JOGECA Journal of Obstetrics and Gynecology of East and Central Africa

CASE REPORT

Gynecology

Tuberculosis of the cervix remains a valid differential for cancer of the cervix: A case report

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Received: 26 February 2021; Revised: 16 December 2021; Accepted: 28 December 2021; Available online: January 2022

Abstract

Background: Cervical cancer and tuberculosis remain significant health concerns, the former is associated with high levels of morbidity and mortality.

Case presentation: A 37-year-old nulliparous woman presented to the gynecological ward with a five-year history of intermittent per vaginal bleeding, post-coital bleeding, and intermenstrual bleeding associated with per vaginal discharge and dyspareunia. She had a friable cervical mass on speculum examination, and cervical cancer was suspected. The patient was examined under anesthesia, and a biopsy of the mass was performed. Histological examination revealed cervical tuberculosis. The patient was started anti-tuberculosis therapy for six months and responded well.

Conclusion: Cervical tuberculosis should be considered as a differential diagnosis for cervical masses, as seen in this rare case of cervical tuberculosis that mimicked cervical cancer. A high index of suspicion is required for timely diagnosis and treatment.

Keywords: cervical cancer, cervical mass, cervical tuberculosis, tuberculosis

Introduction

Cervical cancer is the second most common cancer among women in Kenya. Out of 5236 diagnosed with cervical cancer, 3211 women die from the disease every year (1). Tuberculosis (TB) of the cervix accounts for 0.1-0.65% of all tuberculosis cases. Generally, genital tuberculosis commonly affects the upper genital tract. Approximately 5% of upper genital tract TB cases are cervical tuberculosis (2). Cervical lesions may appear as papillary or vegetative growth; exophytic or ulcerative lesions in the cervix. The diagnosis is confirmed through histopathological examination (2,3). Tuberculosis may spread to the cervix hematogenously, lymphaticaly, or direct extension (3). This is a case of cervical tuberculosis, initially suspected to be cervical cancer. Tuberculosis was confirmed histologically.

Case presentation

A 37-year-old nulliparous woman presented to the gynecological clinic at Kenyatta National Hospital (KNH) as a referral with post-coital bleeding for examination-under-anesthesia (EUA). She gave a five-year history of per vaginal bleeding, on and off, and inter-menstrual bleeding, associated with per

vaginal discharge and dyspareunia and post-coital bleeding. She had no history of cervical cancer screening. She was HIV seronegative. She had menarche at 15 years and had no history of contraceptive use. She had no history of weight loss, chronic cough, or contact history with a person known to have tuberculosis. On clinical examination, she was in good general condition. Her abdomen was soft, non-tender and she had no organomegaly. Speculum examination revealed a friable cervical mass at 12 o'clock. Cervical cancer was suspected, and she was referred to the gynecological oncology clinic.

She underwent EUA, and a biopsy of the cervical mass was performed. Her total blood count and renal function test were unremarkable. Pelvic ultrasound revealed free fluid in Douglas's pouch and a large echogenic irregular cervical mass that measured 3.3x2.1x1 cm. The adnexa was normal. A diagnosis of a cervical mass and pelvic inflammatory disease was made. She was scheduled for EUA, which revealed normal external genital with normal vaginal walls. A mass was seen on the cervix involving the entire transformation zone, with a mobile cervix (**Figure 1**). The mass was friable and bled on touch. The mass did not involve the vaginal walls and parametria. The adnexa was free. The uterus was not bulky. The recto-vaginal mucosa was free. An impression of cancer of the cervix stage 1B2 was made, and biopsies were taken from the four quadrants and sent for histological examination. The histopathology examination demonstrated heavily inflamed endocervical tissue. Within the stroma were necrotizing granulomatous inflammations with attendant giant cells of the Langerhans type. The features were consistent with cervical tuberculosis (**Figure 2**). Ziehl-Neelsen (ZN) stain for acid alcohol fast bacilli (AAFB) was negative, and no tumor was identified. She was managed with anti-tuberculous drugs (rifampicin, isoniazid, ethambutol, and pyrazinamide) for six months. After one month of treatment, vaginal examination showed the cervical mass had petered out (**Figure 3**). She had no cervical mass on subsequent follow-up.

