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Case Report **Clinical Bacteriology**

Ovarian Tuberculosis Revealed by Pyosalpinx: A Rare Case Report

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Abstract

Genital tuberculosis is a rare but significant cause of infertility and chronic pelvic disease, particularly in countries with a high tuberculosis burden. It is often underdiagnosed due to its asymptomatic or non-specific clinical presentation. We report the case of a 38-year-old woman with a history of treated peritoneal tuberculosis, in whom ovarian tuberculosis was revealed by bilateral pyosalpinx.

Keywords: Ovarian Tuberculosis, Pyosalpinx, Infertility, *Mycobacterium Tuberculosis*.

INTRODUCTION

Tuberculosis (TB) is a chronic infectious disease caused by mycobacteria of the *Mycobacterium tuberculosis* complex. Despite global efforts to control it, TB remains a major public health concern. According to the World Health Organization (WHO), more than 10 million people contracted TB and 1.6 million died from it in 2021 [1]. In Morocco, the disease is endemic, with more than 29,000 new cases reported in 2021.

While pulmonary TB is the most common form, extrapulmonary manifestations account for a substantial number of cases, with genital involvement being an important cause of female infertility. Genital TB is often secondary to hematogenous or lymphatic dissemination from a primary pulmonary or abdominal site. Its presentation is frequently subclinical or mimics other gynecologic conditions, leading to underdiagnosis and treatment delay.

We present a rare case of ovarian tuberculosis revealed by bilateral pyosalpinx, diagnosed in a woman with a prior history of peritoneal TB.

CASE REPORT

A 38-year-old married woman, mother of three children, with a history of peritoneal tuberculosis treated according to the national protocol (2 months of isoniazid, rifampicin, pyrazinamide, and ethambutol followed by 4 months of isoniazid and rifampicin), was referred to the gynecology department for investigation of two lateral uterine masses. Initially, she had been followed in the pulmonology department for TB treatment.

Clinical examination revealed a good general condition. The abdomen was soft, with a palpable mass in the left iliac region, poorly defined and compressible. Pelvic MRI showed two regular, well-defined lateral uterine masses with a normal-sized uterus. Laboratory tests were normal, with a white blood cell count of 7,300/µL and a C-reactive protein level of 3.1 mg/L.

Diagnostic laparoscopy revealed bilateral pyosalpinx. Aspiration of both masses was performed, and the samples were sent for histopathological, cytobacteriological, and molecular testing. Direct examination of the pus showed abundant neutrophils and Gram-negative bacilli. Culture yielded *Pseudomonas aeruginosa*. Ziehl–Neelsen staining was negative, but GeneXpert MTB/RIF assay was positive for *M. tuberculosis* complex without rifampicin resistance. Culture on both MGIT and Löwenstein–Jensen media confirmed the presence of *M. tuberculosis*. Genotype MTBDR testing did not show resistance to rifampicin or isoniazid.

The patient received a 6-month antituberculous regimen (2 months of isoniazid, rifampicin, pyrazinamide, and ethambutol, followed by 4 months of isoniazid and rifampicin). She also received a 14-day course of ciprofloxacin and gentamicin for *P. aeruginosa* infection. Clinical and biological outcomes were favorable, and no complications were reported.

DISCUSSION

Extrapulmonary tuberculosis affects between 15% and 40% of all TB patients. Among these, the urogenital form accounts for approximately 27%, with genital TB comprising about 9% of extrapulmonary cases [2–4]. Genital TB can affect any part of the reproductive tract, with the fallopian tubes being the most commonly involved site, followed by the endometrium, ovaries, cervix, myometrium, and rarely the vulva and vagina [5].

The pathogenesis of genital TB generally involves hematogenous or lymphatic spread from a primary focus, most often pulmonary or peritoneal. Direct inoculation through sexual transmission is extremely rare. In our patient, who had previously been treated for peritoneal TB, both lymphatic and contiguous spread to the genital tract are plausible routes.

Genital TB often presents insidiously, with non-specific gynecologic symptoms such as infertility, menstrual irregularities, chronic pelvic pain, or abnormal uterine bleeding. However, up to 10–12% of cases may remain asymptomatic [6]. Our patient had no gynecologic complaints, and the disease was discovered incidentally during evaluation of pelvic masses.

Diagnosis is challenging and requires a high index of suspicion, especially in endemic areas. The gold standard remains bacteriological confirmation by culture or molecular detection of *M. tuberculosis* in genital tract samples. The GeneXpert MTB/RIF test allows rapid and sensitive detection of the bacillus and associated rifampicin resistance. Histopathological examination and imaging studies such as ultrasound, CT, or MRI also support the diagnosis. In our case, PCR testing confirmed the diagnosis, while culture allowed phenotypic confirmation and drug susceptibility testing.

Management includes standard anti-TB treatment for six months. Surgical intervention is indicated in select cases, particularly when there are large abscesses, persistent masses, or suspicion of malignancy. Our patient responded well to medical therapy alone, with no need for further surgical management.

CONCLUSION

Genital tuberculosis is a rare but serious form of extrapulmonary TB that can result in infertility and chronic pelvic disease. Its diagnosis requires vigilance, especially in endemic regions or in patients with a history of TB. This case underlines the importance of considering genital TB in the differential diagnosis of unexplained pelvic masses. Early diagnosis and appropriate treatment are essential to prevent long-term complications.

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