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CASE REPORT

Amoebic cervicitis mimicking posterior wall fibroid: A rare presentation

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Amoebiasis of the uterine cervix is an extremely rare entity, and presentation as fibroid uterus has not been reported, to the best of our knowledge in our extensive search of the English literature. It can clinically simulate cervical malignancy by virtue of surface papillomatous and overall ulcerated and necrotic appearance. We present a case of amoebic infection of the cervix in a 45-year-old female which was suspected to be a posterior wall fibroid with degeneration until a histopathological examination of the surgical specimen revealed the presence of *Entamoeba histolytica* trophozoites. The patient recovered after surgery and antiamoebic therapy.

Introduction

Amoebiasis caused by infection with *Entamoeba histolytica* occurs almost all over the world. It is highly endemic especially in developing countries and characteristically known to cause amoebic colitis and amoebic liver abscess.[1] Involvement of the female genital tract though cervical and uterine amoebiasis is extremely uncommon and can sometimes morphologically mimic a cervical carcinoma.[2–4] Misdiagnosis can lead to an entirely different management and prognosis. We present a case of cervical amoebiasis which presented as a large degenerated posterior wall fibroid.

Case report

Informed consent was obtained from the patient for permission to submit this article. A 45-year-old married female patient presented to the gynecological outpatient

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department with complaints of vague abdominal discomfort, anorexia, and weight loss. On examination of the general condition and systemic examination, her results were unremarkable. Per abdomen examination showed that a mass of 26 weeks' size was occupying the lower abdomen involving both iliac fossae, the umbilical region, and both hypochondriac regions. It was cystic in consistency with restricted motility and was non-tender. Per speculum examination showed that the cervix was healthy and deviated to the right, and on per vaginal examination the mass arising from the pelvis appeared separate from the uterus and pushing the uterus to the right. Clinical impression was made of the left ovarian neoplasm. The following investigations were done: blood routine; chest radiograph was normal; Ca-125 was 305.2; ultrasonography showed the uterus to be normal in size; a $20 \times 17.5 \times 13.5$ cm cystic mass in the pelvis mostly of ovarian origin with solid and cystic components. On laparotomy, a large cystic mass (25×25 cm) was seen occupying the entire lower abdomen (Fig. 1). The mass arose from the posterior uterine wall to the isthmus. In view of the cystic nature of the large mass and to facilitate the surgery, it was aspirated. About 2 L of greenish-brown, foul-smelling fluid was drained from the cystic mass (Fig. 2). Adhesions were present between the mass and the small bowel posteriorly and sigmoid colon. Both ovaries were seen separately from the mass. The post-operative impression was a posterior wall fibroid with degeneration, and the procedure performed was total abdominal hysterectomy with bilateral salpingo-oophorectomy.

The cut open specimen showed a fistulous connection at the level of the cervix which measured $8 \times 4 \times 3$ cm. On microscopic examination with hemotxylin—eosin staining, multiple sections from the cystic lesion showed a fibrocollagenous and fibro fatty tissue containing granulation tissue, dense inflammation, and micro-abscesses with spherical organisms, with foamy cytoplasm and round, eccentric nuclei, consistent with trophozoites of *E. histolytica* (Fig. 3). Multiple sections from the cervix showed parasites with granulomatous reaction probably from *E. histolytica*. Sections from fallopian tubes and the uterus showed congestion. The adjacent ectocervical epithelium showed marked epithelial hyperplasia and regenerative atypia. For further confirmation, a periodic acid Schiff staining was carried out. The cytoplasm of trophozoites stained bright magenta, and a definitive diagnosis of amoebic cervicitis was made. The final histopathologic diagnosis was parasitic infection of the cervix with acute suppurative inflammation adjacent to the uterus. Stool examination using fresh stool sample was performed using commercially available TechLab *E. histolytica* II enzyme-linked immunosorbent assay test, and the result was positive for this parasite. Subsequently, the patient was also given a course of metronidazole (tablet) 750 mg t.i.d. for 5 days, followed by paromomycin (also a tablet) 500 mg t.i.d. for 10 days. At 1 year follow-up, the patient was clinically asymptomatic, and both of the smears obtained from the vaginal vault were negative; the stool examination with

