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Atypical Clinical Manifestations of Amebic Colitis

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Amebic colitis is a disease revealing diverse clinical manifestations and endoscopic gross features and often confused with other types of colitis. In case of misdiagnosis as an idiopathic inflammatory bowel disease or delayed recognition of intestinal amebiasis, an undesirable outcome may occur resulting from erroneous administration of steroids or delayed anti-amebic treatment. To demonstrate the pitfalls in the diagnosis and treatment of intestinal amebiasis, 3 cases of amebic colitis with atypical clinical manifestations are presented in this paper. In conclusion, despite the low sensitivities of routine stool examination for parasite and histopathologic confirmation in biopsy specimen, every effort must be made to find amebic trophozoites either in fresh stool or biopsy specimens for prompt and correct diagnosis of amebic colitis when we manage patients with chronic intestinal ulcerations, even though their clinical course and endoscopic findings are not typical of amebiasis. Moreover, following initial successful anti-amebic therapy, more careful clinical, endoscopical, and parasitological follow-up should be done for the early detection of recurrence.

Key Words : *Amebiasis, Amebic colitis, Misdiagnosis, Delayed recognition, Idiopathic inflammatory bowel disease, Chronic intestinal ulcerations, Atypical clinical manifestations, Recurrence*

INTRODUCTION

Amebiasis, still endemic in areas such as India and south Africa, is considered a major cause of diarrheal disease amounting to more than half of the cases(Davis et al., 1985). In industrialized countries, the prevalence of amebic infection and disease has declined with improved water and sewage disposal. However, in Korea the carrier rate of amebic cyst in the general population is reported to be 2%(Kim et al., 1982 ; Hong et al., 1982), and when assuming the diagnostic difficulties of amebiasis, the prevalence of true infection might be much higher than those of Western countries.

Diagnosis of intestinal amebiasis could be much easier if the typical characteristic ulceration, namely the discrete, flask-shaped ulcer with normal intervening mucosa (Juniper, 1978), is seen on initial endoscopic examination. However, it is becoming increasingly evident that patients with amebic colitis may present nonspecific clinical pictures and endoscopic findings nearly indistinguishable from those of idiopathic inflammatory bowel diseases(Bank et al., 1971 ; Mitchell et al., 1971; Pardo-Gilbert et al., 1972; Pittman et al., 1973; Salem et al., 1973; Korelitz, 1989 ; Patel et al., 1989).

Moreover, failure to find amebae in the stool or biopsy specimen and the low sensitivity of serologic test for intestinal amebiasis (Patterson et al., 1980 ; Shetty et al., 1988)

