

**BULLETIN**  
OF THE  
**SOUTH INDIAN MEDICAL ASSOCIATION**

---

**SEPTEMBER 1934.**

---

**MEDICAL CERTIFICATES.**

The bogus Medical Practitioners Act and its corollary the Medical Registration Act were thought by many to bring in a millenium in the medical profession of this Presidency. We may say that we were not among the optimists. We hoped, however, that there would be, at least, some improvement in the conditions under which the Independent Medical Profession worked. Restriction of unqualified practice, stricter control over the dispensing and sales of pharmaceutical drugs and poisons, validity of medical certificates issued by those registered under the Act are some of the items in which we hoped an improvement would be effected. The *laissez-faire* policy of the Government has resulted in the growth of mushroom institutions issuing highly illuminated diplomas to those whose only qualification is that they are willing to pay for the same. All over the country we see unqualified and untrained medical practitioners practising the healing art and using drugs the properties of which they have no conception.

The story of medical certification is another sad tale. We had hoped that those trained and licensed would be trusted in the issue of a certificate. The wide and undefined armamentorium in the possession of the Medical Council is ample to weed out the undesirables. The practice however is that a certificate issued by a non-Government servant is not worth the paper it is written on. Most of these certificates are of Government servants under the care of private practitioners. Some are for medico-legal cases. In either category either under the euphemism of a second opinion or a deliberate requisition to a Government medical servant, these certificates are flouted and not given credence to. We recently came across an instance where a Solomon in his new found glory openly discredited a private practitioner's certificate and sent for the Government medical officer. It might interest the readers to know that this patient was later found deserving of admission in a public hospital. If a registered practitioner's certificate is of no value we do not see what purpose the Medical Registration Act serves. If conditions do not improve we might even be forced to recommend to the Independent Medical Profession the inadvisability of registering in the Madras Medical Register.

**Ref: Private practice of whole-time Radiologists—Restriction to consulting practice in the speciality in the case of future holders—ordered.**

G. O. No. Ms. 1639 P.H.,

*dated 4th July 1934.*

The Government have considered the question of allowing private practice to the future holders of the posts of Radiologists (wholetime) in the Barnard Institute of Radiology, and other X-Ray Departments including the Director of the Barnard Institute of Radiology and have decided—

(i) that they should not be allowed to engage in any sort of private practice in the Barnard Institute of Radiology and other X-Ray Departments or to share any portion of the fees derived from X-Ray and Electrical work done in those institutions, and

(ii) that they should be allowed only consulting practice in their speciality using for the purpose only their own apparatus.

The term “Consulting practice in the speciality” will mean (1) examination and treatment of patients with his (the Radiologist's) own apparatus in his consulting room which would mean his own house or some place used as a consulting room other than the Government institution in which he is employed, and (2) examination of patients elsewhere than in his consulting room or the Government institution in which he is employed at the request of or in company with a registered practitioner.

2. Separate orders will issue on the question of prohibiting private practice in the Barnard Institute of Radiology and in the other X-Ray departments in the case of existing incumbents.

## **Ten years of activity of the Malaria Commission of the League of Nations.**

The health section of the League of Nations has issued a survey of the work which has been done during the last ten years for the prevention and treatment of malaria.

At the end of the world war in 1918 there was a general recrudescence of malaria in many parts of the world. A serious situation had arisen owing to war conditions, the almost complete suspension of anti-malarial measures in many parts of the world, a general disorganisation of health services, a lack of doctors for civilian work, an insufficiency of quinine, inadequate funds and movements of populations during and after the war.

The migration of the populations appears to have been an important factor. Persons more or less resistant to local strains were found to be not immune to foreign strains, while immigrants had no resistance against the local virus. Bad housing conditions, famine, and a whole series of unknown factors called for study with a view to preventive measures and a reconsideration of the whole questions of treatment. The recrudescence of malaria in districts from which it had disappeared threw serious doubt on the value of the methods hitherto employed in combating and controlling the disease. It was soon realised that the situation called for international measures, the problem being too complicated and extensive to be dealt with by individual Governments and acting with the means at their disposal.

Accordingly in 1923 the Health Committee of the League constituted a Sub-Committee of experts in malaria with a view to obtaining exact infor-

mation in regard to the distribution and character of the disease. The original Sub-Committee later became the Malaria Commission.

The Malaria Commission devoted its attention to three specific problems, (1) anophelism without malaria, (2) the production and sale of quinine and (3) the organisation of epidemiological enquiries in heavily infected countries.

The Commission in addition to studying and collecting information on the various aspects of these points and arranging study tours in various countries for epidemiological enquiries also sent individual experts to certain countries to report on the situation.

Meanwhile, a general enquiry was organised with a view to ascertaining the prevalence of malaria throughout the world. Ninety-three health administrations of malarial countries, representing three-quarters of the population of the globe, furnished information on the subject. It was ascertained that the number of malaria cases treated in the different countries during the last year covered by enquiry amounted to 17,750,760.

The Commission, as a result of these studies and enquiries, was in 1927 able to set forth a number of principles which should govern anti-malarial work in Europe. It was, in particular, agreed that it was in the first place essential to treat the sick. The second step was to kill the malaria parasite, either by treatment in the patient or by destroying the infected mosquito. The general enquiries made clearly showed, however, that the methods adopted should vary widely according to locality and the general conditions prevalent among the infected population. A method giving good results in one malarial country could not

necessarily without a careful study of local conditions, be applied elsewhere.

These conclusions emphasised the necessity of enabling young malariologists to obtain experience by working in different countries and examining locally existing conditions and the methods applied. From 1926 onwards international courses of malariology have been organised in France, Germany, Great Britain, Italy, Spain and Yugoslavia. Many doctors attending these courses have been granted scholarships by the Health Organisation of the League and also by the Rockefeller Foundation or the Health administrations. This year the course will be held in Rome at the new Institute of Malariology, with the assistance of experts from different countries.

The malaria courses in Europe do not, however, meet the needs of the medical officers who will be required to undertake work in non-European countries, where the conditions are different. The Malaria Commission, therefore, proposed, with the approval of the far eastern health administrations concerned, to organise malaria courses in Singapore beginning from April 30th, 1934.

Following the enquiries undertaken by the Malaria Commission, an important conference was held at Geneva in January 1928. It decided that several questions were of sufficient importance to require international co-ordinated research. The enquiries to be made were grouped under three main heads:

- (1) The treatment of malaria and its importance in malaria prevention ;
- (2) Housing and malaria ;

(3) Anophelism without malaria and malaria in deltas.

The enquiry into the subject of treatment was entrusted to the Secretariat of the League, and the results were published in 1932. The quantity of quinine or of alkaloid mixtures annually required to meet the needs of the eighty-eight malarious countries of the world amounted to 1,387 metric tons per year. The present consumption of quinine, however, is not more than 600 tons. The greatest obstacle to a larger consumption is probably the cost of treatment and it was urged that a more rational use of the different alkaloids of cinchona might have supplied a drug cheaper than quinine and sufficiently efficacious. The Malaria Commission has recommended a standard formula for a total alkaloid mixture known as *totaquina* and researches as to its efficiency have been carried out in hospitals and dispensaries in various countries.

