South African Medical Journal : Suid-Afrikaanse Tydskrif vir Geneeskunde

Cape Town, 2 November 1963 Volume 37 No. 44 Deel 37 Kaapstad, 2 November 1963

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THE TREATMENT OF INTESTINAL AMOEBIASIS

It has been estimated that 20 per cent of the world's population is infected with the *Entamoeba histolytica*.[1] This population is now more than 3,000 million; in terms of this estimate there are therefore 600 million patients with amoebic infection in need of medical care. The clinical manifestations of the disease vary considerably from place to place and the recommended treatments are no less diverse. The average practitioner is often puzzled by the conflicting advice of the 'experts', but we who practise in this country are more fortunate.

More than a decade ago the Amoebiasis Research Unit was established in association with the King Edward VIII Hospital in Durban, and later with the Medical School of the University of Natal. The members of this unit have been making a systematic study of amoebiasis, and in South Africa we have learned to turn to them for reliable guidance in the management of this disease.

Now, to our delight, Prof. A. J. Wilmot, one of the members of the Durban team, has published a comprehensive review of the clinical problems of amoebiasis.[2] He has discussed these problems in the light of his own enormous experience and he has critically surveyed important international contributions to the problem. His review covers the pathogenesis, diagnosis and treatment of all forms of amoebiasis and their complications, and the whole book is warmly recommended. However, it is only with Professor Wilmot's opinions on the treatment of intestinal amoebiasis that we are presently concerned.

There are two guiding principles that determine the drug treatment of intestinal amoebiasis. *E. histolytica* lives as a commensal in the intestinal lumen; when it invades the tissues of the intestinal wall, it produces dysentery. If only the tissue phase of the infection is dealt with, the intestinal wall will be invaded repeatedly by those organisms which survive in the lumen. There is no single drug that is completely effective in eradicating both the tissue and the intraluminal phase of the parasite; therefore the first principle of treatment is always to use a combination of drugs. Further, when *E. histolytica* enters the intestinal wall, it gains access to the portal venous system, and there is a potential danger that the infection will spread to the liver and to other organs. Therefore, the second principle of treatment is always to include a drug which is effective against the extra-intestinal phase of this organism.

Of the various drugs included in the therapeutic regimens, emetine still retains the place of honour. It is best given by intramuscular injection, and the dose is one grain (65 mg.) daily for up to 10 days. Emetine has a toxic effect on the heart, and the patient must therefore be kept in bed during the treatment; after getting up he must avoid strenuous activity for three to four weeks. Its use is contraindicated in the presence of heart disease, particularly if there is a danger of heart failure or arrhythmia. It should also be avoided in pregnant women and in patients with polyneuritis of recent development. Because of its possible dangers, it has been suggested that emetine should be discarded altogether, but Wilmot writes strongly in its favour: 'It is certainly no more dangerous than many agents in general use, and there seems no justification for abandoning a potent remedy which remains preeminently effective in the relief of symptoms and may on occasions prove life saving.'[2]

Emetine by injection is only effective against the tissue phase of the infection and does not affect the organisms in the intestine. A derivative, emetine bismuth iodide (EBI), is administered orally and, being only partially absorbed, acts in the lumen as well as in the intestinal wall. The dose is three grains (195 mg.) daily; this often produces considerable nausea, so that it has to be given at night, usually with phenobarbitone or with some other anti-emetic preparation. The effect of EBI in the tissues is slow and rather weak, so Wilmot prefers to initiate treatment with three or four daily injections of emetine and then to give EBI by mouth for 10 days. This combination is inexpensive and highly effective in mild and moderate cases of intestinal amoebiasis.

The use of emetine and EBI entails restriction of activity; therefore for those who prefer ambulant therapy, Wilmot offers an alternative programme. This consists of oxytetracycline, 250 mg. six-hourly for seven days; chloroquine base, 150 mg. twice daily for 20 days; and diiodohydroxyquinoline, 600 mg. three times daily for 20 days. Oxytetracycline, like the other tetracyclines, is believed to act mainly by altering the intestinal flora, among which *E. histolytica* flourishes. Given by itself, it produces a good immediate effect, but relapses are common. Chloroquine is included for its action on the extra-intestinal phase of the infection, where the tetracyclines are relatively ineffectual. Diiodohydroxyquinoline ('diodoquin', 'embequin', 'savorquin', 'yodoxin') is an intraluminal amoebicide and is essential if re-invasion of the tissues is to be avoided and if the patient's stools are to be rendered non-infectious. It is one of 17 arsenical or quinoline intraluminal amoebicides which Wilmot reviews; it is not the only effective one, but it is the best established. Rarely, it may produce mild iodism, but usually it is free from unpleasant side-effects.

In cases of severe amoebic dysentery the most powerful drugs must be used if fatalities are to be avoided. Wilmot advises a combination of emetine, one grain intramuscularly daily for 10 days; oxytetracycline, 500 mg. every six hours for seven days; and diiodohydroxyquinoline, 600 mg. three times a day for 20 days.

