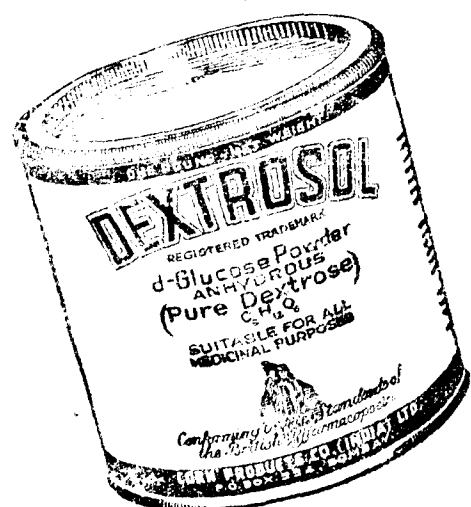
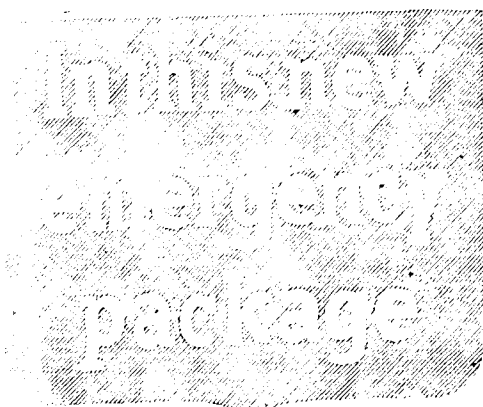
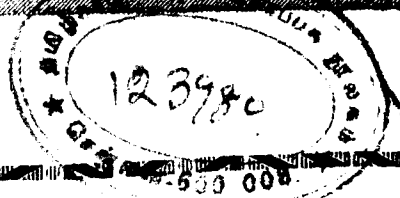




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2. Staphylococci are important causative agents in food poisoning.

Since the war, outbreaks have been recognised as due to the effects of this organism or its enterotoxin.

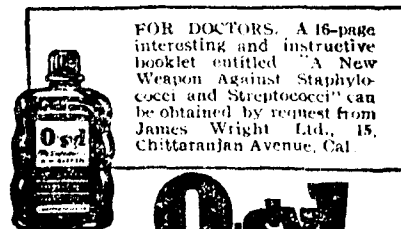
The latter is particularly dangerous as it can withstand a temperature of 100°C for 30 minutes. Outbreaks of poisoning which have been traced to milk have been accounted for by the frequent occurrence of staphylococci in cases of mastitis in cattle. Examples of tinned meat poisoning due to staphylococcal infection are recorded in recent literature.

3. Danger of Staphylococcal infection in Maternity Homes.

Several such outbreaks have been reported in Bulletins of the Emergency Public Health Laboratory Service. These outbreaks would appear to be due chiefly to the spread of infection from the hands of nurses.

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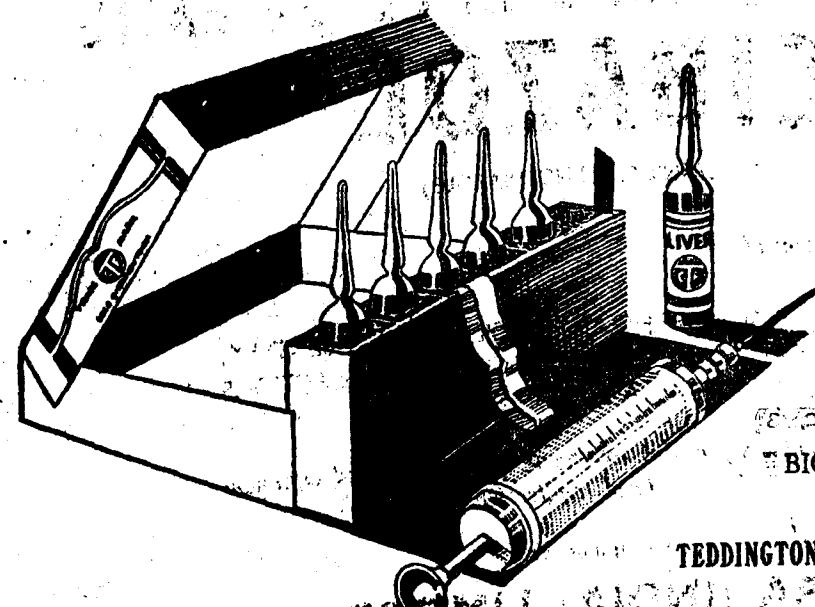
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Indian Medical Journal

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

Vol. 39. Madras: November, 15, 1945. No. 11.

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NOTICE.

A meeting of the Standing Committee will be held at Delhi on 25th November 1945, at 1 p.m.

All the members of the Standing Committee are requested to be present. Those who are unable to be present may communicate their views to me on or before 20th November on the following subjects which form the agenda for this meeting:

- (1) Budget for 1945-46.
- (2) Correspondence with Railway Board in connection with the proposed deputation as per Resolution No. 16 of the Calcutta Conference.
- (3) Correspondences between the President I. M. A. and President A. I. M. L. A. and I. M. J. in connection with Amalgamation Question.
- (4) Venue of the Next Annual Conference.
- (5) Bhoré Committee's Report
- (6) Adarkar's Report
- (7) Demobilisation
- (8) Miscellaneous

27, Dixon Lane,
Calcutta.

A. N. ROY,
General Secretary.

Indian Medical Journal

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

Vol. 39. Madras, November 15, 1945 No. 11.

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Members are requested to quote their roll numbers when intimating their change of address to the Managing Editor or when remitting their Subscription to the Treasurer.

NOTICE.

As the Subscription is strictly payable in advance, those whose period of subscription expires by the end of December 1945 are earnestly requested to remit their subscription to Dr. Khan Chand Wohra, Treasurer, A. I. M. L. A., Chichawatni, Dt., Montgomery, Punjab. In case he does not receive it by the first week of Jan. '46 V. P. P. would be sent which may kindly be honoured.

OUR MONTHLY SURVEY

Work of the Indian Research Fund Association (1944):—This is epitomised in the report of the Scientific Advisory Board issued in September 1945. It covers a wide and variegated field of work in medicine and allied subjects, and reveals what Indian workers are doing in the realm of pure and applied research. By the very nature of their work they could by no means arrive at final conclusions in the respective subjects of their study. But this in no way reduces the value of their studies and utility of their tentative conclusions. Some of them are of great interest to the general practitioners.

Treatment of Cholera with Sulphaguanidine:—It is reported to be both bacteriostatic and bactericidal in its action on the cholera-vibrio. It has been found to be of greater value before the onset of collapse than otherwise. When the condition of collapse is present, saline infusion has to be given in addition to the specific drug. Out of 97 cases, 53 were treated with this drug, and 44 were used as controls. Following results were observed.

	Sulphaguanidine treated Cases	Controls
Total	53	44
Recovered	42 or 79%	11 or 25%
Died	9 or 12%	33 or 75%
Unknown	2 or 4%	Nil

It must be noted that these were early cases of cholera, and it is therefore natural to conclude that Sulphaguanidine would be more effective when given in early cases than when collapse and toxæmia set in. In the latter condition, the drug may not prove equal to the task.

The utility of Anti-Cholera inoculation:—The report rightly points out that the advantage derived from anti-cholera inoculation is not so much in recovery from the disease as in not getting it. Although the immunity is established even on the third day after the date of inoculation, yet from the point of view of absolute prevention we consider that mass inoculation must be completed in the inter epidemic period, and repeated yearly in epidemic zones before the forecasted period of the onset. The maximum period of immunity is five months, but the report points out that there is strong evidence of the immunity continuing upto 12 months. That anti-cholera inoculation reduces the incidence and mortality is beyond question or cavil even without delving into statistics. But the main and more fundamental line of attack against epidemic cholera must be on the lines of improved and protected water-supply and improvement in general sanitation of the rural areas. We hope that the Government would not forget this line of work but push it to the maximum limit of their financial capacity.

Nutritional factors in Hepatic cirrhosis:—Preliminary work conducted in the Northern circles of the Madras Province where incidence of hepatic cirrhosis is very high showed (1931-1935) that "alcohol appears to have a very insignificant role" and that "dietetic deficiencies appear to be important factors" in its causation. During recent years experimental evidence has accumulated to suggest that cirrhosis of liver may be a deficiency disease, and that deficiency of protein and vitamins of the B₂ group may be responsible for the necrosis of hepatic parenchyma and even portal fibrosis. The report mentions that work along these lines is still in progress. Meanwhile, the practitioners would be well advised to treat hepatic cirrhosis on dietetic lines and not drug the patient unnecessarily.

South Indian Diet:—Experiments were conducted to demonstrate for educational and propaganda purposes the inadequacy of poor rice diets and to test the effects of supplements to rice diets, etc. By all means let us study the South Indian diet from all points of view, but let us not, as the preamble to this work suggests, do it for "educational and propaganda purposes". We are no believers in the superiority of wheat diets. It is now recognised that the protein of rice is more easily absorbed than the protein of wheat. The middle class South Indian diet is made up of rice, dhal, vegetables, ghee, curds, and salads in fairly sufficient quantities and in the form of various edible preparations; compared to this, the middle class Punjabi diet is uninviting and unappetising and though it may be richer in protein and fat it is not so balanced a diet as that of the South Indian.



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November 15, 1945

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- 1927 Ewins and Everett in the 'May & Baker' research laboratories first prepared and studied 3-amino-4-hydroxyphenyl dichlorarsine hydrochloride.
- 1930 'Halarsol' brand of 3-amino-4-hydroxyphenyl dichlorarsine solution marketed by 'M & B' for the treatment of yaws.
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- 1936 Arsphenoxide hydrochloride accepted for inclusion in "New and Non-official Remedies" by Council on Pharmacy and Chemistry of American Medical Association.
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agree with the author of this part of the report that analyses of common food preparations in use in South India are much needed by the dietitians. May be some more additions are needed to make it more balanced than what is the case now, but to say, as some nutrition experts have often said, that the South Indian dietary of the average middle class is inferior to the Punjabi diet of the same class is not, in our view, a correct or an unprejudiced assessment.

Sulphadiazine in Plague:—Haffkine's Institute has been responsible for field trials of sulphathiazole and sulphadiazine in the 1943 epidemic of plague at Poona. Following results were observed:

Bubonic Plague Treated			
Drug	No. of Cases	No. of Deaths	Case Mortality
Sulphathiazole	75	16	21.3%
Sulphadiazine	81	10	12.3%
Controls (given the usual iodine treatment Intravenously)	149	80	53.6%

These include a good number of septicemic cases also. From the results obtained it is obvious that Sulphadiazine is a valuable specific in the treatment of plague.

