

## Female Genital Tuberculosis

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### Abstract

The incidence of genital tuberculosis varies widely with the social status of the patient and her environment. The incidence is about 1% amongst gynaecological patients attending the outpatient department in the developing country. Genital TB may be asymptomatic and the majority of women are diagnosed during investigations of infertility. Genital system TB represents 15-20% of extrapulmonary TB and is usually asymptomatic affecting mainly young women in the reproductive age group. Here we presented a case of genital TB which was diagnosed during laparotomy. After confirmation of diagnosis by histopathology, the case was successfully managed by antitubercular therapy for 9 months.

**Keywords:** Genital tuberculosis.

### Introduction

Tuberculosis is a worldwide disease with greater prevalence where the population is concentrated in areas with poor sanitation and unfavorable social and economic condition. Genital TB is one form of extra pulmonary TB and is not uncommon.

The incidence is about 1% among gynaecological patients attending the outpatient department in the developing countries.<sup>1</sup> The causative organism is *M. tuberculosis* human type.

Genital TB occurs mostly secondary to pulmonary tuberculosis. Commonly by the haematogenous route in a manner similar to spread to other extra pulmonary sites like urinary tract, bones and joints etc.

The fallopian tubes are affected in almost 100% of cases followed by the endometrium in 50%, ovaries in 20%, cervix in 5% and vulva and vagina 1%.<sup>1</sup>

The initial sites of infection is in the submucosal layer of

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the ampullary part of the tube. Direct inoculation of tubercle bacilli can also take place over vulva or vagina during sexual intercourse with a partner suffering from tuberculous lesion of genitalia.

The infection is restricted mostly (80%) to childbearing period (20-40 years). Genital tuberculosis occurs in 10-20% of patients who have pulmonary tuberculosis in adolescence<sup>1</sup>. The symptoms of genital tuberculosis are infertility, menstrual abnormality, amenorrhoea or oligomenorrhoea, chronic pelvic pain. Tubo-ovarian mass, vaginal discharge in the form of postcoital bleeding or blood stained discharge and constitutional symptoms such as loss of weights, malaise, anorexia, pyrexia and anemia etc.

### Case Report

Luchita, 16 years old unmarried young girl presented of outpatient department of Diabetic Association Medical College Hospital with the complaints of abdominal pain, generalized weakness, per vaginal whitish discharge. Her menstrual cycle was regular with average flow and duration. Her age of menarche was at 13 years of age. Her grandfather sufferings from TB 2 years back. On examination her weight was 47 kg, BP- 100/70 mmHg. On per abdominal examination there was a lump 8×10 cm in diameter. Occupying partly left iliac, left lumbar, umbilical and hypogastric region. Margin was irregular, smooth surface, firm in consistency and mobility was restricted. She was admitted for further evaluation with a plan of laparotomy. Her USG report revealed thick wall septated cyst with floating low level internal echoes (9.9cm×5.5cm; approx. vol. 132ml) is noted in pelvic region. Her CA-125 was 98.5 µ/ml. chest x-ray was normal. Other investigation shows no abnormality.

Her laparotomy was done. After opening of abdomen there was dense adhesion of left adnexa with surrounding structure with intestine and omentum.

Adhesiolysis was done as per as possible after taking biopsy and peritoneal toileting abdomen was closed in layers.

Biopsy report showed tissue from ovarian cystic mass showing granulomatous inflammation, section from the piece of tissue reveal granulation tissue. The granulation tissue contains granulomas. The granuloma was composed of epithelioid cells containing Langhan's type of giant cell.

The treatment consists of Isoniazide plus Rifampicin plus Ethambutol plus Pyrazinamide orally. In addition pyridoxin 300 mg a day was also administered to prevent neuropathy. Antitubercular therapy was continue for 9 months and hepatic and renal function tests and periodical eye fundus, visual acuity and visual fields examinations were normal during follow up.

## Discussion

Although genital TB can occur in any age group. The majority of patients are in the reproductive age group.<sup>2</sup> 75% of them being in the 20-45 years age<sup>2</sup>. Postmenopausal women accounts for 7-11% of cases of genital TB.

Genital TB may be asymptomatic and the majority of women are diagnosed during investigations of infertility.<sup>3</sup> Systemic constitutional symptoms of weight loss, feeling unwell and night sweats may be resemble classical acute pelvic inflammatory disease (PID).<sup>4</sup> M. tuberculosis is the causative organism in 90-95% of cases where as Mycobacterium bovis can also causes the disease.<sup>5</sup>

Infection of the female genital tract with TB is relatively rare entity. There are two main routes for the infection, the first is blood borne from a primary site such as the lungs, or kidneys. The other route is through sexual intercourse where the infection can manifest itself as local lesions. Infection of the vulva, vagina and cervix can be caused by direct inoculation in the lower female reproductive tract if the sexual partner has genital and/or urinary TB infection. In that respect genital TB can be considered a sexually transmitted disease.<sup>6</sup>

Endometrial TB and involvement of the fallopian tubes are obvious explanations in relation to infertility as these conditions can interfere with implantation and sperm/zygote transport. In a study concerning the effect of genital TB on fertility hysterosalpingogram (HSG) revealed tubal abnormalities in 17 (95.2%) out of 21 patients. The most common abnormality was a bilateral tubal blockage and deformity of the uterine cavity was found to be as 54.4% of cases.<sup>7</sup> TB can also affect the ovaries and cervix and this may have an impact on fertility as well. Another important manifestation of genital TB is menstrual irregularities. Irregularities may include oligomenorrhoea or amenorrhoea. An important pathological finding in women with genital TB in Asherman's syndrome that explains the menstrual irregularities and infertility as well. Intra and postoperative complications are increased after surgery in women with genital TB.<sup>8</sup>

General abdominal and pelvic examination findings are normal in majority of genital tuberculosis patients.<sup>9,10</sup> A

pelvic mass may be identified and adnexal tenderness may be elicited.

Diagnosis is achieved most effectively through a combination of a high index of suspicion especially in areas of low prevalence through initial clinical assessment and the case of appropriate investigations. High risk factors include a history of previous pulmonary TB infection. Contact with a pulmonary TB sufferer, recent travel to or migration from high prevalence countries.<sup>11</sup>

Chest X-ray is aimed at demonstrating current or past TB lesions in the lungs, which are a common site for primary infection. However, most chest X-ray are normal.<sup>12</sup>

Whenever feasible, every effort should be made to send specimens and tissue for culture, In order to confirm diagnosis and establish drug sensitivities. Suspected tuberculous lesions in accessible sites such as the vagina, cervix and the vulva may be biopsied directly. Endometrial tissue may be obtained by aspiration biopsy or dilatation and curettage or directly at hysteroscopy. Endometrial biopsy is best performed in the premenstrual period. Menstrual fluid can be obtained from the vagina during the first menstruation for culture and microscopy.<sup>13</sup>

Histology demonstrates the typical caseous granulomatous lesion with giant epithelioid cells. Rapid nucleic acid amplification techniques such as polymerase chain reaction (PCR) allow direct identification of M. tuberculosis in clinical specimens. Such methods can detect fewer than ten organisms in clinical specimens compared with 10000 necessary for smear positivity. Although PCR is more sensitive (85-95%) than microscopy and bacteriological culture on pulmonary specimens. It does not distinguish live from killed bacilli.<sup>12,13</sup>

Abdominal and pelvic ultrasound, computed tomography (CT) and magnetic resonance imaging (MRI) are employed in circumstance where an abdominal or pelvic mass is present.<sup>14</sup>

## 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 full into the high risk category for TB infection.

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