

Case Report

Amebic Infection of the Female Genital Tract: A Report of Three Cases

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ABSTRACT

Amebiasis is a common protozoan disease with a worldwide distribution. It is endemic in tropical developing countries, and cases are being detected in subtropical countries as well. It usually presents with intestinal manifestations. An extraintestinal manifestation of this disease, amebic vaginitis and amebic cervicitis, is rare and often misinterpreted clinically as vaginal and cervical carcinoma because of its overall ulcerated and necrotic appearance. Awareness of this rare manifestation is important for preventing unnecessary interventions and for effectively managing the patients with antiamebic treatment. Herewith, we report three cases of amebic vulvovaginitis and cervicitis in elderly women clinically masquerading as carcinomas.

KEYWORDS: Amebiasis, amebic cervicitis, amebic vulvovaginitis, *Entamoeba histolytica*

INTRODUCTION

Amebic colitis and amebic liver abscess are the most common manifestations of amebiasis.^[1,2] Amebic vulvovaginitis and cervicitis are rare extraintestinal forms which may be misinterpreted as vaginal or cervical carcinoma because of the symptoms such as vaginal bleeding and clinical findings of ulcerative lesion/growth.^[3] Herewith, we report three cases of female genital amebiasis in elderly women clinically masquerading as vaginal or cervical carcinomas.

CASE REPORTS

Case 1

A 64-year-old female presented with blood-stained vaginal discharge for 2 weeks. On per speculum examination, cervical growth measuring 1.8 cm × 1 cm was seen. A biopsy was taken which showed abundant necroinflammatory exudates with scattered squamous cells showing reactive nuclear atypia. Amebic trophozoites resembling large histiocyte-like cells with granular cytoplasm; small, round nuclei; and engulfed erythrocytes were noted [Figure 1]. The patient received tablet metronidazole 750 mg t.i.d. for 7 days. On 16-day follow-up, clinical examination was normal, and the patient was asymptomatic.

Case 2

A 64-year-old female had complaints of white discharge per vaginum, fatigue, and loss of appetite for 2 months. Total abdominal hysterectomy was done 22 years back. The details of the operation and the histopathological examination (HPE) of hysterectomy specimen were not available. On examination, a lesion on the vaginal vault was noted. The biopsy from this lesion was reported elsewhere as high-grade dysplasia. Review of this biopsy slides showed squamous epithelium with mild reactive nuclear atypia. Trophozoite forms of amebae were seen, and periodic acid–Schiff stain highlighted the phagocytosed erythrocytes [Figure 2]. The patient was treated with tablet metronidazole course (750 mg t.i.d) for 10 days. On follow-up, the patient was healthy and did not have any complaints.

Case 3

A 66-year-old female, a known case of diabetes mellitus, hypertension, and hypothyroidism, had complaints of vaginal bleeding for 1 month. Clinical examination revealed a cervical growth. Biopsy

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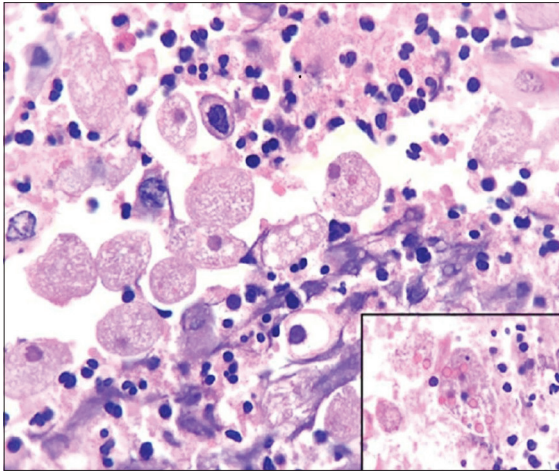


Figure 1: Amebic trophozoites in an inflammatory background. An inset shows amebic trophozoites with erythrophagocytosis (H and E, $\times 1000$)

was performed in outside hospital, and HPE showed necrotizing ulcer of amebic origin. The patient came to our hospital and was subsequently examined by the oncologist. An irregular ulceroproliferative cervical growth involving upto upper one-third of the vagina was noted. Repeat biopsy was done, and HPE showed polypoidal fragments of cervical stroma containing amebic trophozoites amidst dense acute and chronic inflammatory cell infiltrate. The patient received oral metronidazole (750 mg t.i.d) for 14 days. On follow-up after 7 days of completion of treatment, there were no further complaints and the clinical examination was normal.