General Remarks:—The works of the I.R.A. is well planned according to the needs of the year, and the workers have done their part well. But the subject of medical and allied research in our country require a more generous financial aid and a larger number of workers. We do hope that in the period of post-war reconstruction medical research would be put on a firmer footing so far as finances are concerned, and broad-based on the needs of the profession and the country. We may also suggest that to make the work of the I. R. A. popular one or two representatives of the organised profession may be nominated to its governing body. At present, the valuable work of the I. R. A. is little known among the doctors in this country. This is a sad plight, and I. R. A. would be well advised to devise a plan by which it could come into contact with the profession as a whole and in each province as far as possible. We could suggest the following methods in the fulfilment of this objective.

- (1) To exhibit by specially prepared films the work done so far by the I. R. A. in the annual conferences of the All-India Medical Organisations.
- (2) To encourage the workers of the I. R. A. to contribute to the Medical Journals, articles bearing on the subject of their investigation in a way that may be useful to the general practitioners.
- (3) To take into their Governing Body one or two representatives of the organised profession.

We are quite confident that the I. R. A. would gain immensely by such a contact, and, needless to add, the practitioners also for whose benefit we presume the I. R. A. is worked.

ADDRESSES AND ARTICLES

Role of Mepacrine and Quinacrine in the treatment of Malaria

BY DR. M. Z. CHOWDHURY, L.M.S.,
Resident, S.A.S., B. & A. Rly., Lumding, (Assam)

Malaria yet remains a major problem in the general practitioners' work. The importance of malaria not only among the Forces but also among the civil population cannot be over-estimated. The success of anti-malarial campaign depends on three factors, viz.

- (1) To diminish the sickness by prophylactic measures.
 - (a) Communal prophylaxis
 - (i) anti-larval measures
 - (ii) Measures against adult mosquitoes.
 - (b) Personal prophylaxis
 - (i) Medicinal.
- (2) To diminish the days lost due to sickness by effective curative treatment in order to get more men for agriculture, industries, railways, and army etc. etc.
- (3) To control the relapse rate.

Treatment of malaria with various (often proprietary) preparations in the hope of finding a more effective treatment than that with quinine has not generally suggested any great promise. Various drugs were tried but all proved less effective than quinine in some respect or other.

Malarene (Guest 1937), Paludex (Niven 1938, Vonriell, 1938), Mapharsen (Mapharside) Goldman, 1938, Young and McLendon 1940), Manganese Iodomerourate and spleen extract (Fattovich and Lenti 1938) M3 (Chopra & Basu 1939, Chopra, Roy & Hayter & Sen 1940), Sinine (S. K. Lieu, Y. T. Chang, T. K. Chuan and S. C. Tan) Prontosil album (oral) (Niven, 1938, Chopra, Das Gupta, Sen & Hayter 1939), Pakenhamwalsh and Rennie 1938, Sorely & currie 1938), Soluseptasine (Intravenous) (Farinaud and Raigot 1938), Septasine (Proseptasine Farinaud and Eliche 1939, Prontosil rubrum oral and prontosil soluble intravenous (Menk & Mohr 1939), Sulphanamide and prontosil (Faget, palmer and sherwood 1938) Rubiazol (Prontosil), Septasine, Soluseptasine, rodilone & Septoplix (sulphanalamide) (Durand 1939), Prontosil solution intravenous (Das Gupta and Chopra 1938), Sulphpridine (Chopra Hayter and Sen 1939, Chopra & Das Gupta 1939 Singh & Singh 1939), Astreptine (Sulphanilamide) (Rothain 1938) Italchina (Ballero 1940) Huffkinine or acriqueine (Chopra, Hayter & Sen 1946), Palusan Later Crinodora (Chopra, Hayter, Sen and Talukdar 1940) Thio Bismol (Brusting and Love 1940) were all tried.

The recent drugs of choice are (1) Quinacrine Hydrochloride (atabrin), a synthetic acridine derivative manufactured by the Winthrop Chemical Co.,

U. S. A., in the form of small yellow tablet of 0.1 grm. each (2) Mepacrine Hydrochloride manufactured by Imperial Chemical (Pharmaceuticals) Ltd., Hexagon House, Blackley, Manchester. It is a light yellow tablet of 0.1 grm. each.

These have no action against gametocytes of plasmodium Falciparum malaria.

1007 cases (males, females and children) have been treated by us from 1st January 1945 to 31st March 1945, with these drugs and these have been found as potent as, if not more so than, quinine and can be used safely and even with some advantages over quinine as detailed below:—

(1) The tablets being smaller are swallowed more easily and comfortably and much more advantageously than quinine solution which is intensely bitter in taste.

(2) These do not produce the unpleasant effects of quinine namely, nausea, sickness, tinnitus and deafness.

(3) These do not give rise to idiosyncrasy.

(4) In gastric-irritability cases quinine has been found to aggravate the symptoms. It has not been found so with these drugs.

(5) Quinine haemoglobinuria and quinine amblyopia are not liable to occur with these drugs.

(6) The usual therapeutic dose can safely be given to pregnant women. Though same verdict is advocated about quinine still it has been found to be used with much caution.

(7) It is assumed that PH of blood is affected in fever and more so in malarial cases, treated with acid solution of quinine. These drugs being neutral salts probably do not effect the PH of blood above the level due to fever itself.

(8) These two drugs are more easily soluble in water than quinine. Quinine Sulphate which is usually supplied dissolves in 800 parts of water, quinine hydrochloride in 32 parts but these are soluble in 30 parts of water, so they can be given to children in watery solution, the taste of which is not repugnant like acid mixture of quinine.

(9) On account of the above points, patients take the drug regularly and as such the indiscriminate use is stopped. So, there is economy as the total amount consumed is much less in comparison to the total amount of quinine consumed for the same number of patients.

(10) The striking feature of these drugs is the appreciable reduction in relapse rate as seen by marked fall in the total number of cases in comparison to those with quinine treatment. So days lost due to sickness with malaria treated with these drugs is appreciably less than those treated with quinine.

Another point regarding relapse of malaria cases should not be lost sight of. Quinine of course stops the fever but some factors are necessary to be studied to stop the relapse. One of those is intestinal condition due to some organisms. Though these drugs have no effect on intestinal worms and amoebae, these have effect on Giardia Intestinalis (Code & Milhand, Galli-valerio Martins, Heilmann & Grinis), Trichomonas and lamblia (Martin) which are not uncommon in our country. These should be considered in treating short relapse cases.

Among 200 cases of induced Malaria (Nikolajev 1939) found in Leningrad that the longest relapse

period in P. Vivax was 27 months, in P. Falciparum 20 months and in P. Malariae 4 years. He records observations in more than 10,000 naturally acquired malaria cases, 9,464 of these were P. Vivax infections of which 5,220 showed protracted incubation period. The relapses followed at short intervals for the first 2-3 months and then between 8 and 13 months (Long period relapses). Two years in most cases showed complete cessation of attacks.

The temperature, humidity and rainfall have got influence on the relapses ushering it earlier or later.

Every one of our patients has been given a preliminary dose of saline purgative (except in purgative-contraindicated cases). Mist Alkaline and symptomatic treatment was given along with these drugs. They were advised and reminded during the course of treatment to take absolute rest, copious drink of fluids and to keep the bowels clear and regular. Fever subsided after 1-3 days treatment. Fresh cases were given 5 days treatment and chronic relapsing cases or severe fresh infections or fresh infections with more than one species of parasites were given 7 days treatment. The adult dose was one tablet of 0.1 grm. thrice daily. Infants and children were given proportionately less.

In blood positive cases it has been observed that fever due to P. Vivax infection comes down after 1-2 days and P. Falciparum after 1-3 days treatment. In P. malariae cases where treatment was started on the same day of fever the next attack on the 4th day was aborted.

In blood negative cases where the fever did not come down after 3 days treatment and the treatment continued for 5 days it was found that the clinical diagnosis was wrong, so in such cases further investigation regarding the fever should be made after 2-3 days and treatment with these drugs (therapeutic test) should be stopped. No cases of cerebral excitation or depression were noticed. Toxicity and dangerous side effects were not seen but as the substance is a yellow dye, a yellow discoloration of the skin, conjunctiva and urine occurred more or less, towards the end of the course of the treatment. This discoloration was found harmless and disappeared shortly after the conclusion of treatment.

In our series of cases we found that we could get more men and less amount of days lost by the sick staff after the introduction of these drugs.

The following are the figures of the working men only who must have come to us to cover their absence due to sickness with a sick certificate. Figures of 1943 and 1944 are with Quinine treatment and those of 1945 with synthetic drugs—the population of the locality remaining almost the same during these three years. The numerator indicates the number of sick staff unfit to work and the denominator days lost due to their sickness:—

Months.	1943	1944	1945
January	345 1766	258 1413	208 1367
February	297 1950	275 2574	149 897
March	294 1801	286 2303	143 990

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Another point regarding this fall in figures may be explained as follows :—

The figures since 1935 to 1944 showed no changes although efficient treatment had always been given. With a view to give full course of treatment regularly to each staff coming for medicines for fever we started to put them under sick certificate because it has always been found that on account of pecuniary conditions many staff did not like to report sick but preferred to carry on their duties with medicines and as such full course of effective treatment regularly could be taken by very few and thus indiscriminate use of medicines was supposed to bring forth increase of relapse rate with loss of vitality of the staff themselves. All such patients were explained the efficacy of effective treatment under rest, most sympathetically, and we found that they yielded to our advice. Of course a very few employees, who could assure us that they would be able to manage to be at rest for about a week, were given curative treatment without issuing sick certificate. The following figures will show how we could control the staff without any misunderstanding between them and us and thus bring down the number of cases.

	Total Malaria.	Under sick certificate.	Without sick certificate.
1943.			
January	573	345	228
February	511	297	219
March	452	294	158
1944.			
January	419	258	161
February	511	275	236
March	495	276	219
1945			
January	280	208	72
February	167	149	18
March	176	143	33

The figures for January 1945 is not much encouraging though we started these synthetic drugs in our outpatient department since the middle of December 1944. This may be due to the fact that some people did not take the regular doses as they cherished a vague and wrong idea that these drugs make one "mad".

It should not be forgotten that before blaming these drugs we should be aware of the disturbances of nervous system due to malaria which have been classified by M. Joelsas into two main groups (a) Those occurring during the acute attack—headache, delirium, stupor, coma, epileptic convulsions, tetanic contraction, cerebral, bulbar and medullary symptoms both encephalitic and meningeal forms and (b) late post malarial conditions—neuresthenia, hysteria, psychosis, neuralgia, neuritis, polyneuritis (spinal and peripheral types) endocrine types of mixed forms acute abdominal symptoms (R. A. Danial), aphasia with paralysis of the right leg and paresis of the right arm (S. C. Roy).

