

Case Report

Amoebic Cervicitis Mimicking Cervical Carcinoma: A Rare Presentation

Kajal Kiran Dhingra¹, Somak Roy¹, Namrata Setia¹, Shramana Mandal¹, Nita Khurana¹

1. Dept. of Pathology, Maulana Azad Medical College and Lok Nayak Hospital, Bahadur Shah Zafar Marg, New Delhi, India.

ABSTRACT

Amoebiasis of the uterine cervix is an extremely rare entity and presentation as carcinoma cervix has only been reported once in the extensively searched 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* cervicitis in a 55-year old female which was suspected to be a squamous cell carcinoma until a punch biopsy disclosed a diagnosis of *amoebic* etiology thereby preventing unwarranted aggressive management.

Key Words: *Amebiasis*, Cervicitis, Carcinoma

Introduction

Entamoeba histolytica is characteristically known to cause *amoebic* colitis and *amoebic* liver abscess (1). Involvement of the female genital tract has only been described in rare case reports and small series. Cervical amoebiasis is extremely uncommon and often unsuspected clinically but its recognition is important because cervical carcinoma forms the closest differential diagnosis. Misdiagnosis could lead to an entirely different management and prognosis. A timely biopsy and correct histopathological diagnosis can spare the patient of unwarranted radical surgery and chemo radiotherapy for a readily treatable infectious lesion (2).

Case Report

A 55-year-old female presented to the gynecological outpatient clinic with blood stained foul smelling discharge and post coital bleeding. On per vaginal examination a friable irregular mass could be palpated

on the anterior lip. Per speculum examination revealed an ulceroproliferative growth involving the anterior lip of cervix. A provisional diagnosis of squamous cell carcinoma was made and a cervical punch biopsy taken to confirm the diagnosis.

A gray white soft tissue measuring 1.8 x 1.3x 0.8cm was received. Formalin fixed paraffin embedded Hematoxylin and Eosin stained sections revealed areas of ulceration with underlying granulation tissue and focal collections of histiocytes. (Figure.1) Also visualized in the subepithelium were clusters of spherical organisms showing a single nucleus with prominent karyosome and cytoplasm containing ingested red blood cells. (Figure.2) Adjacent ectocervical epithelium showed marked epithelial hyperplasia and regenerative atypia. Deeper sections taken revealed no areas of cervical neoplasia were identified. To confirm the nature of these organisms a Periodic Acid Schiff's (PAS) stain was done. The cytoplasm of trophozoites stained bright magenta and a definitive diagnosis of *amoebic* cervicitis was made.

Received: 20 November 2007

Accepted: 27 January 2008

Address communications to: Dr Kajal Kiran Dhingra, Department of Pathology, Maulana Azad Medical College and Lok Nayak Hospital, Bahadur Shah Zafar Marg, New Delhi 110002, India.

Email: kajaldhingra@yahoo.com

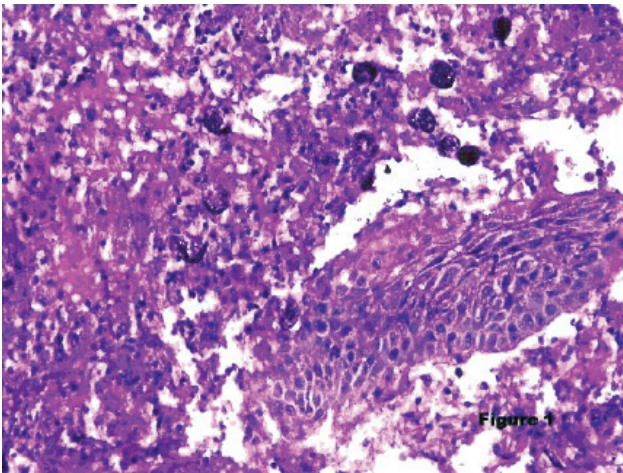


Figure 1. Ulcerated ectocervix showing granulation tissue vague granuloma formation and regenerative atypia of the overlying epithelium. (H&E stain x100)

Discussion

Amoebiasis is an infection caused by protozoa *Entamoeba histolytica*. Predominant spectrum of the disease constitutes amebic colitis and liver abscess. *E. histolytica* is second only to malaria as a protozoal cause of death. Worldwide the prevalence of amebic infections is estimated at 40-50 million with 40,000-110,000 deaths occurring annually. Most parts of Asia and Africa are endemic for *amoebic* infection. In developed countries infection occurs primarily among travelers and immigrants to endemic regions, homosexual males, immunosuppressed and institutionalized individuals. Transmission is predominantly by oro-faecal route (1).

E. histolytica as a cause of cervicitis has been reported very rarely. Antony and Lopez reviewed 148 cases of genital amoebiasis including cervical infections and reported that foul smelling bloody vaginal discharge was the commonest presentation as was seen in our case. Ulceration mimicking carcinoma was seen in 8.1% of these cases (3). Concurrent amoebiasis and carcinoma have also been described in case reports, which is possibly due to colonization of the necrotic tumor by trophozoites (4;5) Involvement of endometrium and *amoebic* salpingitis have been reported in literature (6;7). Bhargava et al have also described a cervical amoebiasis presenting with blood stained post coital discharge and a growth masquerading as a carcinoma (2).