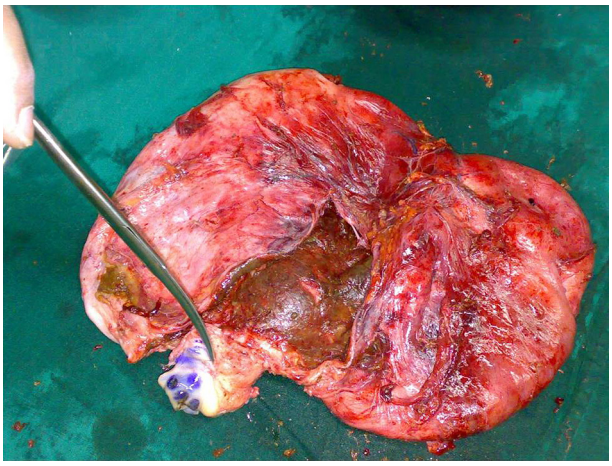

Figure 2. Cut open posterior wall of the cyst drained greenish brown fluid. Uterus and ovaries lie below the intact anterior wall.

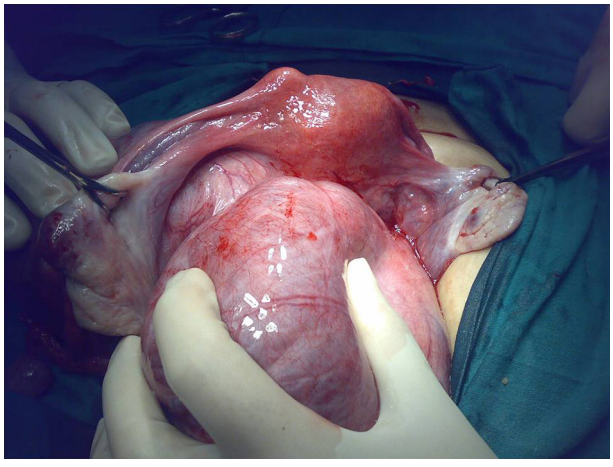

Figure 1. Intraoperative finding of a cystic mass arising from posterior wall of uterus, both ovaries and uterus seen separately.

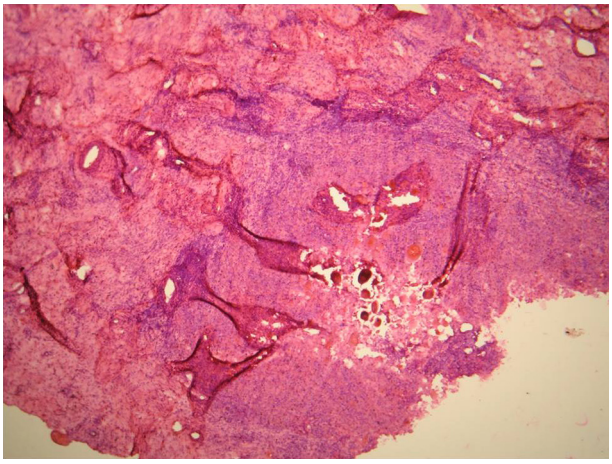

Figure 3. Hematoxylin and eosin (H&E) staining shows spherical organisms resembling macrophages, with foamy cytoplasm and round, eccentric nuclei consistent with trophozoites of *Entamoeba histolytica* (H&E stain $\times$400).

TechLab *E. histolytica* II enzyme-linked immunosorbent assay test also showed negative reaction.

