



PELVIC TUBERCULOSIS PRESENTING AS CERVICAL EROSIONS IN YOUNG INDIAN FEMALE

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ABSTRACT

Background: Cervical tuberculosis, a rare form of female genital tuberculosis (FGTB), presents diagnostic challenges due to its nonspecific symptoms and similarity to gynecological malignancies. It is a significant cause of infertility and menstrual irregularities, particularly in TB-endemic regions. **Case Presentation:** A 26-year-old married woman presented with lower abdominal pain, and occasional blood-stained vaginal discharge. Examination revealed an erythematous cervix with ulcers and nodules. Cervical biopsy confirmed tuberculosis, demonstrating granulomatous inflammation, caseous necrosis, and acid-fast bacilli on Ziehl-Neelsen staining. Hysterosalpingography showed cervical contour irregularities, while endometrial biopsy excluded endometrial involvement. **Management and Outcome:** The patient received a 6-month anti-tuberculosis regimen (2 months of isoniazid, rifampicin, ethambutol, and pyrazinamide, followed by 4 months of isoniazid, rifampicin, and ethambutol). She was advised on contraception during treatment and scheduled for follow-up to assess treatment response and fertility outcomes. **Conclusion:** This case underscores the need for a high index of suspicion for cervical tuberculosis in women with pelvic pain and abnormal cervical findings in TB-endemic areas. Early diagnosis through biopsy and imaging, followed by standard anti-tuberculosis therapy, can mitigate complications such as infertility. Enhanced diagnostic awareness and tools are essential for effective management of FGTB.

KEYWORDS : female genital tuberculosis (FGTB), cervical tuberculosis, cervical erosions, pelvic pain.

INTRODUCTION

Tuberculosis (TB) remains a significant global health challenge, with extrapulmonary manifestations accounting for a considerable proportion of cases. Female genital tuberculosis (FGTB) is one such extrapulmonary form, often presenting diagnostic challenges due to its insidious nature and nonspecific symptoms. Among the various sites of FGTB, cervical involvement is relatively rare but can have profound implications for reproductive health(1). This case report presents a 26-year-old married woman who presented with lower abdominal pain and was diagnosed with cervical tuberculosis, highlighting the importance of considering TB in the differential diagnosis of pelvic pain and infertility.

FGTB is particularly prevalent in regions with high TB burden, such as South Asia and Africa, and is a major cause of infertility, menstrual irregularities, and chronic pelvic pain(2). Cervical TB, though less common, can mimic other gynecological conditions like cervical cancer, necessitating a high index of clinical suspicion for accurate diagnosis. The global prevalence of genital TB is estimated at 8-10 million cases, with significant variations in reporting due to diagnostic challenges and regional differences in healthcare access(3)(4).

Case Report

A 26-year-old woman, married for 8 months presented to the outpatient department with a history of lower abdominal pain. The pain was described as dull and intermittent, localized to the pelvic region, and had been ongoing for several weeks. She also reported occasional vaginal discharge, which was sometimes blood-stained. There was no history of fever, weight loss, or night sweats. Her past medical history was unremarkable, and she had no known exposure to tuberculosis. On physical examination, the cervix appeared erythematous with small ulcers and nodules, raising suspicion of an infectious etiology. The uterus was mildly tender on bimanual examination, but there were no palpable masses or adnexal tenderness.

Initial investigations included routine blood tests, which showed a mildly elevated erythrocyte sedimentation rate (ESR) of 40 mm/hr (normal range: 0-20 mm/hr). A chest X-ray was normal, showing no evidence of pulmonary tuberculosis. A cervical biopsy was performed due to the suspicious cervical

findings. Histopathological examination of the biopsy revealed granulomatous inflammation with caseous necrosis, and acid-fast bacilli (AFB) were identified on Ziehl-Neelsen staining. These findings were consistent with a diagnosis of cervical tuberculosis.