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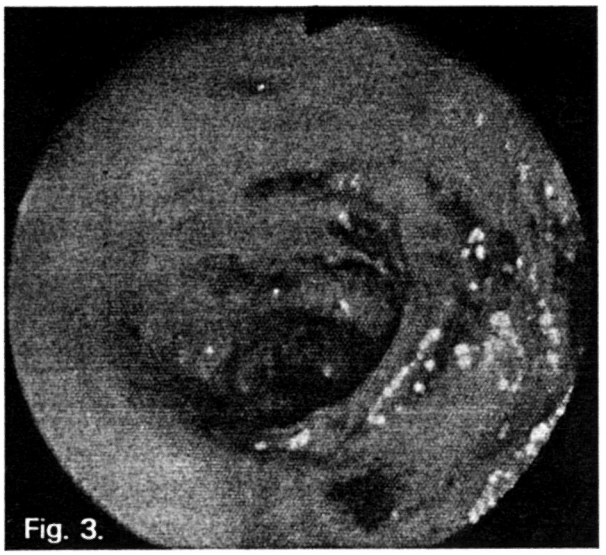
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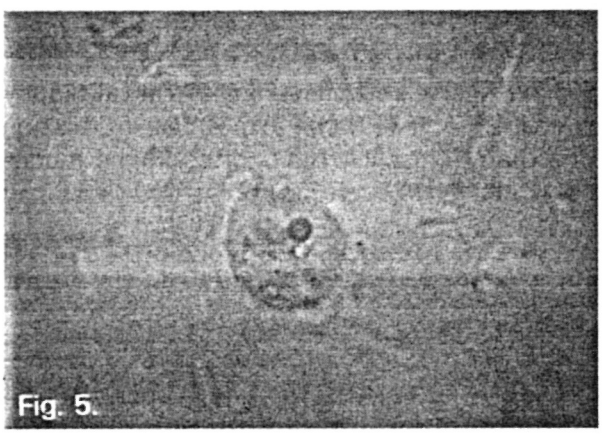
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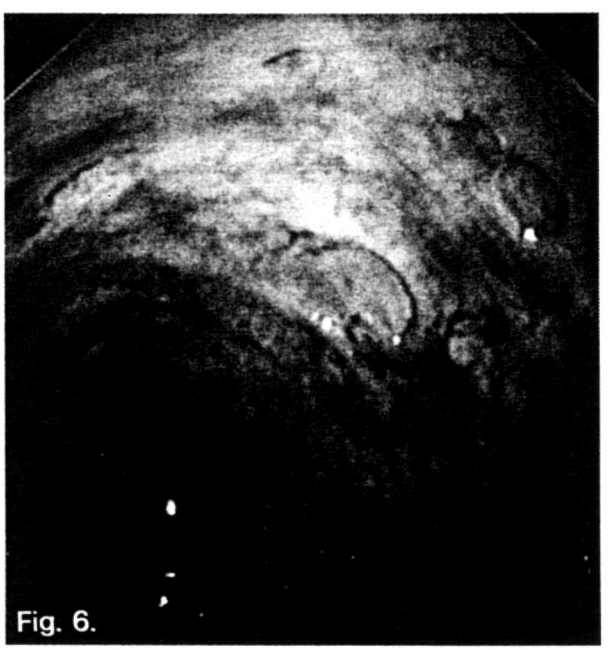
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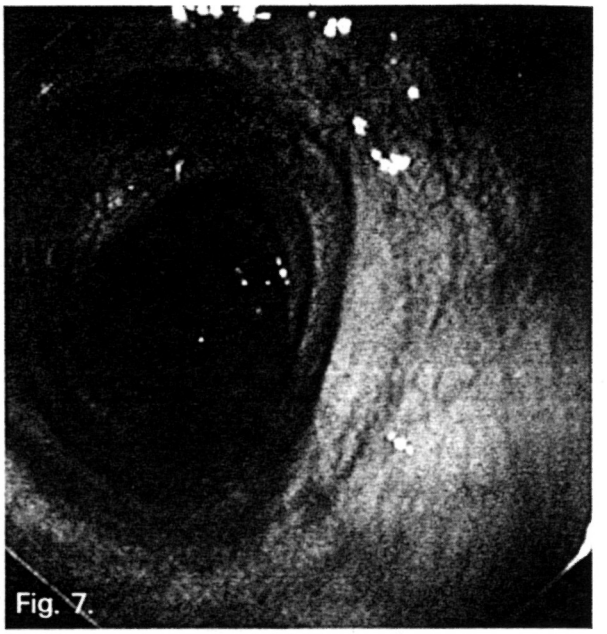
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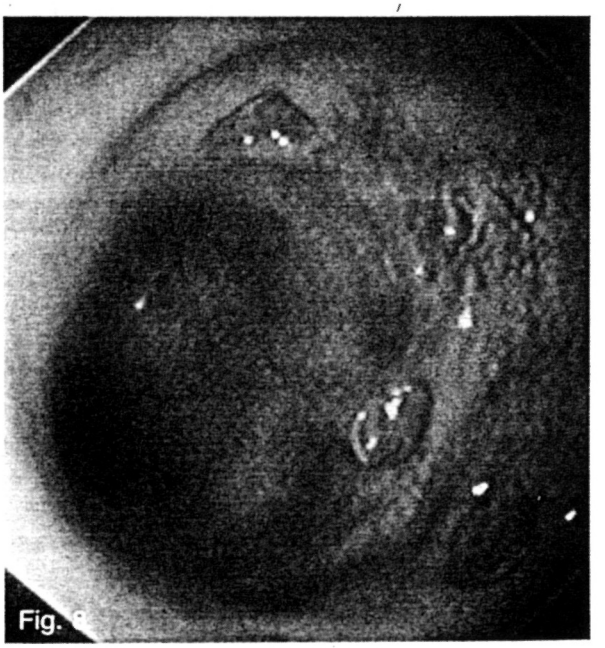
Fig. 8

Fig. 3. Follow-up sigmoidoscopic examination shows a marked improvement of previously noted ulcerations and inflammation. (Case 1)

Fig. 5. Amebic trophozoites are seen in fresh stool examination. (Case 2, Direct Smear, X1000).

