Cervical amoebiasis mimicking cervical carcinoma: A rare presentation of a common infection

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Received 22 July 2015; received in revised form 4 November 2015; accepted 10 November 2015

KEYWORDS
Amoebiasis; Cervix; Carcinoma; Vaginal bleeding

Summary  Cervical amoebiasis is an extremely rare diagnosis with only a small number of published case reports. This disease may present as cervical growth mimicking cervical carcinoma. Owing to the similarity of the clinical presentation of bleeding per vagina and per speculum examination showing growth or ulcers, definitive diagnosis is made on microscopic examination only. We present a rare case of cervical amoebiasis in a 28-year-old, multiparous female who presented with a history of vaginal bleeding. The patient was treated with metronidazole and diloxanide furate, after which she recovered. Awareness of this rare entity is important for clinical suspicion and for the pathologist to identify trophozoites and make a diagnosis, preventing unwarranted investigations. Accurate diagnosis also facilitates quick management of a patient; as this disease is an infective pathology that can easily be treated by antibiotics.

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Introduction

Amoebiasis is a common parasitic disease with a worldwide distribution. This disease is endemic in tropical developing countries, and amoebic colitis and amoebic liver abscess are the commonest manifestations [1]. Genital amoebiasis is an extremely uncommon presentation of this infection; therefore, it is not suspected on clinical examination.

Cervical amoebiasis is an extremely rare condition, with only a small number of case reports being published in the English literature [2–6]. We present a case of cervical amoebiasis mimicking cervical carcinoma in a young female.

Case report

A 28-year-old multiparous female presented to the gynaecological outpatient department with complaints of bleeding per vagina for two weeks.
On examination, her general condition was unremarkable, except for mild pallor. Per speculum examination, a small cervical growth was observed on the posterior lip, measuring approx 4 cm × 3 cm with bleeding ulcers. Her pelvic examination did not reveal any other abnormalities. A provisional clinical diagnosis of carcinoma cervix was made, and the patient underwent cervical punch biopsy for histopathological examination and definitive diagnosis.

Histopathological examination of haematoxylin and eosin stained sections revealed focal ulceration of the stratified squamous epithelium, which was covered with exudate and granulation tissue (Fig. 1A). Under high power, the exudate consisted of neutrophils, eosinophils, karyorectic debri and many spherical trophozoites of amoeba with phagocytosed red blood cells (Fig. 1B and C). The squamous epithelium did not show any evidence of dysplasia or malignancy. Periodic Acid Schiff's (PAS) stain was performed to confirm the diagnosis, which stained the trophozoites bright magenta and highlighted the phagocytosed red blood cells (Fig. 1D). A diagnosis of cervical amoebiasis was made. The patient was treated with metronidazole for five days and diloxanide furate for 10 days, and she recovered.

**Discussion**

Amoebiasis is a parasitic infection caused by *Entamoeba histolytica*. Amoebiasis is a one of the commonest infectious disease in tropical developing countries, especially amoebic colitis and dysentery [1]. Amoebic liver abscess is also not uncommon and is usually observed in alcoholics. Transmission of infection generally occurs through the feco-oral route from contaminated water or food. Genital amoebiasis is the rare presentation of amoebic infection, which is reported in both men and women [8]. In a review by Antony and Lopez-Po, 126 cases of genital amoebiasis in women were observed between 1924 to 1997 in the published literature [2]. Foul-smelling bloody vaginal discharge was the most common presentation. Ulcerative genital lesions were present in 8.1% of cases. Ninety-two percent of them were diagnosed by cervical cytology, and the remaining cases were diagnosed by biopsy of the lesions. Pre-disposing factors that have been recognized for genital amebiasis in women include vulvovaginitis, rectosigmoid infection, perianal trauma, sexual contact and poor hygiene [2].

Cervical amoebiasis can sometimes present as a cervical mass lesion, with or without ulcers,
mimicking carcinoma [3,4]. Our case had a history of vaginal bleeding and a cervical mass lesion was identified on examination; the mass was suspected to be malignant. Later, on histopathological examination, the mass was revealed to be cervical amoebiosis. The patient was subsequently interrogated for a past history of diarrhoea or dysentery, and she confirmed the presence of intermittent diarrhoea for the last two weeks. The clinical history is highly important in these patients, as most have symptoms of intestinal infection [1]. The coexistence of genital carcinoma and genital amoebiosis has also been reported in the literature, which is possibly due to colonization of the tumour by the parasite [5,6]. Mukharjee et al. recently described amoebic cervicitis mimicking a posterior wall fibroid in a 45-year-old female [7].

Diagnosis of cervical amoebiosis is mostly performed by cervical smear, wet preparation, culture, or biopsy, and the first two are the preferred methods in endemic zones. On histopathology, amoebic trophozoites are recognized as spherical to oval (15—20 mm diameter) organisms that have a thin cell membrane and a single nucleus with a prominent nuclear border and karyosome [1]. The cytoplasm is vacuolated and may contain red blood cells. Other infectious diseases that should be kept in mind because they have a similar presentation include tuberculosis, schistosomiasis, actinomycosis, and more. The Tech Lab (Blacksburg, VA) E. histolytica stool antigen detection test is specific for the pathogenic amoeba E. histolytica with a sensitivity of 87% and a specificity of >90% compared to culture, and it is an important diagnostic tool [9].

Cervical amoebiosis generally responds notably well to treatment with 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. Ideally, the patient’s sexual partners should be treated, as well [8].

Conclusion

Cervical amoebiosis can simulate malignancy in both the clinical presentation and clinical examination. Awareness of this rare entity is important for appropriate clinical diagnosis, including a pathologist identifying trophozoites, helping to avoid unwarranted investigations. Accurate diagnosis also facilitates quick management of a patient; as this disease is an infective pathology that can be easily treated by antibiotics.

Funding

No funding sources.

Competing interests

None declared.

Ethical approval

Not required.

References