Research work, moreover, was organised in various countries on the efficacy of other drugs and the Malaria Commission published the results in June 1933. The evidence shows that quinine is still the best remedy to prevent the onset of clinical symptoms after infection. It is further established that quinine and atebrin are the best remedies against the attack. No drug can guarantee patients against a relapse.

The studies undertaken into the question of malaria in deltas were started in November 1925. These studies showed very clearly the variations which may occur in different localities where the conditions are superficially similar. The general conclusion of the Commission were that malaria increases in delta regions with the increase of population, and that it

becomes worse with the immigration of people from non-malarial regions, with the spread of agriculture, with the reclamation of ground and the works carried out in connection with these operations. The Commission, in view of these surprising inferences, emphasises that any new economic activity may risk failure unless due account be taken of the danger of an outbreak.

The general result of a ten years study of antimalarial measure further emphasises the necessity of dealing with the many problems involved on an international scale. Most of the factors of malarial epidemiology present both general aspects and aspects which are peculiar to different localities, climates, races, degrees of immunity of the population, social and economic conditions, the virulence of the parasitic strain and other features which vary from district to district. The combination of general and specific factors renders co-ordinated international research almost indispensable. There are certain research problems, moreover, which cannot be studied except on international lines. The Malaria Commission, representing all the various schools of malariology, is able to co-ordinate and pool information and experience required by experts all over the world.—C. M. J.

Let your colleagues know  
what you think.

—♦—  
Say it in the  
BULLETIN.

**Venereal diseases and the sequelae of corneal traumata and acute corneal ulcerations not included under previous headings.\***

Lt.-Col. R. E. Wright,  
C.I.E., I.M.S.,

*Superintendent, Govt. Ophthalmic  
Hospital, Madras.*

**Ophthalmia neonatorum—Gonorrhoeal  
Conjunctivitis of the new-born.**

The venereal disease which has the greatest interest in connection with preventible blindness is ophthalmia neonatorum, sometimes referred to as Blennorrhoea or baby's sore eyes. It is an acute conjunctivitis due to infection with the gonococcus which gains access to the child's eyes at the time of delivery. When the maternal passages contain this organism it is always possible for the newly-born infant to become infected if precautions are not taken. Should this happen the newly-born child's eyes soon become red and oedematous and a thin purulent discharge exudes from between the swollen lids. This acute conjunctivitis is liable to be associated with ulceration of the cornea, perforation, and loss of the eye, or, as is more frequently the case in this part of India, the ulceration may be milder and eventually heal with more or less opacification of the cornea. The condition is easy to diagnose clinically, but should always be confirmed by detecting the gonococcus in the discharge when examined microscopically. Other forms of blennorrhoea of the new born are met with which are clinically very similar to the gonorrhoeal affection, but in which the gonococcus is not found. They too are severe and likely to produce great damage if not treated.

This disease has been known and dreaded by accoucheurs for many years

and its seriousness as a blinding affection has been fully recognised by both obstetricians and ophthalmic surgeons. In western countries it is said to be the greatest single cause of preventible blindness. In England and Wales it is held to account for 10 per cent of the total blindness. Now this is a very interesting point because it is certainly not the greatest cause of preventible blindness even in children in India. Why this should be so is not quite clear, but I have elsewhere advanced the suggestion that here in Madras at any rate we are dealing with a strain of gonococcus which is not so virulent as that which is responsible for the disease in England. At one time we thought that perhaps the rate of occurrence was much less than elsewhere, and we were advised that it was very seldom seen in our sister institution, the Government Hospital for Women and Children, Madras. Careful investigation showed that this was not the whole truth. In one year we collected quite a large number of cases amongst babies born in the Hospital for Women and Children. Many of them no doubt did not give the clinical appearances of classical ophthalmia neonatorum, but microscopic examination proved their true nature. Nor was it because these cases had been dealt with at birth in the way which in the West is regarded as the specific prophylactic treatment. Some of them had not been treated prophylactically at all. It was apparently due to the fact that the affection was mild in nature and a possible explanation is as mentioned above, a difference in the strain of the infective organism. It is highly probable that the condition is more prevalent in mofussil villages where skilled medical attention is not available than in cities such as this. Even so the cases which we do see here tend to be mild. Taking figures for our ophthalmic hospital population we find

\* Elizabeth Matthai Lectures, 1933-34.

that its incidence for ten years averaged 42 per annum in a hospital average population of 20,000, that is about 2.1 per 1000. This, as you will remember from our first lecture, is a far lower incidence than that of keratomalacia. The relative significance is also affected by the frequency of other conditions such as the effects of small-pox, and irritant remedies which now-a-days are not prominent causes in England and Wales. As time passes and the general social conditions and public health of a country improve the picture of eye disease changes. One has only to look at Dalrymple's atlas of eye diseases published in London in 1852 to realise that the affections depicted as prevalent at that time in London, and now much rarer there, are common in our Madras out-patients department to-day. If we consider the relatively small number of cases which we do see, it is also noteworthy that very seldom indeed does the disease produce blindness. This, perhaps, is largely because of the energetic treatment given, but even cases which come late rarely go on to blindness so that we have come to form the opinion that ophthalmia neonatorum is not nearly such a potent cause of blindness in India as it is in the West. This does not mean that we should relax our efforts to prevent infection. As you may imagine, a condition which is the greatest cause of blindness at all ages in England and Wales, and which is definitely preventible, has stimulated a great deal of effort there in connection with its prophylactic treatment. It was found that in spite of a known efficient prophylactic treatment the rate of incidence still remained about where it was some years ago. It is therefore regarded so seriously that exceptional measures have been adopted to stamp it out. The Council of British Ophthalmologists has recommended the Ministry of Health to establish oph-

thalmia neonatorum centres all over the country. That it be made compulsory for nurses, district nurses, midwives and medical students to attend at one of these centres for practical instruction.

For many years it has been known that a prophylactic treatment known as Crede's method is a certain way of preventing the disease if properly carried out. This, or some equivalent modification, is adopted in most of the lying-in-hospitals of England and Wales and those elsewhere in Europe. It may be of interest to give the detail of Crede's own directions:—"As soon as the umbilical cord has been cut, the child is to be freed from the vernix caseosa with the adherent blood and mucus in the usual way, and then placed in a bath. The eyes are to be washed with a clean cloth, or better absorbent cotton, not with the water of the bath, but with other clean ordinary water. Then, before the baby is dressed, each eye should be opened a little by means of two fingers and a single drop of 2 per cent solution of silver nitrate brought in contact with the cornea and allowed to drop upon it. No further attention is to be paid to the eye. The instillation must not be repeated if during the next twenty-four or thirty-six hours, there should be a slight redness and swelling of the lids with a mucous secretion."

It would probably be easier and safer to instill the drop of silver nitrate by letting it fall from a dropper upon the conjunctive at the inner angle of the eye or in the gap between the lids without touching the cornea rather than try to follow the detail of the original description. One per cent silver nitrate is more generally recommended now-a-days by British ophthalmologists than 2 per cent. The chief thing is that it should be

employed in all cases unless it is absolutely certain that neither the mother of the child nor the father has had gonorrhoea. It would be only reasonable to insist that neither doctors or midwives be qualified to practice in India until the medical authorities are satisfied that they have had a practical experience of the prophylactic treatment of ophthalmia neonatorum as approved by the British Council of Ophthalmologists.