Fig. 6. Multiple discrete, flask-shaped ulcerations with normal intervening mucosa are seen on initial sigmoidoscopic examination. (Case 3)

Fig. 7. Resolving ulcerations on follow-up sigmoidoscopic examination are noted. (Case 3)
Fig. 8. He last sigmoidoscopic examination re-veals recurrence of discrete, collar-button shaped ulcerations in the descending colon and rectum. (Case 3)

may lead to an incorrect diagnosis of idiopathic inflammatory bowel disease with a consequent erroneous administration of steroids, which could give rise to disastrous clinical results.
Therefore, we present the following cases to emphasize the pitfalls in our knowledge about the diagnosis and management of amebic colitis.

CASE PRESENTATION

Case 1. An 83-year-old female patient was admitted for the evaluation of massive rectal bleeding. Her rectal bleeding was of 20 years' duration and recently became aggravated in severity and frequency. On admission, her blood pressure declined to 80/50㎜ Hg, pulse rate was 95/min, and temperature was 36.5℃. Mild abdominal distension and diffuse tenderness were the only noteworthy findings on physical examination. Digital rectal examination revealed only fresh blood without any evidence of hemorrhoids or anal fissure. Laboratory values included a hemoglobin of 11.1g/dl, a white blood cell count of 17400/㎜^{3} with a left shift. Serial stool examinations for parasites were negative, and no pathogenic bacteria were found in repeated routine stool cultures. She was initially managed by meticulous parenteral hydration including blood transfusion, with stabilization of the vital signs within a few days after hospitalization. Endoscopic examination through the rectum and sigmoid colon revealed numerous, ill-defined, irregularshaped, geographic ulcerations scattered on the edematous and hyperemic underlying mucosa, which was partially obstructing the lumen and bled easily(Fig. 1). Initial sigmoidoscopic features raised the possibility of ischemic or ulcerative colitis. Meanwhile, amebic serology performed by indirect hemagglutination method yielded positive result, and on the fifth day of hospitalization, endoscopic biopsy specimen revealed multiple ulcers containing many infiltrating amebic trophozoites (Fig. 2), leading to the diagnosis of amebic colitis and the administration of metronidazole for 14 days with excellent clinical response. A follow-up sigmoidoscopy confirmed marked improvement of mucosal inflammation and ulcerations(Fig. 3).

Case 2. A 26-year-old male patient was transferred to our hospital under the impression of idiopathic inflammatory bowel disease because of mucous bloody diarrhea, passing as much as 10 stools per day, accompanied by left lower quadrant abdominal pain and a weight loss of 9㎏ over the last month. Apart from tenderness in the left lower quadrant of the abdomen, there were no abnormal findings on initial physical examination. The pulse rate was 80/min, blood pressure 120/90㎜Hg, and temperature 36.5 ℃. The hemoglobin was 12.2g/dl. The leukocyte count was 9100/㎜^{3}(polymorphs 46%, band 23%). A serologic test for amebiasis was negative. A routine stool culture revealed no pathogenic organisms and initial stool examination for parasites was negative. Sigmoidoscopy showed no intrinsic lesions on the rectum, but further insertion revealed numerous, ovoid or irregular-shaped ulcerations on the reddened friable mucosa, with multiple inflammatory polyps and a few mucosal bridges(Fig. 4). Normal-looking intervening mucosa was not found. Although the rectum was grossly spared, the patient was considered to have suffered from idiopathic inflammatory bowel disease, particularly ulcerative colitis, based on the findings of multiple ulcerations without skip area and negative amebic serology. Moreover, no amebae were found on the biopsy specimen. However, the repeated fresh stool examination performed on the third hospital day showed many amebic trophozoites(Fig. 5), preventing erroneous steroid administration. A 14-day course of metronidazole administration resulted in both clinical response and objective improvement on follow-

up sigmoidoscopy.

Case 3. A 54-year-old female patient was referred from one local hospital for the investigation of recurrent diarrhea with passage of blood. She had a 6 months' history of bloody diarrhea, occasionally accompanied by fever and abdominal pain. Fifteen days prior to admission, a cholecystectomy was done at that hospital under the diagnosis of Salmonellosis because of fever, chill, abdominal pain, and increasing severity of diarrhea. She was finally referred to our hospital due to continuing diarrhea and fever in the post-operative period.

Her body temperature was 38.2℃ on admission, blood pressure 120/80㎜Hg, and pulse rate 98/min. Physical examination was unremarkable, except for diffuse tenderness on the abdomen. Hemoglobin was 12.9 g/dl and leukocyte 6300/㎣ (polymorphs 76%, lympho 14%). Amebic serologic tests were negative both initially and at follow-up. Sigmoidoscopic examination revealed multiple discrete, collar-button shaped ulcerations dispersed in the descending colon with normal looking intervening mucosa(Fig. 6). Even though the biopsy specimen did not disclose any evidence of amebic infection, the diagnosis of amebic colitis could be readily made on the basis of the typical gross findings of ulcerations and presence of trophozoites in the subsequent fresh stool examination.