Cases with similar symptoms have been observed by us in this place.

Moreover, it is a matter of great doubt if the following cardinal points are observed by the patients treated by general practitioners.

(1) Absolute rest which helps the proper assimilation of the drugs. (2) Freeness of bowels prior to and during the course of treatment which diminishes the cumulative action of the drugs. (3) Copious liquid intake which helps the rapid elimination of the drugs.

The effects of our propaganda together with the beneficial effect of the drug are clearly seen in the figures for February and March, 1945.

Among the total of 1,007 cases treated 137 cases (staff only) were studied more closely. Blood was examined in each case. P. Falciparum were positive in 43 cases (23%) P. Vivax in 52 (27%) P. Malariae in 4 (2.1%) and 88 slides were negative (47.1%). These negative cases recovered with similar line of treatment. The slow conversion of this "Falciparum area" to a Vivax-one is being noticed since the later part of 1944.

Among these 137 cases 3 cases of short relapse have been noticed during these three months.

Case 1, First attack with P. Falciparum on 4-1-45 & relapse on 3-2-45.

Case 2, First attack with P. Falciparum on 26-12-44 and relapse on 5-2-45.

Case 3, First attack with P. Vivax on 5-1-45 and relapse on 7-2-45.

More interesting data can be had after one year's treatment with these drugs which will include the "sick season" of this "minimus area"

The introduction of "malaria card" in a malarious area may be thought of for controlling malaria. This card will contain the date of attack, species of parasite, number of days treatment given, so that whenever and wherever a staff reports sick for malaria the doctor can at a glance decide the line of treatment to be given to that staff effectively during successive attacks. Every staff member may possess this card and show it to his doctor when he wants treatment for malaria.

My thanks are due to my colleagues Drs. Alam, Ganguly, Ghoshal, and Bhowmick for their active co-operation, to Dr. S. B. Sen SAS (Malaria) for examining the blood slides, to Major F. C. Lees, M. C., L. R. C. P., M. R. C. S. District Medical Officer and Drs N. K. Chowdhury, H. B. and S. B. Dasgupta, M. B. Asst Surgeons for their instructions and supervision, and to Dr. P. C. Datta, M. B., Ch. B., (Edin), L.R.C.P. (Lond) M. R. C. S. (Eng), F. R. C. S. (Edin), D. P. H. (Edin), the Chief Medical Officer, B. & A. Railway for his kind permission to publish this.

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What Man Inherits

BY ABANI NANDY, L.M.F., D.T.M.

S. K. Hospital, Mymensingh.

A socialist believes that all children are born with equal amount of potential energies and it is only the difference of environment and education to which they are subjected that makes them different in their subsequent lives. There are enthusiasts who hold that in a particular environment a particular course of training will make any child an expert in a particular subject. What do you want your son to be? An athlete? Then proceed in this way. A scholar? Then follow this prescription. Take this course, and your son will be a musician. But alas! if it were a success the very outlook of the world would have been changed long before.

On the other hand, a geneticist says that a child can only be what its inheritance permits, and environments only favours the growth. "We come to this world with certain potentialities which can be developed to a certain extent, the limit of which is fixed by inheritance." All the physical, mental, moral and spiritual traits of an individual will develop in a predestined direction which environment and education may either help or modify but cannot alter. A champion boxer must get training but he must also have a thick-built strong body. A champion musician cannot be without training but he cannot be also without a well developed organs of Corti or a good tone-conducting apparatus. Training as colour artists is of no avail if he has got no colour discrimination. Training gives opportunity to them who are capable of taking advantage of it and "gates of opportunity were closed to many a person at the moment when the egg was fertilised, out of which he developed." Alas! a Gandhi cannot be trained and made and a Tagore cannot be prescribed.

What led the Austrian monk to study the sex life of plants may interest the Freudians but his discoveries have opened the gates to reveal the most important and most fascinating chapter of Biology, that men are not born free and equal but are handicapped from the beginning. In animals and plants there are two great classes of cells, the somatic cells and the germ cells. The somatic cells build the body and forms the shelter for the germ cells which maintain the race and eventually immortal, though its shelter, the body, must die. The inheritance is effected by the chromosomes contained in the nucleus of the germ cell, whose number varies from 2 in some worms to 200 in cray fish and are arranged in homologous pairs. These chromosomes appear as chains of granules and carry the determiners of characters called genes whose number also varies from a unit to thousand in a single chromosome.

In human beings the chromosomes are 48 in number and are arranged in 24 pairs of which one pair represents sex-chromosome. The rest 23 pairs of chromosomes are called autosomes and genes inherited by these are called autosomal inheritance while those with the sex-chromosomes are called sex-linked inheritance. Usually each gene determines a character.

[Read in the scientific session of the Bengal Provincial Conference held at Budge-Budge on 7-1-45]

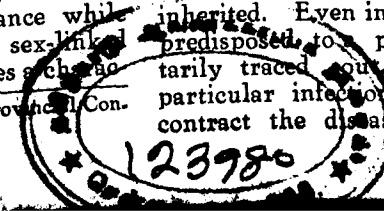
ter but sometimes a number of genes may co-operate upon a single character. In a pair of chromosomes two similar genes may pair up when it is called an allelomorph of pure genes and the individual is homozygous for the particular character concerned, or, two alternative genes may be in the pair when it is called an allelomorph of contrasting characters and the individual is heterozygous for the same. In an allelomorph the gene that manifests is called dominant and that which is suppressed is called recessive. A dominant will always manifest its character whether in a pure pair or in a contrasting one, while a recessive will always be suppressed in presence of a dominant partner, but will manifest in a pure pair of recessives. In human beings, however, some dominants are conditional, some recessives are incomplete, and mutations and co-optations do occur to bewilder our clinical observation.

Unlike somatic cells the germ cells divide by mitosis or reduction-division where during cell division each chromosome pairs up with its homologous one and finally separates without being split into the daughter cells which contain one chromosome of each pair of the mother cells and necessarily half the number of the total chromosomes, that is 24 out of 48. Any member pair may come to form a combination of 24 chromosomes in the daughter cells. The final division of the primordial germ cells are spermatozoa in males and ova in the females. A primordial germ cell contains 24 pairs of chromosomes of which half inherited from the mother and half from the father. So a spermatozoon and an ovum inherit both maternal and paternal chromosomes in varying proportion while the individual from their union inherits half chromosomes from its mother and half from its father and thus the reshuffling of the hereditary cards goes on.

The pair of sex-chromosomes in male is represented as XY which are not alike but in females they are alike as being XX. The Y chromosome determines maleness and carries no gene, but X chromosome carries many genes determining many sex-linked characters. XY of males will produce gametes X and Y but XX of females will produce gametes which will be X and XA spermatozoon may be either X or Y but an ovum, always X. When X spermatozoon fertilises the ovum, the individual is female XX and when Y spermatozoon does so the individual is male XY. As Y contains no determining genes, a male inherits sex-linked characters only from his mother while a female both from her father and mother.

So a geneticist says that a man can develop only those characters, physical, mental or moral, which are contained in his 24 paternal and 24 maternal chromosomes, and yet not fully, as some of the characters are recessives which are, however, not lost and may appear in the descendent generations when they get a chance to form a pair of pure recessives.

Coming to the diseases, if properly traced out, it can be seen that excepting infectious parasitic diseases and accidents all the diseases in the human beings are inherited. Even in infectious disease, a constitution predisposed to a particular infection can be hereditarily traced out. All the persons exposed to a particular infection under similar condition do not contract the disease. The short human life is unfit



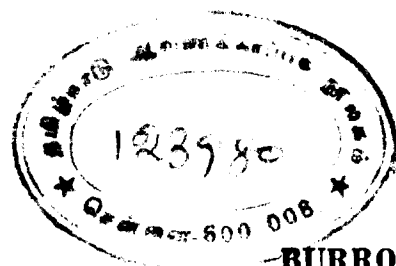
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to carry out experiments with human generation and also it is not possible at present to conduct a wide scale of experimental breedings in human beings to find out a regular order of sequence in the process of human inheritance. Many diseases, however, have been worked out with some definiteness. Diseases arising from the simple dominants are brachydactylia, multiple cartilaginous exostosis, progressive pseudo-hypertrophic polyneuritis, Huntington's chorea, sickle cell anaemia, diabetes insipidus, angioneurotic oedema etc. Of the simple recessives:—Amaurotic family idiocy, Retinitis Pigmentosa, Friedrich's ataxia, Xeroderma-pigmentosa, etc. Diseases like diabetes mellitus, high blood pressure and apoplexy, cataract, glaucoma, mental and nervous diseases, etc., are definitely found to be predisposed to heredity.

Of the sex-linked diseases males suffer many times more than the females. Here the pathological traits are usually recessive. As the chromosome in man does not carry any gene, therefore the only X-chromosome manifests fully if it is a pathological one. But in females unless it so happens that a female gets both of her X-chromosomes pathological, the one normal X-chromosome makes its pathological partner a recessive only to manifest in the next generation, half of the sons being the victims and half of the daughters being the carriers and so on. Haemophilia, night-blindness, colour-blindness, Leber's hereditary optic atrophy are examples of this kind. As the genetic influence upon the constitution is played through the gonads, gonadal extracts of opposite sex have been tried in essentially sex linked diseases and reports of miraculous effects are also on record.

Regarding the inheritance of constitution a female is luckier than her partner, for, a male is genetically weaker sex as his Y chromosome carriers no determining gene. Theoretically, by Law of Chance, an ovum has got equal amount of prospect to be fertilised by Y chromosomed spermatozoa and X chromosomed ones, and hence equal amount of boys and girls should be born. But statistics show that birth rate of males is a little higher than that of females. On the other hand number of adult females in a society is a little higher than adult males. This is obviously due to increase of mortality in males. We can easily see that the common diseases are more predominant in the males than in the females. The number of the diseases occurring mostly in the males but rarely in females is much bigger than the number of diseases mostly predominant in the females. The statistics also show that the average length of life is longer in females than in males. Observations on lower animal show the male to be weak, deficient in resistance and shorter lived than the females. "It must be remembered, a woman is more biologically complete than a man, for, a male is an anthropological innovation, a mere incident in the history of races."

Our scientists by utilising their knowledge of genetics have made pillar-improvements in the plant kingdom and in the kingdom of domestic animals, but can that knowledge be also utilised for the betterments of the races in the human stock? Well! our society is still very sentimental. The eugenics is not without its supporters but the eugenis have not yet been encouraged.

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Main Types of Insanity

BY DR. A. N. BAGCHI, L.M.F.