Discussion

The upper genital tract organs most affected by tuberculosis are the fallopian tubes (95-100%), the endometrium (50-60%), and the ovaries (20-30%), and rarely the cervix (0.1- 0.65%) of all tuberculosis cases (3,4). Genital tract tuberculosis may present with abdominal pain, constitutional symptoms, menstrual irregularities, and vaginal bleeding (5). It may mimic malignancies (3). Making a diagnosis of cervical tuberculosis may be difficult due to its atypical clinical presentation (3). Cervical tuberculosis may be introduced by a partner with tuberculous epididymitis or disease in the

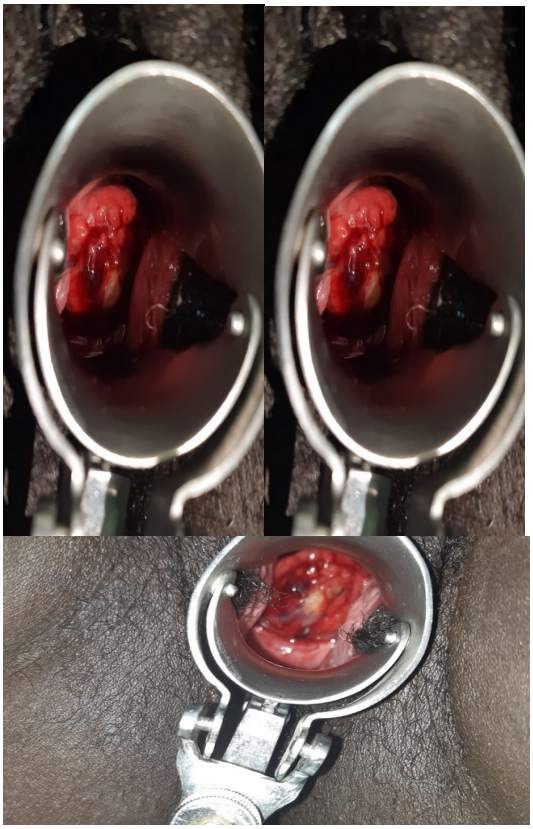

Figure 1: Speculum examination of the cervix showing a hyperemic, irregular enlarged cervix with circumferential mass that bled easily on touch. The mass involved the whole cervix; the cervical os is not discernible. Vaginal walls were not involved.

genitourinary areas (4). Cervical tuberculosis as a primary infection is rare (4,6). Sputum is thought to be a transmission route when used as a sexual lubricant (4,6). Hematogenous spread typically affecting the pelvic organs, with the chest as a primary focus has been implicated, while spread to the cervix may be from a lymphatic or direct extension (3). More commonly, the primary lesion may have healed upon presentation (3).

Given that 80% of cases occur in the reproductive period, hormone dependence of the infection has been hypothesized (4,7). Macroscopically, tuberculosis of the cervix appears as friable papillary or vegetative masses or hypertrophy of the cervix, which may simulate invasive cervical cancer (3). Histology of a cervical punch biopsy is the mainstay diagnosis method (6,8). Microscopically, extensive chronic inflammation with caseating or noncaseating granulomas is seen in most cases. The acid-fast bacilli organism may not be revealed by staining with Ziehl Neelsen stain, and almost one-third of the cases can be culture-negative (2). Pap smears may provide a tentative diagnosis as granulomas from endometrial lesions may appear in Pap smears (9). Hence, a suspicion for tuberculous endometritis should be raised if epithelioid cells are present in smears (9). Other

