

A FATAL CASE OF BALANTIDIOSIS.

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DURING the present War no fatal cases of balantidiosis have been reported, and no mention has been made in the literature of the disease as occurring among troops, although the organism has been reported present in the faeces at different times.

A short résumé of the literature on the subject is here given with notes of a fatal case seen by me while on duty in Italy, and engaged in the routine study of a large number of faeces from British West Indian soldiers for parasites.

In 1904 Strong [1] reviewed the literature on the subject and collected 127 cases in all up to that date, and in 1906 reported on the subject again, describing minutely the extreme ulcerative colitis at autopsy, with invasion of all the layers of the bowel by the organism. The caecum was affected particularly. In 1909 the author reported two fatal cases of balantidiosis [2]. Both of these showed the same picture as described by Strong, and in one of them perforation of the caecum had occurred.

The organisms were shown to have invaded the mesenteric lymph nodes in one of these cases. Clinically, the cases were very similar to acute amoebic dysentery. There was extreme emaciation with pallor, and blood examination showed a very low red cell count, this varying between two and three million. The stools were frequent, contained blood and mucus, shreds of epithelium, and when examined microscopically, large numbers of balantidia. Sometimes as many as fifty were seen in one field.

In 1911 [3] the author reported a fatal case which had coincidentally infarction of the spleen caused by filarial embryos. Several attempts were made at this time to infect monkeys, but with no success, although Brooks [4] had reported an epidemic of balantidial dysentery among apes in the New York Zoological Gardens, and Noc [5] a natural infection in a monkey.

In 1911 [6] the author again reviewed the literature and discussed the treatment, including injections of various substances and the taking of thymol-coated ipecacuanha pills. These treatments had no permanent effect. It was shown that the disease was rare, as only three cases of balantidiosis were found in an examination of 4,000 specimens of faeces. In 1913 E. L. Walker [7] reported on the disease, and emphasized the number of latent infections where no symptoms occurred. In 1911 ten cases occurred in Bilibid Prison (Manila), and in 1911 and 1912 only eight cases occurred in the Philippine General Hospital. He showed that silver nitrate is balantidicidal in a dilution of 1:25,000. Arsenic, antimony, aniline dyes had little or no effect. Mercuric iodide in a dilution of 1:1,000 had a rapid action. Ipecac. and emetin were only feebly effective.

The following are brief notes on the case seen by me:—

Case.—Pte. —, 10th B.W.I., aged 24, physically well-developed.

Complaint.—Abdominal pain, diarrhoea, and fever.

History.—Patient gives no history of remote illnesses having any relation to his present condition. While in France he was in hospital for six and a half weeks with "bowel trouble." Until the present illness he had been in good health since coming to this area. Five days ago he began to have "cramps" with diarrhoea and tenesmus. He reported sick and was admitted to hospital.

Physical Examination.—Patient appears drowsy, seems to be in what may be described as a "typhoid state." The eyes are half closed. He speaks slowly and answers questions hesitatingly. The sclerae are distinctly yellow-tinged. The lips are covered with sordes, the breath heavy, and the tongue furred. Pulse 104, full, and distinctly dicrotic. The heart sounds are clear, the second pulmonic sound is somewhat accentuated, otherwise normal.

Respirations are normal, and lungs on both sides seem quite normal.

Abdomen.—Appears somewhat distended and is quite tense. There is a bulging area just below the costal margin on the right side. It is about 7 cm. from the mid-line, and extends towards the mid-line. On palpation this area is found to be very tender. No spots can be detected on the abdomen or chest.

Blood Examination.—Leucocytes, 10,500; red blood cells, 4,000,000.

Urine.—Albumin and bile both present in large amount. A few granular and hyaline casts.

Blood cultures and cultures from the faeces were always negative, although done repeatedly.

Treatment.—The patient was treated first of all with injections of emetin for eight days, with no result.

He had an average of ten motions in twenty-four hours, always containing blood and mucus, and sometimes quite watery in character.

Then, acting on Walker's suggestion as to the use of silver salts, the patient was given twice daily high rectal injections of warm 10 per cent. protargol solution. In a short time the parasites disappeared, and the patient appeared to improve. At this time the author was transferred and could not continue the study of the case. Later on the patient died, and for a brief note regarding the autopsy findings he is indebted to Captain R. P. Weldon, R.A.M.C. The colon was a mass of ulcers, answering apparently the classical description of that found in balantidiasis. In the common bile duct was found tightly wedged a dead and partially disintegrated *Ascaris lumbricoides*, and the extreme jaundice was apparently due to this fact.

It is to be noted that later on Captain Weldon saw another case of balantidiosis in a British West Indian, so apparently the condition would seem to be not unknown among them. I am not in the position to make an exhaustive study of the literature, but thus far I have come across no reference to the occurrence of balantidiosis in the West Indies.

As already noted this case was encountered during a routine examination of the faeces of men of the British West Indian Regiment. In that examination over 90 per cent. were found infected with some parasite, and over 50 per cent. had hookworm disease. With other parasites present in large numbers, it may be suggested that the balantidium is commoner than the findings here indicate.

It deserves note that Walker [7] has identified the human balantidium as being the same parasite as that found commonly in the hog.

A further trial with dilute solution of organic silver salts, both in the above infection and in amoebic dysentery, is suggested.

REFERENCES.

- [1] STRONG, R. P. Publications of the Bureau of Government Laboratories, Manila, No. 26, 1904 (with illustrations).
- [2] BOWMAN, F. B. *Philippine Journal of Sciences*, Section B, 4, 1909, 417-423.
- [3] BOWMAN, F. B. *Ibid.*, 6, 1911, 147-153.
- [4] BROOKS. *New York Ann. Bull. Med. Science*, 1902 (January).
- [5] NOC, F. *Comptes rendus. Soc. de Biologie*, 1908, 64.
- [6] BOWMAN, F. B. *Journ. Amer. Med. Assoc.*, 1911, 1814 (December 2), (with illustrations).
- [7] WALKER, E. L. *Philippine Journal of Sciences*, Section B, 8, 1913, No. 5.

MEDICAL SOCIETY NOTES.

THE 32nd REGULAR MEETING OF THE MEDICAL SOCIETY OF THE C.A.M.C., SHORNCLIFFE.

Held at No. XI Canadian General Hospital.

MAJOR W. L. WHITTEMORE read a paper on "Relapses after apparent recovery in Delayed Tetanus," illustrated by the cases of two men, one of whom had been wounded four months, the other nine months previously to the onset of this tetanus. From being mildly sick when the signs were localized, both men became dangerously ill when the symptoms became generalized, showing in sequence pain, stiffness, clonic contractures in the wound areas, increasing trismus, photophobia, terror of noise and movement, opisthotonos, with, later on, emprosthotonos, excessive dyspnoea, and cyanosis. Eye complications—a keratitis in one and an iritis in the other—developed. Both made successful, though slow, recoveries.

In both cases relapse occurred about four months after convalescence, with a recurrence of the symptoms of the first delayed attack in milder form.

The interesting features about these cases are that they bring out the following points about tetanus.