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I have discussed the border line mental diseases in the *Indian Medical Journal*, vol. 37, No. 12, December 43, under the title of Neurasthenia. I would now like to discuss about the extreme mental troubles and make a brief survey of the common forms of insanity.

The term insanity is difficult to define. It is a deep reaching mental disturbance. A man is considered to be insane when his actions and behaviour are not in correspondence to his environments. Thus the difference between insanity and neurosis is only in the degree and in the character of reactions towards environment.

Insanity may be divided into three groups, as:—

- (a) Dementia.
- (b) Melancholia.
- (c) Paranoia.

Dementia praecox is the most common form of insanity. The term itself suggests that it is a condition of dementia and is present in young people only, but strictly speaking it is not only a condition of dementia and not always confined to young people only though the majority of the sufferers of the disease are from 18 to 30. It may be defined as a progressive form of mental disturbance, generally appearing among the young people, the main characteristic of which is an emotional deterioration.

The outstanding feature of the disease is indifference to the outside world, and according to the progress and gravity of the case from slightly noticeable indifference to complete indifference. I like to explain the phenomenon by a concrete example. "Miss R. was 19 years old and had just stepped into the 2nd year class of the university. One day her mother was abusing her because she had been recently neglecting her usual duties. The mother could not at all think at that time that her daughter was gradually developing dementia. Months after this, when the mother found that her daughter was sitting in the house listless, cared not to dress even properly, then and then only she could realise that her daughter was not just lazy but was actually sick. Such cases are always left uncared for unless and until the manifestations develop fully in a graver form. But it is a sure sign that there is a danger ahead when a girl who had always been apparently well suddenly becomes indifferent to the things that interest the average women of her age.

* A paper read at 33rd Conference of the A.I.M.L.A., Calcutta, April 1945.

When the disease devolves fully, the individual may turn completely indifferent to the outside world. One author states that even if you shoot a canon these people may sit uninterested without moving an inch. I have seen a case who did not care to draw in his tongue when pin-pricked unless and until the pin was dipped into his tongue to the extent of bleeding. These people are shut out from all the emotional reactions and are absolutely indifferent to the outside world.

Another characteristic of this disease is that its victim observes a typical mannerism in his daily life, which may last for weeks, months or even years. I have seen a case who resumed his usual position after three long years going through the same mannerism. The individual was always remaining in his room and never coming out without any very particular purpose of his own. He was always sitting in his particular chair and brushing his hairs with the tip of his fingers. The individual went to the bathroom every day in a very particular time, came down to dine with the same suit on every day in a particularly appointed hour, and talked to no body as if quite uninterested in all affairs except the particular affairs relating strictly to his ownself. Methodicalness is not a sign of dementia praecox, but we can well think of the disease when we find a man too much methodical.

The history of these patients reveals that these people were always of some peculiar character, never showing any deep emotional feeling and always uninterested in all affairs except in their personal interests. We meet everyday many such people and if we explain them as most ease-loving people, but if we actually go on investigating we will find then that many of them are of the dementia praecox type not fully developed.

The old physicians who were not acquainted with the deeper aspects of the disease considered that the insanity was being caused by masturbation. There are doctors even today who believe the disease to be due to it. Authorities who have investigated this subject to it. Claim that masturbation is being practiced by cent per cent people of the world. Generally the practice is done under cover in some hiding place, but one is developing dementia will have no scruple in masturbating anywhere whenever the impulse rouses him.

The parents think it to be a most vicious habit and try to get the child break that habit. Months or years after when they find that their son is actually insane, they immediately conclude that the boy has ruined himself and that masturbation has made him insane. Owing to this accidental relation between masturbation and dementia praecox the old physicians considered that it was a material cause of this mental condition.

The next and the common form of insanity is melancholia. The term comes from old Greek and literally means, "black bile". It was once thought that "black bile" may be cured by drastic purgatives.

The disease has got two phases. One the maniac phase, and the other the phase of depression. Generally one phase follows the other. In some cases the maniac phase and the depressive phase is intervalled by a normal phase. And in some cases only one phase repeats, either maniac or depressive.

In the maniac phase the patient talks much incoherently and moves unsteadily. The case may be

so very pronounced that the patient may be mistaken to be an alcoholic. He may be so restless and actively moving that he may require the strongest form of hypnotics to get him quiet. One very serious danger in this phase of the disease is that the patient may develop some intercurrent diseases which may turn fatal.

In the depressive phase of the disease the patient remains very quietly as if he is in deep meditation. He talks very little and moves very slowly. Occasionally the patient weeps quietly. One very serious danger in this phase of the disease is that the patient may get the idea of committing suicide. One author states that in more than 90 percent of cases of suicides, the individuals were the chronic sufferers of melancholia and were passing through the depressive phase of the disease.

The disease is not fatal and improves under proper conditions.

Melancholia is to be differentiated from dementia praecox by the following points. In melancholia there is not much intellectual disturbance, improves under general conditions and leaves no mental scar after the trouble has disappeared for once. But in dementia praecox, after the man has recovered from his last attack he still shows a definite dementia praecox reaction and there is always a mental scar left behind.

The third common form of insanity is paranoia. This disease is very chronic in character and the progress is very slow. From the very childhood, the would-be-paranoids never play like others, never make friends like others; they may get an acquaintance but never a friend in whom they confide, to whom their emotions they express or with whom they exchange their thoughts. If at all, at any time, they make a friendship it is for a very short duration only and may even turn out to be his bitterest enemy.

The paranoids are always of reserved personality. At puberty, when for an emotional outlet a compensation becomes absolutely necessary, these people find themselves most disgusted. Their character is quite peculiar in the sense that they think themselves much superior to all others. They find every one around them mean and dull, and much below the standard of his general definition of humanity. I have heard a paranoic say, "people do not like me because I am much above them. I am above the average. I do not care for my unpopularity, intellect is always unpopular." In some cases, the man may be superior to the people whom he meets. But an opinion like this is not likely to be considered as sane at all.

Paranoids are of suspicious nature and can confide in nobody. They always think that people around them are always making conspiracy against them. In a pronounced case a paranoic may become so very suspicious that even in going to hear a public speech, they come out of the hall thinking that these lectures are being delivered to indite them. They think that the whole world is their enemy.

There are all kinds of paranoids, but you will find many of them to be rare. Unless and until the case is much pronounced, it is difficult to declare him as insane, because on examination he does not show much abnormality, or specific maladjustment. To the average observer, the reasonings of a paranoic would look reasonable and justified.

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The Quinine Situation

Issued by the National Research Council,
Washington, March 1944.

In the seventeenth century Peru exported large amounts of bark of Peruvian Balsam to Europe for medicinal purposes. So much in demand was this drug that European merchants fraudulently substituted cinchona bark, selling it as "quina-quina," the vernacular name for Peruvian Balsam. In the course of time the substitute became more important than the original. It monopolized the name, and is now known as quinquina in French and China-Rinde in German. The name, "cinchona" officially introduced by Linne, is due to a legendary connection of the drug with the Spanish Countess of Chinchon who, however, neither used it herself nor introduced it into Europe.

During the seventeenth and eighteenth centuries the cinchona bark had friends as well as enemies. Often confused with other drugs, it was not generally accepted as a valuable antimalarial remedy. However, the isolation of quinine from it in 1820 by Pelletier and Caventou increased the demand for the bark which at that time was chiefly collected in the forests of Ecuador, Peru and Bolivia. These forests were exploited to such a degree that the extinction of the tree was envisaged as an imminent danger. It, therefore, became necessary to cultivate the plant in a systematic way and attempts in this direction were made by the Dutch in 1852 and by the English in 1860, with the object of transferring the plants from South America to Java and British India. These attempts at first met with little success. The Java plantations, in particular, began to flourish only after 1865 when the Dutch Government bought seed from the Englishman, Ledger. Analysis of these Ledger cinchonas, first made in Java in 1872, showed a much higher percentage of quinine than contained in other varieties. In the course of succeeding years, the Netherlands Indies acquired a virtual monopoly over the production of high content cinchona bark, a position which was further strengthened by the signing of a cinchona agreement in 1913 between bark producers and quinine manufacturers.

Under the above circumstances, there developed a measurable discrepancy between the amount of quinine produced and the amount needed to treat cases of malaria all over the world. While the total number of malaria cases is not known, estimates differing widely, the following figures give some impression of the situation which existed around 1932. An enquiry made by the League of Nations showed that the Governments responding to the enquiry estimated their yearly requirements of quinine at 1,172,180 kg., whereas, they imported an average amount of 156,280 kg. Of the 11,666,000 kg. of cinchona bark produced the world over in 1933, about 10,000,000 came from the Dutch East Indies. These figures show that the production outside Java had become negligible. Moreover, it was not even sufficient to cover the requirements of the bark growing countries themselves. While India and Ceylon, for instance, towards the end of the nineteenth century still grew cinchona on such a large scale that they contributed to an economic over-production the yearly

production in India at present is estimated at only 70,000 pounds while the country requires more than 1,000,000 pounds. In the Philippines shortly before the outbreak of the present war, an average of 2,330 kg. of quinine had to be imported annually. Some idea of the contribution of Latin America can be gained from relative figures on importation by the United States. The annual average of the total import of cinchona bark between 1937 and 1939 was 1,738,431 pounds. Of this amount 23,855 pounds came from Latin America; i. e., about 1.4 per cent of the total.

There is but little doubt that the discrepancy between the world requirements and the world supply of quinine was largely due to economic factors. The price of quinine was above the purchasing power of the indigent and in Italy, for instance, even before the last war, large scale use of the drug for the prophylaxis and treatment of malaria had to be subsidized by the government. Need existed, therefore, for a cheap antimalarial drug. This need was partly met by the utilization of all the alkaloids found in cinchona bark; viz., quinine, quinidine, cinchonine and cinchonidine. The mixture was used in India and known by the name, "cinchona febrifuge". At first it was produced from the red bark (*C. succiruba*) and had a relatively high content of quinine. Later on, when quinine manufacturers preferred the yellow bark (*C. ledgeriana*), Cinchona febrifuge was made from the quinine manufacturers' residues and was correspondingly low in quinine content. In either case it was, however, necessary to standardize the drug. This task was sponsored by the League of Nations which in 1931 gave the name, "Totaquina," to the standardized product. The latter was adopted in 1932 by the British Pharmacopoeia which defined it as containing "not less than 70 per cent of crystallisable cinchona alkaloids, of which not less than one-fifth is quinine. In 1933 the Madras Government Cinchona Department produced nearly 2,000 kg. of totaquina, while in subsequent years other countries too promoted the sale of the drug.

It has been pointed out that if cinchona cultivation were extended in India, a preparation of the "totaquina" standard "could be produced at a cost of one-seventh that of quinine."

