OBSERVATIONS UPON AMEBIASIS*

REPORT OF SEVEN UNUSUAL Instances OF COLON DISEASE SEEN BETWEEN SEPTEMBER 23, 1933 AND FEBRUARY 4, 1934

By

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THE far flung amebic infestation thought to have originated in Chicago during the Century of Progress Exposition in 1933 has aroused the interest of both layman and physician. It is not difficult to evaluate the result of the latter's becoming "amebiasis conscious," since it has made him familiar with a wholly new clinical picture. The first patients became sacrificial material: those who followed thus escaped the altar. The following patient is accorded this martyr role:

Case 7011.—Female, aged 58, married and a housekeeper. Became ill the first week in September, 1933. The affection was characterized by diarrhea, fever and pain in the abdomen and legs. The diarrhoea was severe from its onset; the stools varied from five to ten daily, were accompanied by considerable pain, griping in character, contained mucus, were fluid, and afforded small relief from the discomfort. Some blood had been noticed at intervals and in varying amounts. She was confined to bed from the inception of illness and had been seen during three weeks by two physicians in succession; her condition had grown progressively worse. A diagnosis of "Intestinal flu" had been subsequently made, succeeding one of "Intestinal indigestion." The patient was seen September 23, 1933, by me. There was an appearance of serious illness and considerable distress and she was quite apprehensive. She continued to entertain serious doubts as to the outcome until she became semi-conscious. The skin was atomic and moist, temperature 100.2° F., heart rate 96, systolic pressure 124, diastolic 72; tongue heavily coated, dry; the liver was not palpable and there was no tenderness elicited on heavy percussion. The abdomen was distended; the entire large bowel was hypertympanic and there was a generalized hypersensitiveness with gurgling sounds rather constant and generalized. Proctoscopic study showed a satisfactory view of the lower sigmoid and rectum; numerous small, even punctuate, ulcerated areas, bleeding easily, with the intervening mucosa reddened. The fecal matter contained mucus and blood. Smears were obtained from the ulcerated areas for laboratory study. The fresh slides showed blood, mucus and a predominance of diplo-streptococci. A culture showed a predominance of diplo-streptococci (70%), (Bar gen's), colon (15%), atrophylcocci (10%) and spores (10%). Subsequent cultures showed little change in the bacterial flora. The blood counts showed red 3,600,000 to 3,200,000; whites 14,800. A diagnosis of acute appendicitis was made. Because of the duration of the illness and apparent improvement, it was counseled that the case be treated expectantly until recovery and an interval operation be done. On September 29th the white cell count was 8,600.

In about one week she had apparently recovered and was out motoring. During this illness she was constipated. On October 13th the temperature was 98.6° F., weight 116 lbs., (weight August, 1933, 114 lbs.), and the discomfort in the abdomen had entirely disappeared. White cell count was 6,200 and the eosinophiles 2 per cent. When seen again on November 11th some general soreness in the abdomen was complained of and the constipation persisted; the white cell count was 9,600. She was rather anxious to have the interval operation, already determined on, done. An x-ray series of the gastro-intestinal tract was made. (Figure 1).

Figure 1.—Case 3344. Films made (Nov. 11th) 1933. Note the stricture-like irregularity just below the hepatic angle. The cecum presented an irregular density with tenderness fluoroscopically. Appendix not visualized.

An irregularity having the appearance of a stricture at the junction of the ascending colon and the hepatic angle was seen, and which persisted during the study; the cecum presented a very irregular density and the appendix was not visualized. Suspicion of a malignancy was expressed at the clinic-radiological conference. The barium enema study was repeated on November 13th and the contraction defect at the angle was again seen; the filling defects in the cecal head were more pronounced and the appendix still not visualized. (Figure 2).

During the interval between the first and second series of films the constipation had been relieved to the extent of daily stools. The diagnosis still was appendicitis, convalescing, and a possible malignancy. Proctoscopic study done on November 15th showed no ulcerations, but occult blood. Four plus, was found in the stools; no parasites or ova were seen. On November 19th a culture of the stools showed colon bacilli (75%), hemolytic streptococci (15%). White cell count now was 10,000, polyps 71 and eosinophiles 1.

