936.

Under the auspices of the Tinnevely Dt. Medical Association, in connection with its Seventh Anniversary, a Health and Medical Exhibition was arranged at the Municipal Girls' School, Palamcottah, on Saturday the 18th January 1936, at 10 A.M. in the presence of Lieut. Col. Clive Newcomb, B.A., B.Ch., D.M. (Oxon). M.R.C.S., L.R.C.P., (Lon.). F.I.C., F.C.S. (Oxford), I.M.S., the Acting Surgeon-General with the Government of Madras, Madras.

Lieut. Col. T. S. Shastry, I.M.S., the President, welcomed the guests and requested Dr. Mrs. Poonen Lukose, B.A., M.B.B.S., (London), L.M. (Rot), to open the Exhibition. Dr. Mrs. Poonen Lukose, expressed in a short speech that such Exhibitions are very useful, instructive, and beneficial to the masses and declared the Exhibition open. Dr. S. Kelappa Pillai, L.M. & S., District Health Officer, explained the posters on the prevention and causation of Tuberculosis, Flies, and Cholera, for the benefit of about 200 boys and girls of the local schools, the posters on the subjects which were exhibited on the walls. The Exhibition was thrown open till late in the evening. The Exhibits consisted of posters relating to Cholera, Tuberculosis, Malaria, Small-pox, Fly-danger, etc. This was very much appreciated by the public.

At the Medical Exhibition held at 11 A.M. at the District Medical Officer's offices, the following Firms dealing with articles of their manufacture relating to Medicine, Surgery, and Midwifery, exhibited their goods. The following leading firms were represented at the Exhibition :—

1. Havero Trading Co., Ltd ;
2. The Bengal Immunity Co., Ltd., Calcutta ;
3. T. M. Thakore & Co, Calcutta ;
4. Bole Brothers, Chemists, & Druggists, Bombay.

The activities did not cease with to-day's function but extended till the 20th. The exhibition was kept open to the public on the 19th, and a cinema show has been arranged for the 20th for the benefit of the common public.

The Coimbatore Medical Association, Coimbatore

Proceedings of the Annual Meeting of the Coimbatore Medical Association held on 11th December, 1935 :—

5 P.M. Group Photograph : 5 30 P.M. Business meeting commenced with Dr. Anantharanga Rao in the Chair. 40 members attended. The Secretary read messages of congratulations from Trichy and Salem Medical Associations and from Captain Sangham Lal and Dr. C. V. Krishnaswami. The annual report for the year ending 1935 was read by the Secretary and was recorded. It was resolved to increase the number of Committee Members from 3 to 5 in view of the increased membership.

The following Office Bearers were elected for the coming year :

Major Cox, I.M.S., *Patron*. Dr. C. Anantharanga Rao, *President*. Dr. Mrs. Abraham, *Vice President*. Dr. N. Krishnaswami, *Secretary*. Dr. L. Seshadrinathan, *Associate Secretary*. Dr. S. Gurupatham, Dr. Pratap, Dr. C. S. Ramaswami Iyer, Dr. N. Velappan, Dr. Mrs. T. K. Sundram, *Members of the Executive Committee*.

A resolution was moved from the chair thanking the authorities of the Moses Gnanabaranam Eye Hospital for their kindness in allowing the Association the use of their premises. The resolution was passed unanimously.

The Secretary thanked the members for the kind co-operation he had had at the hands of the members during this year and wished that he would continue to get the same co-operation during the coming year.

The meeting terminated at about 6 P.M. The members were entertained to Music between 6 to 8 P.M.

At 8 P.M. there was a Dinner which was well attended by about 60 Doctors. The gathering dispersed at about 9-30 P.M.

