

## Tuberculosis of the Cervix – Mimicking Cervical Cancer

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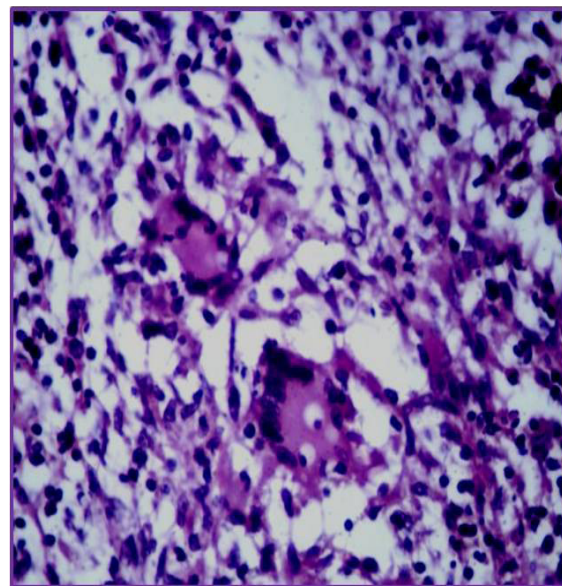
### DEAR EDITOR,

Tuberculosis is a major socioeconomic and public health burden in India, afflicting approximately 14 million people. Though the actual incidence may be underreported due to its asymptomatic presentation and paucity of investigations, the prevalence of genital tuberculosis in infertile women ranges between 2-16%.<sup>1</sup> It frequently affects the upper genital tract, amongst which fallopian tubes are involved most frequently in 90%, endometrium in 60% and cervix least commonly, in about 5 - 24%<sup>1</sup> of the cases. Tuberculosis of cervix accounts for 0.1- 0.65% of all the cases of tuberculosis.<sup>2</sup> We present such a case due to the rarity of this condition and its clinical resemblance to a dreadful disease, “carcinoma of cervix.”

A 20 years married, nulliparous lady of low socioeconomic status was referred to us as a suspected case of cervical carcinoma. She was having amenorrhoea for four months, discharge from vagina, postcoital bleeding for two months and a growth on cervix. Accompanying symptoms were lower abdominal pain, malaise, anorexia, weakness and significant loss of weight. There was no past history or family history of tuberculosis or history of any addiction but being married, she was sexually active. On general examination, she was thin built (BMI- 17 kg/m<sup>2</sup>), had moderate pallor, pulse rate 88/minute, blood pressure 110/80 mm of Hg and no palpable lymphadenopathy. Systemic and abdominal examinations were normal. On genital examination, vulva was normal, speculum examination showed copious, non-foul smelling, blood tinged discharge and a friable papillary growth, almost covering the whole of the ectocervix.

Contact bleeding was present. Wet and KOH mounts were made as well as Pap smear was taken

for cervical cytology. Mounts were negative for *Trichomonas vaginalis*, *Candida albicans* and *Gardenerella vaginalis* (bacterial vaginosis). On bimanual pelvic examination, the growth was firm to hard having irregular surface. Uterus was anteverted, normal sized, firm, mobile and the fornices were free and nontender. Per rectal examination did not reveal any induration or nodularity of parametrium and rectal mucosa was smooth and freely mobile. After ascertaining negative urine pregnancy test, she was advised routine blood and urine investigations along with HIV testing. Tests revealed 8 gm/dl haemoglobin, lymphocytic leucocytosis and raised ESR. HIV test was negative. Pap smear showed few epitheloid cells, chronic inflammatory cells but no dyskaryotic cells. Cervical biopsy was taken from the growth for further histological evaluation. The most striking feature in cervical biopsy specimen was the presence of numerous granulomas with Langhans giant cells, epitheloid cells and marked lymphocytic infiltration but without caseation (Figure 1).



