BILHARZIASIS AND THE 1st (WEST AFRICAN) BRIGADE

BY

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WITH A FOREWORD BY THE DIRECTOR OF ARMY HEALTH

This most interesting article gives an account of one of the medical mishaps of World War II as seen through a layman’s eyes. It is easy to be wise after the event, but the story does emphasize the necessity for military medical officers to cultivate “awareness” of disease, especially when entering new localities. It is essential that when a Public Health Department exists it should be consulted, and when it does not exist, a clinical examination, combined if possible with laboratory examination, should be carried out on samples of the local population. In this case also a search of the lagoon would have revealed a snail known to be a possible carrier of bilharziasis (schistosomiasis) and therefore suspicion should have been aroused.

As regards the infectivity rate, this is probably best estimated on the European figure as the disease is endemic in West Africa and it is probable that many of the West Africans were already infected.

In a memorandum produced by Dr. C. E. Gordon Smith he said that a considerable amount of work had been done in trying to infect both Indian and Malayan snails with Bilharzia (Schistosoma), but all attempts had been unsuccessful. But from the fact that Schistosoma mansoni, carried to America by negro slaves, was able to establish itself permanently in New World snails suggests that the establishment of Bilharzia in Indian and Malayan snails might occur, and it would seem that, given a suitable period of time and weight of attack, mutations might arise and a substrain capable of adapting itself to local conditions might become established.

EARLY in 1944 a West African Brigade Group in Nigeria, consisting of between six and seven thousand officers and men and destined to sail in the near future for the war in Burma, contracted bilharziasis.

At the end of 1943 the 82nd West African Division was concentrating, prior to its final training and embarkation, in Southern Nigeria. On information received from its sister division, the 81st already in Burma, the commander of the 82nd ordered his brigade groups out into bush camps where they were to concentrate on training in jungle warfare and watermanship. The commander of the 1st (W.A.) Brigade realized that he could not carry out this directive fully unless he were to find ample water and jungle in close proximity to one another. Consulting his map he saw the large Epe lagoon, which runs from the broad and strongly tidal inlet which is Lagos harbour, eastwards to the south of the Niger. It is separated from the sea by a strip of sandy soil about ten miles or less in width. It was about one hundred miles south of his existing location at Ede (not to be confused with Epe), and the march there and back through the bush alone offered excellent facilities for training.

Epe could also be reached by road by means of a somewhat circuitous journey, and the brigadier went off on a close reconnaissance of the area. He decided that Epe was ideal for his purpose—there was plenty of high forest, dense undergrowth, few tracks, some swamps and, above all, the broad blue lagoon, slightly brackish but tideless, ideal for teaching his men watermanship. Moreover, the proximity of the large village of Epe made the hire of boats and canoes a relatively simple matter.

On return to Ede, the brigadier instructed his S.M.O. to have a water reconnaissance carried out in the area, preliminary to allotting camp sites for his
various units. He did not specifically instruct his S.M.O. to examine the water for the presence of Bilharzia, for at that time he had no knowledge that the disease occurred nearer to him than the Sweet Water Canal in Egypt. What he did know was that for years previously officers and men, in the course of their annual training in all the West African territories, had been in the habit of wading and swimming in rivers, streams and lakes, apparently with impunity.

The S.M.O. was new to West Africa, but he detailed one of his officers, who in peace had been a member of the West African Medical Services, to carry out the required reconnaissance. This officer on return to Ede advised where water points for drinking water should and should not be erected, and the engineers were ordered to carry out his instructions. There was still no mention of Bilharzia.

Now it is an incontrovertible fact that although there was a wealth of instructions issued by both Command and District H.Q. on health in West Africa, no mention whatsoever was made in any of these, whether they were directed to the layman or couched in more technical language for the guidance of medical officers, of the words bilharziasis or schistosomiasis. In one of the more “chatty” pamphlets directed to the British officer and N.C.O. there was, it is true, a passing warning against rash bathing in rivers, but from its context one could only draw the conclusion that bathing in obviously dirty water was not to be recommended. This lack of “Bilharzia awareness” must be realized because it goes all the way to explain not only why the whole brigade group had to be treated but also why the disease took so long to diagnose.

Whilst the troops were still arriving in their camp sites and constructing their shelters, the brigadier, as was his wont, used informally to visit the various units and talk to the C.O. and others. At one battalion he met the R.M.O., a newcomer to West Africa, who in the course of conversation expressed his doubts about the suitability of Epe as a training camp and specifically mentioned Bilharzia. Alarmed, the brigadier set off at once to consult his S.M.O., who, not unnaturally, expressed annoyance that a R.M.O., unfamiliar with the country, should voice his frightening views to the brigadier and, to prove his contention, produced a R.A.M.C. manual, turned to the chapter on bilharziasis, and pointed out that the map accompanying it showed that Southern Nigeria was not marked as being infected with the disease. The camp was therefore allowed to continue with its programme of work which catered for intensive swimming, rafting, canoeing, etc., all designed to teach the brigade to surmount without difficulty the innumerable water obstacles of the Arakan in Burma.

The camp was from time to time visited by various senior medical and other officers from Command and Divisional H.Q., who were much impressed by the realistic training being carried out. There was no more mention of Bilharzia. Here it may be said that the brigade group contained more than a dozen medical officers and also a hygiene section, but they all eventually had to be treated for the disease.