BOOK REVIEWS

Lectures on Diseases of Children.—By Robert Hutchison, M.D., L.L.D., F.R.C.P., Consulting Physician to the London Hospital and to the Hospital for Sick Children, Great Ormond Street. 7th Edition, 452 pages, Illustrated. [Edward Arnold & Co, London.] Price *sh.* 21/-

This excellent little book has appeared as a seventh edition. The book, as is well known, was the outcome of a systematic course of lectures delivered by the author at the London Hospital

and later gathered together in a book form for convenient reference. It is therefore not intended to be an exhaustive treatise. It is meant for the student and post-graduate and deals with subjects not usually emphasised in the larger text books of Medicine. The subject has been approached from a purely clinical stand point and has very little reference to problems of pathology. Treatment, however, has been dealt with in some detail. The present edition has been reset, lectures nine and fourteen having been completely rewritten. These little alterations have brought the book more up-to-date. The book is copiously illustrated. The printing and general get up is very good and coupled with the easy style of the author, it forms a very attractive and readable book which any medical practitioner can read with pleasure and great benefit.

The Medical Guide for India, and Index of Treatment.—By E.J. O'Meara, O.B.E. Lieut. Col. I.M.S. (Retired) 1935 4th Edition Pp. 1234, Illustrated. Calcutta: Butterworth & Co. Price Rs. 15. Postage extra.

This book which is not new to the profession is in its 4th edition and as usual it is intended for all practitioners in India as an easy reference book on the Practice of Medicine, Surgery, Midwifery etc. The present edition has been completely revised and rewritten so as to comprise all the latest advances in therapeutics and thus enlarged, is an up-to-date reference book. Special sections have been written in collaboration with the specialist in the particular branch and as such, the work is comprehensive and needs little by way of review.

The book is divided into twelve sections ; Index of Treatment, Therapeutic Measures, Food and Principles of Dietetics, Surgery, Medicine, Obstetrics and Gynaecology, Preventive Medicine and Sanitation, Medico Legal and Lunacy, Diagnostic method, Pharmacology and Pharmacopœia and Miscellaneous. At the end of every section is given a useful list of references that would help the reader for further study of the subject. A few blank pages have also been included to write down, any new treatment or facts worth recording for future reference.

Every section is thorough in itself and it is impossible to choose or select. The whole book forms a very good reference book worthy of any practitioner's library and we would particularly draw the attention of all Rural Practitioners and others who are far away from the nearest hospital, for they would find this a very useful companion when confronted with difficulties in their routine practice. The get up is good, and the printing bold. We wish it all success and wider popularity.

Practical Medicine Year Book.—Series 1935. Chicago. The Year Book Publishers. Year Book of General Medicine 1935. Edited by *George F. Dick, M.D.; Lawrason Brown, M.D.; George R. Minot, M.D., S.D., F.R.C.P. (Hon.) Edin.; William Castle, M.D.A.M.; William D. Strand, M.D.; and George B. Eusterman M.D., 1935 Pp. 848. Price \$ 3.00. Post paid.*

This is an yearly digest of medical literature published each year and has become a valuable reference book of all advances made on the medical side. The editors of various sections namely, Infectious Diseases, Diseases of the chest, Diseases of the Blood and blood forming organs; Diseases of the Kidney, Disease of the heart and blood vessels, Diseases of the Digestive Systems and of metabolism, have included all the notable advances in their respective sections. It is a comprehensive book and every section deserves praise. We are sure that the profession has already been utilising the benefits of these year books and to such of those to whom it is new, we highly commend it.

Surgical and Applied Anatomy—By *Sir Frederick Treves, Bart.* Revised By *Prof. C. C. Choyce, O.M.G.C.B.E., B.Sc., M.D., F.R.C.S., (ENG.), 1934, 9th edition, Pp. 720, illustrated with 174 figures including 66 in colour, Cassell & Co., Ltd., London. Price sh. 14/- net.*

This well known book is in its ninth edition the first edition appeared about 50 years ago and since that time it has kept up an endearing reputation among senior students and clinical teachers in Surgery. The present edition has been out of necessity revised to make it conform to the present demands and as such much of the original 'Treves' has had to go.

The book is divided into VI parts, *i.e.*, the head and neck, the thorax, the upper extremity, the abdomen and the pelvis, the lower extremity and the spine and spinal cord. The book, which is of exceptional merit, is clearly written and well printed and the size is handy. We have no hesitation that this manual will enjoy the same place and popularity as all its predecessors.

