

CASE REPORT

Primary tuberculosis of cervix: a rare entity not to be missed

Ajay Halder, Purnima Tiwari, Garima Goel, Julie Hansa John

**Corresponding author: Dr. Purnima Tiwari, Senior Resident, Department of Obstetrics & Gynaecology, All India Institute of Medical Sciences, Nagpur, Maharashtra, India;
Email : purnima_gupta30@yahoo.co.in**

Distributed under Attribution-Non Commercial – Share Alike 4.0 International (CC BY-NC-SA 4.0)

ABSTRACT

Tuberculosis is a major health concern in South-East Asia region. The prevalence of genital tuberculosis has increased over the past decade in few Asian countries. Detailed history and clinical examination is required to suspect this disease in women of reproductive age group. Among all types of genital tuberculosis, tuberculosis of cervix is relatively rare. Such patients present with varied symptoms including menstrual irregularities, post-coital bleeding and vaginal discharge. However, there have been few case reports in literature mentioning unusual presentation of cervical tuberculosis mimicking carcinoma. We are reporting one similar case of a 33-years-old woman who presented to us with secondary amenorrhea and primary infertility. On clinical examination, cervix was found replaced by friable tissue bleeding on touch, looking like malignant transformation. Diagnosis of cervical tuberculosis could be clinched after tissue biopsy which revealed caseous granuloma on histopathological examination and tubercle bacilli on Ziehl-Neelsen staining. Patient was subsequently started on 6 months antitubercular therapy resulting in resumption of her menses after 3 months. One should have high index of suspicion in order to diagnose tuberculosis of cervix in such cases, especially in high prevalence areas, so that patients can be managed appropriately with antitubercular therapy preventing complications.

Keywords: Tuberculosis of cervix, carcinoma, antitubercular therapy, infertility, amenorrhea.

Tuberculosis is a major public health concern worldwide as it is one of the leading causes of death among all infectious diseases¹. Tuberculosis of uterine cervix accounts for 0.1 to 0.65% of all cases making it one of the rare forms of tuberculosis². Patients with cervical tuberculosis may have varied symptoms like purulent discharge per vaginum, irregular bleeding per vaginum, post-coital bleeding, dyspareunia and primary infertility. Occasionally, these patients may show constitutional symptoms such as decreased appetite, loss of weight, evening rise of temperature and malaise. Detailed history and clinical examination is required to suspect cervical tuberculosis in such cases. Only nine case reports of primary tuberculosis of cervix have been described in literature the past five years. Diagnosis is often made by visualization of caseous granuloma (with or without Langhans giant cells) in histopathology of biopsied tissue with/without staining of

acid fast bacilli with Ziehl-Neelsen (ZN) stain on tissue/sample.

We are reporting a rare case of tuberculosis of cervix where a patient presented with secondary amenorrhea and primary infertility. On examination, the cervix was abnormal looking and mimicked carcinoma cervix. However, cytological smear and colposcopic examination did not suggest any dysplasia of cervix. However, on high suspicion of cervical dysplasia, cervical biopsy was taken and histopathological examination of cervical biopsy was confirmatory for tuberculosis of cervix. Patient was given 6 months of antitubercular treatment and resumed menses.

Case

A 33 years old lady presented to us with complaints of amenorrhea for 5 months and was not able to conceive since last 5 years. Previous menstrual cycles were regular at 28 to 30 days interval with 3 to 4 days flow. Patient had married

Received: 24th February 2021, Peer review completed: 4th May 2021, Accepted: 7th June 2021.

Halder A, Tiwari P, Goel G, John JH. Primary tuberculosis of cervix: a rare entity not to be missed. The New Indian Journal of OBGYN. 2022; 9(1): 176-9.

life of 5 years at the time of presentation and was cohabiting since then. She belonged to lower middle socio-economic status and was non-alcoholic and non-smoker. There was no history of any fever/cough/abdominal pain or any other chronic illness in self or in husband. Family history for tuberculosis or for carcinoma of genital tract was negative. She did not have any history of close contact with known case of tuberculosis in past. On examination, her height was 150 cm and weight was 40 kg. General physical examination did not reveal any significant finding. Per abdomen examination was normal. On per speculum examination, the cervix was replaced by irregular friable tissue which bled on touch (figure 1). On bimanual examination, uterus was anteverted and normal size. Bilateral fornices were free.

