Unusual presentation of more common disease/injury

Genital tuberculosis with variable presentation: a series of three cases

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Summary

Tuberculosis (TB) is still frequently observed in third-world countries like Africa and Asia. Here we report three cases of genital TB with variable presentation. First case was a lady of reproductive age group who presented with polymenorrhagia and postcoital bleeding with unhealthy cervix. Histopathology of cervical tissue revealed tubercular cervicitis. Second and third cases presented with different complaints like discharge per vaginum, postcoital bleeding and pain in lower abdomen with growth over the cervix. Cervical biopsy was inconclusive of TB but endometrial tissue sampling for TB PCR was positive. This shows that newer diagnostic marker test can help us to detect secondary genital TB.

BACKGROUND

Female genital tuberculosis (TB) is a prevalent infectious disease in developing countries where pulmonary TB is wide spread. Genital TB most frequently affects fallopian tubes (95–100%), endometrium (50–60%) and ovaries (20–30%).^{1 2} TB of cervix include 5–24% of genital tract TB and 0.1–0.65% of all TB cases.³ TB can have varied presentation and can frequently mimic malignancy. We hereby discuss a series of three cases of genital TB, which simulated malignancy of cervix but ultimately turned out to be TB and responded to antitubercular treatment (ATT).

CASE PRESENTATION

Case 1

A 26-year-old lady P0+0 presented to our outpatient department with chief complaints of polymenorrhagia, postcoital bleeding and discharge per vaginum for the past 6 months.

On general examination, the patient was thin built with mild pallor. On abdominal examination, a suprapubic lump of 16–18 weeks size of gravid uterus, firm in consistency and non-tender on palpation was present. Per speculum examination revealed a hypertrophic, congested angry looking cervix with a nodular growth present on its anterior lip. Moderate amount of white foul smelling discharge was present (figure 1). On bimanual examination the same suprapubic mass was felt, which could not be felt separately from the uterus with restricted mobility and the fornices were found to be thickened and tender. A strong suspicion of a cervical malignancy with pyometra was raised on the basis of the above findings. Ultrasound examination revealed a normal cervix with grossly enlarged uterus with a large uterine fibroid and a small left ovarian cyst. Patient was re-evaluated after 2 weeks of antibiotic treatment and subjected to colposcopy-guided cervical biopsy and endometrial tissue sampling for TB

PCR. Chest x-ray was found to be normal. Erythrocyte sedimentation rate (ESR) was raised (34 mm), mantoux test was borderline positive and anti-TB immunoglobulin M (IgM) antibody was in equivocal range and on endometrial TB PCR no *Mycobacterium tuberculosis* DNA was detected. Histopathology revealed well-formed caseating granulomas comprising of langhans type of giant cells, suggestive of tubercular cervicitis. Patient was started on ATT and was re-evaluated after 6 months of therapy when it was found that growth had regressed (figure 2). There was marked relief in all the symptoms of the patient except for menorrhagia. The patient was admitted and myomectomy was done and ATT was continued further for six more months. After completion of therapy

Figure 1 Showing congested angry looking cervix with nodular growth.

Figure 2 Chronic cervicitis with epithelioid granuloma (tubercular) cervix×100.

the cervix was found to be healthy with no cervical lesion.

Case 2

A 28-year-old lady P4+0 presented to our side with the chief complaints of watery discharge per vaginum for the past 5 years and pain in lower abdomen for past 3 months. General and abdominal examinations were within normal limits. Per speculum examination revealed a growth of around 4×4 cm in size arising from both the lips of cervix. On per vaginum examination, same growth was felt, uterus was retroverted with normal size and restricted mobility with thickening of right fornix and posterior vaginal wall. A strong suspicion of cancer cervix was raised on the basis of the above findings. Punch cervical biopsy was taken and histopathology revealed lymphoplasmacytic infiltrate along with dilated endocervical glands and endometrial histopathology revealed proliferative endometrium, PCR of endometrial curettage tissue was positive for *M tuberculosis* on acid-fast bacilli (AFB) culture, growth of *M tuberculosis* was present. The patient was taken over on antitubercular therapy and continued for 9 months after which the patient was completely relieved of her symptoms and cervix was free of growth.

Case 3

A 38-year-old P1+0 lady presented to our hospital with secondary infertility, pain in lower abdomen and menorrhagia for the past 7 years. Abdominal examination was within normal limits. Per speculum examination revealed a small nodule (1×1 cm) on the anterior lip of the cervix, although posterior lip of cervix was also unhealthy. Uterus was bulky in size with thickened and tender adnexa. Pap smear and colposcopy was negative for malignancy. Ultrasound revealed an anteverted bulky uterus with mildly enlarged left ovary with a small cyst. ESR was normal (30 and 20 mm for first and second hour), purified protein derivative (PPD) and antitubercular IgM antibody was negative. Histopathological examination of cervical biopsy and endometrial curettage revealed features suggestive of chronic cervicitis with proliferative endometrium. Endometrial tissue sampling for TB PCR was positive. Since the patient was having secondary infertility,

menorrhagia and left-sided tubo-ovarian mass, a strong suspicion of genital TB was raised in spite of negative endometrial histopathology, antitubercular therapy was started and patient conceived spontaneously after 4 months and total duration of treatment was 6 months. In all the above cases there was no history or family history suggestive of TB.

