

India. The committee has taken up this subject very actively and will press for the unification of regulations and for conformity with the terms of the Convention for Aerial Navigation. It is recognized that this is a question affecting all countries and the International Commission for Aerial Navigation will support the case for unification as this matter affects air transport companies.

- (ii) Ratification of the International Sanitary Convention for Aerial Navigation. It is expected that the tenth ratification necessary to bring the convention into force will be made at an early date and participation by India will be strongly welcomed.
- (iii) Measures for the eradication of mosquitoes from aeroplanes have been shown to be necessary under certain circumstances and such measures are now in routine use. Information on effective measures is available and their application in India might be tested.
- (iv) Further reports from delegates are awaited on the subject of the use of standard treatments for syphilis under the Brussels Agreement. Attention is drawn to the work of the Expert Committee of the League of Nations on courses of treatment. The action in applying approved courses is to be considered.
- (v) Communications of great value on the cultivation of vaccine lymph on chick membrane have been received. The attention of

administrative officers is directed to the possibilities which this vaccine offers.

- (vi) The communications and discussions on terminal disinfection show the modern attitude in the matter. Doubt has been cast on the use of this procedure as a routine. Experimental evidence suggests that in many cases it is of little value. It may be applicable in some cases when specific methods are applied and disinfection during the progress of certain diseases is advisable.
- (vii) The representations from India on the subject of certain Soviet ships with pilgrims passing Kameran has resulted in the U. S. S. R. Government taking action against the masters of the ships.
- (viii) On the subject of the training of medical subordinates, in which both the office and the Health Committee of the League of Nations are interested, information may be required as to the experience and practice in India. This subject will come up at the second conference at the Cape to which it is presumed India will be asked to send a delegate.

The association of laboratory workers in England with our research work on cholera in India which has developed out of the work of the office would appear likely to be of great value, and India is looked to for advance on this subject.

A very valuable series of communications were presented during the session which will be of interest to workers on the special subjects dealt with.

Correspondence

A PLEA FOR THE USE OF CONCENTRATED SALINE IN CHOLERA

To the Editor, THE INDIAN MEDICAL GAZETTE

SIR,—Sir Leonard Rogers has proved beyond doubt the efficacy of *hypertonic* saline in the treatment of cholera. He further clearly showed that hypotonic and even normal saline has not only been found less useful but, in some cases, actually harmful.

The above facts naturally set one thinking, as to what proportion of utility is to be assigned to the two chief constituents—salt and water—of Roger's hypertonic saline.

Is the collapse in cholera due more to the loss of salts or to the fluids from the blood?

Sir Leonard Rogers has again shown that in cholera the salts are excreted proportionately much more than the fluids, resulting in the hypotonic condition of the blood, with sometimes as low as 0.6 per cent in bad cases. He further showed that, in cases where the percentage of salts in the blood could be brought up to 1 per cent or more, death rarely took place in the collapse stage.

Is it, therefore, probable that the collapse in cholera is due to the hypotonic condition of the blood, producing a vasomotor paralysis, with ultimate failure of circulation?

What happens in most cases of cholera may probably be summarized as follows:—The diarrhoea and vomiting deplete the body of fluid and salts—proportionately more of the latter (the cause for this proportionately greater loss is perhaps a protective response on the part of the body to the stimulus of the cholera toxin, for, the salts and the cholera toxin 'form a crystallo-colloidal union, which is an essential factor in the excretion of the poison'. It is, therefore, essential that this extra loss of salts from the circulation be made good, as early as possible, to facilitate the excretion of the cholera toxin). This depletion

goes on until the circulation becomes incapable of supplying the splanchnic area. Then the motions and vomiting gradually get less and less and ultimately stop; so also does the urine. The splanchnic area thus becomes a closed pool as it were, with gradually increasing amounts of cholera toxin, with no hope of excretion. Thus, a vicious circle is established, a failing circulation with increasing toxins in the splanchnic pool and no excretion of toxins; this ultimately results in the complete failure of circulation and death.

Can salts alone (saline in a concentrated form—20 c.c.m. of a 20 per cent solution) revive this failing circulation of cholera?

Perhaps they can. After reading an article by C. Massias (*Bull. Soc. Path. Exot.*, XXVI, 900) I had the opportunity of trying this simple method on two collapsed cases of cholera, both with cramps, suppression of urine and a failing pulse. Two more collapsing cases of cholera were similarly treated in this month at the Vedaranyam festival (South India), with success; in three of the four cases, *Vibrio cholerae* was isolated. In all the four cases, the patients passed urine a few minutes after the injection of the concentrated saline with very quick relief of the other symptoms as well. All recovered without any further hypertonic saline. It is, therefore, quite possible that salt is the chief factor in reviving the circulation, and if this is supplied, even without any extra amount of fluid intravenously, the collapse of cholera will be overcome.

The passing of urine in these cases, a few minutes after an injection of only 20 c.c.m. of fluid, clearly shows that the revival of the circulation, even that of the kidney, is due to the salt and not to the fluid. No definite conclusions can, however, be drawn from these few cases; but, this is certainly an incentive for further work. Even if this method, after a complete trial, were to be found less efficient than the hypertonic saline, it is bound to be the best first aid,

in the hands of the rural practitioner and the field worker whose helplessness (partly for want of equipment and partly due to inexperience of Roger's technique, simple as it is) in treating collapsed cases of cholera is so well known.

