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Isolated Cervical Tuberculosis: A Case Report from the Koudougou Regional Hospital in Burkina Faso

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Abstract

Introduction: Genital tuberculosis in women accounts for approximately 5% - 10% of extrapulmonary tuberculosis cases. Cervical tuberculosis is rare, accounting for less than 1% of genital tuberculosis cases. **Case Report:** A 35-year-old female shopkeeper, a nulliparous and nulligravid housewife for 18 years, with no history of tuberculosis or known exposure to tuberculosis. She presented for consultation with postcoital metrorrhagia and progressive weight loss in a chronic, afebrile setting. **Clinical Examination:** hypertrophied cervix, ulcerated and nodular, bleeding on contact; clinical suspicion of cervical cancer. Microscopic examination of the cervical biopsy revealed a focally ulcerated cervical mucosa containing numerous inflammatory granulomas composed of lymphocytes, epithelioid cells, and giant cells surrounded by a lymphocytic halo, with no evidence of tumor proliferation. A diagnosis of cervical tuberculosis was made. Treatment: 2RHZE/4RH. **Conclusion:** Cervical tuberculosis is rare but should be considered in the presence of any atypical cervical lesion in an endemic area. Biopsy remains essential to avoid unnecessary surgery.

Keywords

Tuberculosis, Cervix, Genital, Cervical, Burkina Faso

1. Introduction

Tuberculosis, caused by Mycobacterium tuberculosis, is a significant public health

problem. Among extrapulmonary forms, female genital tuberculosis is a largely unknown condition that is frequently underdiagnosed. It accounts for approximately 5% to 10% of extrapulmonary tuberculosis cases [1].

Involvement of the cervix is rare; it can mimic cervical cancer, leading to delayed diagnosis [2].

It remains an underdiagnosed condition in sub-Saharan Africa due to its clinical polymorphism and the lack of access to histological examinations in certain regions. Its incidence may increase in cases of coinfection with the human immunodeficiency virus [3] [4]. It should be considered in areas where tuberculosis is endemic, in the presence of atypical or ulcerative-papular cervical lesions, unexplained intermenstrual bleeding, as well as in cases of discordance between clinical and histological findings suggestive of a malignant condition. We report a case of cervical tuberculosis diagnosed in a patient treated at the Koudougou Regional Hospital in Burkina Faso.

2. Case Report

This is a 35-year-old female shopkeeper who has been living in a polygamous marriage for 18 years. She has never been pregnant, has no significant medical history, and has no history of tuberculosis exposure or associated respiratory symptoms. She presented for consultation due to postcoital metrorrhagia. On admission, she presented with a general condition classified as WHO Performance Status Stage I, a Glasgow Coma Scale score of 15, colored conjunctivae without jaundice, good hemodynamic status, and a reported history of weight loss.

The gynecological examination revealed a hypertrophied, ulcerated, and eroded cervix that bled on contact, initially raising suspicion of cervical cancer. A cervical biopsy was performed (**Figure 1**). Pathological examination revealed an ulcerated cervical mucosa containing numerous inflammatory granulomas composed of lymphocytes, epithelioid cells, and multinucleated giant cells, surrounded by a lymphocytic halo, without tumor proliferation suggestive of tuberculosis (**Figure 2**).

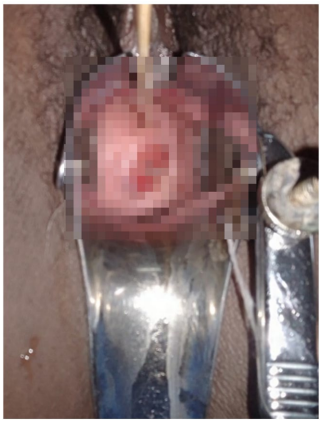

Figure 1. View of the cervix during a speculum examination, showing a cervix with a bud-like appearance.

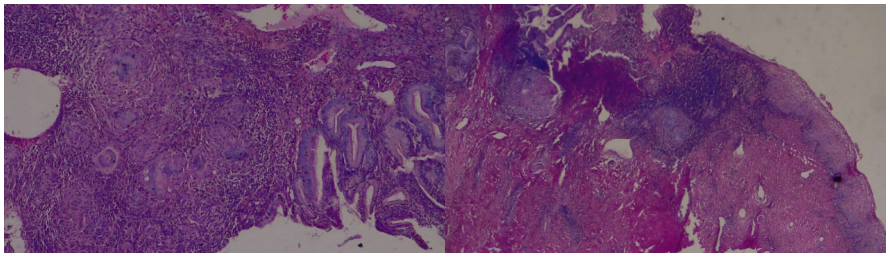

Figure 2. Histological image of the biopsy specimen at 0.4× magnification showing transitional tissue in the chorion.

The tuberculin skin test was positive at 20 mm with a phlycten (**Figure 3**). The Xpert sputum test was negative. HIV serology was negative. The frontal chest X-ray was normal (**Figure 4**). Blood tests were normal. Abdominal and pelvic ultrasound revealed a myomatous uterus with no signs of pregnancy. A diagnosis of isolated cervical tuberculosis was made. First-line antituberculosis treatment combining rifampicin, isoniazid, pyrazinamide, and ethambutol (RHZE) was initiated in accordance with current national guidelines in Burkina Faso.

Figure 3. The tuberculin skin test was positive at 20 mm with a phlycten.