#### GONGENITAL SYPHILIS.

The syphilitic affection of the eyes which is responsible in some cases for causing blindness in children is known as parenchymatous keratitis, interstitial keratitis, or uveitis anterior. It is one of the most important of the stigmata of congenital syphilis and is included in the triad of symptoms and signs which Jonathan Hutchinson, the great clinical syphilologist described as most characteristic of this condition, the other two being deafness and the peculiar shape, spacing and notching of the teeth since known as Hutchinson's teeth. As a matter of interest I may mention that we seldom observe the deafness of this triad in our out-patients department. Only a few weeks ago I had the opportunity of examining 118 deaf mutes in the School for the Deaf, Mylapore, and did not find an instance of congenital syphilis. But this triad alone does not give us the whole picture of congenital syphilis as we meet it. Frequently children coming to the hospital with this chronic inflammatory condition of the cornea are unmistakable as congenital syphilitics the moment they are seen. They always present one or more of the other common stigmata which go to make up the syphilis facies. The skin of the face is inclined to be thick and lined, the face itself is narrow and pinched, the frontal eminences promi-

nent, the bridge of the nose flattened, and tip-tilted by contrast, giving a sunken appearance to the face below the brows. The eyes when affected show a bluish haze, the teeth are irregular, spaced and notched, the palate highly vaulted. The knee joints may be swollen and contain more or less fluid but are not necessarily painful. The body is undersized and thin, although the child is often precocious. It would be unsafe to diagnose congenital syphilis by the appearance of the teeth and palate alone because we frequently see non-syphilitic children with similar abnormalities of teeth and mouth, but interstitial keratitis itself is characteristic when examined under magnification. It always affects the two eyes, but not necessarily together. A feature of the keratitis is the blue haze which seems to show up more in the Indian eye than the pink crescent or salmon-patch due to deep vascularisation of the upper part of the cornea which is so characteristic in the lighter coloured eyes of Europeans. The affection in the eye however is not confined to the cornea, there is also a deep inflammation due to the infection of the pigmented coats and it is the iritis and choroiditis which frequently do the greatest damage in this affection. Our Indian cases also frequently have massive pale inflammatory deposits on the back of the cornea. We see quite a large number of congenital syphilitics year in and year out; for the last ten years the figure averaged 30 cases in approximately 20,000 out-patients per annum, but this is a considerably lower frequency than that given for ophthalmia neonatorum. Relatively few instances are seen in babies and then only when they are in an advanced stage of marasmus and quite likely to die. Those children who survive the general effects of the congenital disease very often find their way to the hospital, if and when

eye symptoms appear. Although interstitial keratitis is not common in the first five years, being far more frequent in the next 15, still we may regard it as a disease of childhood inasmuch as the infection required for its production is there at birth. But no matter at what age the eyes show the hereditary taint, the numbers which we see rendered blind by this affection in any one year is relatively small. Many of them now a-days respond to treatment by organic arsenic intravenously and recover a considerable amount of sight. I do not suppose more than three or four children in any one year would be noted as blind or practically blind of this affection. We see then that congenital syphilis is not so important a cause of preventible blindness in children as some of the other conditions we have been considering. This does not mean that syphilis, congenital and acquired, is not to be regarded as one of the greatest causes of preventible blindness at all ages; it is, perhaps, the greatest single cause.

The whole clinical picture of syphilis has been modified here in the last thirty years owing to the arsenical method of treatment started by Erlich and the more modern combined methods so that most of our serious eye disease is seen after the fourth than in the earlier decades, but with such considerations, however interesting, we are not now concerned.

*Prevention* :—The prevention of the syphilitic blinding diseases of children resolves itself into prevention of the disease in the adult population. This is a most important matter as probably every responsible member of society knows. They also ought to know that syphilis is essentially a disease which is very amenable to treatment and although gonorrhoea is more elusive, it too is amenable to

treatment when taken in time. A third thing, which every member of the general public ought to know is that Government has a special or venereal branch of the medical department which practices all the most up-to-date methods of dealing with these two diseases, is in touch with the great modern venereal clinics in Great Britain is capable of employing the most up-to-date tests, and is ready to do all this free and privately. Unfortunately since this is started as a routine efficient machine, it has got a little out of the lime light. It is no longer as fashionable as it was some years ago to attract attention to oneself by rushing round to get a seat in the front row at a venereal or social hygiene meeting. Government too has cooled off a little and the machine which was modelled on Mr. Lees's organisation in Edinburgh, and was to have been extended to the remotest parts of our Presidency, is in places very hard up for bare necessities and without them in many more. While this "out of sight out of mind" slump has been attacking our anti-venereal campaign, it has become fashionable to publicly boast and collect both money and men (members of the thinned out ranks of sub-assistant surgeons) to tackle social diseases which are not nearly so important and which are in quite a different category such as tubercle and leprosy. These would die a natural death with the betterment of social conditions, and the advance of civilization, whereas the venereal diseases march hand in hand with civilization; at least they have done so up to quite recently and will again if the general public allows its perspective to be distorted and its money diverted into less important channels by enthusiastic lay workers, un-informed city fathers, or even a benign Government. I do not mean to infer that the combat of social evils of any sort is not worthy of energetic effort.



It is the lack of perspective in social effort and good work which is so defective. Perspective is certainly important in all prevention work if effort is to be properly directed. It is of practical interest to ophthalmologists that the realisation of perspective revolutionised the painting of the Italian Renaissance. It came in a wave of enthusiasm, gradually settled down and has remained ever since as an ordinary feature of that art. If we could only have such a burst of enthusiasm in the realm of local mental perspective it would do much to co-ordinate and enhance the value of the various efforts to correct social evils.

#### SMALL-POX.

One of the most important diseases giving rise to an acute ulceration of the cornea which frequently results in blindness is small-pox. We may well consider it as a preventible disease of childhood because protective vaccination against small-pox is supposed to be carried out in the first year of life, and theoretically we may expect to meet with the more severe forms of rash on the face with associated ulceration of the cornea, in the period before vaccination. This does not quite follow however as some of the children are not vaccinated at all and others are not vaccinated successfully. Of course even the unvaccinated may escape till quite late in life so that the blindness due to small-pox is not by any means confined to children or adolescents. It is not possible to estimate the number of persons rendered blind by this affection even in a hospital population. We can only try to get an approximate idea in this way. If we take an average for four years of the number of eyes seen with scars of the cornea which have resulted from ulceration of one sort or another, we find that the figure is about 806 cases in 20,000 out-patients. This figure is made up of the number of cases dia-

gnosed as nebulae, leucomata, and staphylomata of the cornea. An attempt to analyse these in 1929 showed that of 726 opacities of the cornea (the leucomata and nebulae).

59 followed small box

2	„	ophthalmia neonatorum.
92	„	irritant remedies.
68	„	injuries.
54	„	ulcers (associated with acute catarrhal conjunctivitis, phlyctenular conjunctivitis, etc.)
41	„	trachoma.
18	„	keratomalacia.
14	„	syphilis (congenital or acquired).

378 were of unknown origin.

Of 143 anterior Staphylomata (bulging corneal scars):

16 followed small pox.

Nil	„	ophthalmia neonatorum.
35	„	irritant remedies.
31	„	injuries.
2	„	ulcers (associated with acute catarrhal conjunctivitis, phlyctenular conjunctivitis, etc.)
Nil	„	trachoma.
6	„	keratomalacia.
Nil	„	syphilis.