Advantages

The advantages of this method are:—

Simplicity—the sterile concentrated saline can be easily stocked in 20 c.cm. ampoules and very easily used without any risk of sepsis.

There is no fear at all of œdema of the lungs resulting from excess of fluid.

The reaction is less likely to occur.

The copious evacuations with a recurrence of collapse that sometimes follow large injections (3 pints) of fluid are not likely to occur at all in this method.

With increasing viscosity of the blood, there is less and less likelihood of the fluid and the salts in it and less likelihood of the circulation—(analogy of the fullness of gum saline in surgical shock). Thus, if the salt content of the blood is kept above normal, and if the circulation is maintained thereby, without any further injection of fluid, there is less likelihood of the salt draining out of the circulation. On the other hand, when the lost fluid is replaced in the circulation, the salt is bound to be drained out at a much higher rate than if the fluid were not replaced. Thus, in the concentrated saline method, because the salt is better retained in the circulation, there is less likelihood of the necessity of more injections than one.

With revival of circulation, the kidney begins to work, but the strain on the organ is much less in this method, as there is not much fluid to be excreted. The necessity of relieving the strain on the kidney is essential in cholera where the skin is practically inactive. Thus, uræmia and similar complications may be lessened, if not avoided.

Yours, etc.,

Y. S. NARAYANA RAO, M.B., B.S., D.T.M.

KING INSTITUTE,
GUINDY,
15th February, 1935.

A SIMPLE METHOD OF BUG DESTRUCTION

To the Editor, THE INDIAN MEDICAL GAZETTE

SIR,—I have read with interest the article on 'A simple method of bug destruction' by J. N. Pacheco in the February issue of the *Indian Medical Gazette*. The author writes 'Coconut oil is a poison to the bed-bug'.

Grains are infected with many kinds of virus and to prevent this infection people in Gujerat use castor oil. Castor oil is heated and then rubbed in small quantities. This preserves the grains for more than one year.

Rice is similarly preserved and also small pieces of coconut are kept in the container along with the rice. This also preserves the rice from the varieties of insects' infection.

Epidemic dropsy is a disease conveyed by infected rice. I do not know whether the above-mentioned methods of preserving rice are used in Bengal. How far castor oil or coconut oil works as a poison to these insects is a question of research.

Yours, etc.,

RAMANIK H. DESAI, L.C.P.S. (Bom.),
L.T.M. (Cal.).

SANTH PIPLI, NADIAD
(DISTRICT KAIRA).
11th March, 1935.

A SIMPLE METHOD OF BUG DESTRUCTION

To the Editor, THE INDIAN MEDICAL GAZETTE

SIR,—With reference to Dr. J. N. Pacheco's article in your February number, 'A simple method of bug destruction', I remember the coconut oil remedy being

used in a hospital many years ago, but do not know why it was not more generally adopted in other institutions.

I desire to draw attention to the following procedure which seems to be a prophylactic against bug-breeding. Hospital cots, if painted blue, do not seem to have bugs in them, whereas other cots with other paints have abundance of these insects. This seems to be in conformity with an article I read some years ago in an English journal, that bedrooms painted blue have less mosquitoes than those of other colours.

Yours, etc.,

J. F. HENRIQUES, L.M. & S.,
F.C.P.S., B.M.S.

Superintendent, Mental Hospital.

RATNAGIRI,
14th March, 1935.

EPIDEMIOLOGY OF LEPROSY

To the Editor, THE INDIAN MEDICAL GAZETTE

SIR,—In the Bombay Presidency in general, and in the Kolaba district (where I am working) in particular, I have observed that the incidence of leprosy amongst Mohammedans is very low as compared with Hindus (of the same social status), although the habits and the conditions under which both these communities live are more or less identical. I believe this fact might have been noticed by other observers and leprosy workers also. I have no means of verifying this observation from statistical records and caste summaries, but people who have got these records at their disposal might be able to throw some light on this subject, and then it would be interesting to compare the percentage of leprosy incidence amongst Mohammedans of the Bombay Presidency with that of other provinces.

Yours, etc.,

ANNAJI V. GOKHALE,
Medical Officer,
Pui Leper Asylum.

PUI,
KOLABA DISTRICT,
BOMBAY PRESIDENCY,
22nd March, 1935.

INTRAMUSCULAR VERSUS INTRAVENOUS QUININE

To the Editor, THE INDIAN MEDICAL GAZETTE

SIR,—Dr. Adalja's letter on the above subject published in the January issue of the *Gazette*, p. 58, I have read with interest. He appears to be a great advocate of intramuscular quinine, for he not only used quinine by this route when indicated, but also expresses the opinion that in 85 per cent of cases quinine injection therapy is indicated. One can conceive that the percentage of cases requiring parenteral exhibition of the drug will vary in individual hands, but it is, I think, infliction of avoidable inconvenience, if 85 per cent of the cases are so treated as a routine. Most of the cases do well with oral administration. When the gastro-intestinal tract is angry, or when a quick therapy is indicated, the intravenous route should be the route of choice.

Though I have had considerable experience in intravenous quinine, I can count on my fingers the intramuscular injections that I have given. Apart from the usual 'tetanus-vel-necrosis-phobia' associated with intramuscular quinine, my idea to use the intravenous channel has been to avoid pain and to present a frontal attack when indicated.

Dr. Adalja is indeed to be congratulated on his fortunate results. But it may be remarked that the criterion of success should be not the immediate control of an attack, but of avoiding relapses, and as it is not stated how many times the same individuals