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Case Report

Cervical tuberculosis: a diagnostic dilemma in young mimicking cervical cancer

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ABSTRACT

Genital tuberculosis (TB) is a disease that is still prevalent in third world countries but TB involving the cervix is a rare finding. It accounts for 0.1-0.65% of all cases of TB and nearly 5-10% cases of genital TB. Common presentation is persistent offensive vaginal discharge with either exophytic, ulcerative, interstitial or endo-cervical polypoidal growth over the cervix. We report here a rare presentation of cervical TB in young who presented with secondary amenorrhoea with ulcerative lesions over the cervix masquerading a cervical malignancy on local examination. Cervical biopsy revealed granulomatous cervicitis. The patient was managed with anti-TB treatment (ATT) for 6 months with resumption of menses and complete healing of the cervical lesion. Diagnosis of cervical TB is difficult clinically as it mimics an ulcerative variety of cancer cervix very closely. Confirmation is always by a cervical biopsy. This entity though rare can be entertained as a differential diagnosis in patients with cervical growth along with schistosomiasis, brucellosis and sarcoidosis.

Keywords: Genital TB, Cervicitis, Infertility

INTRODUCTION

Tuberculosis (TB) remains a major public health problem globally, especially in poor countries. Female genital TB (FGTB) is a chronic infectious disease of the female genital tract primarily due to *Mycobacterium tuberculosis* and rarely *Mycobacterium bovis* from unpasteurized infected milk.¹ It has a lot of bearing on the female reproductive career in the form of irregular menstruation, chronic pelvic pain, tubal-ovarian masses and infertility, particularly in the poor resource countries. FGTB is usually secondary to extra-genital TB either through haematogenous route or lymphatic route. It can also occur through contagious spread from adjacent ileo-caecal TB. Rarely does it occur through infected semen of male partner in cases of tuberculous orchitis in males. FGTB can cause permanent damage to the female genital tract in an advanced stage of the disease.

CASE REPORT

We report here a case of 27-year-old nulligravida, married for one and a half year who presented with secondary amenorrhea of 6 months duration since January 2021. Her earlier cycles were normal in duration and flow with menarche at 13 years of age. She had consulted a local gynaecologist for secondary amenorrhoea who evaluated her with a urine pregnancy test which was negative. She was then given withdrawal bleeding with oral progesterone's but her amenorrhea persisted. She then reported to our institute on 02 August 2021.

On detailed history taking, the patient gives history of easy fatigability with decreased appetite for 3 months. She denies any history of weight gain/weight loss in the recent past. There was no history of cold intolerance, dry skin and constipation. There was no history of any discharge from the breast. No history of dyspareunia or post-coital

bleeding was there. No history of fever, cough and night sweats is there. No history of drug intake was there. There was no history of hair fall or excessive hair growth on the face and acne. She denies any chronic illness in the past. No history of any curettage done in past. However, she gives history of inability to conceive for the last 1 year. She gives history that her father was diagnosed with pulmonary TB two years back and she was the primary caretaker of her father at that time.

She is thinly built and averagely nourished with body mass index (BMI) of 21.2 kg/m². General examination revealed no pallor, no lymphadenopathy and no features to suggest hyperandrogenism, insulin resistance, and acanthosis nigricans (HAIRAN) syndrome. Systemic examination including chest was essentially normal. Abdominal examination was essentially normal with no organomegaly. Local examination revealed normal external genitalia.

On speculum examination, the vagina was dry and the cervix was irregular in outline with ulcerative lesions more on the lower lip which bleeds on touch mimicking ulcerative type of cervical cancer (Figure 1). On bimanual examination uterus was normal in size, ante-verted, non-tender and mobile with bilateral adnexa free and non-tender with no involvement of parametrium. Rectal mucosa was also free on rectal examination (P/R) examination.

Ultrasound pelvis done in outpatient department (OPD) revealed normal size uterus with endometrial thickness (ET) of 5 mm with anechoic collection in right (rt.) adnexa with thin septations in rt. ovary and uterus was seen separate from the lesion. The left ovary was normal in outline. Possibility of tubercular cervicitis with complex right adnexal cyst was entertained. The adnexal cyst was entertained. She was further evaluated with blood investigations, X-ray chest, tumour markers and higher imaging in the form of magnetic resonance imaging (MRI) pelvis.