53 were of unknown origin.

As pointed out in a previous lecture some cases of leucoma and staphyloma must be taken to swell the numbers of blind due to keratomalacia, e.g., 24 in the above statement where the sequence is known, and an uncertain number of the 431 undiagnosed. The difficulty of assessing the responsibility for total blindness is however great and we had to draw on our experience in estimating the importance of the various causes. It

may be seen at a glance however that even if the majority of these opacities and staphylomata only partially blind the individual, the position of small-pox comes close to injuries and irritant remedies in giving rise to serious damage which may result in loss of sight. In the year analysed 75 patients out of about 20,000 showed that the disease had attacked the eyes, about 3·75 per 1000 of our hospital population. It will be remembered however that about 9 per 1000 were attacked and 3 per 1000 rendered blind or practically blind by keratomalacia. How is it that small-pox attacks so many persons severely when successful vaccination at regular intervals protects from the severer forms of the disease? A reference to figures kindly supplied by Col. J. R. D. Webb, I. M. S., Director of Public Health, Madras, give a partial answer to the question. They show the percentage of children who escaped vaccination in the Madras Presidency during the first year of age.

1928-29	... 37·1 per cent
1929-30	... 37·3 ..
1930-31	... 43·4 ..
1931-32	... 40·8 ..
1932-33	... 47 ..

To quote the Director of Public Health:—

“This shows that a proportion from 37 to 47 per cent of children surviving at one year escape vaccination. This is only a rough approximation, for we have no idea of the vaccinal condition of the infantile deaths. In the above figures the assumption has been made that all the infantile deaths were not vaccinated. As vaccination is generally done after the age of six months, we may take it that roughly about a third of these infantile deaths were amongst the vaccinated. Assuming this the percentage of escapes at one year will

be still further increased. The number of vaccinations in the years 1—6 is only slightly less than the number of escapes at one year calculated as above. The proportion vaccinated varies from 100—80 per cent of the escapes at 1 year. As a rough approximation we may say that 90 per cent of the surviving children get vaccinated by the end of the sixth year. The failure rate varied from 4·1—1·4 per cent of the number of vaccinal operations. We have no statistics to show the number of small-pox cases amongst the vaccinated which give rise to pox marks on the face.”

I presume we must also assume that the number of those attacked before vaccination who do not die are not recorded in the vaccination operations. A consideration of these facts help to explain why small-pox is responsible for a considerable amount of blindness in spite of an elaborate machinery for preventing the disease.

#### IRRITANT REMEDIES.

It will be seen from the figures given above that the use of irritant remedies was responsible for 127 cases of severe damage to the eyes in 1929, over 6 per 1000 of our hospital population. Many of these are rendered partially blind; it would be impossible to say how many are totally blinded from this cause, but it is likely to be in the neighbourhood of 2 per 1000 if we take into consideration the probability that the figures for corneal leucomata and staphylomata of unknown origin are more likely to include a higher proportion of cases due to this cause than for instance to small-pox which is more readily eliminated from the unknown origin group. This cause of blindness in children is almost peculiar to the East and we are particularly prone to it in India. The ignorance and superstition which prevails is almost unbelievable

in this connection. Not only do village quacks and old women of the family treat all manner of simple eye disease by inserting virulent irritants into the eyes, but they even treat fits and various forms of unconsciousness in children by this means with the idea of directly stimulating the brain. Nothing appears too vicious for these people Tobacco juice, red hot coals, alum, chillies, the leaf or juice of the plant called in Tamil Erukkam [Madar (Hind.), *Calotropis gigantea* (Bot.)], urine, dung, human milk, have all had their adherents as efficacious remedies. A former member of the staff of this hospital, an experienced Sub-Assistant Surgeon Dr. Ekambaram, made an investigation in this connection and succeeded in listing no less than 144 types of irritants which may be put into the eyes for various reasons. The only way to prevent such a state of affairs is to bring home the wrong of such practices to the villagers. We attempt to do this by approaching children and parents by means of posters, lectures, leaflets and other forms of propaganda through the agencies of the medical and educational departments and unofficial organisations like the Red Cross Society. The most effective agent in dispelling ignorance and superstition is the educational department, and the Director of Public Instruction through the machinery under his control has done, and is still doing the chief work in this connection.

### INJURIES.

Injuries account for quite a high proportion of the cases of severe corneal damage which may result in partial or total blindness in children. The bulk of these no doubt affect one eye only although there is one very important type of damage which nearly always involves both eyes, I refer to the result of explosive mixtures. We all know how popular crackers,

fire works, bombs and so on are on certain festive occasions in India. For the most part the injuries are sustained by the individual who prepares such explosives, hence this type of damage is not so common in young children. From the figures at our disposal we cannot estimate the proportion of children rendered totally blind by injuries, and the same applies to the damage of undiagnosed ulcers, but it is likely that total blindness in children from such causes is rare.

As seen in the above statement 431 cases of corneal scars and staphylomata of unknown origin were observed in 1929, out of about 20,000 out-patients. The great bulk of these were no doubt in adults and do not come into our purview, of the remainder (those affecting children) the majority were unilateral and not a cause of total blindness, a number were probably due to keratomalacia, ophthalmia neonatorum, irritant remedies and injuries. It is impossible in the absence of an accurate history to say what is the cause of an old corneal scar or at what age it occurred and we cannot do more than depend on our experience in disposing of this group in the way suggested above; even if the assumption is considerably in error, it does not affect the general considerations as to the chief causes of preventible blindness in childhood.

Finally as regards preventing the various types of blindness dealt with in this lecture, we depend on propaganda work almost entirely; there is no legislation. The difficulty of propaganda work may be gauged by the fact that it took me over two years to obtain a few thousand copies of ten different posters from one of our local organisations with public money lying idle which had been earmarked for devotion to such ends.

Routine continuous and organised effort in the direction of prevention

does not attract the average lay worker. It does not bring individual effort into sufficient prominence, nor afford the personal satisfaction and public approval which many a social worker appears to have in view rather than the end towards which the effort is ostensibly directed. It is also much easier to play on the feelings of the public in order to enlist sympathy in the cause of humanity when the damage has been done rather than prevent the damage. To care for the blind is a more popular social virtue than to prevent blindness. It would almost appear that the continuous, effective and unostentatious part which every educated citizen ought to play in the prevention of social evils was too dull a role for many of those impetuous spirits whose enthusiasm carries them towards the forefront of the clamour in connection with any popular movement of the moment. They appear to set an example of good work to others, but the others are not infrequently left to carry the baby, sometimes not a very healthy baby. Most of you, my hearers, being medical men and women, will frequently find yourselves in this position, but do not let this disappoint you; continue to preach the gospel of prevention consoling yourselves with the fact that none are so blind as those who will not hear.

### **Some Aspects of Malaria.**

S. Thambiah, M.C., B.A.,  
M.R.C.P., D.T.M. & H., F.D.S.,

*Lecturer in Dermatology, Medical  
College, and Dermatologist, Govt.  
General Hospital, Madras.*

Malaria is a preventable disease and is one of the small class of diseases which can be treated with certainty of success; yet one finds, from the computation of experts, that a million of lives are lost annually in

the British Empire. According to Public Health Statistics in India, 68·8 per cent. of deaths from all causes are due to febrile diseases, and perhaps malaria will account for a major portion. 25 per cent of all deaths in India is due to malaria (Deshmukh). If this is the rate of mortality, then the morbidity and the consequent economic loss to the country must be something very enormous. Malaria is aptly described as the king of the tropical diseases, and holds undisputed sway over the tropical and sub-tropical belts of the globe.

