Clinical Presentations and Diagnostic Challenges of Genital Tuberculosis in Resource Limited Setting: A Case Report

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Abstract

Background

Tuberculosis can affect any organ in the body. Genital tuberculosis is generally rare. The relative rarity and lack of cardinal symptoms of female genital tuberculosis leads to a delay in diagnosis.

Case detail

A 26-year-old primipara mother who was relatively healthy previously presented with amenorrhea and infertility. Dilatation and curettage was done and the endometrial tissue was subjected to histopathology and histopathology returned back with endometrial tuberculosis. She was subsequently put on anti-tubercular medications 2(RHZE)/4(RH) and copper intrauterine device (ParaGard) to avoid adhesion reformation.

Conclusion

Incidence of genital TB varies not only with the prevalence of extragenital TB in the community but also with the physician's interest in searching for the disease. Physicians should maintain high index of suspicion for genital tuberculosis in developing countries with high tuberculosis burden like ours.

Key words

Genital tuberculosis, secondary amenorrhea, infertility

Introduction

Tuberculosis can affect any organ in the body, can exist without any clinical manifestation, and can recur. Genital tuberculosis (TB) is rare in low endemic areas but is relatively common in developing countries particularly in communities where pulmonary or other forms of extragenital TB are common (1,2). However primary TB is uncommon (3). Genital TB is almost always secondary to TB elsewhere in the body—usually pulmonary and sometimes renal, gastrointestinal, bone, or joint; occasionally it is part of a generalized military disease process (2).

Genital TB is responsible for a significant proportion of females presenting with infertility and amenorrhea and Asherman'ssyndrome remains a significant clinical problem in Ethiopia and in other developing nations like India (2,4,5).

Patients with genital tuberculosis present with symptoms like amenorrhea, infertility, abnormal uterine bleeding, pelvic pain, infertility, pelvic masses, abdominal masses, ascites etc. Some patients can also present with vaginal discharge and irregular firm cervix with contact bleeding confusing for cervical cancer. Patient work up helpful for the diagnosis of genital tuberculosis are pelvicultrasonography, hysterosalpingo-graphy, hysteroscopy and laparoscopy. Confirmatory tests include TB-PCR, microbiologic studies on endometrium and endometrial histopathology (6, 7).

Case Report

We report a 26-year-oldparimipara mother who gave birth 9 years back vaginally has been amenorrhic after delivery. She was on injectable contraceptives for 4 years and discontinued it planning to conceive. Currently came to our center complaining of failure to conceive of 4 years and amenorrhea of 9 years duration. She was relatively well previously. She has no symptom complex of tuberculosis. She also claims to have no close contact with a patient with active pulmonary tuberculosis disease or history of tuberculosis disease treatment to herself. She was put on oral contraceptives previously for the management of amenorrhea but did not see menses with the management.

Hormonal work up for infertility was unremarkable. Sperm analysis of her partner was normal. Chest X-ray was normal. Her HIV test was negative.

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She was admitted to our hospital and short of hysteroscopy; D& C was done for the impression of secondary amenorrhea secondary to Asherman's syndrome. Tissue was subjected to histopathology and histopathology exam showed features pertinent to endometrial tuberculosis. (See figures 1-3 acquired at the Department of Pathology in Mekelle University, College of Health Sciences). She was subsequently put on anti-tubercular medications 2(RHZE)/4(RH) and cupper intrauterine device (ParaGard) to avoid adhesion reformation.

Discussion

Ethiopia ranks third in Africa and eighth among the 22 highest tuberculosis (TB) burdened countries in the world. The prevalence of all forms of TB is estimated at 261 per 100 000 population, leading to an annual mortality rate of 64 per 100 000 population. The incidence rate of all forms of TB is estimated at 359 per 100 000 population (8). Female genital tuberculosis (FGTB) is an important gynecological problem in Ethiopia where pulmonary TB is prevalent (4).

The commonest site affected by female genital tuberculosis is the fallopian tubes (100%), followed by endometrium (50%), ovaries (20%), cervix (5%), and vagina and vulva in (<1%). The patients present with infertility, pelvic pain, abnormal vaginal bleeding, amenorrhea, and vaginal discharge in 44%, 25%, 18%, 5%, 4% cases respectively. Some patients can also present with vaginal discharge and irregular firm cervix with contact bleeding confusing for cervical cancer (3, 7).

Tuberculous endometritis has been observed in 13.6% of infertile women undergoing routine endometrial biopsy, but a negative endometrial biopsy does not rule out genital TB since TB endometritis is seen in only 50–60% of cases (9). The prevalence of FGTB in infertility clinics shows marked variations in different countries ranging between 1 and 19%: 0.69% in Australia,0.07% in the United States, less than 1% in Finland,4.2% in Saudi Arabia,5.6% in Scotland, and 19% in India (2). Only scattered case reports exist in Ethiopia.

The culprit in female genital tuberculosis in developing countries like Ethiopia is delay in diagnosis. Early diagnosis is usually difficult because significant numbers of women are asymptomatic and if symptomatic, symptoms are nonspecific.