The patient was hospitalized November 27th and a laparotomy done. The surgeon entered a preoperative diagnosis of malignancy of the cecum. At operation the appendix was found to be normal; the cecum was thick and firm and small. Glandular enlargements of adjacent mesentery were noted. The cecum was thought by the

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operator to be malignant and excision was done. The pathological study showed no evidence of malignancy; yellowish necrotic areas were described, some fibrosing. The lymph nodes showed a round cell infiltration with a few eosinophiles.

The post-operative course was stormy. (Figure 3).

An icterus developed in a few days and deepened. The stools were studied as soon as available, but no ameba were found until December 16th, when a few still forms were seen. Death occurred December 17th. The necropsy study of the colon showed many ulcerations from which scores of ameba were recovered.

DISCUSSION

This patient presented a clinical background of what appeared to be an acute appendicitis with subsidence, a continued constipation, negative stools for motile ameba, an x-ray picture suggestive of malignancy, a laparotomy done for an interval appendix and a possible tumor, a normal appendix found, a resection and death. A diagnosis of amebiasis was made clinically a few days following the operation, was doubly made in the laboratory the day before death and was positively made only at autopsy. This patient was in Chicago June 27-30, 1933, and was a guest at one of the hotels under suspicion. Some indefinite digestive symptoms were noted as early as August, but medical care was not requested until late September and then on account of what seemed to be an acute surgical abdomen. (One regretfully admits an unfortunate degree of diagnostic and therapeutic error.)

CASE 3806.—A man aged 61, farmer and stockman. Had been under the author's care at intervals since 1927 on account of gall bladder disease, a chronic nephritis and a chronic infectious heart disease.

Became ill about September 2, 1933, with a rather gradual increase in frequency of stools, very little discomfort and a general feeling of being sick. Was hospitalized by his physician for ten days and then sent home. Returned about October 1st, 1933, having four to five stools daily with some intestinal discomfort; was seen by the author thirteen days later at which time characteristic ulcers were seen in the bowel and *E. histolytica* found in large numbers.

The x-ray study of the digestive tract October 9, 1933, showed "a negative oesophagus, stomach and small bowel. The barium enema showed a normal rectum; the sigmoid, transverse and ascending colon were spastic; the cecum was spastic and mobility was limited; there was tenderness noted over the cecum fluoroscopically." (Figures 4 and 5).

The blood counts showed whites under 10,000 during this stage of his illness and an eosinophile count of 3 per cent or less. The temperature was relatively low during the hospitalization period. (Figure 6).

Under anti-amebicidal regime the patient is making a satisfactory recovery. Examination of bowel, proctoscopically, during February, 1934, disclosed a normal mucosa and the laboratory study of the feces was negative for ameba and blood.

DISCUSSION

This, the third case in the group chronologically, presented a rather typical proctoscopic picture of amebic ulceration, *E. histolytica* in number in the feces, a suggestive diarrhoea, a visit to Chicago; and yet the patient had been ill and under the care of two competent physicians for about forty days before a correct diagnosis was made. It is also of interest to note that the x-ray study did not lead even to a suspicion that amebiasis was present. Suggestions are appearing in the literature that the roentgenographic picture of the cecum is suggestive; it did not prove helpful in this case.

This patient was a visitor in Chicago the week of August 13th and was a guest at one of the two hotels under the control of the Chicago Board of Health. However, he has a fairly definite recollection that he did not eat any meals at either of the two hotels in question. Another fly in the epidemiological ointment is the history of service in the Philippines in 1900, during which period he had an attack of dysentery and a diagnosis of amebiasis was made. If the food handler found in a Chicago hotel to have ameba in his stools and who was labeled a "carrier" has been a carrier since 1927 when he had an acute attack of amebiasis, one may well ask how long may one be a carrier? If a patient can be a

Figure 2. Case 3344. Films made (Nov. 23rd) 1933, still show the stricture-like filling defect. Spasticity of cecum with irregular density. Appendix not visualized.

Figure 3. Case 3344. Temperature curve from November 27, 1933, the day before operation, to December 17, 1933, the day of death. There was little agonal rise. The heart rate was erratic, bore little relation to the temperature, but rose spectacularly as exitus impending.