# A CASE OF HUMAN COCCIDIOSIS.

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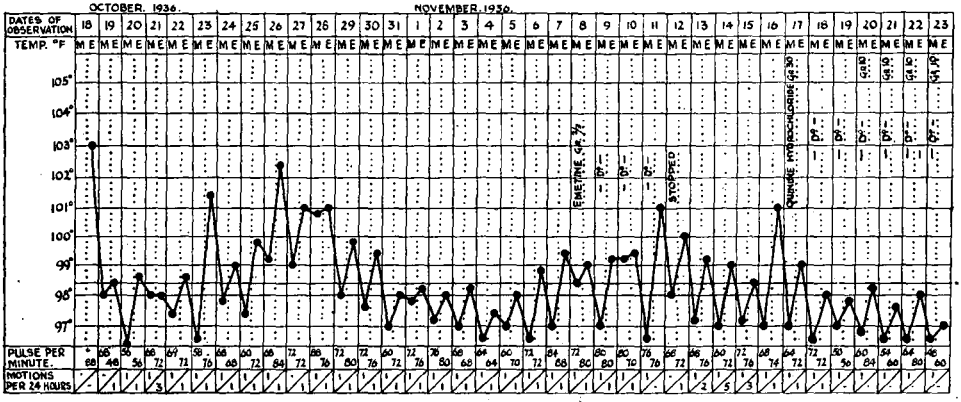
According to Manson-Bahr (1935), more than 150 cases of infection by *Isospora belli* (Wenyon, 1923) have been recorded, and although the organism is undoubtedly parasitic in man, it is not seriously pathogenic, yet in the two cases quoted by Manson-Bahr there was continuous and debilitating diarrhœa of six weeks' duration, associated with numerous Charcot-Leyden crystals and pus cells in the fæces, and a high eosinophilia in the blood. Most of the cases came from the Eastern Mediterranean area, but Manson-Bahr's patient was infected in the West Indies. Since then cases of human coccidiosis have been reported from other regions such as Transcaucasia, Habana, and Hawaii. The coccidium develops in the intestinal epithelium, thereby bringing about destruction of the cells, and so it would appear that the patient's symptoms depend not only upon the severity of the infection, but also upon the amount of epithelium invaded. In animals such infections are often the cause of serious enteritis which may terminate fatally (Wenyon, 1915). The infection by *I. belli* is not often pathogenic, and therefore not much attention has been directed to the treatment of the condition except that drugs like stovarsol, yatren and bismuth salicylate have been suggested in a general more than a specific manner. The case reported from Habana was treated successfully with anguilicide, i.e. gentian violet (Kouri and Basnuevo, 1936).

The patient, whose clinical story is related below, responded well and quickly to quinine hydrochloride.

It is thought that many species of flies play an important rôle in the transmission of the infection because the oocysts are reported to remain viable and unaltered in the intestine of the fly for twenty-four hours and are evacuated as such in the fæcal droplets. Oocysts have also been recovered from the external parts of the body of these insects (Metelkin, 1935). An illustration of the extracorporeal development of *Isospora* is given in the official copy of the Memoranda on Medical Diseases in Tropical and Sub-tropical Areas, 1930.

Guardsman C., aged 24, serving in Egypt, his only foreign station, suffered from diarrhœa in April, 1936, which kept him in hospital for thirteen days. He was admitted to No. 3 British General Hospital, Alexandria, on October 18, 1936, complaining of headache, a feeling of feverishness, epigastric discomfort, flatulence, vomiting, and two or three loose motions in the day. On examination his temperature was 103° F.; pulse 88 per minute. Heart and lungs were healthy, the spleen was easily palpable, but the liver did not appear to be enlarged. Blood films failed to demonstrate malaria parasites. The stool did not suggest dysentery

macro- or microscopically. For the next ten days the patient showed an irregular intermittent pyrexia varying from normal to 102° F. During this period vomiting was troublesome. He continued to have abdominal pains and fluid stools. The latter were bile-stained, contained some mucus but no blood, and by the microscope the constant presence of very numerous oocysts of *I. belli* (Wenyon, 1923), subsequently confirmed at the Royal Army Medical College, London, was noted. No amœbæ, cysts, parasitic ova, or Charcot-Leyden crystals were seen in any examination. Repeated blood-films showed no malaria parasites. The urine was normal and




sterile on culture. The blood-counts showed a leucocytosis of 17,000 per c.mm., with polymorphs 30 per cent, a relative lymphocytosis 59 per cent, and an eosinophile count ranging from 8 to 12 per cent. Then followed a few days of apyrexia, but afterwards the irregular fever returned. A course of emetine failed to check the diarrhœa; the spleen had increased in size and his general condition was deteriorating. On November 14 Major Bridge wrote to me asking whether this man's illness could be associated with the constant presence of the oocysts in the stools, since in spite of all investigations, no other cause had been found. We conversed over the telephone and we agreed that as the life-cycle of this parasite resembled that of malaria, differing in the fact that it invaded the intestinal epithelial cells instead of the red blood corpuscles, it would be well to administer 10 grains of quinine hydrochloride by mouth three times a day for three days (November 17, 18 and 19) and to continue thereafter with 10 grains of quinine each morning along with magnesium sulphate by the mouth every two hours, liberal fluids and a course of stovarsol. The effect of this is well seen in the temperature chart. By November 24 no oocysts could be found in the stools even after prolonged search, the temperature became steady, the eosinophiles had fallen to 5 per cent and the patient felt very much better. The magnesium sulphate was reduced, the fluids were gradually replaced by solids, stovarsol was stopped on December 3, and when I saw him on this date his convalescence seemed to be well established. At the

time of his discharge from hospital on December 11 the spleen had completely receded, no more oocysts had been found since treatment was commenced, he had gained seven pounds in weight in ten days, the eosinophiles had fallen to 2 per cent and all abdominal pain and discomfort had disappeared.

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