The U. S. Pharmacopoeia included the following definition of "totaquina" in its twelfth revision of 1942: "It contains not less than 10 per cent of anhydrous quinine, not less than 25 per cent of cinchonidine and anhydrous quinine combined, and a total of not less than 70 per cent of cinchonidine, cinchonine, anhydrous quinidine and quinine." In the fall of 1942 a new standard was envisaged, requiring a quinine content of not less than 7 per cent and not more than 12 per cent, and 70 to 80 per cent of total crystallizable alkaloids. This change was to take account of the low alkaloid content of South American bark.

On the other hand, it must be realised that expensive as quinine might be, its price had, nevertheless, been reduced; in Germany, for example, it had fallen from several hundred marks per kg. in the eighties of the last century to 60 to 80 marks around 1926. These German figures were not without influence upon the search for quinine substitutes. The complicated structure of quinine made its chemical synthe-

sis a very difficult task affording little promise. Synthetic quinine would further depress the price of the natural drug and competition between the two, therefore, did not promise profitable results.

With the virtual establishment of a quinine monopoly in the Netherlands Indies, the danger arose that in case of war the source of supply might be cut off. Campaigns in malaria-endemic countries have always held grave danger for foreign troops. During the last world war, this fact was experienced by the British and French forces in various theatres of the war, and particularly in Macedonia where malaria hospital admissions among the British Expeditionary Force in September and October 1917 reached monthly figures exceeding 15,000. But if the allied armies were hard hit by malaria, so were the German forces who, in addition, suffered from a shortage of quinine because of lack of cinchona bark.

At the outbreak of the present war, it could be foreseen that the occupation of Java by an enemy power would create a serious problem. That such a possibility was reckoned with in this country is indicated by the sharp increase in imports of cinchona bark at least two years before Pearl Harbor. While imports amounted to 1,837,000 lbs. in 1937 and 1,349,000 lbs. in 1938, they reached 2,030,000 lbs. in 1939 and 5,418,000 lbs. in 1940. After Pearl Harbor, efforts were made to plant cinchona seeds in Latin American countries and to secure bark from South America. Colonel A. F. Fisher succeeded in bringing some two million cultivated seeds out of the Philippines when these islands were occupied by the Japanese. At present, the United States is co-operating with Bolivia, Colombia, Costa Rica, Ecuador, Guatemala, Mexico and Peru in their efforts to increase the output of cinchona bark. A part from these enterprises, it was necessary to preserve the quinine supply in this country and to reserve it for the armed forces. Since June 1942, both quinine and totaquinine may only be sold as antimalarial agents. The same is true for such secondary alkaloids as cinchonine and cinchonidine. Quinidine, on the other hand, is to be reserved for the treatment of certain heart diseases. In February and March, 1943, druggists and physicians were urged to send quinine and other cinchona derivatives to the National Quinine Pool. It was pointed out that the civilian population was to receive totaquinine which "while excellent for domestic use, is not as stable as is quinine and therefore not as suitable for shipment into areas of varying climatic conditions." At the same time an explanation was given as to why soldiers abroad might need quinine instead of the synthetic anti-malarial drugs. This country and our ally, Great Britain, were not the only countries to impose restrictions upon the use of quinine. Japan's partner, Germany, likewise had to limit its use to the treatment of malaria exclusively.

Economic and political motives thus largely explain the quest for a quinine substitute; i. e., a drug that would act as effectively as quinine. Besides, there existed medical reasons to look for a drug that would supersede or supplement quinine. Its bitter taste and toxic reactions were among the shortcomings known for a long time. Doubts about its reliability as a prophylactically and therapeutically ideal drug had been voiced before the last world war.

During and after that war, these doubts increased and biological and clinical studies as well as the invention of the synthetic drugs, plasmochin and atabrine, opened new vistas.

Before 1914, the opinion was wide-spread that quinine destroyed all forms of *P. vivax*, *P. malariae* and *P. falciparum*—except their gametocytes. This view influenced the prophylactic and therapeutic use of the drug. A sufficient quantity of quinine in the blood would kill the sporozoites introduced by the mosquito and destroy the schizonts developing in the blood-stream. Since, however, not all sporozoites or schizonts would be killed at once, it was believed necessary to give quinine over a certain period of time in order to prevent infection or relapses.

In contrast to present usage the period of prophylactic administration following the time of actual exposure to infection was relatively short; whereas, the period over which quinine was given therapeutically was relatively long. For instance, according to the treatment that Nocht introduced in 1904, 1.0 gm. (15 grains) of quinine hydrochloride were given daily to the adult patient during his febrile attacks and during 5 subsequent days. Then, for 6 weeks, 4 free days alternated with 3 days on which quinine was given, or a scheme was followed in which the number of free days gradually increased while the number of quinine—days decreased (2 free days—then 3 days of quinine, 3 and 3, 4 and 2, 5 and 2, 5 and 2).

Celli's statement: "He who takes quinine every day, and therefore has always a supply of quinine in the blood stream, can undergo with impunity inoculations of blood full of malarial parasites, and can expose himself with little or no danger to the bites of infected mosquitoes" although often quoted was not generally accepted before the last war. The efficacy of quinine prophylaxis was a matter of considerable debate—its defenders usually accusing irregular or insufficient consumption of the drug for the apparent failures. If regularity were assured by the habit of taking a daily dose at a fixed time, the results would be excellent. When the British and French forces began to suffer heavily from malaria during the Macedonian campaign, the debate was continued along very similar lines without reaching any conclusive results. Moreover, "some pessimistic papers were written during the war period by medical officers of the British Army as to the value of quinine in the treatment of malaria." Although such pessimism was opposed by those who believed that "quinine properly administered and continued for a sufficient period of time, will cure any case of malaria infection, provided the patient can take the drug", there is yet little doubt that the first World War shook rather than enhanced confidence in the prophylactic and curative properties of quinine.

BIHAR PROVINCIAL LICENTIATES' CONFERENCE ANNOUNCEMENT.

It has been decided to hold the Bihar Provincial Conference under the auspices of the Chaibasa Branch (Singhbhum.) A.I.M.L.A. this year during the X'mas holidays.

The exact date of the conference, the names of the office-bearers of the Reception Committee and other details regarding it would be published in the next issue.

Favourable response and hearty co-operation from all concerned is earnestly solicited to make the conference success.

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MEPACRINE IN MALARIA

309

'The conclusions of the appropriate official bodies in Great Britain and America in regard to the relative merits of Mepacrine and Quinine may be summarised as follows:—

- (1) Mepacrine is fully as effective as quinine in the therapy of *vivax* malaria, but neither compound will prevent relapses later.
- (2) Mepacrine if properly given will practically always suppress and cure *falciparum* malaria, while the action of quinine in this respect is less certain.
- (3) With proper administration mepacrine is no more liable to cause serious toxic effects than quinine is.'

(Lancet, 18th November, 1944.)

Mepacrine was first produced in Great Britain by I. C. I. in 1940, since which time hundreds of millions of tablets have been, and are being, despatched all over the world.

(Mepacrine is not yet available for distribution in India through normal Trade channels but supplies may be obtained from Government Quinine Selling Agencies.)



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CLINICAL NOTES

Mepacrine as A Cause of Temporary Insanity

BY DR. KRISHNADAS DAS,

Lohagara, Jessore.

A young boy, aged about 14 years, showed symptoms of insanity some twenty days back (16-2-45). He used to have occasional attacks of malarial fever and one attack was recognised to be of unusual severity and the boy had to pass some days unconscious with high rise of temperature. He was however cured after being treated with intramuscular injections of quinine and other medicines.

For the occasional attacks of malarial fever, his father was tempted to get his boy treated with Mepacrine tablets as in this province the Government have been pleased to supply abundantly this anti-malarial remedy when quinine is not easily available.

After swallowing only 6 tablets the symptoms of insanity supervened. The boy was quite unconscious, his mind was absolutely out of order, broke glasses, utensils and being unmanageable, he was put to fetter (chain). The boy managed to break away the chain and took an unknown destination which he never knew before and reached Khulna. He was caught there and taken back home.

After using some sedative drugs, and after the lapse of some days the boy gradually regained consciousness.

Is it the after-effect of Mepacrine tablets?*

An Abnormal Case of Gonorrhoea

BY DR. R. S. LALL, L. M. F.,

A. M. O., Khairagarh State, C. P.

On 5-10-44, a young man of 25, came to me with the complaint that he is passing white thread-like things with his morning urine from 3-10-44. I prescribed him M. & B. 693, 2 tablets, thrice daily with alkali mixture. On the 7th he came and told that the symptoms were much the same with the addition of a few drops of discharge in the morning. Next day, I managed to take the discharge on two slides. They were stained with Gram's and Lieschman's methods and on examination, pus cells and squamous epithelial cells were found in fair number together with gono and staphylococci.

The patient then told that he had exposed himself to infection near about 26-9-44.

I prescribed him 4 tablets of Cibazol on the 8th and 8 tablets daily for next three days; then 6 tablets daily for another three days making a total of 23 gms.

*[We do not think it is due to Mepacrine. It may after all be a result of malaria itself, Ed.]

No discharge was visible after 3 days of the beginning of the treatment. The threads continued but were much less. On 15-10-44 urine on microscopical examination showed pus and epithelial cells only. No diplococci were found.

On the 15th I gave an alkali mixture with sandalwood oil, copaiba, cubeb and hyoscyamus. After a week's rest, I tried to give another course of M. & B. 693 with Vit. B. and alkali mixture; but the patient could not tolerate the drug for even a day. From the next day sulphadiazine 2 tablets thrice daily for 3 days and 1 tablet four times daily for next three days were given. No discharge could be had even on milching the penis. I put him on alkali mixture. Prostatic massage was possible on 10-11-44 which was negative. Niltex detoxicated gono. vacca, 1st dose was injected. Next day prostatic massage was done and the discharge examined. It was also negative. The urine on microscopical examination showed nothing particular. The threads disappeared gradually and slowly.

The point of interest in this case are:

- (1) Onset with threads in the urine.
- (2) No difficulty in micturition at any stage.
- (3) No constitutional symptom.

I am much indebted to my teacher Dr. D. Gupta, B. Sc., M.B., Teacher of Medicine and 1st Physician Bankura Medical School and Hospital for his valuable suggestions in treating the case.

ABSTRACTS

Intravenous Injection of Adrenalin in the treatment of Malaria and Kala-azar

Ravina—*Press Medicale*, January 13, 1937.

Ascoli has treated Malaria and other chronic affections associated with splenic enlargement with intravenous injections of very minute doses of Adrenalin. The result has been found so encouraging that in the opinion of the author it can be favourably compared with hepatotherapy in certain anaemias. The vasoconstricting action of Adrenalin explains the reduction of splenomegaly and one more important function played by Adrenalin, according to Ascoli, is that it combats anaemia both by its direct haemopoietic action as well as by suppressing the haemolytic factor of splenic origin.

