Surgical Implications of Intestinal Amebiasis

Eduardo Camacho

Follow this and additional works at: https://scholarlycommons.henryford.com/hfhmedjournal
Part of the Life Sciences Commons, Medical Specialties Commons, and the Public Health Commons

Recommended Citation
Available at: https://scholarlycommons.henryford.com/hfhmedjournal/vol22/iss3/11
Three thousand two hundred fifty cases of intestinal amebiasis (25%), out of 13,000 consecutive cases, were studied. It was found that 2,275 (70%) had clinical manifestations of the disease, and 975 (30%) were carriers. From the 2,275 with abdominal signs, 1,250 cases (51%) resembled the clinical picture of the chronic irritable colon syndrome. Antiamebic therapy was effective in all of these cases. On the other hand, 1,255 (49%) had acute and severe manifestations of amebic-ulcerative proctocolitis with serious complications, including amebic granulomata (40 cases or 3.2%) and ulcer perforation (14 cases or 1.2%). Because amebic ulcerative proctocolitis is dangerous, the patient with acute or chronic indications must be diagnosed early and adequate medical therapy given promptly for an effective period of time. This will avoid the morbidity and mortality of the main complications of amebic granuloma and ulcer perforation. The danger of malignancy developing on the amebic granuloma is stressed.

There is no question that amebiasis has a world-wide distribution, because wherever infection with Endamoeba histolytica has been looked for, it has been found. The results of general surveys undertaken in different countries has shown a variable incidence of Endamoeba histolytica in the stools thus detected. This incidence in a population is broadly determined by the level of sanitation in a particular area. It ranges from an average of about 10% in the United States to 40% and sometimes 50% in some regions of the tropics and subtropical countries. Statistics show that Africa has 17% over-all incidence, Asia 16%, the United States 10%, Latin-America about 30%, and Europe grossly 10%, with a rising tendency due to the large numbers of tourists.

The ease of world travel has influenced increased distribution of the ameba with large numbers of affected people carrying the infection to the countries they visit. For instance, in Italy it has increased about 6%. In Spain, from some reports, it might rise to a range of 8% to 10%. France's total may increase from 3% to 5%, and Germany varies from 3% to 10%. In the northern states of the United States, it is around 2% to 4%, in the southern states, about 6 to 10%. Some areas in the world around the Mediterranean Gulf show an increase, for example of 17% in Turkey, Greece 30% and Russia 25%, as reported.
by Doxiadis. These statistics indicate that in France about two and a half million people have the ameba, and in the United States about eight million people. Twose, Berberian and Dennis have estimated the incidence in the Albany area of New York, for the general population, to be around 13.4%

Amebiasis generally has been referred to as amebic dysentery, amebic enteritis, or amebic colitis. It is an infection of the colon by the pathogenic amoeba histolytica, characterized by acute or chronic phases (or both) and by a variable clinical picture. The chronic cyst-passer may exhibit few or no significant symptoms. In some instances it may be characterized by intermittent episodes of constipation or diarrhea. In others the diarrhea may be relatively severe and the stool may contain variable amounts of blood, mucus and pus. These would be cases of amebic proctocolitis. Any of the clinical types of this infection may be followed by serious complications promptly or after long periods.

The surgeon will be involved mainly with three types of complications: (1) the hepatic amebic abscess, (2) perforations of ulcers and (3) granuloma formation. Hepatic abscess has been reported and studied by Ochsner from the Charity Hospital in New Orleans in a masterpiece of work and we cannot add to this subject. We feel the need, however, of reporting our experience during the last 12 years at the University Hospital of Guadalajara concerning the proper diagnosis and surgical management of the ameboma and amebic ulcer perforation.

---

**Figure 1**

Incidence and types of proven amebiasis in 13,000 patients admitted to the General Surgical Service of the University Hospital, Guadalajara, Mexico, during the period January 1961 through December, 1972.
A possible result of amebic colitis involving the cecum: an operation for "appendicitis" (elsewhere), and multiple fistulas after subsequent operations. The result is the defect in the abdominal wall, outlined by the zinc oxide ointment.