INVESTIGATIONS

Case 1

Ultrasound examination revealed a normal cervix with grossly enlarged uterus with a large uterine fibroid and a small left ovarian cyst. The patient was re-evaluated after 2 weeks of antibiotic treatment and subjected to colposcopy-guided cervical biopsy and endometrial tissue sampling for TB PCR. Chest x-ray was found to be normal. ESR was raised (34 mm), Mantoux test was borderline positive and anti-TB IgM antibody was in equivocal range and on endometrial TB PCR, no *M tuberculosis* DNA was detected. Histopathology revealed well-formed caseating granulomas comprising langhans type of giant cells, suggestive of tubercular cervicitis.

Case 2

Punch cervical biopsy was taken and histopathology revealed lymphoplasmacytic infiltrate along with dilated endocervical glands and endometrial histopathology revealed proliferative endometrium, PCR of endometrial curettage tissue was positive for *M tuberculosis* on AFB culture, growth of *M tuberculosis* was present.

Case 3

Pap smear and colposcopy were negative for malignancy. Ultrasound revealed an anteverted bulky uterus with mildly enlarged left ovary with a small cyst. ESR was normal (30 and 20 mm for first and second hour), PPD and antitubercular IgM antibody was negative. Histopathological examination of cervical biopsy and endometrial curettage revealed features suggestive of chronic cervicitis with proliferative endometrium. Endometrial tissue sampling for TB PCR was positive.

DIFFERENTIAL DIAGNOSIS

- Cervical and endometrial TB.
- Endometrial cancer with pyometra.
- Cervical malignancy.
- Pelvic inflammatory disease.
- Secondary infertility due to tubal blockage.
- Fibroid uterus.

TREATMENT

Antitubercular treatment regimen according to RNTCP (Rural National Tuberculosis Control Programme) guidelines and treatment continued according to the response.

OUTCOME AND FOLLOW-UP

Cases 1 and 2 recovered completely, on examination cervix looks healthy and menstrual abnormalities were relieved. Case 3 which was a case of secondary infertility conceived after treatment.

DISCUSSION

TB of the cervix is rare. It is almost always secondary to tubercular salpingitis and endometritis. In rare cases, cervical TB may be primary to infection introduced from a partner with tubercular epididymitis or other genitourinary disease.⁴ Case 1 appeared to be a primary case of Tubercular cervicitis which is rare as endometrial TB PCR was negative. In Cases 2 and 3 the cervical biopsy was inconclusive, but endometrial TB PCR was positive and on AFB culture *Mycobacterium* was detected in Case 2, which suggested that Tubercular endometritis was the primary lesion.

The most common presenting symptoms of genital TB are infertility, menstrual irregularities and pelvic pain,⁵ which is present in one or the other case reported by us. The gross appearance of tuberculous cervix is also variable. It may present as papillary, ulcerative, interstitial, endocervical or polypoidal forms.^{6–8} In Cases 1 and 3 the cervix was unhealthy and nodular, in Case 2 the cervix had a polypoidal growth of 4×4 cm. Furthermore Cases 2 and 3 ultimately turned out to be endometrial TB. All the above findings support the various clinical presentations of genital TB.

The important point of discussion in Case 1 is that if cervical biopsy was suggestive of TB, then other causes of granulomatous inflammation of cervix such as *Chlamydia trachomatis*, *Neisseria Gonorrhoea*, etc should be excluded by performing other ancillary investigations (PPD and IgM TB) which points in favour of TB.⁹ However, if cervical biopsy is unequivocal for TB (Cases 2 and 3) then one must still be vigilant and proceed with rapid new diagnostic marker test like TB PCR for detection of *M tuberculosis* DNA, with the help of which it is now possible to pick up even latent endometrial/endocervical TB.¹⁰ Although isolation of the *M tuberculosis* is the gold standard for diagnosis but approximately one-third cases are culture negative, hence diagnosis can be missed. But if tubercular granuloma is present it is sufficient for diagnosis (as in Case 1),¹¹ In Case 3 AFB culture not done and antitubercular treatment was started on the basis of positive PCR in endometrial tissue. Similar conclusion was made by Kulshrestha *et al*¹² in which a quarter of women received ATT solely on the basis of PCR and 31% of these women conceived. In spite of the presence of growth on the cervix in all the above cases the histopathology was variable and final diagnosis turned out to be genital TB and they responded well to ATT. Though DOTS (directly observed treatment, short-course) recommends antitubercular therapy for 6 months in genital TB,¹³ but as a

clinician we gave extended treatment for 12 months and 9 months in Cases 1 and 2, respectively,^{14 15} as the patient did not respond completely (presence of cervical growth and symptoms) after completion of 6 months of therapy.

Learning points

It is thus emphasised that tuberculosis (TB) should form an important differential diagnosis for malignant appearing lesions of cervix and high index of suspicion for TB is justified in dealing with cervical lesions in females of the reproductive age group, especially in endemic area.

Competing interests None.

Patient consent Obtained.

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