Microscopical examination for the parasite is the only method of accurate diagnosis and all else is conjectural. Wherever facilities exist, a blood smear, either a film or thick drop, should be examined and the technique is easy and not a time-consuming measure.

Residence in an endemic area, characteristic history of the fever, divisible into the three stages—the cold, the hot and the sweating stage—and the periodicity will together furnish a highly presumptive evidence for diagnosis, and a final clinching therapeutic test by quinine or atebrin will clear up matters. These are useful aids where a microscope is not available. High mono-nucleosis, pigmented mono-nuclears and polymorphs and the presence of stippled red blood cells (lead poisoning being ruled out) may be of some help in those who had taken quinine without a previous blood examination.

Sufficient consideration has not been paid to the cutaneous changes met with in Malaria. Partly as a result of anaemia and blood destruction, and partly from the deposit of pigment, face, backs of hands and particularly the wrists assume a dull brownish or earthy tinge; better noticeable in fair persons. Herpes is another frequent

manifestation and affects the lips, sides of nose, eyelids, and sometimes the cornea. Punctate haemorrhages and urticaria not due to quinine administration have been described.

I need not go into the details of the treatment by quinine except to point out some useful common places more often forgotten than not known. A dose of calomel combined with sodium bicarbonate overnight followed by an appropriate dose of saline on the following morning will relieve the hepatic congestion in addition to a cleaning out and help the ready absorption of specific drugs. Quinine sulphate will still hold its place in mass treatment on account of its comparative cheapness; its solubility can be improved by making it into an acid salt—bisulphate, by the addition of dilute sulphuric acid or citric acid. Quinine administered in a mixture is better absorbed than as powders and tablets. Tinnitus and deafness may be obviated by a few drops of dilute hydrobromic acid added to the mixture, or quinine hydrobromide may be substituted for the sulphate. Ethyl-carbonate of Quinine (euquinine) on account of its freedom from the bitter taste, is useful when prescribing for children. It is made into a mass with honey, treacle, golden syrup or jam at the time of administration. The solubility of bi-hydrochloride, 1 in 1, is taken advantage of when intravenous administration is indicated in cases of cerebral malaria and bilious remittent type. When a patient can take quinine by mouth, other forms of administration as intramuscular or intravenous need not be resorted to, and the required concentration of quinine, is easily attained by this method alone. As above indicated, if the bowels are well opened at the outset, absorption from the gastrointestinal tract easily takes place. Even in the bilious remittent type, when the

patient cannot retain even sips of cold water, divided calomel with sinapism to the epigastrium for 15—20 minutes will allay the condition and the peroral administration becomes feasible. If intramuscular injection is still found necessary, which is very rarely, quinine urethane will be found suitable.

In cerebral malaria, the agglutinative property of the malignant tertian parasites makes them to cohere and also stick to the capillary endothelium. This plugging of the arterioles by the parasites will exactly resemble the effects produced by an embolus. Intravenous administration of 10-15 grs. of Hexamine in 10 c.c. of sterile distilled water will dislodge the parasites and restore the comatose patient. How often have we been left in doubt, in an intravenous administration of quinine for a genuine case of cerebral malaria ending fatally, as to whether the death was due to the drug or to the bad cerebral condition. The cinchona febrifuge of the government factories will be replaced by totaquina, which will contain a fixed and invariable quantity of the total alkaloids. Totaquina is specially recommended by the Health Section of the League of Nations.

The advent of sythetic products for treatment of malaria will demarcate a new epoch. Plasmoquine, a substitution derivative of methylene blue, was introduced by 'Bayer' and is an efficient gametocide. From the Public Health point of view, this synthetic compound solves the slogan "Do not infect the mosquito, and the mosquito will not infect you" effectively. In other words, the sexual forms of all species and in particular the crescents of the sub-tertian on which the quinine salts have little effect are rapidly destroyed, and so the mosquito phase—sexual cycle—is done away

with and this link in the chain broken. Quinine-plasmoquine combination will deal with the fever and the sexual forms. Whether it can be satisfactorily employed to control the prevalence of the diseases in general in endemic areas will require more extended observations. Plasmoquine may undergo further refinement to obviate some of its trivial drawbacks—abdominal pain, giddiness and cyanosis.

The next drug in this synthetic series is "Atebrin" a derivative of acridin. It is the dihydrochloride of an alkylamino-acridin derivative and Kikuth demonstrated, in the Elberfeld Laboratories, its schizontocidal properties, utilizing for the purpose hæmoproteus orizivoræ present in the blood of finches. It is claimed that atebris is distinctly superior to quinine and the advantages may be summarized as follows:—(1) It is administered in the form of tablets and the treatment is of shorter duration, 5—7 days. (2) Symptoms of cinchonism—tinnitus, deafness, amblyopia and tremor—are absent with atebrin. (3) Relapses are prevented. (4) Patients with quinine idiosyncrasy stand atebrin well. (5) It can be exhibited to patients suffering from black-water fever. (6) Pregnant women can be treated with impunity. The only drawback with the drug is a yellow coloration of the skin and scleræ in a small percentage of cases. This does not arise from any hepatic damage and is only a pigmentary action. Neither the kidneys nor the hæmopoietic system are adversely affected. Pigmentary effect does not develop in persons exposed to the sun's rays and I have not observed it in a single instance of over twenty cases treated in the City of Madras. Adult dose is 0.1 gramme thrice a day for five days and it may be carried on for 2 more days in cases of sub-tertian infection. Plasmoquine may be combined with atebrin to secure the

gametocidal effect and such a small dose as 0.01 gramme thrice a day is quite effective. Such a combination, atebrin 0.1 gramme and plasmoquine 0.01 gramme in tablet form, is on the market.

Tabetrin is another proprietary drug on the market for which many claims have been made. It is comparatively costly and the trial at the General Hospital, Madras, does not go to show that this preparation is superior to atebrin (Bayer).

Leo Giuseppe and others have reported good results from auto-hemotherapy in Malaria. 10 c.c. of blood is drawn from the bend of the elbow and injected every other day into the glutei. First injection, in some cases a second, brings down the temperature and the full course is completed in 6 injections. Further report and criticism are awaited. If this is an effective procedure, here opens another simple and effective therapeutic measure of considerable importance at no cost. Quinine-resistant cases and cases showing idiosyncrasy to quinine will preferably receive auto-hæmotherapy treatment.

Repeated attacks produce a certain amount of immunity to the disease; and one is induced to assume that the immune body is specific to the different species and strains. Owing to the immunity induced by repeated attacks adults in endemic areas show a very low splenic index and do not suffer so much as children.

Dubois's criticism of the report of the Heath Commission of the League of Nations is very pertinent and worth-quoting at length to bring out the controversial points. An able summary by William Fletcher runs as follows:—

"The author finds that the Report is too theoretical and is opposed to practical experience.

