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Extra-Pulmonary Tuberculosis in the Uterine Cervix: A Case Report

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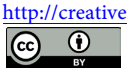

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Abstract

Tuberculosis of the uterine cervix is grouped under genital tuberculosis. Other sites for genital tuberculosis include the Fallopian tubes and the endometrium. Genital tuberculosis and other types of tuberculosis outside the lungs are referred to as extra-pulmonary tuberculosis (EPTB). Genital tuberculosis presents with unspecific symptoms and signs; and because of this, most often, the diagnosis is made incidentally during investigations for other conditions that present with similar clinical pictures. Therefore, misdiagnosis and wrong treatment are not uncommon. We present a case of tuberculosis of the uterine cervix which was incidentally diagnosed when the patient was being investigated for cervical cancer, and successfully treated with a 6-months rifampicin regimen, 2RHZE/4HRE. Health providers have a duty to highly suspect tuberculosis of the cervix among women who present with abnormal vaginal discharge, abnormal vaginal bleeding and post-coital bleeding especially in countries where HIV and TB are endemic. If properly diagnosed and correctly treated, tuberculosis of the uterine cervix is curable.

Keywords

Tuberculosis, Extra-Pulmonary Tuberculosis, Genital Tuberculosis, Post-Coital Bleeding, Cervical Tuberculosis

1. Introduction

Tuberculosis is an ancient disease that has been a major cause of suffering and death for many years. TB has been the leading cause of death among infectious diseases. Successful antibiotic treatment only became possible in 1948. In hu-

mans, tuberculosis is caused by the bacillus *Mycobacterium tuberculosis*. It mainly affects the lungs, although it can affect any organ in the body (extrapulmonary TB). The tubercle bacilli were first described by Robert Koch in 1882.

The prevalence of tuberculosis tends to be higher among HIV-infected individuals. According to the WHO global TB report of 2018, there were 10 million new TB cases notified in 2017 worldwide, of which 9% were co-infected with HIV.

Tuberculosis (TB) can either be pulmonary (PTB), extrapulmonary (EPTB) or both. A patient with both pulmonary and EPTB is classified as a case of PTB. Pulmonary TB is the most common form of the disease, and is of public health importance due to its infectiousness. EPTB refers to TB involving organs other than the lungs (e.g., pleura, lymph nodes, abdomen, genitourinary tract, skin, joints and bones, meninges or genitourinary system). EPTB is more common in patients who are infected with HIV, with a prevalence of about 20% [1] [2].

Whereas chest radiography and laboratory tests are used to diagnose pulmonary TB, a normal chest X-Ray and/or negative laboratory tests do not exclude EPTB, especially in patients who are HIV positive. Therefore, whenever screening for TB in PLHIV, the screening should include all EPTB sites.

Few cases of cervical Tuberculosis have been documented worldwide. The commonest presenting complaints for cervical tuberculosis are persistent offensive discharge, abnormal vaginal bleeding, malaise and postcoital bleeding. Speculum examination often reveals cervical lesions which may appear as either exophytic, ulcerative or endocervical polyploids. These lesions are often mistaken for cancer of the cervix [3]. Patients with Cervical TB do not often present with the clinical picture of pulmonary TB such as cough, unexplained fever or night sweats [4].

A case of cervical tuberculosis in a woman who presented with post-coital bleeding and irregular menstrual bleeding is being presented.

2. Case Summary

A 23-year-old nulliparous woman presented to a gynaecology clinic with post-coital bleeding and irregular menstrual periods. Review of her medical and surgical history revealed that she was on highly active antiretroviral therapy (HAART) treatment since her childhood and she was adherent to treatment; she had been treated for abdominal pain in the surgical department where they performed laparoscopy and she was informed that she had peritoneal adhesions but she got no further treatment following surgery. She otherwise denied history of cough, fever and night sweats. Examination revealed a young lady in good physical condition. Significant findings were on speculum examination which showed a lesion on the cervix that easily bled on contact (**Figure 1**).

Because of the postcoital bleeding, the lesion on the cervix and HIV status, we made a provisional diagnosis of cancer of the cervix. A biopsy was taken from the cervix to rule out cancer of the cervix. The results showed multiple caseating epithelioid granulomas of varying size with multinucleated cells in the stroma suggestive of tuberculosis (**Figure 2**). There were no cancer cells, hence cancer of

Figure 1. Photograph of the cervix at speculum examination.