Ascoli and Jarace have recommended the use of this method in acute Malaria, parallel with Quinine treatment. The idea behind this new therapy is that the Adrenalin will drive away the parasites from the haemopoietic organs and as they are thrown out to general circulation they will be fully exposed to the destructive action of Quinine.

The technique of treatment, as indicated by Ascoli, consists in daily intravenous injection of Adrenalin at gradually increasing dosages. The first dose being 1 cc. of 1/100,000 soln. while successive doses are 1/90,000 sola 1/80,000 soln. and so on till 1/20,000 or 1/10,000 solution is reached. The last dose is usually repeated 20 times. The subject becomes gradually used to such increasing doses of Adrenalin and the whole course is generally completed without any incident. If however any untoward symptom is observed during the course of treatment, a less concentrated dose should be administered. Very often the last dose has to be repeated only once or twice, which has been well tolerated. In any case it is difficult to predetermine the exact concentration of Adrenalin that will be necessary for a particular patient to ensure an effective splenic contraction. In very exceptional cases where there is persistent intolerance the dose should be limited to 1/30,000-1/60,000 soln. Injections should always be intravenous as subcutaneous injections will not give the desired result. In view of the very minuteness of the dose one

should remember that the result depends upon the quality of Adrenalin used. There is one main difficulty, in this treatment, which is to prepare daily different concentration of Adrenalin, which is again a very unstable product.

Ascoli has found that after a few injections, the spleen diminishes in size, anaemia disappears, and general health is improved. He emphasizes that the treatment is truly a specific for malarial cachexia and anaemia. This treatment has undoubtedly a lasting action and can prevent the relapse at least for one year. Satisfactory results have also been obtained in haemorrhagic diathesis, haemolytic splenomegaly, infantile K-A and particularly in the last it enables a reduction in the dosage of antimony to a considerable extent.

Giuseppe Sorge considers that Adrenalin used at a gradually increasing doses has a definite antiparasitic and antithermic action (*La Riforma Medica* 17th October 1936). It acts indirectly by stimulating the natural defensive mechanism of the organism. The author reports the observation of 5 cases of Malaria of which 3 were of recent origin and the other two were chronic. Two cases were cured without any Quinine and three patients had temporary cure and were to be treated with Quinine.

Later, Timpano in an article in *Policlinico* (Nov. 9, 1936) showed that the method ensured excellent result in the treatment of K-A, particularly the cases which are resistant or showing intolerance to antimony medication. The splenic contraction appears to render the specific treatment more efficacious and shorten the period of treatment. Apart from its therapeutic value this method appears to have a great diagnostic value as the parasites can be easily found out by blood examination (B. B. GUHA).

Treatment of Agranulocytosis A Ravina (*Press Medicale* 8th June, 1938.)

Professor Netousek (Bratislava) injected 10 cc. of leukaemic blood to a patient suffering from toxic agranulocytosis. The object of this treatment was to supply the patient with the nucleic substance susceptible to act on leucopoiesis. After 10 successive injections, the patient was perfectly cured. In the majority of cases of agranulocytosis, the pathological cause is the disappearance of a stimulating substance capable of acting on the bone marrow. F. Lainer (as reported in No. 41 *Klinische Wochenschrift* of October 9, 1937) attempted to make up for this deficiency by the transfusion of blood to such patients from feverish subjects who are believed to possess an abundant quantity of this stimulating substance. At first, leucocytosis was provoked in the donors' blood by injecting 15 cc. of milk. The author advocated the transfusion of about half a litre of blood with the highest number of leucocytes, generally attained 5 hours after the milk injection.

E. Baumann, in the *Munchener Medizinische Wochenschrift* of February 11th, 1938, recommended the use of extract of bone marrow. He prescribed 100/200 gm. of fresh calf marrow to a patient, having had no results with other kinds of treatment. Within 48 hours, the number of leucocytes had increased to 1,200 and the blood picture was improved by the appearance of some polymorphonuclear cells. After 6 days of treatment, the number of leucocytes increased to 3,000. The author also used the extract of bone marrow by parenteral route resulting in a great improvement of the general and haematological condition of the patient. It is worth mentioning here that recoveries from agranulocytosis have been obtained by several methods of treatment applied simultaneously, e.g., transfusions of blood, radiotherapy, leukaemic blood injections. (B. B. GUHA).

Corrigendum

Reference Resolution 16 of the last Calcutta Conference, published in page 181, June 1945 Issue: The last portion of this Resolution should read as follows:

This Conference resolves in pursuance of the above that a strong Committee be formed with the President, the General Secretary, Dr. A. D. Mukharji and a few other prominent members of the Association to wait in deputation on the Railway Board.

We regret the omission of the name of Dr. A. D. Mukharji, which was not in the copy sent to us for publication. Ed.—

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LETTERS TO THE EDITOR

I have read the editorial, the letter of Dr. P. B. Annangarachari, and the Provincial Secretary, Madras, (A.I.M.L.A.) published in the *Miscellany* in its issue of September 1945 with due attention.

I must state with added emphasis that my statement on the amalgamation question, as published in the *Indian Medical Journal* is correct in every respect.

Let me now reply to the points raised in *Miscellany's* September editorial.

(1) "If faithful reporting of the proceedings of the Conference and reasonable criticism of the behaviour of the President and of a handful of supporters constitute presenting absolutely (a) wrong picture and an unworthy motive to lower the prestige of the A.I.M.L.A., and some of its office-bearers, we cheerfully acknowledge our guilt to the very hilt."

As Chairman of the Conference, let me say once again that the 'reporting' indulged in by the *Miscellany* is incorrect and misleading in many respects. Its criticism of the President is certainly unreasonable and unwarranted. As regards "handful of (my) supporters," let me say that I was able to secure votes of 80 branches of the A.I.M.L.A.—whether this is "handful" or otherwise I leave your readers to judge.

Again the Editorial says:

(2) "Unfortunately the fourth paragraph of Dr. Kapur's article is a hopelessly tangled skein needing very delicate unravelling. Dr. Hanumantha Rao's resolution was a succinct one for amalgamation. It did not have any first part or second part. The President therefore had no opportunity to appeal to the mover to withdraw the first part and to move the remaining portion of the resolution. Nor was there any question of the mover accepting the 'advice' of the President." Actually the President echoed Dr. K. C. Wohra's opposition viz., that the resolution was out of order."

Resolution No. 18 proposed to be moved by Dr. G. V. Hanumantha Rao which was printed in page 6, under the head "Resolutions" along with the report on the working of the A.I.M.L.A. by the General Secretary reads as follows:

"This conference while accepting the principle that there should be only one medical association representing the Medical Profession in India as a whole, resolved to appoint a Sub-Committee to consider in full the question of amalgamation with the Indian Medical Association. The sub-committee shall submit its report to the Standing Committee before the 30th July 1945 for necessary further action."

Sub-Committee: Ex-Offices:
I. 1. President, 2. Hony. General Secretary.
3. President of the last year. 4. Editor of the Journal.
II. Three members elected. III. Quorum shall be four.

The first part of the resolution, as repeated by me before, was withdrawn by Mover at my request and the second part as amended by the Subject Committee, when passed, reads as follows:

"This Conference empowers the President of the A.I.M.L.A. to consider and discuss the question of amalgamation or otherwise with the President of the I.M.A. and its sub-committee and to report the result of the deliberations of their sub-committee to next conference."

The resolution of our subjects committee meeting was conveyed to the Indian Medical Association by some of our Members (Dr. G. V. Hanumantha

Rao, Dr. U. B. Narayan Rao, and Dr. A. Viswanathan) who attended its Working Committee Meeting at Calcutta when the following resolution on this subject was passed on 2nd April 1945, as communicated to me under the signature of Dr. Jivraj Mehta.

"The President of the Indian Medical Association be authorised to constitute a committee by nominating not more than 4 members on it, to help him to carry on negotiations on the subject of amalgamation or otherwise with another similar committee that may be appointed by the All-India Medical Licentiate's Association."

I wish the Editor of the *Miscellany* would now "challenge" the President of the I.M.A. also for using the words "or otherwise" after "amalgamation."

A third statement in the *Miscellany's* Editorial under reference is as follows:

"Once again, plainly and bluntly, we challenge the President to prove that the sub-committee was formed to consider the advisability of 'Amalgamation or otherwise' and not to go into the details of the questions of amalgamation already agreed upon."

I deny, as Chairman of the subjects committee and President of the Calcutta Conference, that the question of amalgamation, as such, was discussed at all, and least of all approved. What was discussed and resolved upon was the question of formation of a sub-committee to discuss the question of amalgamation or otherwise with a similar sub-committee of the I.M.A. If the Editor of the *Miscellany* believes that amalgamation has been already resolved upon by the Calcutta Conference and that we should submit to his "faithful reporting," even if he describes the day as the dead of night, he is living in a fool's paradise and does not know his limitations.

Re: Dr. Annangarachari's and Dr. Venkappa's letters, published in the *Miscellany*: they will be examined by our Association duly. But I would clear one point which has a direct bearing on Mr. Dr. Annangarachari writes:

"Similar incidents of the quarrel in the delegates' camp on the night of the 30th March, 1945 between the office-bearers and the Calcutta delegates when the validity of the President's election was questioned is also not reported. I ask, 'why?' The omission should have been due either to the fear of causing disruption in the Licentiate's Association or due to the conveniently weak memory of our leaders."

One delegate from Bengal wanted to know the result of President's election branch-wise. I, as the General Secretary, began to read out the list; but Dr. U. B. Narayan Rao who presided over the Delegates' Meeting, and also the House, did not like this idea. So, I had to give up reading the list. Could this be considered a "Quarrel" or "Questioning" the validity of the President's election?

The Editor of the *Indian Medical Journal* did not publish the last para of my statement "Absolutely a wrong picture," a copy of which had been sent by me to the President of the I.M.A. I trust it will be published now. It reads as follows:

"The All-India Medical Licentiate's Association will however, bear in mind, the attitude of a local medical Journal of the I.M.A. when discussing the subject of Amalgamation with that body."

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

* This is now proved by Dr. G. V. Hanumantha Rao's statement.—Ed.

* We invite *Miscellany's* attention to Dr. G. V. Hanumantha Rao's statement published in next page.—Ed.

We have closely followed this controversy as published in the *Miscellany*. *Miscellany's* fire-works do not delude any body except its own coterie. The true facts of the case are as pointed out by Rai Saheb Dr. M. L. Kapur, the President of the Calcutta Conference. Denials or challenges do not make them less true. *Miscellany's* comments are like those of the five blind men describing an elephant.