Possible modes of transmission include contiguous infection from cutaneous involvement of the perianal skin and vulva onto the cervix or a fistulous

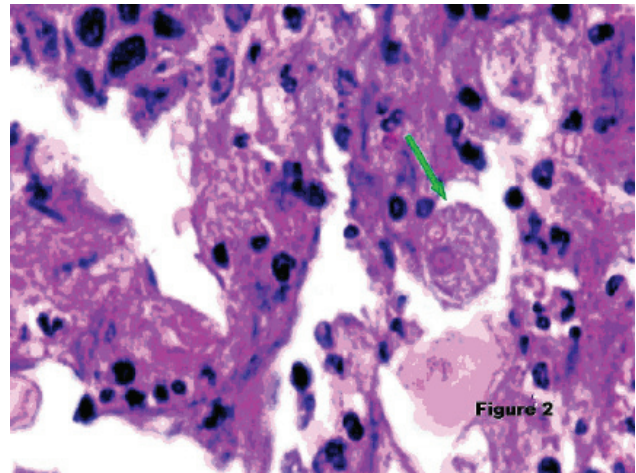


Figure 2. Trophozoites of *E. histolytica*. (H&E stain x400)

connection between the colon and genital tract (3). Sexual transmission through oral and anal sex is also a proposed etiology (8).

The diagnosis can be made by cervical smear, wet preparation, culture or biopsy. Cervical cytology and wet preparation are convenient and reliable for screening purposes especially in endemic zones. Culture is the gold standard however when malignancy is suspected a biopsy diagnosis is imperative to exclude a carcinoma (9). Among cases of genital amoebiasis reviewed by Antony et al, 92% were diagnosed in cervical cytology specimens and the remainder by ulcer histopathology (3). Characteristic morphology of *amoebic* trophozoite is spherical to oval (15 - 20 micrometer diameter) with a thin cell membrane and single nucleus having a prominent nuclear border and central karyosome. The cytoplasm is vacuolated which leads to confusion with macrophages. Presence of trophozoites containing red blood cells is indicative of tissue invasion. Cytochemistry with PAS stains the cytoplasm of the trophozoites magenta red in tissue sections. Heidenhain's iron hematoxylin can also be done staining the trophozoites black. Immunoperoxidase staining is also helpful in making a diagnosis (1). Sensitive serological tests and nucleic acid amplification tests are now available to diagnose amoebiasis (9).

Apart from trophozoites in the submucosa near areas ulceration, histologic sections from *amoebic* cervicitis reveal liquefactive necrosis fibrosis and chronic inflammatory cells. Due to papillary acanthosis of the epithelium and necrotic sloughing the lesion macroscopically simulates a squamous

cell carcinoma (4,5,10). Adequate sampling and step sections help to rule out a co existing neoplasm which may drastically alter the course of treatment (4,5).

Amoebiasis may also present with granulomatous inflammation of the cervix. Other differential diagnosis which should be ruled out in the setting of chronic inflammatory infiltrate and granuloma formation especially in developing countries include tuberculosis schistosomiasis, enterobiasis, actinomycosis, lymphogranuloma venerum (LGV) and syphilis (11).

Since genital amoebiasis lesions respond adequately to a standard course of Metronidazole treatment (800 mg three times daily for 5 days) should be started promptly after diagnosis. Paromomycin, Diloxanide, Tinidazole are other alternatives in case of resistant infections. Neglected cases which have progressed to necrotizing cervicitis may require surgical debridement. Sexual partners of patients with genital amoebiasis should always be examined and offered treatment to prevent relapses (8).

To conclude *amoebic* infection of the cervix may lead to epithelial hyperplasia and ulceration macroscopically simulating the appearance of a carcinoma. A microscopic tissue diagnosis is imperative to rule out a malignancy and administering appropriate therapy for a medically treatable inflammatory lesion.

References

1. Mandell GE, Bennett JE, Dolin R. Principles and Practice of Infectious Diseases. 5 ed. Philadelphia: Churchill Livingstone; 2000.
2. Bhargava S, Tandon PL, Sant MS, Gujral MS. *Amoebic* cervicitis masquerading as carcinoma cervix. Indian J Pathol Microbiol 1986 Oct;29(4): 382-5.
3. Antony SJ, Lopez-Po P. Genital *amebiasis*: historical perspective of an unusual disease presentation. Urology 1999 Dec;54(6):952-5.
4. Mhlanga BR, Lanoie LO, Norris HJ, Lack EE, Connor DH. *Amebiasis* complicating carcinomas: a diagnostic dilemma. Am J Trop Med Hyg 1992 Jun;46(6):759-64.
5. Arroyo G, Elgueta R. Squamous cell carcinoma associated with *amoebic* cervicitis. Report of a case. Acta Cytol 1989 May;33(3):301-4.
6. Othman NH, Ismail AN. Endometrial amoebiasis. Eur J Obstet Gynecol Reprod Biol 1993 Dec 15;52(2):135-7.
7. Cavaliere MJ, Puga FR, Calore EE, Calore NM, Pelegrino JR, da Rosa AR, et al. Protective effect of pralidoxime on muscle fiber necrosis induced by organophosphate compounds. J Toxicol Clin Toxicol 1998;36(4):295-300.
8. Mylius RE, Ten Seldam RE. Venereal infection by *Entamoeba histolytica* in a New Guinea native couple. Trop Geogr Med 1962 Mar;14:20-6.:20-6.
9. Richens J. Genital manifestations of tropical diseases. Sex Transm Infect 2004 Feb;80(1):12-7.
10. Nopdonrattakoon L. Amoebiasis of the female genital tract: a case report. J Obstet Gynaecol Res 1996 Jun;22(3):235-8.
11. Koller AB. Granulomatous lesions of the cervix uteri in Black patients. S Afr Med J 1975 Jul 16;49(30):1228-32.