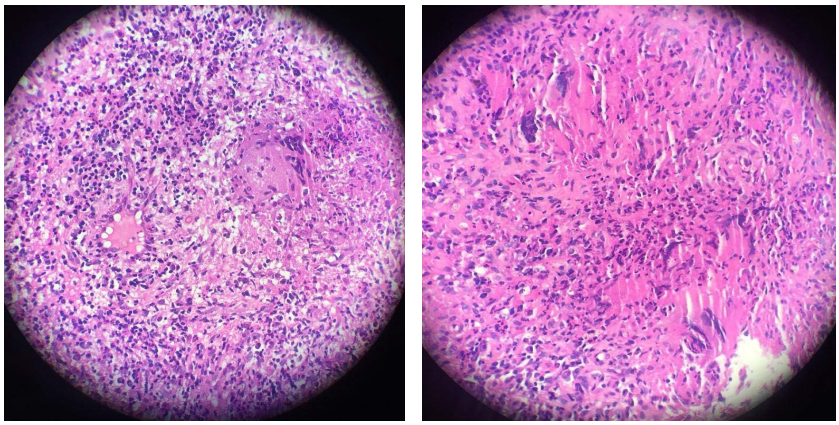

Figure 2. Histological images showing multiple epithelioid granulomas with multinucleated cell in the stroma.

the cervix was ruled out. The laboratory further performed the Ziehl Neelsen (ZN) test on the specimen and results were positive for alcohol acid fast bacilli (AAFB). A diagnosis of TB of uterine cervix was then made. Results of full blood count (FBC) and differential count were normal apart from the slightly elevated mean platelet volume (MPV). This was considered to be of little significance.

The patient was put on traditional standard treatment regimen for tuberculosis. Follow-up for treatment refill and review of symptoms and signs was done monthly. After six months she had completely recovered. Her menses had normalised and she no longer had post-coital bleeding.

3. Discussion

In humans, tuberculosis (TB) has been known for a long period of time, probably 3 million years but the organism that causes TB, *Mycobacterium tuberculosis*, was only described in 1882 by Robert Koch after it had killed a number of people both in United States of America and United Kingdom [5] [6]. Since that

time a lot has been learnt about transmission of the organism, vaccination against TB and its treatment. However, despite the knowledge and the availability of vaccination and treatment for the disease, TB is still a common problem among many populations of the world.

Tuberculosis commonly (77%) affects the respiratory (pulmonary) system causing cough as the most common symptom. Other associated symptoms include night sweats, fever weight loss, lymphadenopathy, etc. Tuberculosis affects mainly individuals with lowered immunity, and with the epidemic of human immunodeficiency virus (HIV) and the acquired immunodeficiency syndrome (AIDS), the disease it causes, tuberculosis also became more rampant among populations. According to the WHO global TB report of 2018, there were 10 million new TB cases notified in 2017 worldwide, of which 9% where co-infected with HIV [7]. Our index case was a young lady with HIV, which was vertically transmitted, and was on a life-long treatment with antiretroviral drugs. This could have increased her chances of suffering from TB.

Extra pulmonary TB is found in sites like skeletal, plural space, abdomen, Fallopian tubes, endometrium and cervix. Most extrapulmonary TB is difficult to diagnosed from clinical symptoms, suggesting a high likelihood of diagnostic delays and misdiagnosis, hence wrong treatment [8].

Tuberculosis of the uterine cervix is rare, accounting for 0.1% - 0.65% of all cases of tuberculosis (TB) and 5% - 24% of genal tract TB [9]. It usually presents with abnormal vaginal discharge, post-coital bleeding and intermenstrual bleeding. These symptoms and/or signs are commonly found in patients with cervical cancer. This clinical presentation, therefore, makes service providers think about carcinoma of the cervix rather than uterine cervix tuberculosis. The case discussed here was also provisionally diagnosed as cancer of the cervix, however investigations ruled it out. It is therefore important to have a high index of suspicion of cervical TB when dealing with young women with such clinical presentation especially if there is history of contact with a smear-positive pulmonary TB patient, past history of TB infection or if they are living with HIV and are of low socio-economic status [10].

This patient had initially complained of abdominal pain and at laparotomy adhesions were found but these were not taken seriously. It is likely that by this time she had pelvic tuberculosis and a biopsy, at laparoscopy, would have been helpful at making a diagnosis. In the gynaecology clinic, however, a biopsy was taken from a suspicious lesion on the cervix to rule out cancer of the cervix. Results were negative for cancer of the cervix but positive for tuberculosis.

The patient was put on the traditional standard treatment regimen as par WHO 2010 treatment guidelines for tuberculosis [11]. After six months she had completely recovered, her menses had normalised and she no longer had post-coital bleeding. Notably this is the same treatment regimen given for the management of tuberculosis in any other part of the body including CNS tuberculosis.

4. Conclusion

Because of the similarity of its clinical presentation to that of cervical cancer, tuberculosis of uterine cervix is commonly misdiagnosed as cancer of the cervix. Health providers, therefore, should have a high index of suspicion among women who present with abnormal vaginal discharge, abnormal vaginal bleeding and post-coital bleeding especially in countries where HIV and TB are endemic. Punch biopsies should be taken from suspicious lesions on the uterine cervix for histological examination to make the definitive diagnosis. If correctly diagnosed and appropriately treated tuberculosis of the uterine cervix is curable, yet without proper treatment, it can lead to a multitude of complications and death.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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