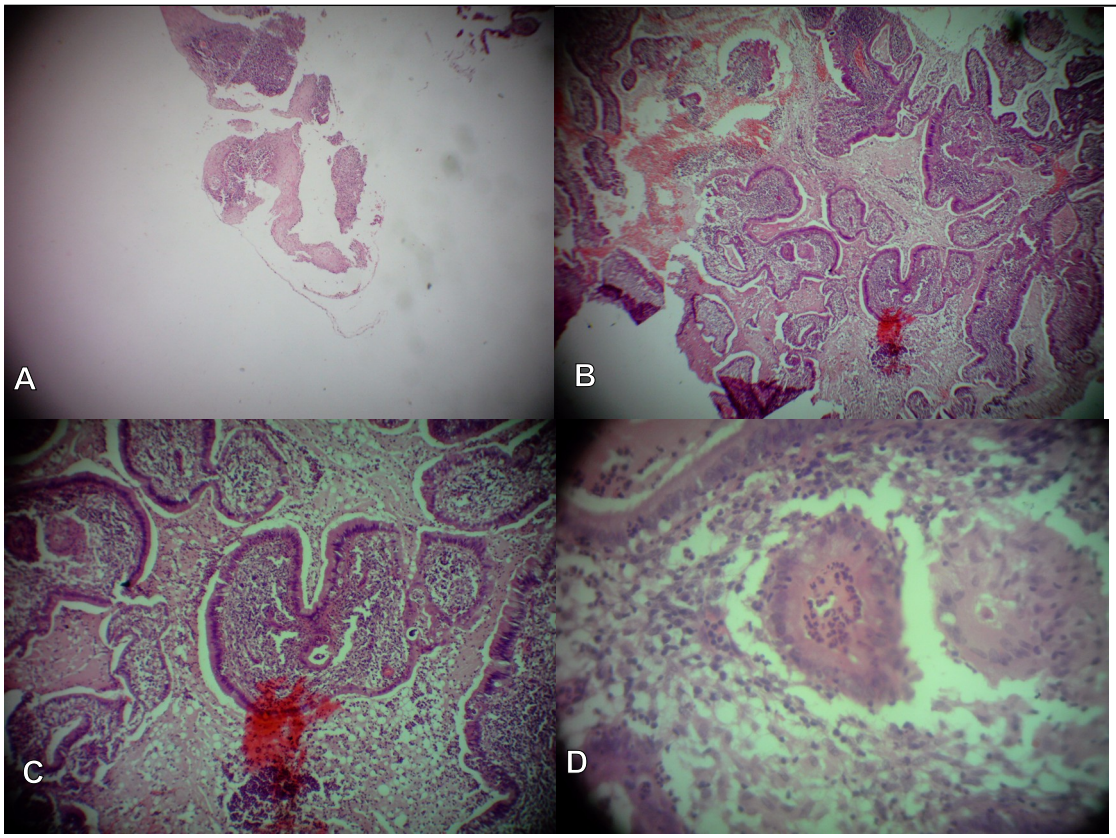

Figure 2: Histological sections showing **A**: ectocervical tissue with normal stratified squamous epithelium (hematoxylin and eosin (H&E) x40 magnification); **B**: endocervical tissue with columnar glandular epithelium (H&E x40 magnification); **C**: highly inflamed endocervical grands with numerous chronic inflammatory cells (H&E x100 magnification); **D**: Stromal component with necrotizing granulomatous inflammation with attendant Langerhan giant cells. No cellular atypia or tumor. Langerhan's giant cells in a hemorrhagic background with foci of necrotizing granulomatous inflammation with chronic inflammatory cells. Features consistent with cervical tuberculosis (H&E x400 magnification).