Dr. G. V. Hanumantha Rao, to whom we referred the matter for clarification writes to us under date 26-10-45 as follows:

"I thank you for the courtesy in referring me to the resolution dealing with amalgamation of which I gave notice to be moved at the last Calcutta Conference and to say what transpired about it then."

While moving the resolution in the Subjects Committee, points of order were raised by certain members, such as want of proper notice etc. At that stage, the President and other friends asked me to withdraw the first part of the resolution, and to move the second part relating to the formation of a sub-committee to discuss the question of amalgamation. This was amended to read as: A sub-committee be formed to consider and discuss the question of amalgamation or otherwise etc. It was the amended resolution that was before the Conference. Speeches, of course, were made both for and against amalgamation, perhaps as a guidance to the sub-committee.

I hope I have clarified the issues. While doing so let me once again urge upon the A.I.M.L.A. to accede to amalgamation which is in the interests of the licentiate and it is the only way by which they could maintain their organic existence, in view of the abolition of medical schools in almost all the provinces and incorporation by I.M.A. into its rules the very objects of A.I.M.L.A.

If *Miscellany's* real desire is for amalgamation and not mudslinging of workers, we are afraid its way is not the right way to approach the problem.

Apart from this, *Miscellany* writes in its editorial under reference by Dr. M. L. Kapur: "Incidentally it somehow happened that this particular issue of the *Indian Medical Journal* did not reach us though till now we have been receiving the usual exchange copy, month after month, without break." We state that *Miscellany* is not in our exchange list and if its Editor has not received his copy as member of the A.I.M.L.A., it is because his name was removed from our roll for non-payment of his subscription, as advised by the Treasurer, in his weekly return No. R/20 dated 30-6-45. He was retaken on payment of subscription as advised by the Treasurer, in his No. A/30 dated 8-9-45, when the back copies were sent to him. This insinuation is on a par with others of its kind in the editorial under comment.

Who is playing "ducks and drakes with facts?" Surely it is not the President of the A.I.M.L.A. but the Editor of the *Miscellany*. —Ed.

ANNUAL REPORT ON THE WORKING OF THE INDIAN MEDICAL JOURNAL FOR THE YEAR 1944-45

(Resolution No. 3 Dated 2-10-45 of the
Editorial Committee)

(1) *Accounts*.—The Accounts of the office were audited every month and the auditor's reports together with the monthly statements of accounts

signed by them were duly submitted to the Finance Secretary for disposal. A consolidated audit report for the year 1944-45, together with the verified details of balances on hand and list of property belonging to the *Journal* as certified by the auditors is appended.

(2) *Financial Self-Sufficiency*.—From the above it is evident that the *Journal* has continued to be self-supporting as usual, without in any way touching the subscription income. Not only has it been self-supporting, but it has also to its credit a nett profit of Rs. 10,231-2-10 for the year under report. Remittances to the Treasurer during the year under report are given below:

	Rs.	A.	P.
In Cash ...	13,000	0	0
By adjustment to Treasurer's Account ...	450	10	0
Total ...	13,450	10	0

(3) *Paper*.—Till March 1945, we were using Indian Printing Paper and as such we were under Paper Control (Economy) Order (1944) which did not permit us to publish more than 12 pages per month. On representation, it was increased to 20 pages per month. But as this was insufficient and as Indian Printing Paper was not available even in limited quantities we chose the option of coming under Newsprint Control Order. This ration has been recently increased to lbs. 608. Since the beginning of this year, we have been able to put in 40 pages on the average every month. Our pre-war average was 80 pages. We hope to put in more pages during 1946 when paper rationing and control is lifted.

(4) *Special Numbers*.—During the year under report we published two special numbers.

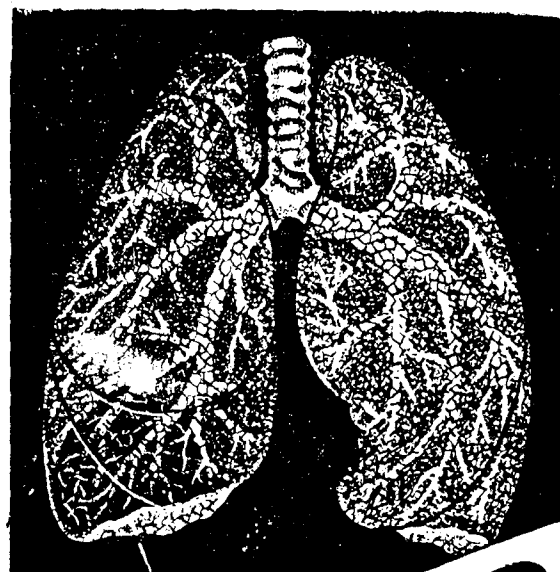
(1) On Penicillin in December 1944 issue.

(2) On I.A.M.C. in January 1945 issue.

These are apart from the Conference Numbers published in May and June 45.

(5) *General Remarks*.—The Editorial Committee recognises the general dissatisfaction regarding considerable reduction in pages. But as the Managing Editor has to conform to the Paper Order, the reduction is inevitable. By his continuous efforts, however, he has been able to secure paper ration sufficient enough for 40 pages per month. The Editorial Committee appeals to the members of the Association to understand the insurmountable difficulties, and assures them that as soon as control and rationing are terminated the *Journal* would come out with its usual features, like Medico-Political supplement, foreign letters, etc., and with its usual complement of pages.

The Editorial Committee met every month regularly and reported its proceedings to the General Secretary duly.



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* Colebrook, L. (1933) *Brit. med. J.*, 2, 725.

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M.16

THE INDIAN MEDICAL JOURNAL, MYLAPORE, MADRAS.
Audited Receipts and Payments Account for the year ended 30th September, 1945.

September, 1945.

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To Balance as on 1-10-1944:—							By Journal Expenditure:—								
Cash on hand	...	7	4	4			Paper and Printing for Journal, 9,366	15	1						
Postage Stamps	...	12	9	3			Establishment	...	4,020	0	0				
Bank Balances	...	3,236	10	7			Rent	...	720	0	0				
Paper stock	...	4,225	0	3	7,481	8	5	Other Printing	...	40	0	0			
							Stationery	...	137	8	5				
Journal Income:—							Postages	...	1,373	2	6				
Advertisement	...	27,188	14	5											
Other Receipts	...	4	8	0	27,193	6	5								
							Audit Fees	...	170	0	0				
Association income:—							Legal Expenses...	205	0	0					
Membership subscriptions ...					1,065	11	0	Miscellaneous ...	929	9	7	1,304	9	7	
													16,962	3	7
							Remittances:—								
							To Honorary Treasurer	...	13,284	2	0				
							To the President	...	136	12	0				
							To the General Secretary	...	29	12	10	13,450	10	10	
							Balances as on 30-9-45:—								
							Cash on hand	...	48	4	7				
							Postage stamps	...	24	13	9				
							Bank Balance	...	4,154	8	9				
							Paper stock	...	1,100	0	4	5,327	11	5	
Total ...					35,740	9	10	Total ...				35,740	9	10	

Audit Report.

We have extracted the above Receipts and Payments Account for the period from 1st October, 1944 to 30th September, 1945 of the Indian Medical Journal, Madras from the books maintained by them. The Journal income shown on the Receipts side and the Journal Expenditure shown on the payments side are worked out on cash basis alone and no account has been taken of outstanding advertisement charges or outstanding expenses or the advance collections towards Advertisement charges.

2. We have verified the actual cash on hand, Postages stamps and Paper stock as on 10th October, 1945 the date on which we visited the office for audit. The following inventory of furniture was also verified by us—

6 Almyrahs. 1 Typewriter table. 1 Underwood Typewriter—No. 10-4114202.
2 Plywood Boxes. 1 Adrenna Addressing Machine. 1 Cycle.

3. We were very much pleased to note the neat and correct way in which the books were maintained.

Madras.
11th October, 1945.

SUNDARAM & SRINIVASAN,
Registered Accountants, Auditors.

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Packings 1 oz. 100 Grs.			Packings 1 oz. 100 Grs.			Packings 1 oz. 100 Grs.		
R.A.	R.A.		R.A.	R.A.		R.A.	R.A.	
1. Anti Cataractous	3 0	1 4	24. Atropine and Dionine	2 8	1 4	54. Sulphanilamide Cum		
2. Anti Leucoma	2 8	1 4	25. Argyrol	2 8	1 4	Shark-Liver Oil.	2 8	1 4
3. Anti Conjunctivitis	2 8	1 4	26. Atropine	2 8	1 4	55. Yellow oxide of mercury		
4. Anti Keratitis & Pannus	3 0	1 6	27. Anti Septic Sedative	2 8	1 4	Cum Atropine	2 8	1 4
5. Anti Keratomalacia	4 0	2 0	28. Argento Cuprum	2 8	1 4	56. Sulphadiazine	3 0	1 8
6. Anti Corneal Ulcer	2 8	1 4	29. Bichloride Mercury	2 8	1 4	57. Sulphadiazine Cum		
7. Anti Bacterial	2 8	1 4	30. Boric Acid Ointment	2 8	1 4	Atropine	3 0	1 8
8. Anti Chalazion	3 0	1 8	31. Iodic and Zinc	2 8	1 4	58. Penicillin Strong		5 0
9. Anti Iridocyclitis	3 0	1 8	32. Calomel Ointment	2 8	1 4	59. Penicillin Cum Atropine	7 8	2 1
10. Anti Scieritis	2 8	1 4	33. Chaulmoogra Oil	2 8	1 4	60. Penicillin Cum		
11. Anti Blepharitis	2 8	1 4	34. Collargol	2 8	1 4	Sulphathiazole	7 8	2 8
12. Sulphanilamide Cum			35. Copper Citrate	2 8	1 4	61. Copper Cum Protargol	2 3	1 8
Atropine	2 8	1 4	36. Eserine Ointment	4 0	1 8	62. Penicillin Cum		
13. Sulphanilamide Cum			37. Homatropine	2 8	1 4	Sulphadiazine	7 8	2 8
Dionine	2 8	1 4	38. Mercurochrome and			63. Penicillin Cum		
14. Sulphanilamide Cum			Atropine	2 8	1 4	Sulphanilamide	7 8	1 8
Copper	2 8	1 4	39. Procaïn & Chloretone	3 0	1 8	64. Calomel Cum		
15. Sulphanilamide Cum			40. Pilocarpine	2 8	1 6	Sulphathiazole	2 8	1 8
Zinc	2 8	1 4	41. Protargol	2 8	1 4	65. Atropine Cum Scopolamine	3 0	1 8
16. Sulphanilamide Cum			42. Picric	2 8	1 4	66. Calomel Cum Atropine	2 8	1 4
Yellow Oxide of			43. Scarlet Red Ointment	2 8	1 4	67. Sulphanilamide 10%,		
mercury	2 8	1 4	44. White Precipitate	2 8	1 4	20%	2 8	1 4
17. Anti Pneumococcal	2 8	1 4	45. Xeroform	2 8	1 4	68. Shark-Liver Oil Cum		
18. Anti Gonococcal	2 8	1 4	46. Zinc Ointment	2 8	1 4	Yellow oxide of mercury		
19. Copper Citrate Cum			47. Zinc and Itchyol	2 8	1 4	Shark-Liver Oil 20%	3 0	1 8
Atropine	2 8	1 4	48. Picric Cum Atropine	2 8	1 4	69. Shark-Liver Oil 30%	2 8	1 8
20. Yellow Oxide of Mercury	2 8	1 4	49. Pilocarpine Cum Dionine	3 0	1 8	70. Dionine Cum Iodide	3 0	1 8
21. Halibut-Liver oil Cum			50. Xeroform Cum Atropine	2 8	1 4	71. Tyrothricine Cum		
Yellow Oxide of			51. Yellow oxide of mercury			Sulphathiazole	5 0	2 8
mercury	3 0	1 8	Cum Balsam Peru	2 8	1 4	72. Tyrothricine Cum		
22. Halibut-Liver oil Cum			Scopolamine	3 0	1 8	Sulphadiazine	5 0	2 8
Plasma Cum Atropine	3 0	1 8	53. Sulphanilamide Cum			73. Penicillin Cum		
23. Dionine	2 8	1 4	Chaulmoogra Oil	2 8	1 4	Yellow oxide of mercury	7 8	2 8