In those areas where amoebiasis is rife, the management of non-dysenteric intestinal amoebiasis presents quite a problem. *E. histolytica* may be found in the stools of patients with mild abdominal symptoms—diarrhoea or

constipation, colic, distension, flatulence, etc. Such patients should be treated with one of the combinations of drugs recommended for mild and moderate dysenteric cases. However, simply finding *E. histolytica* in the stools in patients with vague constitutional symptoms ranging from headache to heartburn, or from impotence to insomnia, is not an indication for anti-amoebic therapy. It is unlikely that the symptoms will improve, and if they persist the patient may be left with 'amoebaphobia' to add to his troubles. In this connection, Wilmot reminds us that the finding of *E. histolytica* in the stools does not exclude the possibility of tuberculosis or carcinoma as the cause of the patient's ill-health.

Finally, there is the problem of post-dysenteric colitis: patients in whom dysentery persists after the infection has apparently been eradicated. The condition was more common in the days when chiniofon retention enemas were used frequently in treating amoebic dysentery. The endoscopic appearances in patients with post-dysenteric colitis may resemble ulcerative colitis. It is possible that these patients had ulcerative colitis from the beginning and that the presence of *E. histolytica* in the stools was coincidental; or, it is possible that the ulcerative colitis was triggered off by the amoebic infection. In such cases, the course is that of ulcerative colitis and the treatment may be very difficult. Fortunately, the majority of cases of post-dysenteric colitis are 'non-specific' and clear up after a few weeks of simple symptomatic treatment.

1. Hoare, C. A. (1952): Exp. Parasit., **1**, 411.
2. Wilmot, A. J. (1962): *Clinical Amoebiasis*. Oxford: Blackwell.

GEDISSEMINEERDE SKLEROSE IN SUID-AFRIKA

Die toestand wat gewoonlik, by gebrek aan 'n beter term, as gedissemineerde, verspreide, of veelvuldige sklerose beskryf word, is vir ons in Suid-Afrika van besondere belang veral oor 'n negatiewe rede—die siekte ontstaan naamlik gewoonlik nie primêr op hierdie bodem nie. In Europa en Noord-Amerika is gedissemineerde sklerose waarskynlik die belangrikste siekte van die sentrale senuweestelsel. By ons in Suid-Afrika kom dit baie selde voor by Blanke Suid-Afrikaners wat in hierdie land gebore is, en tot dusver is daar nog geen outentieke geval geboekstaaf van die voorkoms van die siekte by lede van ons Bantoebevolking nie. By immigrante wat uit Europa na Suid-Afrika toe getrek het, kom die siekte egter veel meer algemeen voor.

'n Ondersoek na die versluierde etiologiese agtergrond van hierdie siekte kan dus vir ons besondere interessante lig werp op die hele toestand. Dit is derhalwe van groot belang dat so 'n groot aantal as moontlik—selfs almal indien dit gedoen kan word—van die Suid-Afrikaanse gevalle van die siekte opgespoor moet word. Geneeshere sowel as lede van die publiek wat bekend is met pasiënte wat aan dié siekte ly, kan in hierdie opsig van groot hulp wees.

Wetenskaplike ondersoekwerk in verband met gedissemineerde sklerose in die Verenigde State van Amerika, in Brittanje, en in ander Europese lande het gelei tot die stigting van die Nasionale Verenigings vir Gedissemineerde Sklerose van Brittanje, Amerika, ens. Hierdie verenigings vervul in twee groot behoeftes: In die eerste plek moedig hulle navorsing aan na die oorsake van die siekte, wat nog grotendeels onbekend is. En in die tweede plek help hulle op 'n praktiese vlak om hulp te verleen aan persone wat aan hierdie toestand ly.

In Suid-Afrika word ook uitgebreide navorsing op hierdie gebied gedoen en die Suid-Afrikaanse Nasionale Vereniging vir Gedissemineerde Sklerose is onlangs gestig, met drie afdelings in Johannesburg, Kaapstad en Durban. Die Nasionale Sekretaresse van die Vereniging is mev. I. Henderson, Villiersweg 295, Walmer, Port Elizabeth. Die Sekretaresse van die Transvaalse Afdeling is mev. J. Nass, Posbus 10319, Johannesburg; die Sekretaresse van die Kaapse Afdeling is mev. K. M. Bestall, Proteawoonstelle 3, Protealaan, Vishoek; en die Sekretaris van die Natalse Afdeling is mnr. Les van Rooyen, Kensingtonweg 33, Durban-Noord.

Die Vereniging is angstig om met alle persone in hierdie land wat aan hierdie siekte ly in verbinding te tree, en om hierdie rede word 'n oproep dus gedoen op alle dokters wat sulke pasiënte het om met die plaaslike Sekretaris van die Vereniging in verbinding te tree. Wat die algemene publiek betref, sal hierdie informasie as vertroulik beskou word, maar dit sal help om alle gevalle wat nog nie aangemeld is nie onder die aandag te bring van die navorsers wat besig is om 'n opname van die siekte in hierdie land te maak.