

Infertility - *Not To Forget* Tuberculous Endometritis

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Abstract: Tuberculosis (TB) is a chronic infectious disease and the morbidity associated with this condition has major health implications. Tuberculosis affects a large number of people worldwide and the incidence is increasing. Genital tuberculosis (GTB) is one of the major causes for severe tubal disease leading to infertility. Unlike pulmonary tuberculosis, the clinical diagnosis of GTB is difficult because in majority of cases the disease is either asymptomatic or has varied clinical presentation. Various Indian studies have shown that tuberculous endometritis and salpingitis account for 4-9 per cent of all infertility cases. Due to the asymptomatic nature/varied clinical presentation, clinical diagnosis of genital tuberculosis is difficult.

Keywords: Endometrium, infertility, tuberculosis

INTRODUCTION

The disease has a worldwide distribution, and the incidence is high in developing countries [1]. When TB affects genital organs of young females, it produces devastating effects by causing irreversible damage to the fallopian tube resulting in infertility which is difficult to cure both by medical and surgical methods [2, 3]. Tuberculosis bacilli reach the genital tract mainly by haematogenous spread from foci outside the genitalia [17]. Genital tuberculosis may be asymptomatic and could go unrecognised or masquerade as other gynaecological conditions [7]. A combination of tuberculin testing, culture, histology, hysterosalpingogram and PCR are useful in establishing a diagnosis [18]. Genital TB affects about 12% of patients with pulmonary tuberculosis and represents 15–20% of extra pulmonary tuberculosis [4]. *Mycobacterium tuberculosis* accounts for 90–95% of cases of genital TB [5]. However, *Mycobacterium bovis* may be the causal agent (5–10%), especially when the organisms are acquired from the gastrointestinal tract.

We came across a case of genital tuberculosis without pulmonary symptoms. A 30 year old female presented with h/o infertility, with h/o 5 years of married life. She gave a h/o irregular period followed by amenorrhoea. Her laboratory parameters were within normal limits except for anaemia. Hb was 8.5gm%.

Endometrial curettage was done and sent for histopathology evaluation. The sections studied showed endometrial glands in proliferative phase with stroma showing epithelioid cells with granuloma formation (Fig. 1 & 2).

The section was stained with AFB stain which revealed rod shaped red bacilli. The diagnosis of

endometrial tuberculosis was made (Fig. 3). Later on the patient revealed the past h/o pulmonary tuberculosis which was incompletely treated.

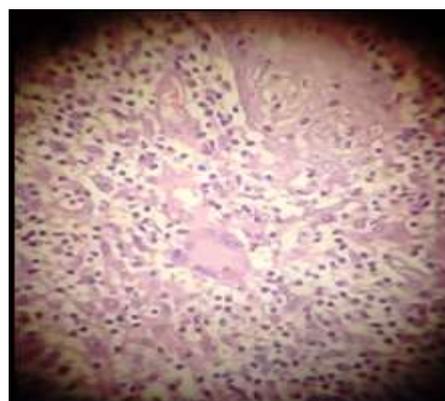


Fig. 1: Langhans giant cell

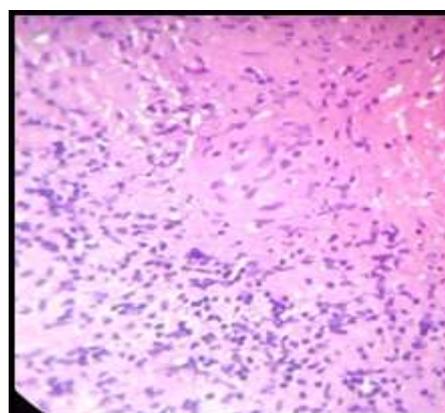


Fig. 2: Epithelioid cell granuloma

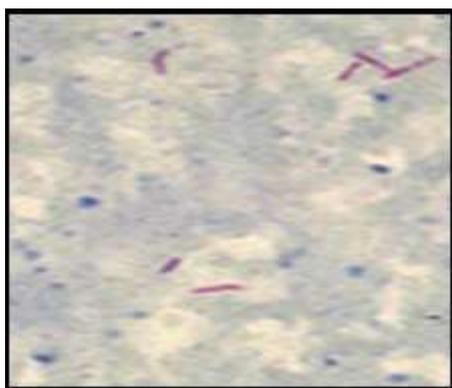


Fig. 3: AFB Stain showing rod shaped Bacilli

DISCUSSION

TB of the female genital tract is nearly always secondary to a focus elsewhere in the body [6]. The TB bacilli reach the genital tract by three principal routes. Haematogenous spread represents about 90% of cases, with the primary focus being the lungs, lymph nodes or skeletal system [7]. Descending direct spread occurs, with infection reaching the genital organs via the lymphatic system or directly from the gastrointestinal tract, mesenteric nodes or the peritoneum. [7, 8]. Primary infection of the vulva, vagina and cervix may result from direct inoculation at sexual intercourse with persons having genitourinary TB [9]. Genital organs commonly involved include the fallopian tubes (95–100%) endometrium (50–60%) and ovaries (20–30%). The cervix (5–15%), vulva/ vagina (1%) and the myometrium (2.5%) may also be involved [10]. Although genital TB can occur in any age group, the majority of patients are in the reproductive age group [11]. Postmenopausal women account for 7–11% of cases of genital TB.

Genital TB may be asymptomatic and the majority of women are diagnosed during investigations for infertility. [5, 6].

Systemic constitutional symptoms of weight loss, feeling unwell and night sweats may be present [16]. In the acute phase, the picture may resemble classical acute pelvic inflammatory disease (PID) with pelvic pain, fever and vaginal discharge [12]. Fitz-Hugh Curtis syndrome may result in genital tuberculosis [13]. Genital TB may present with a variety of gynaecological symptoms of infertility, menstrual disturbance and chronic pelvic pain [9]. Female genital tuberculosis is mostly a post-primary manifestation. Clinically, it presented as infertility, abnormal uterine bleeding, an abdominal mass, leucorrhoea and others [14]. In the postmenopausal woman, genital TB presents with postmenopausal bleeding, persistent leucorrhoea and pyometra [15]. Histology demonstrates the typical caseous granulomatous lesions with epithelioid cells. This lesion is highly suggestive of TB but is not diagnostic, as it appears in fungal infections and sarcoidosis. Microscopy for acid-fast bacilli (AFB) can provide a quick diagnosis.

Fluorescent auramine-phenol and Ziehl-Neelsen (Z-N) staining can be performed on endometrial aspiration biopsy. Culture on solid media, such as egg-based Löwenstein-Jensen medium, can give positive results for *M. tuberculosis* in 4 weeks but can take up to 12 weeks. Liquid culture with radiometric growth detection such as BACTEC 460 or non radiometric (CO₂) growth detection such as BacT Alert 3D, provides more rapid growth (average 10–14 days), specific identification of *M. tuberculosis* and rapid drug susceptibility testing to guide therapy.

CONCLUSION

The incidence of female genital TB is increasing, so gynaecologists will be increasingly faced with cases of TB and its consequences. Genital TB may be asymptomatic or may present with atypical symptoms or mimic other conditions. It is imperative to consider the possibility of TB in women in the reproductive age group who present with the symptoms of infertility, chronic pelvic pain and menstrual dysfunction, where other causes have been excluded. This is particularly important when these women fall into the high-risk category for TB infection. Genital TB should also be considered in postmenopausal women with pyometra and persistent vaginal discharge. Failing to consider the possibility of TB may result in unnecessary and ineffective interventions. To increase the chances of identifying TB bacilli, immunological, bacteriological and PCR tests should be employed, as they are complementary.

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