He reviews and criticizes the salient points of this Report. He cannot agree that specific treatment should await the determination of the species of the infecting parasite, the virulence of the particular strain and the resistance of the patient. It sometimes happens that the species cannot be diagnosed from the scanty rings found in the blood; delay is dangerous; it is safest to assume that they are subtertian parasites and to treat the patient accordingly. It requires long observation to find out the degree of a patient's resistance to the infection; It would be wrong to postpone treatment until this has been done. How, too, is one to discover with what particular strain a patient is infected? Such are the counsels of the laboratory worker, rather than those of the practising physician. It is stated in the Report that quinine has no action until the parasites are sufficiently numerous to cause fever or are demonstrable in the peripheral blood. This cannot be correct, because infection in bird or man, following the inoculation of infected blood can be completely stopped by treatment before the parasites become abundant in the circulation.

The author vigorously opposes the doctrine of the Report that specific treatment should not be begun as soon as a diagnosis of malaria is made. In the majority of French colonials, who take prophylactic quinine, the primary attack is not very severe; it yields readily to prompt treatment with quinine, and frequently there is no relapse. To wait until the temperature comes down before giving quinine, or to permit several paroxysms to occur with the object of inducing immunity, is to expose the patient to the risk of grave relapses and, above all, to the dangers of black-water fever. The cemeteries of Africa are full of such "*sujets d'expérience*". The

report lays great stress on the importance of developing the patient's immunity; but such immunity is only monovalent, and it has little solidity in places where strains of parasites are numerous and re-infections frequent. The author notes that Professor Nocht dissociates himself more or less from the conclusions of the Report as regards delaying the administration of quinine, and he (the author) advises against an excessive temporization which might end in eternity."

#### CONTROL OF MALARIA.

This is a Public Health problem of very great magnitude and the local conditions should be thoroughly studied before attempting a solution. All known measures need not be utilised for control in a certain area, but only the applicable few will be put into operation. Even this will undergo curtailment depending on the economic means of the community. In other words, the proposed effective measures will be made to depend on the available Public Health Budget of the place in question. If finance is of no consideration, then the control will be a very simple matter.

To gain a concrete idea as regards the effectiveness of the prophylactic measures adopted, malariometry should be worked out by establishing laboratories in different sectors in the area, and maintaining the various indices—splenic, parasitic, sporozoitic and mosquito indices. Experienced and enthusiastic field personnel is a *sine qua non* for the success of the results.

The control problem is centered round three important factors:—(1) protection of man, (2) measures directed against the mosquitoes and (3) attention to water collections where mosquitoes are liable to breed.

\* *Protection of man.*—Mosquito-proofed houses to live in or dormitories is ideal but not practical politics. Even

if it could be afforded by setting apart a suite of rooms as dormitories, the people should retire early before sun-down and not get out till it is broad light. Bed-rooms may be located upstairs, as ground rooms are easy of access for the mosquitoes and give protection to them by congestion of furniture and lumber. Mosquito-net is more popular and within the means of many; it affords good protection if properly used. The bottom part should be made of calico or mull border of a foot depth for tucking in underneath the mattress and preventing tears of the net. When the weather gets warmer, and night and day temperatures show slight variations, and the nights are sultry before the onset of a thunderstorm, mosquito-nets may have to be discarded. Spraying with Givrol or Flit by means of a pump will be found useful, if wind is not present to waft away the sprayed material. Five to six hours of protection is afforded and the spraying will have to be repeated during the later part of the night. Rubbing cut onions and lemons on exposed parts have been used to ward off the bites of the mosquitoes. Bamber oil (a mixture of ol. citronella, cocoanut oil, and kerosine oil with a 0.5 per cent of carbolic acid) or ol. citronella by itself may be substituted for Givrol and Flit. Of late, pungent vegetable matter ground to paste, and shaped into coil is imported from China and Japan; the open end of the coil is lit in the bed-room, after closing the windows and doors, and the fumes will pervade the room in a few minutes. The doors and windows are opened to allow the mosquitoes to fly out, and the stupefied ones fall down and die. A couple of coils will burn for six to eight hours and cost about 2 annas. The smell is not objectionable. Electric table-fan placed on a high stool at the foot of a bed is another method of getting rid of the mosquito nuisance.

Larvicidal measures are more effective than those directed against the adult mosquitoes as catching, fumigating, spraying and swatting. Larvae may be killed by a number of methods. Oiling (crude oil or saponified crude oil) is a temporary measure and is useful in places where the water cannot be effectively drained for want of a proper gradient. When carried on over a number of years, it becomes expensive. Labour in oiling can be obviated by using "oil-bombs". Perforated cigarette tins and milk tins may be filled with cotton refuse soaked in oil and thrown on the water. Oiling will be carried out as the tin floats and drifts. Tins attached to stakes may be planted on the side of the sheet of water whence the wind blows. A wick passing through a single hole at the bottom of the tin will slowly drip oil drop by drop and thus be a means of saving labour, and the oiling will go on continuously. Paris Green is cheaper than oil and still less costly if mechanical blowers are used, cutting out expenditure in labour and saving time. It is diluted hundred times with road dust or fine sand and sown on the water. The larvae of anopheles are killed off, but it does not affect the culicine larvae which feed below the surface and in the bottom of shallow water. Mosquito eggs and pupae are not affected by Paris Green. Paris Green does not affect crops, nor is it inimical to fish, human beings and cattle. Green Glide is an improvement on Paris Green as it floats on the surface of the water for a number of hours after treatment, and, on account of its easy visibility like crude oil, control by means of inspections becomes possible. Stoxal—another larvicide, is becoming more and more popular. On moving sheets of water, oiling is still the method of choice.



Top-feeding minnow has been used as a larvicide and the results are encouraging. Numerous species are available; selection should be made from those which are hardy-growers and breed freely. Some species feed on larvae under experimental laboratory conditions, but not in Nature. This fact should be borne in mind when selection of the species is made. The species should be easy of transport and able to stand rough handling—essential points when distant places have to be stocked with the larvicidal fishes. *Gambusia* is one of the species which has given excellent results.

“The more radical and most successful methods of combating the malaria-mosquito consist in destroying its *breeding places* by means of drainage, clearing, cleaning, channeling, emptying, filling, flushing and drying; impounding, salting, or altering the composition of water; and above all, by the orderly progress of agricultural cultivation, which tends to do away with swamps and breeding areas.”

Small collection of water will also have to be kept in mind, as bamboo-stumps, rot-holes in trees, votary vases, hoof-marks of cattle, buffalo-wallows; puddles in hoof-marks and collections of water in broken pieces of crockery, empty tins, cocoanut shells, etc., will be dealt with by appropriate methods. Most of these resorts are used by the culicine mosquitoes, yet the anopheles may use these for breeding under stress of circumstances. *Culex* is as much a nuisance as the malaria-mosquito, and causes filarial infection, dengue and yellow fever. Effective methods will aim at exterminating both at the same time.

Intensive and continuous propaganda should be kept up by posters, placards, cinema-films, lectures, etc., in all endemic areas to educate the public and secure their active and

intelligent co-operation. Otherwise even the best planned and expensive measures may result in unqualified defeat.

### The Metabolism of Calcium and its Clinical Use in Gastric and Duodenal Ulcers.

Calcium is essential for almost all living matter and it forms one of the most important constituents of the human system. Certain ferments also require calcium in some stage of their activity.