Physicians also have low index of suspicion for genital tuberculosis contributing for delay in diagnosis and adverse short- and long-term consequences (4).

Incidence of genital TB varies not only with the prevalence of extragenital TB in the community but also with the physician's interest in searching for the disease (4). Patients with no complaint in other common primary tuberculosis diseases sties, like in our case, pose difficulty in diagnosis. Early diagnosis and prompt treatment of tuberculosis (TB) is vitally important as it greatly reduces disease and treatment-related morbidity and even mortality in extreme cases(10).

Patient work up helpful for the diagnosis of genital tuberculosis are pelvic ultra-sonography, hysterosalpingography, hystero-scopy and laparascopy. Confirmatory tests include TB-PCR, microbiologic studies on endometrium and endometrial histo-pathology. Its aetiopathogenetic diagnosis can be reached by combining the clinical findings with histopathology and laboratory investigations (PCR and/or positive culture for Mycobacterium tuberculosis (4,11).

Hysteroscopic visualization of tuberculous endometritis may reveal varying grades of endometrial cavity obliteration with adhesion bands, small and shrunken cavity, inability to distend the endometrium during the procedure and increased complications of the procedure.Laparascopy and hysteron-sonography has limited value in the diagnosis of tuberculous endometritis. They can, however, help to rule out adnexal tuberculous(12).

Endometrial biopsy requires concern and a higher precision in the diagnosis of this insidious disease that primarily necessitates a clinical awareness of this serious health problem. The clinician should be aware that isolation of TB requires special methods and this diagnosis should be considered while dealing with patients born in countries with high prevalence of TB (9).

Multiple drug therapy in adequate doses and for sufficient duration is the main stay in the treatment of TB including FGTB. Short-course chemotherapy for 6–9 months has been found to be effective for medical treatment of female genital tuberculosis. Six months therapy is equally effective to 9 months therapy (12).

Conclusion

Incidence of genital TB varies not only with the prevalence of extragenital TB in the

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community but also with the physician's interest in searching for the disease. Physicians should maintain high index of suspicion for genital tuberculosis in developing countries with high tuberculosis burden like ours. We have to lower our threshold especially for patients presenting with infertility and amenorrhea. Combining clinical findings with histopathologic and laboratory findings is prudent for confirmation of the etiologic agent.

Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

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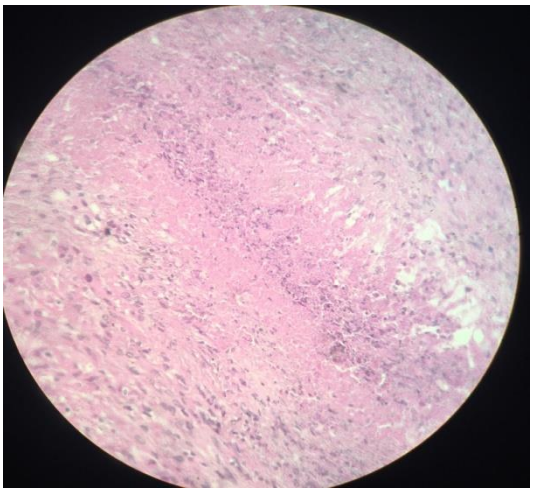

Figure 1:High power microscopy(40x) shows extensive necrosis which helps to reach to a dignosis of tuberculosis

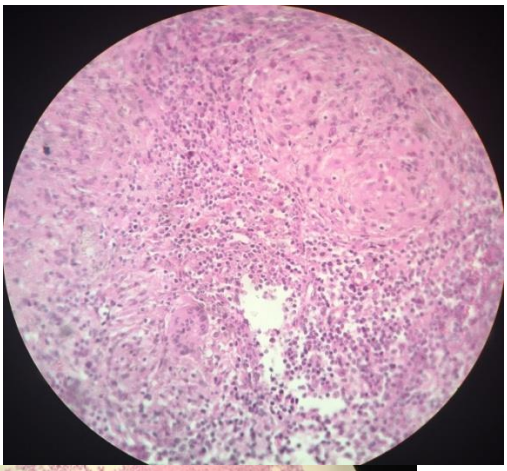

Figure 2: high power microscopy(40x) displays epithelioid granulomas and Langhan's type giant cells

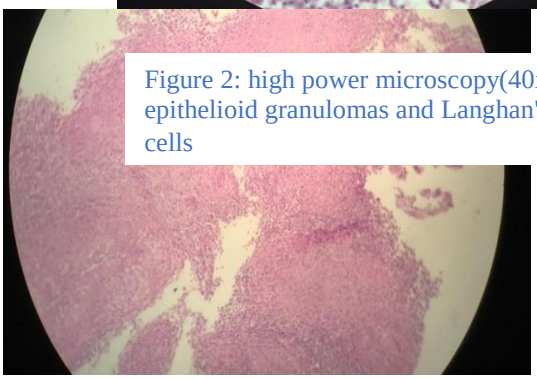

Figure 3: 10X power light microscopy showing nodular aggregates of epithelioid granulomas and Langhan'stype giant cells

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