Table 1: Investigations.

| Parameters | Range |
|-------------------------------|--------|
| Hb (g/dl) | 11.7 |
| ESR (mm/hour) | 74 |
| Mantoux test (mm in duration) | 22 |
| CA 125 (U/ml) | 18.0 |
| CA 19.9 (U/ml) | 22.5 |
| CEA (ng/ml) | 1.13 |
| AFP (ng/ml) | 1.5 |
| β hCG (mIU/ml) | 1 |
| LDH (IU/ml) | 236 |
| FSH (IU/ml) | 4.85 |
| LH (IU/ml) | 27.3 |
| Prolactin (IU/ml) | 15 |
| S. TSH (uIU/ml) | 3.2 |
| Bl sugar (F/PP mg/dl) | 82/105 |

Imaging

Chest X-ray

A few soft tissue density nodules with punctuate and nodular areas of calcification in the left upper zone suggestive of old healed tubercular lesions (Figure 2).

Ultrasonography abdomen and pelvis

Uterus normal size with well-defined anechoic collection in the right adnexa and thin septae seen within the right ovary. ET was 5 mm and left ovary was normal.



Figure 1: Ulcerative appearance of the cervix.



Figure 2: Healed tubercular lesions on X-ray.

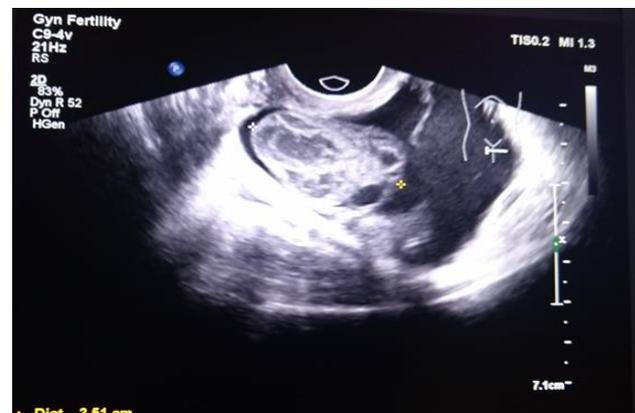


Figure 3: Collection in the right adnexa.

Magnetic resonance imaging

Magnetic resonance imaging (MRI) reports: uterus 3.9×4.6×4.5 cm with normal morphology, left ovary 2.1×2.0×2.6 cm, right ovary 2.0×2.6×1.8 cm.

Moderate amount of fluid present in the pouch of Douglas 6.2×4.7×5.7 cm.

Cervical biopsy

Biopsy number B/837/2021 dated 02 August 2021 revealed chronic granulomatous cervicitis (Figure 4).

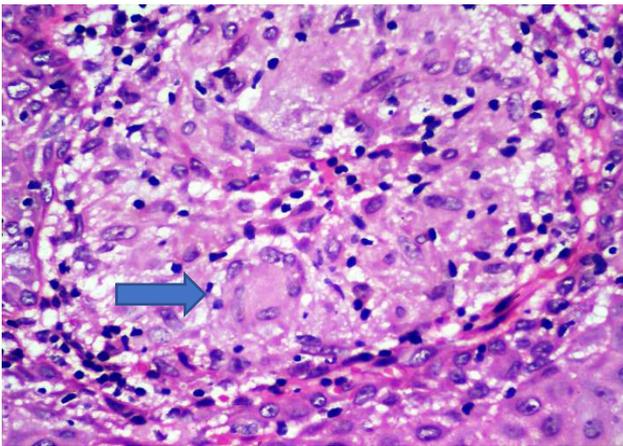


Figure 4: Granuloma with a multinucleate giant cell as indicated by arrow.

In view of history of inability to conceive, secondary amenorrhea with thin ET, family history positive for tuberculosis, raised erythrocyte sedimentation rate (ESR), positive Mantoux test and X-ray chest suggestive of old healed lesions of tuberculosis patient was planned for treatment with anti-tuberculosis treatment (ATT) for 6 months.

The patient was started on ATT (2HRZE/4HRE) following which she had a dramatic response with resumption of her menses after 20 days of initiating the therapy.