Material and Methods

From a survey of 13,000 consecutive cases admitted to the general surgical service of the University Hospital, from January 1961 to January 1973, we chose 3,250 cases with proven intestinal amebiasis (25% of the total cases). From these 3,250 cases, we found that 70% (2,275) had manifestations of the disease from lesser to severe degrees and 975 presented amebae without any clinical manifestations, accounting for 30%. Our study deals mainly with the 2,275 cases with clinical manifestations of the disease. In all of these, past history was analyzed; and clinical signs and symptoms, laboratory examinations, x-ray studies, and the histopathological findings were studied.

Results

From the follow-up of these patients we found that more than half (1,250) had gastrointestinal symptoms resembling those of the irritable colon or spastic colon. The patients complained of distended abdomen, with general abdominal discomfort, sensation of fullness after meals, and alternating episodes of diarrhea and constipation. Loose stools were the main sign in about 50%. These 1,250 cases are the first group with general gastrointestinal symptoms but without diagnostic amebic disease. Diagnosis was made by proctoscopic examination, gastrointestinal-
nal survey by x-ray ruling out other disease, and the finding of amebae in the feces.

The second group of 1,225 patients showed very clear manifestations of amebic proctocolitis of the ulcerative type. The clinical findings were those of diarrhea, with 8 to 10 and sometimes 15 stools a day, mucus, pus and bloody discharges, also fever, anorexia, malaise, weight loss and abdominal distention. Examinations revealed distended abdomen, timpantic and pitchy peristaltic sounds, borborigmi and very urgent bowel movements with tenesmus. Fever ranged from 38°C to about 39°C.

The proctoscopic examination performed on these patients showed ulcerations with a wide range of damage, from “pin point” ulcerations to large ulcerations on the rectum and sigmoid areas, depending on the evolution and progress of the disease. To this regard, we stress the point that the proctoscopic findings are very peculiar and typical of amebic proctocolitis. Lesions are most severe in the rectum, and they look less impressive as the proctoscope goes up into the sigmoid. Because of the danger of perforation we must stress that currently we do not perform a barium enema since diagnosis is proved by proctoscopic examination.

The proper therapy is basically Diyodohydroxiquinolein and, more recently, Metronidazol in appropriate doses. However, in the more severe or
Surgical Implications of Intestinal Amebiasis

Figure 4
Typical “apple-core” amebic lesion of the transverse colon. A trial of medical treatment will help to rule out malignancy.

Figure 4

acute cases, Emetine, 60 mg, one ampule every day for ten days, will rapidly reduce the acute phase of the disease. This treatment continues until a complete recovery of the ulceration has been made. A barium enema is then done to rule out ameboma.

The Granuloma. Without question, the group with ulcerative proctocolitis had the most complications. We found 40 patients with amebic granuloma, 14 with perforation and 4 of the sealed-off type. The 40 cases of amebic granuloma consisted of 28 males and 17 females with ages ranging from 20 to 40 years. Of these, 23 had multiple granuloma of the cecum, the transverse colon and sigmoid. In 17, the cecal granuloma was unique. Seven also had definitely diagnosed adenocarcinoma of the cecum. Six of these developed the malignancy one to four years from the beginning of the study. The other had a co-existent granuloma and adenocarcinoma at its inception. The majority (31) were given medical treatment (Emetine, Chloroquine and Diyodohydroxiquinolein) for two months to one year, which was adequate. Of nine who required operation, two had sealed perforations of the granulomas, six were resected because of suspicion of adenocarcinoma and one had co-existing ameboma and malignancy.