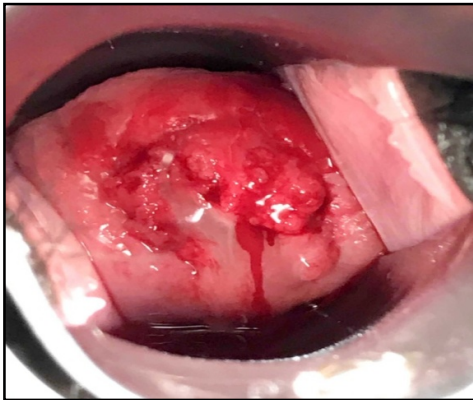


Figure 1: Per speculum view of cervix at the time of presentation

In investigations, the haemoglobin was 12.2 g/dl, total leukocyte count was $5.0 \times 10^3/\mu\text{L}$ and erythrocyte sedimentation rate was 19mm/hr. A chest X-ray was normal and antibody test for human immunodeficiency virus (HIV-1&2) were negative. Patient had her hormonal profile done including thyroid function test, serum oestradiol, luteinizing hormone and follicle stimulating hormone which were within normal limits. Her ultrasound examination of pelvis revealed normal uterus and ovaries with thin endometrium. Papanicolaou smear was taken for the patient and showed only inflammation.

On colposcopy examination, no acetowhite area was seen and iodine uptake was present in cervix. Literature was reviewed and with high suspicion of dysplastic cervix and genital tuberculosis (as patient presented with amenorrhea and infertility), cervical biopsy and endometrial biopsy were taken. The tissues were sent for histopathological examination. On histopathological examination of cervical tissue, multiple epithelioid granulomas with Langhans giant

cells were seen, consistent with the diagnosis of TB (figure 2). Acid fast bacilli (AFB) were seen on Ziehl-Neelsen staining of cervical tissue (figure 3). Endometrial tissue histopathological examination did not reveal any abnormality. Patient was started on antitubercular drugs as per national protocol for 6 months. She resumed her menses after 3 month of completion of treatment.

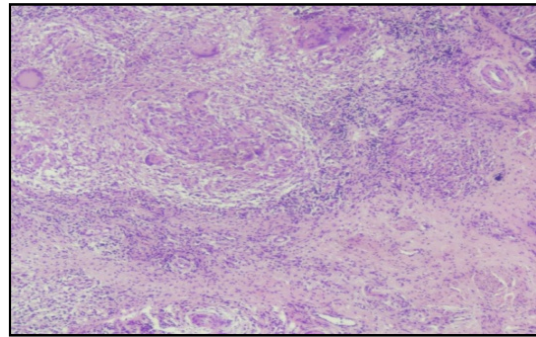


Figure 2: Histopathological examination of cervical biopsy tissue showing epithelioid granuloma with Langhans giant cells

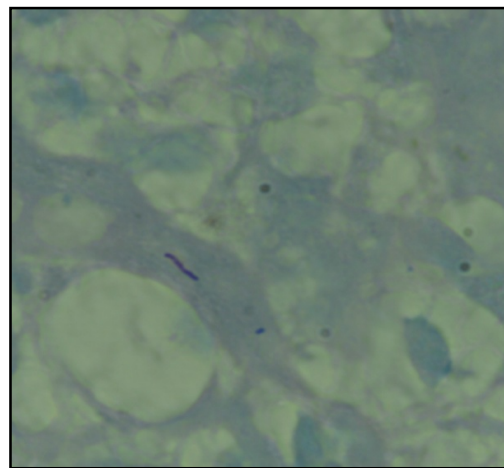


Figure 3: Ziehl-Neelsen staining showing acid fast bacilli on cervical biopsy tissue

Discussion

Tuberculosis is a major concern over world-wide. Genital tuberculosis alone constitutes approximately 9% cases of extrapulmonary tuberculosis³. Genital tuberculosis commonly affects fallopian tube (95%-100%), endometrium (50%-60%) and ovary (20%-30%)³. The cervix is rarely involved and accounts for 5%- 24% of the cases of genital tract tuberculosis. Rarely, cervix may be affected primarily by sexual contact with partner who is having genitourinary TB or if sputum of pulmonary tuberculosis patient is used as

lubricant during sexual contact³. Majority of female patients with genital tuberculosis are asymptomatic or have non-specific symptoms. Many times, these patients are diagnosed as a case of genital tuberculosis while being worked up for infertility. Therefore, tuberculosis of genital tract including cervix is generally detected in reproductive age group women as in our case but primary tuberculosis of cervix has also been reported in postmenopausal women in literature⁴⁻⁶. Davis AA reported a case of postmenopausal patient with cervical tuberculosis who presented with generalized body ache and fatigue⁵.