The duration of the camp was to be three months. After a few weeks a certain R.E.M.E. major was evacuated sick to one of the military hospitals. He was followed by a steady, but as yet un alarming, trickle of European officers
and N.C.Os. whose complaint seemed to baffle diagnosis. Their symptoms were a feeling of lethargy, of being off-colour, and they had slight temperatures. After treatment, some returned to Epe, others were sent to the hill station at Jos for a week or two to recuperate from what came to be called, in the absence of a better term, "Epe fever." Meanwhile training continued and at length the brigade marched back through the bush to Ede, carrying out an exercise en route. While this was in progress, and almost exactly six weeks after the R.E.M.E. major had reported sick, the disease was diagnosed as bilharziasis and the full horror of its implications burst upon the startled Command.

On return of the brigade to Ede, every individual who had been to Epe had his stool and urine tested. This required considerable organization, but the examination was carried through. Whereas a large percentage was found to be positively infected, others showed no trace of the disease. Recourse was then had to the investigation of eosinophilia and it was revealed that the cell count of the majority of those who had so far appeared to be uninfected reached a high figure. Most admitted to lassitude and a general feeling of being unwell, though they could seldom give a clearer account of their symptoms.

The decision, and it required boldness, was then taken by the Consultant at West Africa Command H.Q. to treat for bilharziasis every person who had been in the camp at Epe. The first brigade to leave West Africa for Burma was already embarking and the afflicted brigade was due to go next. Its place had to be taken by the third brigade to allow time for the necessary treatment. As the position was now one of extreme urgency, it was decided that every officer and man should be given nine injections of stibophen, in the buttocks. As available stocks of this drug, hurriedly sent out from the U.K., were insufficient for the numbers involved, one battalion was selected for treatment with tartar emetic. This had its usual reaction of causing immediate vomiting in many of those so treated, and it is not possible now to say without more research, which is probably impossible, which drug was the more effective as a cure.

The mass hospitalization of so many European officers and N.C.Os. and of African troops itself presented no small problem, but one of the greatest was the maintenance of morale amongst the European element in particular. Few of those undergoing treatment were ill enough to remain quiescent in bed all day, and the most alarming stories about the disease and its effects were eagerly disseminated and devoured. The brigadier, himself a patient, sought to combat this state of affairs by forbidding any discussions of the disease and by organizing daily meetings at which the European patients would talk to the others for half an hour on any subject the speaker chose. These varied as widely as the pre-war occupations of the patients and provided all with new topics of conversation and new ideas as to how life is lived. They did much to maintain the morale of the patients. During this period several tests for the presence of Bilharzia in the water at Epe were made, and not only were all the conditions necessary for the evolution of the parasite present in the water but the water itself was found to be heavily infected.

On discharge from hospital, the inoculations were followed up by further
stool and urine tests, as a result of which appreciable numbers were still found to be positive and were readmitted to hospital. The loss of these highly trained personnel, especially of experienced British officers and N.C.Os., was extremely serious from the point of view of the brigade’s efficiency, but in the event, the reinforcements, mostly straight out from the U.K., proved of high quality when they took the field.

The follow-up was by no means discontinued when at last the brigade embarked for Burma. On board ship, the various medical officers continued their tests, as a result of which still more individuals, and especially Europeans, again proved positive. This posed a remarkably difficult problem for the health authorities in India, where many other unpleasant diseases flourished but not bilharziasis. The type of snail which the Bilharzia parasite must find as a host during its cycle of growth is there in quantity, but so far the disease itself had not occurred. However, the brigade eventually rejoined its division at Chas, near Ranchi, where the other two brigades and divisional troops were already undergoing tests for bilharziasis. Some extraordinary results were obtained—e.g., one officer, not of the brigade at Epe, had only twice bathed in West Africa and then in a private swimming pool, yet he was found to be infected. The Epe brigade had once more to be tested en masse, and again a number of all ranks were found to be positive and were lost to their units. As far as the H.Q. of the 1st (West African) Brigade was concerned, the medical authorities were eventually satisfied that none of the remaining personnel were suspect except the intelligence officer and the brigadier himself. These two were therefore required for another week to fill a test-tube with their urine each morning on awakening. The I.O. was positive and had to go. The brigadier, however, who had never been found positive, evolved a plan of mild deception which might or might not have mystified the doctors but which allowed him to take his brigade to Burma. He is still enjoying rude health. His plan was to drink a quart of water each night before going to bed at about 10 or 10.30 p.m. This necessitated his rising at about midnight to get rid of the excess fluid in his body. Before returning to bed he drank another quart of water. This process was repeated at about 2.30 a.m. and again before 5 a.m. As a result of this vast quantity of water passing through his body his urine in the morning when he finally rose at about 7 a.m. was almost crystal clear. He confessed afterwards in Burma that he used to wonder for how long his subterfuge would work, but though his new S.M.O. told him that his specimens were so abnormal as to arouse considerable suspicion, his bluff was never called.

It is not the author’s intention in this article, to apportion blame to anybody. His intention is solely to describe an event, of which he had first-hand knowledge, impartially, in the hope that it may be of help in avoiding similar catastrophes in future.

To conclude, it can be said that, thanks to the unremitting efforts of the medical officers concerned, bilharziasis was not introduced into either India or Burma. A much greater tragedy than the infection of a brigade group, some of whose members became seriously ill, was thereby avoided.