

Encephalitis

This complication occurred in a male patient, aged 47, with sero-positive primary syphilis. He was given two injections of 0.04 gm. mapharside at an interval of 5 days. Twenty-four hours after the second injection he was admitted with high fever and mental confusion. Within a few hours he became comatose. Examination showed a generalized rigidity of all the limbs, small irregular sluggishly reacting pupils, exaggerated tendon jerks, extensor plantar response, a rapid pulse and hurried respiration. In spite of repeated lumbar puncture, adrenaline injection, oxygen inhalations, etc., the patient progressively and rapidly became worse and expired after 72 hours. A post-mortem examination of the body did not reveal any gross changes except a full and engorged condition of the vessels on the surface of the brain.

Granulocytopenia

This condition happened to a male patient, aged 32, with sero-positive primary syphilis. He was given 5 injections of 0.04 mapharside at intervals of 5 days. Four days after the last injection he was admitted with high fever (104.2°F.) and pain in the gums. Examination revealed swollen, inflamed gum margins. Within 24 hours of admission the mucous membrane of the gums, the mouth, and the throat showed rapidly spreading sloughy ulceration with bad fetor and salivation. A complete blood examination revealed marked leucopenia with no other abnormality. The white blood count was 1,250 with a total absence of granulocytes. The patient looked extremely ill, was unable to swallow or breathe freely. Nuclein injections four hourly campolon daily, and glucose twice daily were administered. The temperature was controlled by hydrotherapy. The patient seemed to rally a bit for 1 or 2 days and then became progressively worse and died of septic pneumonia on the tenth day of admission. There was slight bleeding from the gums and the soft tissues of the neck on either side of the jaw became swollen and infiltrated. He developed a terminal jaundice. One peculiarity we noticed in this case was that, while the clinical condition was getting worse, the daily leucocyte count was showing improvement with the appearance of granular leucocytes. The last total count 24 hours before death was 7,400 with 84 per cent of neutrophil leucocytes. Grave as these complications are, in the treatment of syphilis, they were found to be more frequent with the '914' preparations.

Summary

1. The results of the use of mapharside in the treatment of 1,000 patients suffering from syphilis during a one-year period at the venereal clinic, Government General Hospital, are presented.

2. A complete statistical summary of all the results is not attempted.

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A PROBABLE CAUSE OF THE DIFFICULTY OF TREATING CHRONIC AMŒBIC INFECTION IN THIS COUNTRY

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COLONEL CHOPRA *et al.* (1934) showed in a paper on the treatment of intestinal amœbiasis that it was an extremely difficult problem to cure amœbiasis completely. Repeated courses of emetine, combined with yatren, stovarsol, carbarsone and kurchi had failed to eradicate amœbæ from the colon. This is a common experience of almost all clinicians

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3. The rapidity of the disappearance of the spirochætes from surface lesions and the clinical response of the lesions themselves are noted as a measure of the effectiveness of the drug. In these respects mapharside is comparable to the older drugs.

4. The speed of reversal of the serological reaction of the blood could not be accurately assessed, though it is our impression that with mapharside the reversal seems slower than with neo-arsphenamine.

5. A comparative study of the toxic reactions, immediate and delayed, caused by mapharside and neo-arsphenamine is attempted.

6. The immediate minor reactions were more frequent with mapharside than with neo-arsphenamine. With mapharside the nitritoid crises were conspicuous by their absence. There was not a single case of exfoliative dermatitis due to mapharside, and the other delayed reactions were much less frequently observed than with neo-arsphenamine. Two deaths following mapharside therapy are recorded.

Conclusion

Mapharside appears to be a distinct refinement in arsenical therapy over the older trivalent drugs. The drug is of definite chemical composition which ensures a uniform purity in the samples. Its stability and non-toxicity in solution is a great advantage in the mass and institutional treatment of syphilis. The therapeutic unit dose of mapharside is about 1/10 that of neo-arsphenamine preparations, and hence less arsenic is introduced into the body. The drug is less toxic in therapeutic doses and better tolerated. None of the serious cutaneous symptoms of intolerance that occur with the older trivalent preparations have been encountered in the treatment with mapharside.

REFERENCES

- Foerster, O. H., *et al.* (1935). Mapharsen in the Treatment of Syphilis. *Arch. Dermat. and Syph.*, Vol. XXXII, p. 868.
Tatum, A. L., and Cooper, G. A. (1934). Experimental Study of Mapharsen as an Antisyphilitic Agent. *Journ. Pharm. and Exper. Therap.*, Vol. L, p. 198.

who have the opportunity of observing their patients for a long period. One medical man practising in a *mofussil* town told us that a patient of his, suffering from occasional attacks of amœbic dysentery, had five courses of emetine (each consisting of 6 injections of 1 grain emetine hydrochloride, stovarsol, carbarson, and kurchi-bismuth-iodide) within a period of two years, yet he could not cure the patient. After each course the patient apparently got well but the condition recurred a few weeks after stopping the treatment. The only explanation of such failure so far adduced was that the amœba got resistant to specific chemotherapeutic drugs.