There is generalised sensation of wellbeing and her appetite has improved. She has gained 5 kg of weight in the last 6 months. Clinically there is complete resolution of ulcerative lesion of cervix with cervix appearing like a healthy normal cervix as shown in Figure 7.

Repeat USG reveals complete resolution of fluid in the pouch of Douglas with normal looking uterus and bilateral normal ovaries (Figure 5 and 6).

The plan is to evaluate her with DHL after completion of six months of ATT to address her fertility issue.



Figure 5: Resolution of fluid in pouch of Douglas with normal uterus and both ovaries.



Figure 6: Resolution of fluid in pouch of Douglas with normal uterus and both ovaries.



Figure 7: Healed cervical lesion after 3 months of ATT.

DISCUSSION

Genital TB though rare is still a common entity in younger age group in developing countries. Common age group affected is 20 to 40 years. Genital TB has a bearing on the economy of developing countries like India with total patient load of 14 million. Genital TB contributes 5-16% cases among the infertility clientele visiting gynaecological OPDs. However, these figures may still be under-reported as most of the patients are asymptomatic and due to paucity of resources in developing countries.

Fallopian tubes (95-100%) are most commonly affected followed by endometrium (50-60%), and ovaries (20-30%). TB of cervix is a rare entity.² Cervical TB accounts for 0.1-0.65% of all cases of TB. The lesion on the cervix can be either exophytic or ulcerative although interstitial and endo-cervical polypoidal forms may also occur. Common presentations include usually abnormal vaginal bleeding, menstrual irregularities, abdominal pain and constitutional symptoms like fever and weight loss.³ FGTB is usually secondary to extra-genital TB through haematogenous route or lymphatic route. It can also occur through contagious spread from adjacent ileo-caecal TB. Rarely does it spread through infected semen of male partner in cases of tuberculous orchitis. In advanced stages of disease FGTB has a bearing on the reproductive career of patient. Pelvic organs are usually infected from a primary focus (commonly lungs) by haematogenous spread. Another unusual route of transmission of FGTB is sputum especially if it is used as a sexual lubricant. Very rarely it can be due to tubercular epididymitis in male partner.⁴ In our patient, the chest X-ray which showed calcified nodules likely to be consistent with a previous pulmonary TB infection.

Either by lymphatic spread or by direct extension, the infection spreads to the cervix. Primary lesion has already resolved by the time genital TB manifest. In rare cases, cervical TB may be a primary infection from male partner with GUTB. It is difficult to distinguish it clinically from ulcerative type of cancer cervix. Histological examination of a cervical biopsy specimen confirms genital TB. Though gold standard of diagnosis is isolation of *Mycobacterium* on culture but one third of the cultures yield negative results as was our case. Macroscopically it can present with hypertrophic cervix or a papillary or vegetative growth involving the cervix.⁵ Microscopically there is chronic inflammation with caseating granulomas. Standard treatment is 6 months of ATT which allows healing of all the lesions. Healing of cervical lesion indicates positive response to therapy. Histological examinations of serial biopsy specimens can similarly confirm a therapeutic response. Fertility is usually an issue in these patients as there may be subsequent endometrial and tubal involvement and lesions usually heal by fibrosis affecting the reproductive outcome.

The incidence of TB has increased recently and is partly attributable to the human immunodeficiency virus (HIV) pandemic. Therefore, an abnormal cervical appearance should invite high index of suspicion for TB. Diagnosis of cervical TB is difficult clinically as it mimics ulcerative variety of cancer cervix very closely. Confirmation is always done by a cervical biopsy. This entity though rare can be entertained as a differential diagnosis in patients with cervical growth along with schistosomiasis, brucellosis and sarcoidosis.⁶

This case is reported due to rarity of this condition. These patients are often misdiagnosed as cervical cancer. While managing patients with unhealthy cervixes, awareness of this rare entity is a must for both the pathologist and gynaecologist to avoid unnecessary radical surgery in such patients as they can be managed completely with ATT as in our case.

CONCLUSION

Tubercular cervicitis is a rare entity which can mimic cervical cancer. Prompt diagnosis in this rare condition can lead to effective medical management and good outcomes. Thus, knowledge and awareness about this condition among gynaecologists and pathologists is of paramount importance to avoid delay in diagnosis and invasive procedures.

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