**Figure 1. Microscopic view of cervical biopsy specimen ( H & E stain and 40X magnification) showing Langhane’s giant cells, Epitheloid cells (Slipper shaped) and Lymphocytic infiltrates.**

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After two days of cervical biopsy patient had an episode of sub acute intestinal obstruction for which she was managed conservatively. The reports of PAP smear and cervical biopsy excluded the presence of carcinoma rather predominant epithelioid and Langhans giant cell raised the suspicion of tubercular infection. So, we got her Mantoux test and chest X-ray done. Morning sputum was sent for AFB (acid fast bacilli) staining on three consecutive days and vaginal discharge was sent for mycobacterium tuberculosis culture. CT abdomen was advised to know associated presence of pelvic or abdominal tuberculosis but due to financial constraints, patient did not get it done. Mantoux test showed 18 mm induration but chest X-ray, sputum tests were normal. Mycobacterium culture of the discharge was also negative. Though CT of the abdomen could not be done, there was a strong clinical suspicion of associated abdominal tuberculosis as she had an episode of subacute intestinal obstruction. Though she neither had a positive AFB stain of sputum nor a positive mycobacterium culture, considering her positive Mantoux test, preponderance of granulomas, epithelioid cells and chronic inflammatory cells in cervical biopsy report as well as seeing the burden of disease in India, especially Uttar Pradesh, we started antitubercular treatment with four drugs: Isoniazid, Rifampicin, Pyrazinamide and Ethambutol. The doses were adjusted according to her weight. She was also given progesterone challenge for withdrawal menstrual bleed following which menstruation occurred. Response to the antitubercular drugs was dramatic with resolution of the constitutional symptoms first and gradual resumption of normal appearance of cervix later on. Initially on first visit after a month, we noticed shrunken growth but it took total of approximately four months to disappear. After two months of intensive treatment, maintenance therapy was begun with three drugs (isoniazid, rifampicin, and ethambutol) for another 7 months.

In developing countries, genital tuberculosis is common in the age group ranging from 20-40 years. Genital organs most frequently affected are fallopian tubes, uterus and ovaries.<sup>2</sup> Tuberculosis of cervix accounts only for 0.1-0.65% of all the cases of tuberculosis.<sup>2</sup> Mycobacterium tuberculosis and mycobacterium bovis are primarily responsible for pelvic tuberculosis. Infection reaches there either by

haematogenous or lymphatic route from a primary focus in chest or lymph nodes. Primary affection of cervix is rather uncommon, but may be introduced by a partner with tubercular epididymitis. Rarely, infected sputum, if used as a sexual lubricant, may also be a route of transmission.<sup>2</sup> Tuberculosis of cervix may manifest as vaginal discharge, postcoital bleeding with macroscopic papillary growth or ulceration on the cervix.<sup>3</sup> At a glance it may be misinterpreted as cancerous growth of cervix. A case similar to the present case which was confused with cervical malignancy had been reported by Agarwal et al in 2009.<sup>3</sup> Microscopically, caseating granulomas are suggestive of tuberculosis but also found in amoebiasis, schistosomiasis, brucellosis, tularemia, sarcoidosis, and foreign body reaction.<sup>4</sup> Although staining for acid fast bacilli and mycobacterium culture are confirmatory, many a times may not be very useful in making a diagnosis due to their high false negativity. Isolation of mycobacterium in tissue specimen is the gold standard for diagnosis, but one third of cases are culture negative, therefore presence of typical granulomata in histopathology may be sufficient for diagnosis, if other causes of granulomatous cervicitis have been excluded. Retrospective diagnosis can also be made if patient improves clinically after starting treatment with antitubercular drugs.<sup>5</sup> Similarly this patient also had negative AFB staining and mycobacterial culture, but presence of granulomas motivated us to start antitubercular therapy that improved her illness. The incidence of tuberculosis has increased recently due to HIV pandemic requiring more careful attention of the health providers towards the suspicion and diagnosis of the disease. Though not for the first time in literature, this case report is noteworthy as it reemphasises the spectrum of symptomatology of cervical tuberculosis and its management as well as it also reinforces the inclusion of cervical tuberculosis in the differential diagnosis of growth on cervix especially in the patients, residing in areas having high prevalence of the disease.

## CONCLUSIONS

In young woman, presenting in a tuberculosis endemic area with suspicious growth on cervix, the two most probable differential diagnoses will be carcinoma or tubercular infection. Confirmation of the diagnoses can always be done by doing biopsy of the lesion. But

to ensure that the diagnosis is not mistaken, biopsy should preferably be taken including both the normal and abnormal areas of the cervix with meticulously avoiding the necrotic areas.

### **DISCLOSURE**

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