The small pumps mentioned above were purchased from Messrs. Walter Leslie, Calcutta, and it is hoped, out of the next anti-malaria grant, to purchase a larger type.

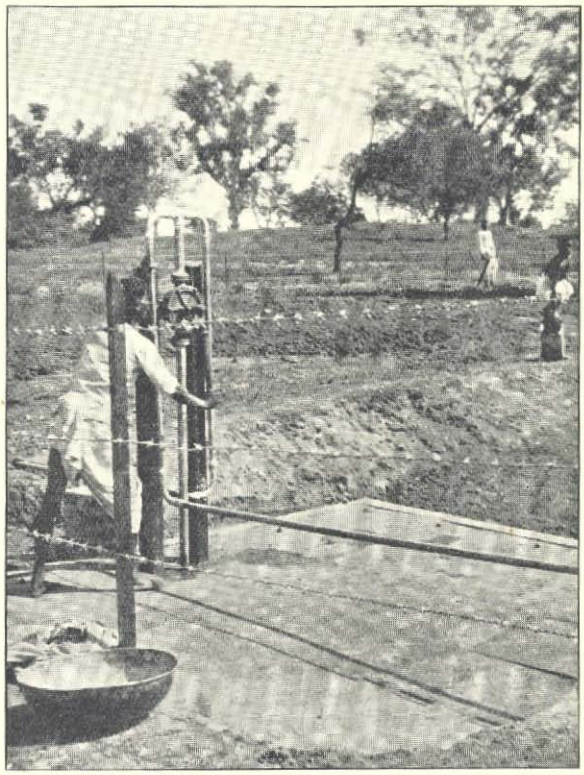

FIG. 3.

We have been extremely fortunate in having an enthusiastic Sub-Divisional Officer of the Military Engineering Services whose practical suggestions have been invaluable in anti-malaria work in this cantonment.

A CONSIDERATION OF CERTAIN POINTS IN THE TREATMENT OF AMŒBIC ABSCESS.

BY MAJOR A. G. BIGGAM, O.B.E.,
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THE generally accepted present-day treatment of amœbic abscess of the liver is by aspiration of the contents, combined with intramuscular emetine injections; this procedure leads to cure in the great majority of cases without the necessity of open operation. After aspiration it is always advisable to make a bacteriological investigation of the first fluid with-

drawn to insure its freedom from pyogenic organisms, for though ninety per cent of amœbic liver abscesses are sterile, occasionally a case is met with in which the presence of septic organisms detected on direct microscopic examination or shown by numerous colonies grown on the plate necessitates open drainage of the abscess cavity in order to obtain a cure. Even when no organisms are present, one must always be prepared to repeat the aspiration on one or more occasions should signs of reaccumulation appear.

The thickness of the liver abscess content not infrequently renders its removal difficult, even when the largest-sized cannula of the Potain's apparatus has been employed. We have, however, seldom experienced trouble with the aspiration, provided the general condition of the patient has been sufficiently good to allow of the employment of intramuscular emetine for some days, preferably up to seven if possible, prior to withdrawal of fluid being attempted. This emetine administration allows the liver cells at the peripheral part of the abscess to recover from the ill-effects of the action of the *E. histolytica*, and in some cases may even bring about a complete cure of the hepatitis without any further interference; when however, as usually occurs, the abscess still persists despite several days' emetine treatment, thinning of the central part of the content has usually resulted from the emetine medication and the aspiration is thus made easy.

The drug usually employed in the treatment of amœbic hepatitis is emetine given intramuscularly, but other medicines have occasionally been recommended as a cure for amœbic inflammatory conditions of the liver. Two cases of amœbic abscess recently under my care are of interest, demonstrating the unreliability of certain of these other drugs in preventing the development of abscess formation.

Case 1: G. K. H., male, aged 20, was admitted on October 25, 1931, complaining of diarrhœa and the passage of blood and mucus associated with tenesmus. The onset was sudden with ten motions on the first day of the disease and the symptoms persisted for five days. No previous history of diarrhœa was obtained. The stools were almost pure blood and mucus, and abdominal colicky pains were marked.

On examination the patient's general condition was found to be bad; he looked very toxic, dehydrated; eyes were sunken and tongue dry; the pulse was weak, 108 per minute; temperature 38·9° C. No enlargement of the liver could be detected on careful examination. The abdomen was tender all along the course of the large intestine. Active *E. histolytica* were found in the stools.

Sigmoidoscopic examination revealed big sloughing amœbic ulcerations with small areas of healthy mucosa in between.

Laboratory investigation of the stools failed to reveal any other cause for the dysenteric symptoms apart from the amœbic infection.

Owing to the patient's poor general condition, emetine was withheld and he was put on a yatren enema, 250 cubic centimetres of 2·5 per cent solution daily, and stovarsol 0·25 g. t.d.s. He retained the enema very well

and his dysenteric symptoms rapidly improved; blood, mucus and diarrhœa being absent and examination for *E. histolytica* negative on November 3, ten days after the commencement of treatment. Treatment with yatren and stovarsol was continued to complete twelve days in all, after which the patient's general condition was good, his abdomen was quite comfortable, no tenderness now being elicited on palpation over the large gut.