DISCUSSION

Amebiasis is a protozoan parasitic infection caused by *Entamoeba histolytica*, a unicellular eukaryotic parasite. *E. histolytica* belongs to the genus *Entamoeba*, along with other parasites: *Entamoeba coli*, *Entamoeba hartmanni*, *Entamoeba dispar*, *Entamoeba gingivalis*, and *Entamoeba polecki*. However, only *E. histolytica* causes amebiasis.^[4]

Transmission occurs through the fecal–oral route from contaminated water or food. The trophozoite forms can penetrate the deeper layers and travel to various sites through the hemolymphatic system. Most commonly, extraintestinal spread occurs to the liver followed by the lungs and the kidneys.^[2] In female genital tract (FGT), infection can occur through invasion of the perineal epithelial cells carried on to the surface via a rectovaginal fistula or by anal/vaginal intercourse with a person suffering from amebic dysentery.^[2] Although *E. histolytica* mostly affects the FGT as vulvovaginitis and cervicitis, any part of the FGT can get affected.^[5] Amebic endometritis and amebic salpingitis

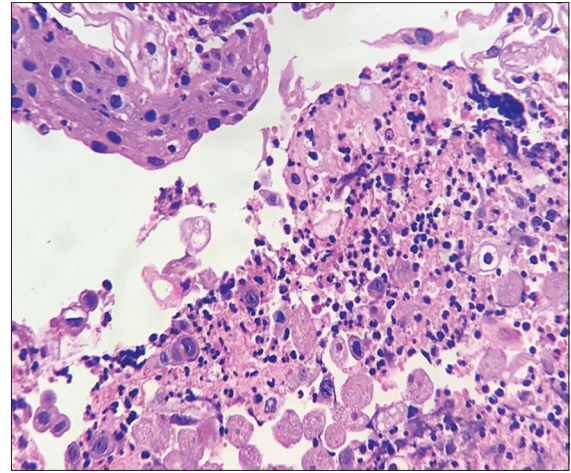


Figure 2: Amebic trophozoites with granular cytoplasm, eccentric nuclei, and some ingested erythrocytes. Detached strips of squamous epithelium showing mild reactive nuclear atypia (H and E, $\times 400$)

have also been described in the literature.^[6,7] The rarity of FGT amebiasis may be due to high vaginal acidity.^[6] Predisposing factors include rectosigmoid infection, perianal trauma, and poor genital hygiene.^[8]

Most of the cases of amebiasis have been reported from Mexico, New Guinea, Middle America, Indonesia, and other underdeveloped countries of Asia.^[3] In a review by Antony and Lopez-Po, 148 cases of genital amebiasis were studied between 1924 and 1997 in the published literature, including 126 cases of FGT amebiasis.^[3] The patients may present with complaints of foul-smelling bloody vaginal discharge, ulcerative genital lesion, or cervical mass with or without ulcers. The history of diarrhea is highly important, as most of the patients may have symptoms of intestinal infection.^[2] In our cases, the stool examination of the patients was not performed, so it is difficult to prove the secondary spread of amebiasis from the intestinal system.

Rarely, FGT amebiasis can be seen coexisting with malignancy.^[3] In a study by Antony and Lopez-Po, 8% of the patients had coexistent genital amebiasis with squamous cell carcinoma. No predisposing factors were clearly documented, and the relationship between amebiasis and cancer was not well understood.^[3] However, Leroy *et al.* suggested that molecules released by amebic trophozoites cause disruption of the genital epithelium, causing the epithelium vulnerable to get invaded by cancer cells.^[9]

Diagnosis of cervical amebiasis can be done by cervical cytology, wet preparation slide examination, culture, or biopsy.^[1] Histologically, these are identified as spherical to oval (15–20 mm diameter) organisms that have a single nucleus with a prominent nuclear border and karyosome. The cytoplasm can show vacuolation

and erythrophagocytosis.^[1] *E. histolytica* stool antigen detection test is specific for *E. histolytica* with a sensitivity of 87% and a specificity of >90% compared to culture.^[1] The serological tests for the detection of amebiasis include immunofluorescent antibody test, radioimmunoassay, countercurrent immunoelectrophoresis, and enzyme-linked immunosorbent assay.^[3] Tissue culture is 100% sensitive and 100% specific. The more recently developed polymerase chain reaction is around 87% sensitive and specific in detecting *E. histolytica*.^[3]

Oral metronidazole (750–800 mg, three times a day for 5 days) followed by diloxanide furoate (500 mg three times a day) or paromomycin (30 mg/kg three times a day) for 10 days to clear luminal trophozoites is the usual treatment against amebiasis.^[1]

In conclusion, even though amebiasis is rare, accurate diagnosis is of great value for timely and proper treatment and to avoid unnecessary interventions.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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