

## Case Report

# Tuberculosis of Cervix; a Rare Clinical Entity

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**Abstract:** Tuberculosis of the cervix is a rare disease and accounts for 0.1-0.65% of all cases of tuberculosis and 5-24% of genital tract tuberculosis. We present an unusual case of a 28 years old female who presented with chief complaints of lower abdominal pain, irregular bleeding and foul smelling discharge per vagina for last two years. Cervical examination revealed an unhealthy looking cervix which bled on touch. A provisional diagnosis of carcinoma of cervix was made. However, histopathology of the cervical biopsy revealed granulomatous lesion suggestive of tuberculosis. The patient responded to anti-tuberculosis therapy. In women with an abnormal cervical appearance, there should be high index of suspicious of tuberculosis of cervix, especially from areas where Tuberculosis is common as it can be treated easily and successfully.

**Key words:** Tuberculosis, Cervix, Carcinoma.

## Introduction

Tuberculosis, which is now uncommon in western society, is still frequently observed in Third World countries in Africa and Asia. The cervix is involved in 0.1-0.65% of all cases of tuberculosis and 5-24% of cases in female genital tract. Tuberculosis involvement of the female genital tract in almost all cases is secondary to extragenital tuberculosis. There is a relative immunity of the cervix to tuberculosis <sup>1,2</sup> Ninety percent (90%) of cases are those of women in the reproductive age group. The most commonly affected regions are the endometrium and fallopian tubes. Tuberculosis of cervix can have a varied presentation and can even mimic malignancy on clinical presentation. The differential diagnosis of tuberculosis has to be kept in mind whenever an atypical presentation is encountered in clinical practice <sup>3</sup>. A rare case of cervical tuberculosis is being reported which was suspected as malignant lesion on clinical examination but turned out to be a case of cervical tuberculosis on the basis of histopathological report.

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## Case Report

A 28 years old housewife P2, presented with chief complaints of lower abdominal pain, irregular vaginal bleeding and foul smelling discharge per vaginum for last two years. She had history of post-coital bleeding and intermenstrual bleeding with significant weight loss over the last two years. There was no history of malignancy or tuberculosis in the past or in the family. The patient was non smoker and did not have any other significant medical or surgical illness in the past. General physical examination was normal with no palpable lymph nodes. Systemic examination did not reveal any abnormality.

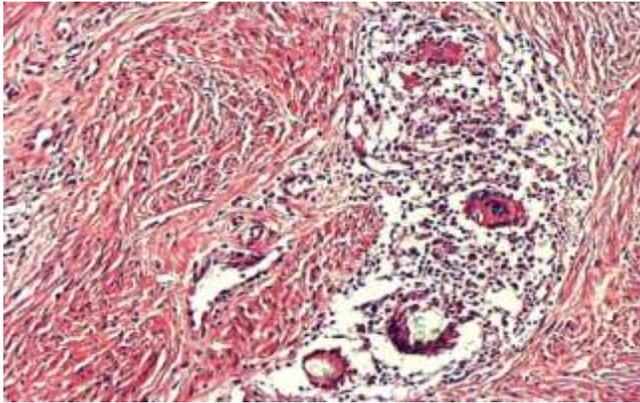
Per speculum examination revealed an unhealthy looking cervix which was irregular, focally ulcerated, erythematous and bled on touch. There was no inguinal lymphadenopathy.

On bimanual examination, uterus was anteverted and normal in size. Fornices were clear. Per rectal examination was normal. Cervical smear study revealed dense inflammation without any evidence of intraepithelial lesion or malignancy.

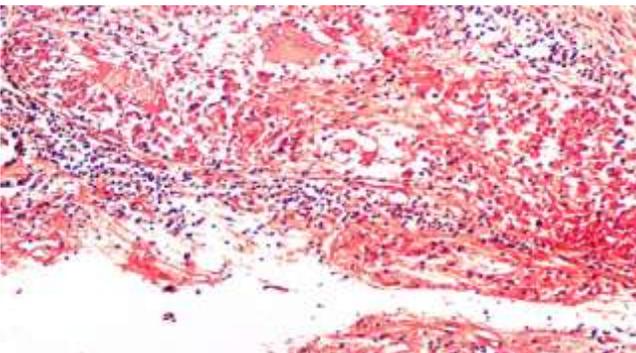
A chest radiograph was normal. Sputum and urine samples were negative for AFB. Complete examination of blood revealed ESR 80 mm in 1 hour, Hb 11 g/dl & TLC 4000/cubic mm.

Tests for Chlamydia trachomatis, Neisseria gonorrhoeae, Trichomonas vaginalis and Herpes simplex virus were negative.

A biopsy from the cervix was taken and histological examination revealed an ulcerated endocervical epithelium covered by inflamed granulation tissue. The underlying stroma revealed moderate to dense chronic inflammation with many caseating and non caseating granulomas.