*Absorption.*—The daily calcium requirement of an adult is 0.4 to 1.0 gram, while more is required until the skeleton is completed. Calcium has got very few soluble salts and their tissue-penetration power being very poor are not easily absorbed. It is true that the chloride raises the serum-calcium more than the lactate but it does so partly by producing an acidosis. Calcium salts either in food or in drugs are absorbed only in fraction with great difficulty from the stomach and intestines, and the major part being unabsorbed, passes into the stool mostly in an insoluble form. It has been stated that the absorption of calcium is facilitated by fats. It combines with fatty acids and forms a soap of calcium which is taken up by the epithelium of the small-intestine. Absorption is difficult probably because it very easily forms precipitates with alkalies, proteins and blood colloids. This phenomenon, perhaps accounts mostly for the pain and irritation which follow the subcutaneous injection of the dissoluble salts of calcium. The inconvenience has, of course, to a great extent been overcome by the advent of the Colloid preparations. Also, Colloid Calcium being nothing but a calcium soap is much better absorbed orally specially when given in combination with Vitamin D. There

are again few others who say that very minute particles of insoluble salts while passing through the large intestine form a complex combination with protein and are absorbed through the villi of the intestine.

Intravenous, intramuscular or subcutaneous administration of calcium salts greatly raises the serum calcium only temporarily and a portion of it may be deposited in some organ or organs for a little while to be excreted in a short time.

*Excretion.*—It is generally accepted that calcium is excreted by the large intestine and to a less extent by the kidneys. By the latter route from 0.1 to 0.5 gram is excreted daily but this can be increased by an acid forming diet, viz., meat, starch and sugar excluding milk, green vegetables and fruits.

*Calcium content of the important tissues of the body*—There is hardly any calcium in the red blood corpuscles but serum calcium normally ranges from 9 to 11 mgrm. per 100 c.c. Cerebrospinal fluid also contains 5 to 6 mgm. of calcium per 100 c.c. showing that some of the calcium is present in a non-diffusible form. The serum-calcium is highest during the suckling period and falls during pregnancy, probably due to the demand of the foetus. It is said that serum-calcium rises before and falls during menstruation, but the fact has not been definitely substantiated. In soft tissues calcium is generally present in about the same amount as in blood but the muscle contains 6.5 gm. and bone 10 gm. per cent.

*Functions in brief.*—Skeleton, the main supporting structure of the body is not only made up of, but also forms a reservoir of Calcium and Phosphorus. Calcium-ions help to control the heart-beat, the contractility of the plain and striped muscles and the transference of

impulse at the neuromuscular junction and through synapses. They also lessen the irritability of the tissues containing them. Of course wide variations may exist without apparent interference with such functions; the content can drop to .6 mgrm. before tetany develops, while in hyper-parathyroidism there may be no symptoms with figures as high as 1.67 or 1.98 mgm. The role of calcium in clotting of blood and milk is well known. The probable change of pepsinogen into pepsin and trypsinogen into trypsin is also brought about by the calcium salts. Another important specific action of calcium-ion is its power to retard inflammatory processes and transudation from the blood capillaries and lymph vessels by reducing the capillary permeability. Hence it is useful in urticaria, chilblains, angio-neurotic oedema, varicose ulcers, etc.

*The influence of Parathyroid and Irradiated Substances on the metabolism of Calcium*—Parathyroid glands have mainly two functions (VINES): namely, (1) they regulate the calcium metabolism, (2) they are in some way able to prevent intoxication by guanidine and its derivatives. Parathyroid hormone has got a direct controlling influence on the calcium metabolism. The removal of parathyroids lowers the serum-calcium and diminishes its excretion and thus ultimately lead to a condition called tetany. Administration of parathyroid extract increases the serum-calcium which is mobilised and held up by the blood dissolved in its plasma. Further administration of the Extract or 'Parathormone' (a commercial preparation) not only increases the serum-calcium but also its excretion giving rise to a changed condition of the trabeculae of the bone. Although this effect of parathormone in raising calcium in the blood, by increasing the excretion from the bones, is best known, its primary action appears to

be an abrupt increase of the urinary excretion of phosphorus. If the administration is continued in large doses, however, and the blood calcium reaches a certain height, the effect is suddenly reversed and the blood phosphorus rises again. Of course, the isolation of parathormone led to the recognition of a new entity—hypercalcaemia, as opposed to the earlier recognised hypocalcaemia leading to tetany; and a spontaneous hypoparathyroidism causing symptoms similar to post-operative tetany is relieved by parathormone.

Experimentally, the injection of parathormone, when the intake of calcium is low, leads to resorption of bone and its replacement by fibrous tissue and cysts. So calcium parathyroid in combination seems to work better clinically than either calcium or parathroid extract alone.

Parathyroid tumour gives rise to high blood-calcium with increased calcium excretion and the condition is cured by removal of the tumour. Again, GATES and GRANT found that in partially parathyroidectomised rabbits irradiation had a definite influence in preventing tetany and was responsible for an almost immediate rise in serum-calcium after a preliminary steep decline. They concluded that the serum-calcium-content is dependent upon parathyroid function and upon some other factor independent of parathyroid control. HESS observed that after keeping a monkey on a low calcium diet for several months and then administering Vitamin D in the form of Irradiated Ergosterol the calcium-serum-content of the blood came to the normal level, while, after removal of the parathyroid glands no amount of Irradiated Ergosterol could bring it back to the same level. So it was thought that Vitamin D in any form acts by stimulating the parathyroid tissue and thereby producing

increased calcium metabolism. But in the light of more recent knowledge it seems probable that the parathyroid hormone promotes calcium excretion from the body, while the presence of Vitamin D is responsible for calcium absorption and assimilation. In other words, the proper absorption and assimilation of calcium from the food through the intestinal mucosa depend upon the following factors: *viz.* (1) supply of calcium in food, (2) stores already existing in the body, (3) the reaction of the tissue, (4) Vitamin D and (5) Parathyroid hormone.

*Usefulness of Calcium and parathyroid in Gastric and Duodenal Ulcers.*—Calcium salts are very widely used as therapeutic agents in medicine for all stages of human life. Besides their common and important uses, they may be used often with much benefit as accessory to other medicinal treatment of gastric and duodenal ulcers. GROVES and VINES obtained good results clinically by using calcium salts and parathyroid in chronic ulcers. WILLIAM states that clinically parathyroid medication has been found to be exceedingly useful in the treatment of benign ulcers both internal and external, that is gastric, duodenal and varicose ulcers. An endeavour has been made in the following line to find out the rationality of such uses.

(1) Calcium carbonate is an alkaline salt and is used as an antacid to neutralise the hyperacidity of the gastric secretion in cases of gastric and duodenal ulcers. The advantage of the salt is that it does not possess the secondary acid-stimulating after effect of Sodium Bicarbonate, so commonly used in gastric hyperacidity. But it should be combined with Magnesium Carbonate or any such laxative salt to counteract its constipating effect.

(2) Gastric and duodenal ulcer cases, especially the former ones, suffer from

troubles some vomiting and food gets little chance of being digested or assimilated properly. Again many of them starve themselves for fear of acidity and vomiting. Consequently these cases suffer from want of calcium absorption from the diet and blood may actually show low calcium content or the other systemic calcium may undergo depletion to make up the want in the blood. Hence, calcium may be supplied from outside to ensure that the dietary calcium is sufficient for metabolic purposes. It is well in such cases to administer calcium in combination with parathyroid and Vitamin D.