Since our work (Pal and Ghosh, 1937) on the reaction of stools with relation to fermentation in the intestines and subsequent report by Pasricha *et al.* (1938), we began to wonder whether the constantly acid reaction of the stools of the people of this country, who take much rice or flour and sweets, could have any influence in making the amœbæ resistant to treatment by specific chemotherapy. It is generally known that acid reaction of stools favours the life and growth of *Entamoeba histolytica*.

On this hypothesis we treated three cases of chronic amœbiasis, whose stools were highly acid to litmus, with one course of 6 injections of 1 grain emetine followed by oral administration of freshly prepared liquid extract of kurchi for 12 consecutive days while the patients were kept mainly on protein diet with a restricted amount of carbohydrate in the form of porridge and *chapati*. The stool turned alkaline after 48 hours. The restricted diet was enforced in each case for four weeks and the patient was advised to test the reaction of the stool daily with litmus paper. The restriction of diet was lifted after four weeks, but the patients were instructed to avoid rice and sweets as much as possible. We explained to them that if the stool turned acid we should not be held responsible for the recurrence of symptoms. Two of these patients had been suffering from fermentation almost every day and occasional attacks of dysentery for a period of three years. Each had two courses of emetine, stovarsol, kurchi-bismuth-iodide, or liquid extract of kurchi with only temporary relief. The other case had had the same complaints for one year and a half and had taken two courses of emetine (each consisting of 6 injections of 1 grain of emetine), one course of carbarson, and liquid extract of kurchi. This latter patient had chronic staphylococcal eczema on the skin of both legs which disappeared during the previous courses of treatment of amœbiasis but reappeared after a few weeks. One patient has been under our observation for 11 months, one for 8½ months and the other for 6 months. During the period of observation several examinations of the stools of each were made; up to the time of writing all the three patients were free from amœbæ. The patients had been following our instructions regarding diet,

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ON THE INTRA-UTERINE INFECTION OF THE FÆTUS WITH *LEPTOSPIRA ICTEROHÆMORRHAGIÆ*

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OPINIONS differ with regard to the transmissibility of leptospira from the mother to the embryonic guinea-pig. Thus, Costa and Troisier (1916) reported that leptospiræ could penetrate through the placenta as shown by the transmission of infection by inoculation of the amniotic fluid. However, Buchanan (1927) criticized these observations on the ground that the presence of blood in such circumstances cannot be entirely ruled out.

Takagi (1927) found spirochætes in the placenta of guinea-pigs infected with Weil's

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though they said that it was very hard on them to avoid rice and sweets. The general health of all these patients has greatly improved.

Of course, no positive deduction can be drawn from the three cases shown above, but it seems to us that this is a line of investigation worth continuing.

It is, therefore, our suggestion that in treating cases of chronic amœbiasis strict attention should be paid to the adjustment of the diet in such a way as to keep the reaction of the stool alkaline. Rice, sweets and excessive quantity of other carbohydrates tend to make the stool highly acid.

Alkali by mouth can change the reaction of the urine but has little influence on the reaction of stools. Increased meat and fish diet and diminution of the quantity of carbohydrates invariably make the reaction of the stool alkaline. Change to *atta* from rice also changes the reaction of the stool from acid to alkaline.

[Note.—As the writer says 'no positive deductions can be drawn from the three cases'. There are many reasons for this; nowhere is any mention made of the finding of amœbæ in these patients' stools although the cases are labelled 'amœbiasis'. 'During the period of observation several examinations of the stools of each were made' with negative findings, but how many and when? There is therefore neither evidence of amœbiasis nor of its cure. The clinical evidence, however, seems to be clear, though there is nothing to indicate that it was not the change in diet *per se* that caused the improvement. Nevertheless, we consider that this short note is a useful contribution and worth publishing in order to draw attention to an aspect of this difficult problem, the cure of chronic amœbiasis, which has not received sufficient attention hitherto. The diet usually given in amœbiasis would tend rather to increase than decrease the acid reaction of the stools.—EDITOR, I. M. G.]

REFERENCES

- Chopra, R. N., and Sen, B. (1934). *Indian Med. Gaz.*, Vol. LXIX, p. 375.
 Pal, J. C., and Ghosh, H. (1937). *Calcutta Med. Journ.*, Vol. XXXII, p. 440.
 Pasricha, C. L., Goyal, R. K., and Lal, S. (1938). *Indian Med. Gaz.*, Vol. LXXIII, p. 141.