Further evaluation included a hysterosalpingogram (HSG), which showed irregularity in the cervical contours and a serrated endocervical canal, suggestive of tuberculous involvement. An endometrial biopsy was also performed, which showed no evidence of endometrial TB, indicating localized cervical involvement. The patient was screened for human immunodeficiency virus (HIV) and found to be negative.

The patient was started on standard anti-tuberculosis therapy (ATT) with a regimen of isoniazid, rifampicin, ethambutol, and pyrazinamide for the intensive phase (2 months), followed by isoniazid, rifampicin, and ethambutol for the continuation phase (4 months). She was counseled about the potential impact of genital TB on fertility and advised to use contraception during treatment. Regular follow-up was planned to monitor treatment response and address any reproductive concerns.

DISCUSSION

FGTB is a chronic infectious disease that predominantly affects women of reproductive age and is a major cause of infertility in endemic regions. The fallopian tubes are the most commonly affected site, but involvement of the cervix, as seen in this case, is less frequent. Cervical TB typically occurs secondary to hematogenous spread from pulmonary or other extrapulmonary sites, though direct inoculation through sexual contact with an infected partner is also possible. Risk factors for FGTB include contact with a smear-positive pulmonary TB patient, past history of TB infection, residence in or recent travel to endemic areas, low socio-economic background, people living with HIV, and drug abuse.

Clinically, FGTB can present with a wide spectrum of symptoms, including menstrual irregularities, chronic pelvic pain, abnormal vaginal discharge, and infertility. In this case, the patient presented with lower abdominal pain and irregular menstrual cycles, which are common in FGTB. The presence of cervical ulcers and nodules on examination

raised suspicion for an infectious process, leading to the decision for a biopsy. Histopathological examination remains the gold standard for diagnosis, revealing characteristic granulomas with caseous necrosis, although AFB may not always be detected due to the paucibacillary nature of the disease. Diagnostic challenges in FG TB arise from its nonspecific symptoms and the need for a high index of suspicion. Imaging modalities such as HSG can aid in identifying cervical involvement, as seen in this case with irregular cervical contours and a serrated endocervical canal. However, definitive diagnosis requires tissue confirmation through biopsy. It is also crucial to differentiate cervical TB from other conditions, such as cervical cancer, which can present with similar findings.

Treatment of FG TB follows the same principles as pulmonary TB, with a standard 6-month ATT regimen, though some guidelines suggest extending to 9 months for extrapulmonary cases. The regimen typically includes an intensive phase of 2 months with isoniazid, rifampicin, ethambutol, and pyrazinamide, followed by a continuation phase of 4 months with isoniazid and rifampicin. However, the impact on fertility can be significant, particularly if the fallopian tubes are involved. In this case, the localized cervical involvement and absence of endometrial or tubal disease suggest a better prognosis for fertility preservation, though long-term follow-up is essential. The patient was advised on contraception during treatment to avoid potential teratogenic effects of ATT and to plan future pregnancies after treatment completion.

Epidemiologically, FG TB is more common in developing countries, with prevalence rates varying widely. For instance, studies from India report prevalence rates of 45.1 cases per 100,000 women in community-based studies and up to 48.5% among infertile women in northern India. The global burden underscores the need for increased awareness and improved diagnostic tools, such as polymerase chain reaction (PCR)-based diagnostics and molecular methods, to enhance early detection and treatment.

CONCLUSION

This case report highlights the importance of considering genital tuberculosis in the differential diagnosis of pelvic pain and abnormal cervical findings, especially in regions where TB is endemic. Early diagnosis through biopsy and appropriate treatment with anti-tuberculosis therapy can help mitigate the long-term sequelae, including infertility. Healthcare providers must maintain a high index of suspicion for FG TB in women presenting with nonspecific gynecological symptoms, as timely intervention can significantly improve outcomes. Future research should focus on developing more sensitive diagnostic tools and exploring the long-term fertility outcomes in treated cases to guide clinical management.

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