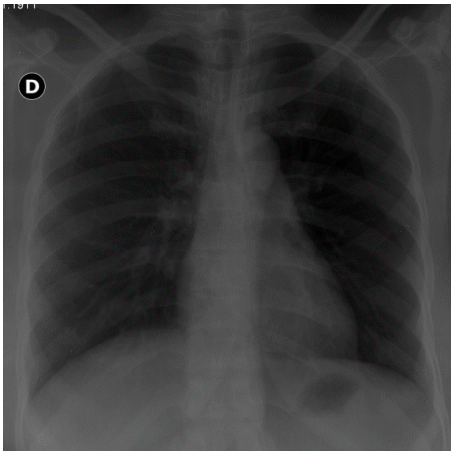

Figure 4. Normal frontal chest X-ray.

3. Discussion

Cervical tuberculosis is a rare form of genital tuberculosis and is generally discovered when cervical cancer is suspected. It accounts for approximately 0.5% of genital tuberculosis cases and can reach up to 8% in countries with high endemicity [5].

The organs most commonly affected are the fallopian tubes, the endometrium, and the ovaries [6]. Isolated cervical tuberculosis is rare and represents the primary form [3]. In the case we report, the patient had isolated cervical tuberculosis. The age of patients described in the literature is generally between 20 and 35 years, corresponding to a period of peak sexual activity, often associated with a low socioeconomic status [7]. In our case, the patient was a 35-year-old shopkeeper and homemaker who had been living in a polygamous union for 18 years. She had never been pregnant or given birth and had no significant medical history or history of tuberculosis exposure.

The mode of transmission for cervical tuberculosis is not clearly understood and varies among authors. Infection may occur through direct inoculation of Koch's bacillus into the cervix, constituting the primary form of this site. It may also occur indirectly, through hematogenous or lymphatic spread from a distant tuberculous focus [3] [4]. Most often, the infection is secondary to lymphatic spread or by contiguity from genital tuberculosis, which is itself secondary to hematogenous spread from pulmonary tuberculosis [3] [7]. Cervical tuberculosis may be sexually transmitted by a partner with epididymal or urogenital tuberculosis [5] [8].

These clinical signs are nonspecific and account for the delay in diagnosis. The condition may be discovered incidentally [9].

Authors have encountered difficulties in identifying the specific signs of cervical tuberculosis; some authors state that, clinically, cervical tuberculosis resembles cervical carcinoma. They add that the same symptoms such as abnormal vaginal bleeding, whether induced or spontaneous, and a pathological cervix with nodular lesions can be found in cervical tuberculosis. However, while tuberculosis and cervical cancer must not be confused for the sake of proper management, it is important to note that the two may, in rare cases, occur together [10]. Clinical examination reveals an ulceration or a firm vaginal mass, with the most likely diagnosis being a vaginal cyst. In our case, a bimanual examination revealed cervical swelling, and a speculum examination performed to better assess the appearance of the cervix revealed a bud-like cervical appearance, warranting a cervical biopsy to investigate for a tumor.

The diagnosis of isolated cervical tuberculosis was made based on histopathological findings that revealed an epithelioid-giant-cell granuloma associated with caseous necrosis. A chest X-ray was performed and showed no abnormalities suggestive of pulmonary tuberculosis. In the absence of respiratory symptoms, particularly cough or sputum production, an Xpert MTB/RIF test on sputum was not performed. Pelvic ultrasound revealed no abnormalities affecting the other genital

organs. Testing for acid-fast bacilli in the urine was not performed due to the absence of urinary symptoms suggestive of urogenital tuberculosis. A comprehensive clinical and gynecological examination found no other suspicious foci. The cervical lesion was therefore considered isolated. However, certain additional investigations, notably endometrial biopsy, were not performed due to technical constraints, which constitutes a limitation of this case report.

This histological diagnosis was supported by a suggestive clinical presentation and a positive type I tuberculin intradermal test according to Palmer. Ziehl-Neelsen staining, mycobacterial culture, and molecular testing of the tissue specimen were not performed. The diagnosis was therefore based on the combination of histopathological features, clinical data, and available paraclinical findings.

The differential diagnosis may include chronic cervicitis, syphilis, sarcoidosis, a vaginal tumor, or an aneurysm [2]. Cervical cancer was ruled out based on the histopathological examination, which found no signs of malignant tumor proliferation, but rather an epithelioid giant-cell granuloma associated with caseous necrosis, strongly suggestive of tuberculosis. Other causes of granulomatous cervicitis were considered less likely given the clinical context, the histological findings, and the absence of clinical or laboratory evidence pointing to another etiology.

Antituberculosis treatment follows the World Health Organization's standard regimen (rifampicin, isoniazid, pyrazinamide, and ethambutol) for 6 months. The course of the disease under treatment is generally favorable, with resolution of cervical lesions. Surgery is rarely necessary except to manage complications (fistulas or abscesses) or secondarily in cases of resistance or relapse despite proper medical treatment [11]. The clinical course during antituberculosis treatment was favorable, marked by a gradual improvement in clinical symptoms. The patient reported an improvement in symptoms, with no major adverse effects or specific issues regarding treatment tolerance. However, a second follow-up cervical biopsy was not performed due to financial constraints and limited access to additional tests. Clinical follow-up was therefore the primary means of assessing the course of the disease

4. Conclusion

Cervical tuberculosis is a rare form of the disease that can mimic cervical cancer. It should be considered in endemic areas, even in the absence of obvious pulmonary involvement. Diagnosis relies primarily on histological examination, and antituberculosis treatment leads to a favorable outcome in the majority of cases.

Ethical Considerations

Ethical and professional principles were respected, including the patient's free and informed consent, confidentiality, and anonymity.

Conflicts of Interest

The authors declare no competing interests.

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