Metronidazole was given to her for 3 weeks with chloroquine and ciprofloxacin, the latter administrated due to the delayed clinical re-sponse, which became evident after 14 days of treatment. She was able to be discharged on completion of the treatment, following definite symptomatic and endoscopic res-olution(Fig. 7).

Ten days after discharge, the patient became febrile and began to suffer from bloody diarrhea again. Another adequate course of metronidazole with other antibiotics was instituted 5 days later due to delayed medical contact. Meanwhile, she failed to recover from intractable hematochezia despite the transarterial embolization and was finally discharged hopelessly. The last sigmoidoscopic examination undertaken before her last discharge revealed a recurrence of the previously noted ulcerations in the descending colon and rectum(Fig. 8).

DISCUSSION

Previous experiences(Pardo-Gilbert et al., 1972 : Wruble at al., 1966) have shown that the endoscopic gross appearances in amebic colitis may demonstrate an entire spectrum of change, from that of a relatively normal mucosa to ones showing multiple minute ulcerations, large solitary ulcers, a diffusely edematous mucosa with a friable appearance, or even a malignancy when ameboma occurs(Rominger et al., 1979). Actually, in our patients, the first case was initially considered to have ischemic or ulcerative colitis, and the second one was thought to suffer from ulcerative colitis, judging from the endoscopic findings. However, when referring to that the only definite diagnosis is based on detecting amebic trophozoite in the exudate of the ulcer or biopsy specimen, endoscopic examination should be regarded as an invaluable tool for providing the diagnostic clue for amebic colitis, despite the fact that the protean macroscopic appearances in amebic colitis may lessen the diagnostic usefulness of endoscopy.

From the aspect of histopathologic examination in the diagnosis of amebic colitis, a diffuse nonspecific inflammatory process and a low detection rate of amebic trophozoite in the biopsy specimen(Pittman et al., 1974) have made a correct diagnosis more troublesome. In the course of diagnosis of amebic colitis in our cases, only the first patient was aided by the presence of amebae in the biopsy specimen. Diagnoses in the other 2 were possible after finding the amebic trophozoite in fresh stool examination, not in the biopsy specimen. Moreover, the second patient was previously studied using contrast material in barium enema.

Therefore, although the chance of finding

amebae in the stool was known to be greatly reduced by barium enemas and therapy with a number of agents including anti-diarrheal preparations(Juniper, 1961), the repeated examination of fresh stool for parasites still remains the mainstay of diagnostic tools, even if the patient already received a barium study.

The interpretation of serologic tests for intestinal amebiasis poses a few problems. The presence of low antibody levels, even in proven cases, and the persistence of antibody due to past infection(Patterson et al., 1980 ; Milgram et al., 1966) were considered to reduce diagnostic usefulness of serology, especially for acute intestinal amebiasis. Moreover, no statistical difference has been reported between cases with intestinal amebiasis and controls when comparing either the percentage of cases detected or titer of antibody obtained(Shetty et al., 1988). As shown in our cases, a diagnostically significant titer was observed only in the first patient. Even in this one, if no ameba was found in the biopsy specimen, the diagnosis of amebic colitis would not have been made solely on the basis of the serologic result.

Therefore, serology does not appear to have any significant role in the initial diagnosis of amebic colitis.

It could be argued that the amebic colitis in our cases, especially the first one, might be superimposed on another type of colitis, such as idiopathic inflammatory bowel disease or ischemic colitis. However, the clinical response to anti-amebic treatment and the marked improvement of endoscopic findings following treatment would discard the above possibility.

The last patient in this report, who had shown an initial improvement in the clinical course and sigmoidoscopic findings, experienced a clinical relapse several weeks later and finally became resistant to the anti-amebic treatment, including a combination of other antibiotics(Mirelman, 1987). If prompt readministration of anti-amebic therapy and adequate surgical intervention, such as exteriorization of the cut ends of the bowel as suggested by Shukla et al.(1986), were done in this patient, a better outcome might have been expected(Actually this patient refused to receive surgical treatment).

This emphasizes the fact that under no circumstances should therapy considered to be completely successful on the basis of clinical response alone, and a more careful clinical, parasitological, and endoscopic follow-up after treatment should be required.

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