A Practical Hand Book of Midwifery and Gynaecology—(for Students and Practitioners)—*W. F. T. Haultain, O. B. E., F.R.C.O.G. etc., and Clifford Kennedy, M.B., M.C.O.G., etc., 1935, second edition, Pp. 356, illustrated, Edinburgh: E. & S. Livingstone. Price Rs. 11-4/-*

This book is in its second edition, the first having appeared about 9 years ago. The present edition has been completely revised and rewritten and much new matter added to make it up-to-date.

The subject matter has been well arranged under suitable headings thus rendering an easy reading of the text. The book abounds in well chosen illustrations that would be found very useful by students in understanding the subject. This book can be confidently recommended to students and practitioners.

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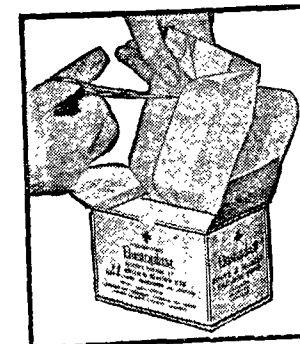
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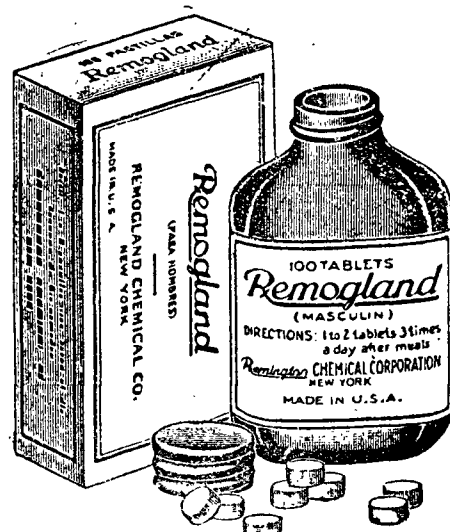
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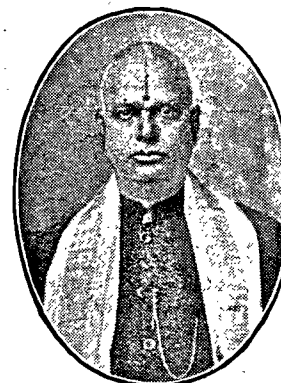
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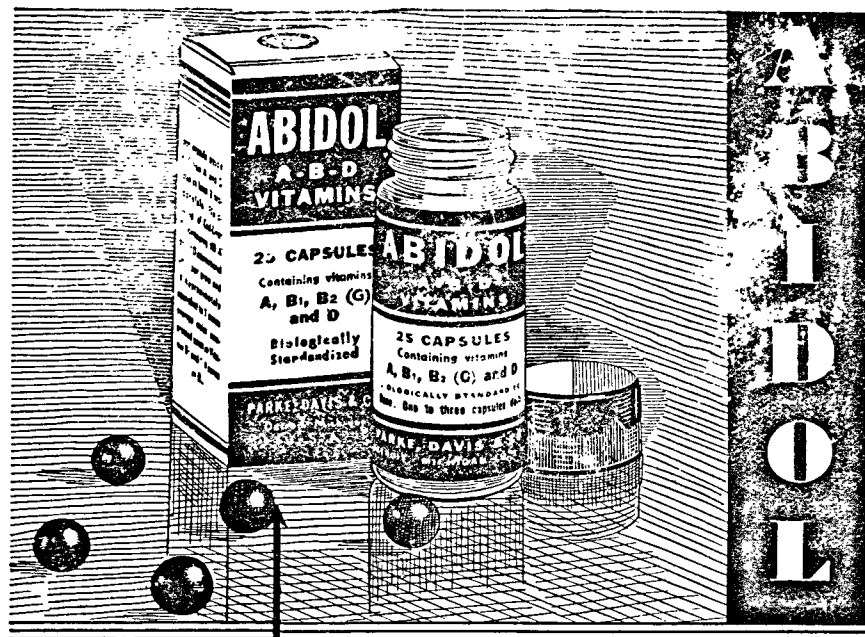
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