(3) Gastric and Duodenal ulcers may often bleed and blood is sometimes found in the gastric contents or may appear in the form of melaena (tarry stool). Preparations of calcium have been known for many years past, although based on some vague grounds to promote coagulation of blood in all forms of hæmorrhage; and hence they are used in such cases both prophylactically and therapeutically. They are probably more useful in those cases where there is either deficiency of blood calcium or depletion of other systemic calcium for having a calcium-poor diet for sometime as previously described.

(4) Chronic septic foci such as, pyorrhoea alveolaris, chronic appendicitis, chronic cholecystitis, etc., which may be associated with or predispose to the formation of gastric or duodenal ulcers, often lead to a state of lowered blood calcium or chronic toxæmia associated with muscular irritability. The latter condition may lead to further hyperacidity, already present in such cases. GROVE states that calcium deficiency is probably an index of the absorption of a toxin and that many chronic diseases are due to the breakdown in

consequences of the defences of the body, the focus of the disease itself being not removed. In such cases calcium and parathyroid is not only an alleviative agent but a valuable one. Hence they are indicated not only to make up the blood calcium and as an antacid but also to reduce the irritability of the gastric musculature.

(5) Spasm of the gastric musculature is said to be one of the most important causes of pain in duodenal and gastric ulcers. Calcium salts have been used as an antispasmodic for involuntary muscles and are reported to have given relief in gall-stone, renal and lead colics. So they may be used to diminish irritability as well as spasm of the gastric muscles.

(6) Duodenal and gastric ulcers at the pyloric end of the stomach may sometimes spontaneously heal up leading to a partial stenosis of the valve followed by atonic dilatation and visceroptosis of the stomach. Such cases also suffer from achlorhydria, or hypoacidity in consequence of which protein is not properly digested. Calcium and parathyroid in these cases do very well by increasing the tone of the gastric muscle and indirectly helping the protein digestion. It is said that administration of calcium changes the body equilibrium more towards the acid side and thus may have some effect in changing the gastro-intestinal secretion towards the proper assimilation of proteins.

(7) Lastly, calcium-ions having a definite power to retard inflammatory processes, help the healing of ulcers, specially the chronic ones, and hence may be tried in chronic gastric and duodenal ulcers with as much success as we often get in varicose ulcers.

—*Seal in Advance Therapy.*

---

## ASSOCIATION NOTES.

### The Trichinopoly District Medical Association.

A monthly meeting of the above Association was held at 5 P.M., Saturday, the 25th August 1934, in the Government Hospital, Trichinopoly, when about 50 members were present.

Dr. Mrs. D'Costa was "At Home".

Dr. P. A. S. Raghavan, the Secretary in proposing Dr. Balammal to the chair read a letter from Dr. C. E. R. Norman, the President of the Association, regretting his inability to attend the meeting due to a prior engagement. On being seconded by Dr. R. Sambasiyan, Dr. Balammal took the chair and after a few preliminary remarks moved the following resolution from the chair which was passed, unanimously—

"This Association welcomes Dr. S. Padmanabha Sarma, M.B.C.M., Dist. Medical Officer, and an old President of the Association back to our midst."

Dr. M. Balammal after a few remarks called upon Dr. Kalamegham, B.A., M.B.B.S., to speak on "Some Middle Ear conditions".

Dr. Kalamegham started by tracing the Anatomy of the middle ear and the various ordinary ailments it is subject to, the possible complications and the various treatment.

Dr. S. Padmanabha Sarma, Dr. C. S. Ganapthy Iyer, and Dr. R. Srinivasa Iyer of Thathyyengarpet made a few remarks on the subject.

With a vote of thanks proposed by the Secretary, to the Hostess of the evening, the Lecturer and to the President of the evening the meeting terminated.

## REVIEW

### (New Drugs)

#### DECHOLIN.

"Decholin, a solution of the sodium salt of dehydrocholic acid, occupies a foremost position among the many preparations recommended for the treatment of biliary disorders.

Experiments on animals and patients with biliary fistulas, showed that shortly after the injection of therapeutic and harmless doses, the secretion of bile is increased from 2 to 3 times of the normal. Dehydrocholic acid and its sodium salt may, therefore, be designated to be the most powerful choleric known at the present time.

Dr. Von Struempell from the medical clinic of the Leipzig University mentions of Decholin as follows:—

(1) A choleric should not only stimulate the formation of bile but has also to remove abnormal processes of metabolism the most important of which is the suspension stability of bile.

In all cases in which an inclination towards the formation of stones is feared (pregnancy, puerperium) the prophylactic employment of decholin merits decided consideration.

(2) Of all the choleric mentioned in previous reports no product influences the expulsion of bile as satisfactory as *Decholin*. By means of X-ray pictures taken after an injection of 2 gm. of *Decholin*, we proved distinctly an evacuation of the gall-bladder which was filled with tetra-iodophenolphthalein.

(3) A drug which removes an obstruction and stimulates the secretion of bile very strongly, is most effective in flushing out germs of infection and will contribute thus to a quicker recovery. In such cases *Decholin* may be regarded as a mechanical antiseptic."

# A SERVICE BUREAU FOR OUR MEMBERS.

---

## INFORMATION REQUIRED.

Information is requested regarding "Novo-protein" used for intravenous injections.

## WANTED.

(1) Where are Energen (ENERGEN) foods available in India. They are manufactured by Energen Foods Co., Ltd., London, N. W. 10.

(2) A second hand microscope in good condition is required. It should be either Zeiss or Leitz make and should have  $\frac{1}{3}$ ,  $\frac{1}{6}$  and  $\frac{1}{12}$  objectives.

## FOR SALE.

One Ford, Late '32 Model, Tourist, in very good condition.

Two Tyres and Battery, new; decarbonised September. Mostly owner driven.

*Address your communications to:—*

**SERVICE BUREAU,**

**SOUTH INDIAN MEDICAL UNION, MADRAS.**



**BULLETIN**  
OF THE  
**SOUTH INDIAN MEDICAL UNION**

---

**KILPAUK, MADRAS.**

---

*The Society Journal with the largest circulation among  
the Independent Medical Profession of South India.*



**OF BUSINESS INTEREST.**

**T**HE *Bulletin* is being issued as the JOURNAL of the Union with effect from the New Year. As such its usefulness and its CIRCULATION will be considerably augmented.

**T**HE experimental measure of admitting advertisements in the Bulletin has been greatly appreciated both by our readers and our Advertisers. It has been decided, therefore, to permanently open its pages for ethical advertisements from reputed houses.

**I**NTENDING advertisers are requested to write to the Publicity Officer for rates and other terms as early as possible.

# South Indian Medical Union.

---

## CLINICAL MEETINGS.

---

SESSION 1934—1935.

---

Members of the South Indian Medical Union and Others desirous of reading papers at the Clinical Meetings of the Union during Session 1934—1935 are requested to send their names with the title of the paper they wish to read, to the Secretary, South Indian Medical Union, Kilpauk.

The date of which the papers would be read will be informed later.

K. C. PAUL,

P. RAMA RAU,

*Secretaries*