Diagnosis of tuberculosis of cervix is usually made by histopathological examination of cervical biopsy which shows typical caseating granulomas. In the present case, we had the dilemma regarding taking biopsy from cervix as colposcopy examination and PAP smear were normal and were not suggestive of any cervical dysplasia. However, one has to keep genital tuberculosis as a diagnosis in the mind especially in patients with infertility who is residing in countries with high prevalence of tuberculosis. Similar to our case, Yang et al reported a case of woman with amenorrhea and primary infertility which was diagnosed as case of cervical tuberculosis on histopathology of cervical tissue biopsy in Taiwan⁷. In another case report, Rodpenpear N detected cervical tuberculosis in a patient with amenorrhea with abnormal looking cervix in Thailand which is also a high prevalent country for tuberculosis⁸. Sometime, acid fast bacilli may be seen by ZN staining on tissues. Gold standard is isolation of tubercle bacilli but culture may be negative in one third of cases⁹⁻¹⁰. Therefore, histopathological examination of biopsy tissue is sufficient for diagnosis if other causes of granulomatous cervicitis are excluded.

The treatment consists of 6-9 months of combination anti-tubercular drugs isoniazide (H), rifampicin (R), pyrazinamide (Z) and ethambutol (E). Our patient was given HRZE for 2 months followed by HR for 4 months. Patients respond well with 6 months of antitubercular therapy. On follow up, patient resumed her menses after 9 months of starting treatment and cervix was completely normal on examination.

Conclusion

This case emphasizes that there should be high index of suspicion of tuberculosis in abnormal looking cervix in women residing in areas with high prevalence of tuberculosis. Moreover, it becomes important to rule out genital tuberculosis in patients with amenorrhea or infertility. Timely and adequate treatment can provide good outcome in such cases.

Conflict of interest: None. **Disclaimer:** Nil.

References

1. WHO Global Tuberculosis Report Executive Summary 2018 [Internet]. New York: World Health Organization- [cited 1 December 2020]. Available from: https://www.who.int/tb/publications/global_report/tb18_ExecSum_web_4Oct18.pdf?ua=1.
2. Sharma N, Singh AS, Khonglah Y, et al. Primary Tuberculosis of Cervix: A Coincidental Finding. *J Reprod Infertil*. 2016 Oct-Dec; 17(4): 247-49.
3. Grace GA, Devaleenal DB, Natrajan M. Genital tuberculosis in females. *Indian J Med Res*. 2017 Apr; 145(4): 425-36.
4. Davis AA. Caseating necrosis in cervical tuberculosis. *Am J Obstet Gynecol*. 2020 Jul; 223(1): 125.
5. Gupta B, Shree S, Rajaram S, et al. Genital tuberculosis: Unusual presentations. *Int J Mycobacteriol*. 2016 Sep; 5(3): 357-359.
6. Kumari R, Vaishya V, Khanna G, et al. Tuberculosis of the cervix: An uncommon cause of vaginal discharge in a post-menopausal woman. *Natl Med J India*. 2018 May-Jun; 31(3): 149-50.
7. Yang CT, Lee YH, Hsu GJ. Tuberculosis of the uterine cervix. *Taiwan J Obstet Gynecol*. 2012 Sep; 51(3): 449-51.
8. Rodpenpear N. Tuberculosis of Cervix Resembling Cervical Cancer. *J Med Assoc Thai*. 2016 Nov; 99 Suppl 8: S249-S252.
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): 141-3.
10. Lamba H, Byrne M, Goldin R, Jenkins C. Tuberculosis of the cervix: case presentation and a review of the literature. *Sex Trans Infect*. 2002; 78(1): 62-63.

Ajay Halder¹, Purnima Tiwari², Garima Goel³, Julie Hansa John⁴

¹ Associate Professor, Department of Obstetrics & Gynaecology, All India Institute of Medical Sciences, Bhopal, Madhya Pradesh, India; ² Senior Resident, Department of Obstetrics & Gynaecology, All India

Institute of Medical Sciences, Nagpur, Maharashtra, India; ³ Associate Professor, Department of Pathology, All India Institute of Medical Sciences, Bhopal, Madhya Pradesh, India; ⁴ Postgraduate Student, Department of Obstetrics & Gynaecology, All India Institute of Medical Sciences, Bhopal, Madhya Pradesh, India.