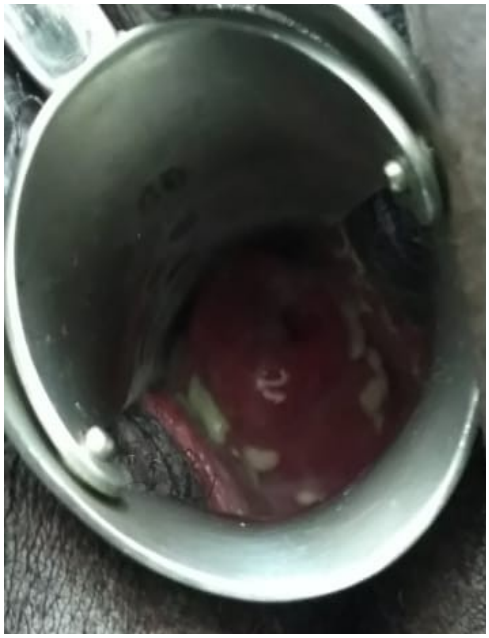

Figure 3: The appearance of the cervix post-treatment with anti-tuberculous therapy. Mass on cervix completely petered out, cervix with external os visible. She had candidiasis.

rare causes of granulomatous cervicitis include brucellosis, foreign body reaction, schistosomiasis, and sarcoidosis (3,10). In general, follow-up is necessary to examine the lesion serially while the patient is on anti-tuberculosis therapy. The lesion is used as a marker to monitor therapy effectiveness. Alternatively, serial biopsies may be utilized to confirm response to treatment (3,4).

Conclusion

Cervical tuberculosis should be considered as a differential diagnosis of cervical masses, as seen in this rare case of cervical tuberculosis that mimicked cervical cancer. A high index of suspicion is required for timely diagnosis and treatment.

Consent for publication

Informed consent for publication was obtained from the patient.

Conflict of interests

The authors declare no conflicts of interest.

Funding

None

References

1 Kenya, Human Papillomavirus and Related Cancers FS 2018 (2019-06-17). II. Complementary data on cervical cancer prevention. 2019 [cited 2021 Oct 22]; Available from: www.hpvcentre.net

2 Paprikar M, Biswas M, Bhattacharyav S, Sodhi B, Mukhopadhyay I. Tuberculosis of Cervix. *Med J Armed Forces India*. 2008;64(3):297-298. doi:10.1016/S0377-1237(08)80129-3

3 Gupta A, Gupta MM, Mankatala U, Khurana N. Primary tuberculosis of cervix mimicking carcinoma: A rare case. *J Midlife Health*. 2014;5(2):95-97. doi:10.4103/0976-7800.133999

4 Lamba H, Byrne M, Goldin R, Jenkins C. Tuberculosis of the cervix: case presentation and a review of the literature. *Sex Transm Infect*. 2002;78(1):62-63. doi:10.1136/sti.78.1.62

5 Ahmed S, Oguntayo A, Odogwu K, Abdullahi K. Tuberculous cervicitis: A case report. *Niger Med J*. 2011;52(1):64-65.

6 Sharma N, Singh AS, Khonglah Y, Mishra J. Primary Tuberculosis of Cervix: A Coincidental Finding. *J Reprod Infertil*. 2016;17(4):247-249.

7 Chowdhury NN. Overview of tuberculosis of the female genital tract. *J Indian Med Assoc*. 1996;94(9):345-361.

8 Moussa, B., Valen-tin, K., Adama, O., Aziz, D.A., Idrissa, Z. and Goumbri, L.O. (2016) Tuberculosis of the Uterine Cervix: About a Case and Literature Review. Open Journal of Obstetrics and Gynecology, 6, 734-739. http://dx.doi.org/10.4236/ojog.2016.612091

9 Seth A, Kudesia M, Gupta K, Pant L, Mathur A. Cytodiagnosis and pitfalls of genital tuberculosis: A report of two cases. *J Cytol*. 2011;28(3):141-143. doi:10.4103/0970-9371.83477

10 Agrawal S, Madan M, Leekha N, Raghunandan C. A rare case of cervical tuberculosis simulating carcinoma cervix: a case report. *Cases J*. 2009;2:161. Published 2009 Oct 20. doi:10.1186/1757-1626-2-161