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Case Report

A Case of Endometrial Tuberculosis Causing Primary Infertility

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Abstract

Tuberculosis is a major public health problem worldwide. Urogenital tuberculosis is the 3rd most common manifestation of extrapulmonary tuberculosis. Endometrial tuberculosis is a rare form of genital tuberculosis infection. The diagnosis is not straightforward due to the nature of its presentation. We report a case of endometrial TB in a young, healthy and immunocompetent patient, who presented to us with primary infertility.

Key words: Infertility, Tuberculosis, Amenorrhea.

Introduction

Tuberculosis (TB) is a major public health problem worldwide. Despite a declining trend in mortality, with effective diagnosis and treatment, An estimated 10·6 million people became ill with tuberculosis in 2021, compared with 10·1 million in 2020.[1] Tuberculous infection of the female genital organs can result in infertility, dyspareunia, menstrual irregularities and chronic pelvic inflammatory disease.[2] However, the burden of genital TB in females is underestimated as most of the patients are asymptomatic and usually diagnosed during evaluation for infertility.[3] Genital TB in females is well recognized as an important etiological factor for infertility in countries with high prevalence of TB. Genital TB usually occurs secondary to TB in other sites primarily, the lungs from where spreads to the genital organs by hematogenous or lymphatic routs.[4] Drug therapy for female genital TB is similar to the standard treatment regimens used for pulmonary TB. Here we present a case of endometrial tuberculosis causing secondary amenorrhea with primary infertility.

Case report

A 28 years old nulliparous married for 7 years came to the Gynecology and Obstetrics department of Jahurul Islam Medical College Hospital outdoor with the complaints of amenorrhea for 1.5 years and expecting to get pregnant for 6 years. She also complains about occasional post coital bleeding. She had regular menstrual cycle 1.5 years back. He was treated with cabergoline and desogestrel, ethinylestradiol and norethisterone for last six months. But her menstruation did not start and was unable to become pregnant. Pelvic organ ultrasonography revealed normal cervix, adnexae with mild increase in the endometrial thickness. Her husband's semen analysis was done, the report was normal both in the count and in morphology. There was no history of chronic cough or loss of weight. No past, present or family history of tuberculosis. Her provisional diagnosis was chronic salphingo-oophoritis causing tubal abnormality with pelvic inflammatory disease (PID).

On general physical examination, she was well looking, all vital signs were within normal range. BMI was 19.5 kg/m^2 with no palpable lymph nodes. On abdominal examination, no significant findings were noted. On per vaginal examination, vulva was grossly normal looking. The bimanual and pre rectal examination were normal. On speculum examination, the cervix was normal looking. She was advised to get admitted in gynae and obs. ward for further evaluation. Laparoscopy was done to see adnexal region to see any visible adhesion, inflammation or tumourous lesion. Hysterosalphingogram was normal. The visual inspection by laparoscopy reveal normal. Diagnostic D & C with endometrial biopsy was done to see any endometrial lesion. The histopathology revealed

granulomatous inflammation, consistent with tuberculosis. Routine hematological test reveal high ESR and hemoglobin at its lower normal range. Chest radiograph were normal and sputum for AFB were negative.

Patient was given antitubercular treatment for six months. During and after anti TB, patients menstrual cycle become regular and occasional post coital bleeding subsided. Patient is now getting treatment in the infertility corner for conception management.

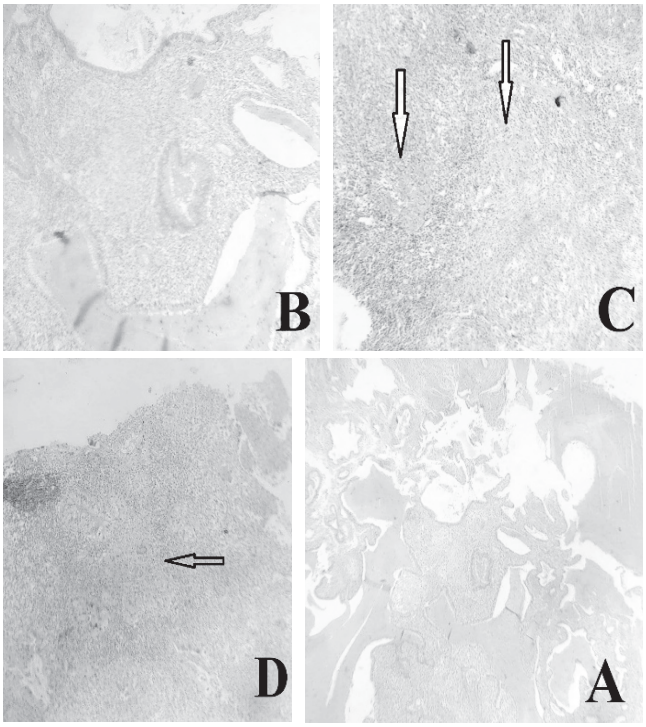

Figure 1: Photomicrographs show a case of endometrial tuberculosis. A, B shows low power view (4x) of endometrium. C, D shows high power view (40x) of granuloma (Arrow) composed of epithelioid cells. Haematoxilin & Eosin stain was done.

Discussion

Tuberculosis is a chronic bacterial infection caused by Mycobacterium Tuberculosis frequently seen in the developing and less developed countries. It is one of the important causes of chronic pelvic inflammation and infertility in women. The fallopian tubes are affected most commonly followed by endometrium and the ovaries.[5]

The actual incidence is under-reported due to asymptomatic presentation of genital tuberculosis and paucity of investigations. Other possible causes of under diagnosis of endometrial tuberculosis may be of the decreased vascularity of the endometrial tissue and the lack of endometrial shedding in those patients.[6] The possibility of female genital TB should be considered in patients with chronic PID not responding to standard antibiotic treatment, unexplained infertility or in women with irregular menstrual cycle or postmenopausal bleeding and persistent vaginal discharge.[7] Risk factors 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, and people living with HIV and drug abuse.[8] When the cervix is involved, it may appear inflamed and may resemble invasive carcinoma, both grossly and with the colposcope.[9] However, in our case the cervix was normal. In the early stages, no evidence of endometrial infection may be present. As the disease advances, confluence of the affected areas with caseation and ulcer may develop. In rare instances the uterine cavity may be entirely obliterated so that no dye can enter and hysterosalphingogram may show only a portion of the cervical canal.[10] Diagnosis is made by endometrial biopsy as one-third of the cases show a negative culture. Microscopically, chronic inflammation with caseating granulomas do the diagnosis.[10]

The efficacy and safety of treatment by antitubercular drugs should be monitored carefully. The surgical management of uterine adhesion, if present should be done to improve fertility. The post anti TB surveillance of tuberculosis of the endometrium requires regular follow up, menstrual history and biopsy, if nevessary.[11] Future fertility is poor (5%) even after treatment due to endometrial and tubal involvement. Fibrosis after treatment is another cause of poor fertility outcome.[12]

Conclusion

Endometrial tuberculosis is an uncommon genital lesion and prevalence is generally underestimated because of the asymptomatic nature of the infection and diagnostic challenges. There should be a suspicion of tuberculosis in women with an abnormal menstrual

history, chronic pelvic pain, infertility especially in areas where incidence of tuberculosis is high. And in also in patients getting long term antibiotic treatment for PID and other genital infections but not responding to treatment.

Conflict of interest: None declared

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