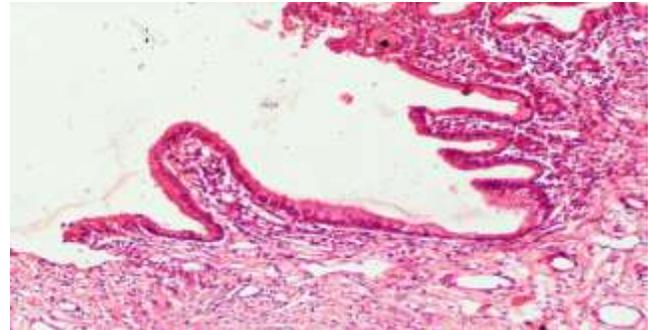
**Figure 1A: Histological examination of the biopsy from the cervix revealing epithelioid cell granulomas with Langhans type of multinucleated giant cells (H&Ex100).**



**Figure 1B: Histological examination reveals ulcerated endocervical epithelium replaced by inflamed granulation tissue & epithelioid cell granulomas with Langhans type of multinucleated giant cells in the underlying stroma (H&Ex40).**

These granulomas were composed of collection of epithelioid cells and Langhans type of multinucleated giant cells with surrounding lymphocytes and plasma cells (Fig: 1A & B). ZN stain was performed (to look for AFB) but it was negative for mycobacterium.. On the basis of the microscopic findings and other ancillary investigations, the case was diagnosed as that of cervical tuberculosis. The patient was started on antitubercular therapy (isoniazid, ethambutol, rifampicin and pyrazinamide) and was discharged. The patient was under regular follow up and was doing fine after 6 months. A repeat cervix's biopsy was

taken and microscopic examination revealed normal endocervical epithelium with mild chronic inflammation in the underlying stroma. No caseating or non caseating granulomas were seen (Fig:2).



**Figure 2: After 6 months of anti-tuberculosis therapy, repeat cervical biopsy reveals normal endocervix with mild chronic inflammation in the underlying stroma (H&Ex100).**

## Discussion

Tuberculosis is world-wide, but is particularly more common in Africa and Asia. A third of the world's population is infected. The prevalence of tuberculosis increases with poor social conditions inadequate nutrition and overcrowding <sup>4</sup>.

Tuberculosis is prevalent in Pakistan and unfortunately it remained neglected in the past. Pakistan ranks 6<sup>th</sup> amongst the countries with a highest burden of TB in the world. According to WHO the incidence of sputum positive TB cases in Pakistan is 80/100,000/year and for all types it is 177/100,000. Tuberculosis is responsible for 5.1% of total national disease burden in Pakistan. The impact of TB on socio economic status is substantial <sup>5</sup>.

Pulmonary tuberculosis is the most common form. However it can be found in any part of the body like ileocaecal region, kidneys, urinary bladder, epididymis, tubo-ovarian area, meninges, joints, bones, skin, pericardium and adrenal glands <sup>4</sup>. Genital tuberculosis is common in 20-40 years of age group in developing countries. Genital organs most frequently affected include fallopian tubes (95-100%), endometrium (50-60%) and ovaries (20-30%) <sup>6</sup>. Tuberculosis of cervix is rare and accounts for 0.1-0.65% of all cases of tuberculosis and 5-24% of genital tract TB <sup>1,2</sup>.

Pelvic organs are infected from a primary focus, usually the chest by hematogenous spread. The cervix can also be infected by lymphatic spread or by direct extension. In rare cases, tuberculosis of the cervix may be a primary infection, introduced by a partner with tuberculous epididymitis or other genitourinary

disease. It has been suggested that saliva, used as a sexual lubricant, may also be a route of transmission<sup>7,8</sup>. Symptomatic genital tract TB usually presents with abnormal vaginal bleeding, menstrual irregularities, abdominal pain, and fever and weight loss. A history of contact with a tuberculosis index case is variable<sup>3</sup>. Tuberculosis of the cervix may present as papillary or vegetative growths, a miliary appearance and/or ulceration stimulating invasive cervical cancer<sup>8</sup>. The diagnosis of cervical tuberculosis is usually made by histological examination of the biopsy, which reveals caseating granulomas. Staining for Acid-fast bacilli was not found to be very useful. Isolation of mycobacterium is gold standard for diagnosis but a third of cases are culture negative. Therefore, the presence of typical granulomas is sufficient for diagnosis if other causes of granulomatous cervicitis are excluded or a primary focus identified<sup>1, 6, 7, 8</sup>. The differential diagnosis for granulomatous diseases of cervix include amoebiasis, schistosomiasis, brucellosis, tularaemia, sarcoidosis and foreign body reaction<sup>7,8</sup>.

The cervix should respond to six months of standard antituberculosis therapy<sup>8</sup>. Regular follow up of patients will be necessary to examine the lesion along with histopathological examination of serial biopsy specimens<sup>7</sup>.

This case emphasizes that though uncommon, tuberculosis is an important differential diagnosis of a malignant appearing lesion of the cervix<sup>1, 3, 6</sup>. A high index of suspicion for tuberculosis is justified while dealing with cervical lesions in female of reproductive age group<sup>2</sup>.

## Conclusion

The diagnosis of tuberculosis of cervix is difficult clinically and it can mimic cervical cancer. The symptoms and physical examination usually do not give clues to the disease. Hence in women with an abnormal cervical appearance, there should be high index of suspicion of tuberculosis, and it should be included in differential diagnosis, especially from areas where TB is common as tuberculosis can be treated easily and successfully.

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