Discussion

E. histolytica is second only to malaria as a protozoal cause of death.[1] The apparent rarity of genital lesions as a complication of intestinal amoebiasis may be explained by one or more of several postulates. First, the condition may not be recognized by physicians treating affected patients and is therefore not reported. Alternatively, the common use of metronidazole therapy for bacterial vaginosis may inadvertently result in treatment of some cases of genital amoebiasis.[5,6] Third, the vagina, by virtue of its high acidity and squamous epithelial lining, may function as a natural barrier to infection.[5,6] Disruptions in the normal vaginal epithelium have been proposed as a risk factor for genital amoebiasis in hosts with intestinal amoebiasis.[5]

Most patients with genital amoebiasis have either a dysenteric syndrome or other evidence of intestinal infection, such as colonic ulcers.[1,5] However, patients without any clinical or microbiological evidence of intestinal amoebic infection have developed genital amoebiasis.[5] Transmission is probably by autoinoculation of the lower genital tract.[3,4] Proximity to the anal canal allows direct access of amoebae into the genital tract, helped by inappropriate hygienic measures after defecation, a relaxed outlet, or rectovaginal fistula.[3] The possibility of dissemination by the bloodstream is also suggested.[3] Another proposed etiology is sexual transmission through oral and anal sex.[4,7]

Most patients present with foul-smelling, bloody, purulent, or serosanguinous vaginal discharge; one-third of patients report abdominal pain, and about 8.1% of cases showed as ulceration mimicking carcinoma.[1–3] Amoebiasis may also present as granulomatous inflammation of the cervix.[8] Concurrent amoebiasis and carcinoma have also been described in case reports, which is possibly due to colonization of the necrotic tumor by trophozoites. [4,9,10] However, in our case it presented as a large abdominal mass, which has not been previously described to the best of our knowledge. Involvement of the endometrium and amoebic salpingitis have been reported in the literature.[4]

The diagnosis can be made by cervical smear, wet preparation, culture, or biopsy.[1,3–5] Cervical cytology and wet preparation are convenient and reliable for screening purposes especially in endemic zones.[1] Among the cases of genital amoebiasis reviewed by Antony and Lopez-Po,[2] 92% were diagnosed in cervical cytology specimens and the remainder by ulcer histopathology. The characteristic morphology of amoebic trophozoite is spherical to oval (15—20 μm diameter), with a thin cell membrane and single nucleus having a prominent nuclear border and karyosome.[1,4] The cytoplasm is vacuolated, which leads to confusion with macrophages. The presence of trophozoites containing red blood cells is indicative of tissue invasion. Cytochemistry with periodic acid Schiff stains the cytoplasm of the trophozoites magenta red in tissue sections. Heidenhain's iron hematoxylin can also be done, a process that stains the trophozoites black. Immunoperoxidase staining is also helpful in making a diagnosis.[1,4] Sensitive serological tests and nucleic acid amplification tests are now available to diagnose amoebiasis.[1] In the setting of chronic inflammatory infiltrate and granuloma formation especially in developing countries, other differential diagnosis which should be ruled out include tuberculosis, schistosomiasis, enterobiasis, actinomycosis, lymphogranuloma venerum, and syphilis.[8] When malignancy is suspected, a biopsy diagnosis is imperative in order to rule out carcinoma.[3,4]

Since genital amoebiasis lesions respond adequately to a standard course of metronidazole, treatment (750 mg, t.i.d. for 5 days) should be started promptly after diagnosis and followed by paromomycin (30 mg/kg per day, t.i.d. for 10 days) or diloxanide furoate (500 mg t.i.d. for 10 days) for luminal clearance.[1] Neglected cases which have progressed to necrotizing cervicitis may require surgical debridement.[1,3,4] In our case, with a huge abdominal mass surgery had to be performed to debulk the lesion and obtain tissue for diagnosis. Sexual partners of patients with genital amoebiasis should always be examined and offered treatment to prevent relapses.[7]

We have described a patient with genital amoebiasis presenting as a case of degenerated posterior wall fibroid. One can conclude that surgeons should be aware of *E. histolytica*, particularly in endemic areas, as an important differential diagnosis in genital infections in order to avoid delay in treatment management. Smear, culture, and histopathological examination will establish the diagnosis in most cases. Surgery may be required if the infection is extensive.

Conflict of interest

Each author certifies that he or she has no commercial associations (e.g., consultancies, stock ownership, equity interest, patent/licensing arrangements) that might pose a conflict of interest in connection with the submitted article. No benefits in any form have been received or will be received from a commercial party related directly or indirectly to the subject of this article. This article is not under consideration for publication anywhere. All the authors have contributed towards the study and preparation of the manuscript and agree to the same in congruence.

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