Patients with perforations came to the hospital with manifestations of acute abdomen. In these 14 cases, 10 had free perforation and 4 the sealed-off type,
Figure 5
Typical radiologic picture of amebic granuloma of the cecum.
Figure 6
Amebic colitis of the cecum and ascending colon. Several of the ulcers were perforating.
Camacho

mostly located at the cecum and ascending colon. Exploratory operation revealed retroperitoneal lesions, with most of the free perforation in the sigmoid portion of the colon. The appendix was involved only secondarily to the inflammatory process at the wall of the cecum. Perforations were resected in half of the cases and in the other half a mushroom tube was placed in the location of the perforation and used as drainage, with either Foley tube or sump drainage employed, thus performing a cecostomy through the perforation. The proper medical treatment was instituted and the perforations closed without further surgical procedure. Despite colectomy, two patients failed to survive because of extensive disease and perforations located in multiple areas along the cecum and ascending colon, plus ameba attack of extreme severity.

Comments

Certainly, colonoscopy is very helpful in the final diagnosis of the granuloma when taking a biopsy of the lesion. However, in our study, diagnosis was established by a trial of therapy with Emetine for 10 days, 10 days of Chloroquine and then finally 20 days with Diyodohydroxyquinolein. If, after this time, the lesion is still the same size as shown by barium enema, we assume that this is a malignant lesion. If it goes down 30% to 40% in size, we assume that the lesion is an amebic granuloma and therefore will repeat the treatment and the barium enema every three months — until the lesion disappears completely. We continue to follow

Figure 7
Photomicrograph of tissue from an amebic granuloma. Note three large amebae (arrows). The small round dark structures represent ingested erythrocytes, some of which are partially lysed. Trichrome-Paz stain.
the patient with barium enemas every six months for at least two years.

We do not rush into surgical treatment before completing the trial period of medical treatment. We know from the reports of Ruiz Moreno\textsuperscript{1} that the complications of colectomy for amebic granuloma will lead to serious postoperative complications such as peritonitis and fistula formation. The general attack of the disease to patient, the inflammation around the lesion, the swelling, and the adhesions in the abdominal cavity are dangerous to handle and the surgical attack on these cases is quite difficult. Proper diagnosis and treatment should be established before beginning any surgical attack. In our experience granulomas will disappear with medical treatment. If the granuloma does not disappear, this means a malignant lesion.

**Discussion**

Diagnosis of amebic proctocolitis is not difficult. Generally, the clinical history, proctoscopy and laboratory examination of the feces or mucus will be enough to establish the diagnosis so that treatment may begin toward regression of the lesions. We found that only the cases that were mishandled or those patients admitted with advanced disease presented complications. It is obvious that a barium enema should follow the medical therapy of proctocolitis once the ulcerations are seen to disappear as observed by proctoscopy examination. It is reasonable to assume that drug therapy

---

**Figure 8**

Amebae and ingested red cells demonstrated by Naphthol-Green stain. This technic is useful when there is suspicion of a co-existing malignant lesion.
Camacho

must be given as long as needed. Only after a barium enema shows a normal colon should treatment be discontinued. X-ray findings plus the trial course of antiamebic drugs which cause regression of the lesion will establish the diagnosis in 90% of cases. If the granulomata are multiple, patient care must be strictly controlled until the lesion is completely healed. If this does not occur within a reasonable time, sound surgical treatment must be instituted. The danger of cancer is always present. It must be excised when it does not respond to medical therapy. From our group of 40 patients with granulomas, six developed carcinoma. Both conditions coexisted in one patient. I reported in 1970 the 17.5% incidence of adenocarcinoma. A similar study found granulomas in an adenocarcinoma group as frequently as 20%. Both figures are higher than the incidence of cancer in patients with ulcerative colitis and pseudopolyposis (5%-10%) as reported by Brooke and Fallis. For this reason, a cancer type of surgical procedure should be undertaken when a granuloma is operated upon. It is important to note that most perforations occur during the acute phase of the amebic proctocolitis, shortly after the patient has been admitted to the hospital. Also, most of these are alcoholic patients, as I stressed in my book, Practica Proctologica in 1969. Interestingly, 8 granulomatas and 6 of the perforations were diagnosed as acute appendicitis. The cavity was drained but the appendix not removed and no biopsy taken to avoid complications. The acute appendicitis of amebic origin occurs in about 14% of all operated cases. (This topic will be the subject of a future report).

References

7. Fallis LS: Personal communication, 1968