The patient's condition progressed satisfactorily till November 9, when he developed an evening temperature of 38·5° C.; this recurred each evening, and his general condition gradually became less satisfactory although the bowel symptoms were still entirely absent. On November 13 signs of enlargement of the liver were detected, the leucocytic count being then 24,000 with polymorphs 89 per cent.

The liver was explored on November 14 and 600 cubic centimetres of amœbic liver abscess material removed.

Case 2.—T. M., hospital No. 23,529, aged 45, was admitted on December 19, 1931, with dysenteric symptoms.

The disease began one month prior to his admission, the onset being gradual and not associated with any fever or other signs or symptoms of general toxæmia. Actively mobile *E. histolytica* were demonstrated in the stools by the microscope, and sigmoidoscopic examination revealed small discrete amœbic ulcers in the lower part of the gut. The liver was not enlarged and there was no tenderness in the region of this organ; there was no complaint of cough and no signs of any lesion of the lung. The temperature was normal and the leucocytic count 7,200.

Treatment was started on December 21, 1931, with one grain of emetine bismuth iodide given by the mouth on the first day, two grains on the second and three grains on the third day, this dosage being continued during the remainder of the course.

Concurrently with this treatment, daily medication with a yatren enema, 250 cubic centimetres of a 2·5 per cent solution, was given, the enema being retained well.

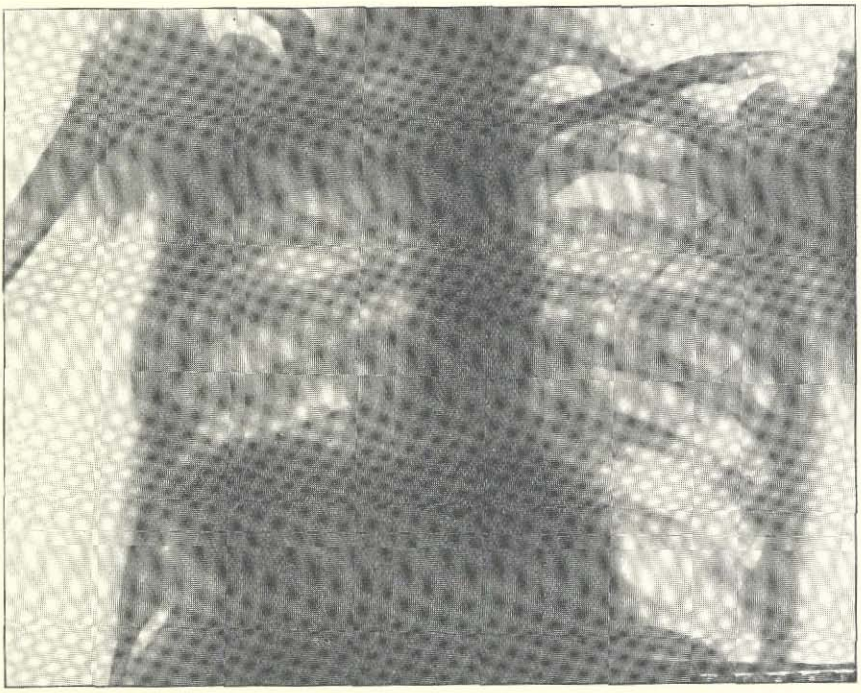
On December 29, ten days after the commencement of the treatment, the patient began to feel some pain in the lower right costal region which was aggravated by deep breathing and coughing; some impairment of air entry was detected in the lower part of the right chest, and two days later some slight dullness on percussion was discovered in this area; occasional faint friction sounds were also heard here.

No pain was ever complained of in the right shoulder region, and there was no increase in temperature or leucocytes—this absence of fever and leucocytosis we have found not infrequently in cases of definitely proved amœbic liver abscess.

On December 31 the patient was X-rayed and a small abscess was revealed towards the base of the right lung, the lower part of the opacity being in contact with the dome of the diaphragm. A needle was inserted in the sixth space in the mid-axillary line and thirty cubic centimetres of typical liver abscess material were withdrawn which later proved to be

sterile on culture. Emetine 0·06 gramme intramuscularly was commenced and continued daily for ten days. The pain which had been complained of in the region of the abscess rapidly subsided and successive radiograms showed gradual diminution in the size of the abscess opacity, until one month after the emetine had been commenced only slight peribronchial thickening remained indicating the site of the healed abscess.

The patient was discharged apparently cured both as regards the primary intestinal condition and the secondary liver complication.



Showing amœbic abscess in the lower part of the right lung of Case 2. Symptoms and signs of this abscess occurred towards the end of a course of treatment with oral emetine bismuth iodide and yatren enema.

These two cases of amœbic dysentery admitted with no signs or symptoms of liver involvement both showed satisfactory improvement in their bowel symptoms, Case 1 on yatren enema and oral stovarsol and Case 2 on oral emetine bismuth iodide and yatren enema; but despite this improvement in their intestinal symptoms both developed an amœbic abscess, the one a few days after completing the course of yatren enema and oral stovarsol, the other towards the end of the course of emetine bismuth iodide and yatren enema.

The occurrence of amœbic abscess in these two cases compels one to accept with great caution any claims advanced as to the curative properties of any drug other than emetine in the treatment of amœbic abscess or even of early amœbic hepatitis.