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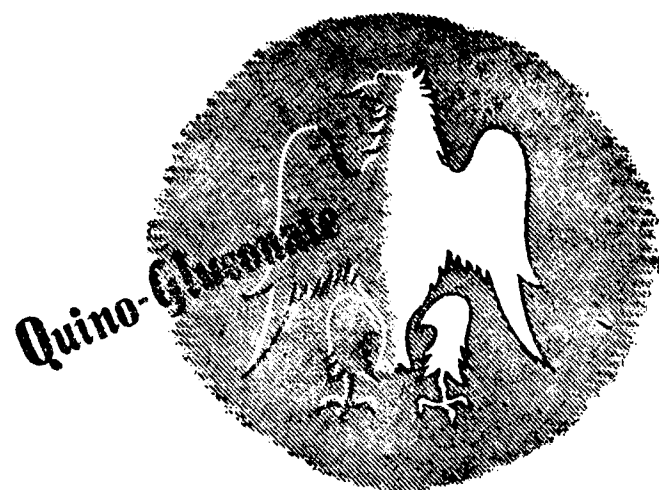
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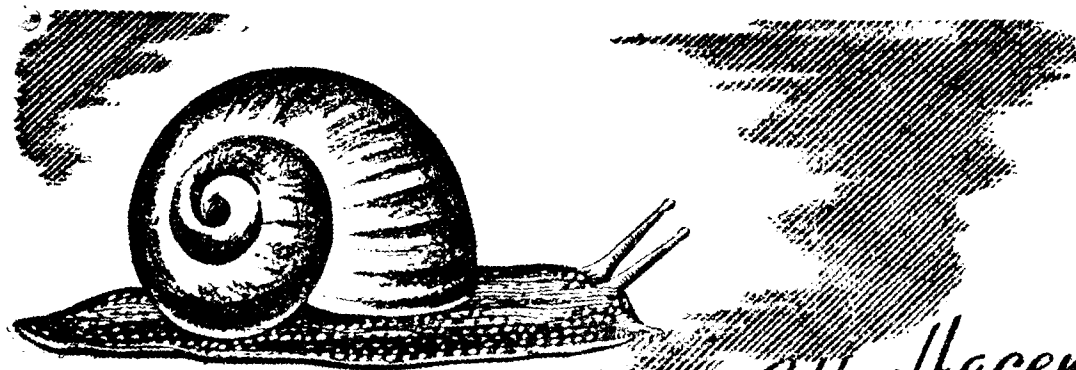
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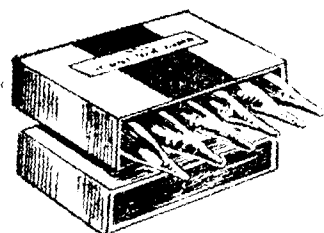
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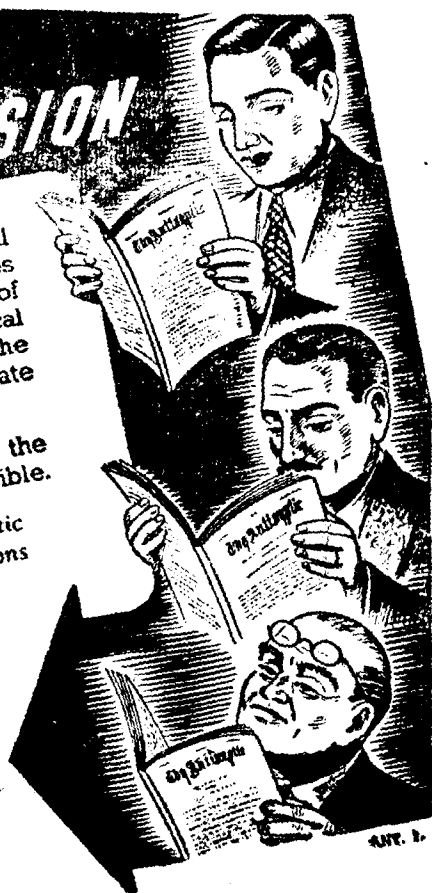
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Indian Medical Journal

(Journal of the All India Medical Licentiate's Association)

Vol. 39. Madras: November, 15, 1945. No. 11.

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NOTICE.

A meeting of the Standing Committee will be held at Delhi on 25th November 1945, at 1 p.m.

All the members of the Standing Committee are requested to be present. Those who are unable to be present may communicate their views to me on or before 20th November on the following subjects which form the agenda for this meeting:

- (1) Budget for 1945-46.
- (2) Correspondence with Railway Board in connection with the proposed deputation as per Resolution No. 16 of the Calcutta Conference.
- (3) Correspondence between the President I. M. A. and President A. I. M. L. A. and I. M. J. in connection with Amalgamation Question.
- (4) Venue of the Next Annual Conference.
- (5) Bhore Committee's Report
- (6) Adarkar's Report
- (7) Demobilisation
- (8) Miscellaneous

27, Dixon Lane,
Calcutta.

A. N. ROY,
General Secretary.

Indian Medical Journal

(Journal of the All-India Medical Licentiate's Association)

Vol. 39. Madras, November 15, 1945 No. 11.

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All advertisement correspondence and remittances, books for review, articles for publication and changes of address should be sent to the Managing Editor, Indian Medical Journal. Membership fee should not be remitted to the Journal Office.

Members are requested to Quote their roll Numbers when intimating their change of address to the Managing Editor or when remitting their Subscription to the Treasurer.

NOTICE.

As the Subscription is strictly payable in advance, those whose period of subscription expires by the end of December 1945 are earnestly requested to remit their subscription to Dr. Khan Chand Wohra, Treasurer, A. I. M. L. A., Chichawatni, Dt., Montgomery, Punjab. In case he does not receive it by the first week of Jan. '46 V. P. P. would be sent which may kindly be honoured.

OUR MONTHLY SURVEY

Work of the Indian Research Fund Association (1944):—This is epitomised in the report of the Scientific Advisory Board issued in September 1945. It covers a wide and variegated field of work in medicine and allied subjects, and reveals what Indian workers are doing in the realm of pure and applied research. By the very nature of their work they could by no means arrive at final conclusions in the respective subjects of their study. But this in no way reduces the value of their studies and utility of their tentative conclusions. Some of them are of great interest to the general practitioners.

Treatment of Cholera with Sulphaguanidine:—It is reported to be both bacteriostatic and bactericidal in its action on the cholera-vibrio. It has been found to be of greater value before the onset of collapse than otherwise. When the condition of collapse is present, saline infusion has to be given in addition to the specific drug. Out of 97 cases, 53 were treated with this drug, and 44 were used as controls. Following results were observed.

	Sulphaguanidine treated Cases	Controls
Total	53	44
Recovered	42 or 79%	11 or 25%
Died	9 or 12%	33 or 75%
Unknown	2 or 4%	Nil

It must be noted that these were early cases of cholera, and it is therefore natural to conclude that Sulphaguanidine would be more effective when given in early cases than when collapse and toxæmia set in. In the latter condition, the drug may not prove equal to the task.

The utility of Anti-Cholera inoculation:—The report rightly points out that the advantage derived from anti-cholera inoculation is not so much in recovery from the disease as in not getting it. Although the immunity is established even on the third day after the date of inoculation, yet from the point of view of absolute prevention we consider that mass inoculation must be completed in the inter epidemic period, and repeated yearly in epidemic zones before the forecasted period of the onset. The maximum period of immunity is five months, but the report points out that there is strong evidence of the immunity continuing upto 12 months. That anti-cholera inoculation reduces the incidence and mortality is beyond question or cavil even without delving into statistics. But the main and more fundamental line of attack against epidemic cholera must be on the lines of improved and protected water-supply and improvement in general sanitation of the rural areas. We hope that the Government would not forget this line of work but push it to the maximum limit of their financial capacity.

Nutritional factors in Hepatic cirrhosis:—Preliminary work conducted in the Northern circles of the Madras Province where incidence of hepatic cirrhosis is very high showed (1931-1935) that "alcohol appears to have a very insignificant role" and that "dietetic deficiencies appear to be important factors" in its causation. During recent years experimental evidence has accumulated to suggest that cirrhosis of liver may be a deficiency disease, and that deficiency of protein and vitamins of the B₂ group may be responsible for the necrosis of hepatic parenchyma and even portal fibrosis. The report mentions that work along these lines is still in progress. Meanwhile, the practitioners would be well advised to treat hepatic cirrhosis on dietetic lines and not drug the patient unnecessarily.

South Indian Diet:—Experiments were conducted to demonstrate for educational and propaganda purposes the inadequacy of poor rice diets and to test the effects of supplements to rice diets, etc. By all means let us study the South Indian diet from all points of view, but let us not, as the preamble to this work suggests, do it for "educational and propaganda purposes". We are no believers in the superiority of wheat diets. It is now recognised that the protein of rice is more easily absorbed than the protein of wheat. The middle class South Indian diet is made up of rice, dhal, vegetables, ghee, curds, and salads in fairly sufficient quantities and in the form of various edible preparations; compared to this, the middle class Punjabi diet is uninviting and unappetising and though it may be richer in protein and fat it is not so balanced a diet as that of the South Indian. We

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