

**CASE REPORT**

## Genital tuberculosis: A rare cause of vulvovaginal discharge and swelling

Malak Alhakeem<sup>1,2</sup>, Achim Schneider<sup>1</sup>

<sup>1</sup> Department of Gynecology, Charite University Hospital, Berlin, Germany,

<sup>2</sup> Department of Gynecology and Obstetrics, King Saud University, Riyadh, Kingdom of Saudi Arabia.

### ABSTRACT

Herein, we report a patient with vulvovaginal tuberculosis (TB) presented with a vulvovaginal mass and vaginal discharge. The diagnosis was made by both histopathological examination of the excised specimen which was clinically suspected to be a malignant lesion and cervical smear culture positivity for Mycobacterium tuberculosis. The patient was prescribed a full course of anti-tuberculous drugs. In this report, we discuss the genital TB and its gynecological effects in the light of medical literature. *J Microbiol Infect Dis* 2013; 3(3): 141-143

**Key words:** Genital tuberculosis, vulvovaginal swelling

## Genital tüberküloz: Vulvovajinal akıntı ve şişliğin nadir bir nedeni

### ÖZET

Burada vulvovajinal kitle ve vajinal akıntı şikâyeti ile gelen vulvovajinal tüberküloz (TB)'lu bir hasta sunulmaktadır. Teşhis maligniteden şüphelenilerek eksize edilen biyopsi örneklerinin histopatolojik olarak incelenmesi ve servikal smear kültüründe Mycobacterium tuberculosis üremesi ile kondu. Hasta antitüberküloz ilaçlarla tedavi edildi. Bu makalede genital TB ve jinekolojik etkileri medikal literatür ışığında tartışılmaktadır.

**Anahtar kelimeler:** Genital tüberküloz, vulvovajinal şişlik

### INTRODUCTION

In humans, tuberculosis (TB) can affect any organ including genital system. Manifestations include the traditional symptoms of fever, night-sweats and weight-loss. There is a host of different clinical, radiological, microbiological and pathologic features that are used to diagnose TB. In 2009, World Health Organization (WHO) reported that there was a global reduction in the number of TB cases since 2006.<sup>1</sup> Nevertheless, it is estimated that around 2 million people die of the disease annually.<sup>2</sup> There were 3.2 million incident cases of TB and 320.000 deaths from TB among women in 2009.<sup>1</sup> TB can affect the female genital system and can cause a variety of symptoms and signs, spanning from fertility problems to pregnancy complications including pregnancy losses. Genital system TB represents 15-20% of extra-pulmonary TB and is usually asymptomatic affecting mainly young women in the reproductive age group.<sup>3</sup>

Female genital tuberculosis is a rare disease, yet its sequel and complications can have profound

effects on the affected women health. Women from areas where TB is more prevalent and lacks response to medication should prompt physicians to take into consideration the possibility of TB as an underlying cause of the problem. Herein, we present a case of vulvovaginal TB that was successfully diagnosed and managed.

### CASE REPORT

A 36-year-old Somalian woman presented to the outpatient clinic at Charite University, Campus Benjamin Franklin with the complaining of chronic, persistent vulvovaginal discharge not responding to various consecutive therapeutic interventions. General examination was unremarkable. Genital examination showed a multifocal mass in the right area of the vaginal introitus, with the main lesion with a diameter of 3 cm. Differential diagnosis encompassed a long list entailing chancroids, granuloma venereum, genital TB, fungal infection, lymphogranuloma inguinale and vulvar/vaginal cancer was suspected. Consequently, vaginal swabs were taken for PCR

**Correspondence:** Malak Alhakeem, Department of Gynecology,

Charité Universitätsmedizin, Campus Charité Mitte Charitéplatz 1. 10117, Berlin, Germany. Email: alhakeem.malak@yahoo.com

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analyzes for the presence of *Neisseria gonorrhoeae*, *Chlamydia*, *Haemophilus ducreyi*, and *Mycobacterium tuberculosis*. In addition, cervical sample was also tested for human papilloma virus (HPV) DNA. Human immunodeficiency virus (HIV) serology was performed after counseling the patient and acquiring her consent. The plan was to perform examination under anesthesia, sentinel lymph node excision, and local resection of the mass if possible or rather a primary chemo-radiotherapy then surgery. Examination under anesthesia was agreed upon.

Biopsy specimens taken from the lesion were sent for pathological and microbiological examinations including *M. tuberculosis*. Vulvar biopsy report disclosed that the sections from the vulvar skin were showing squamous epithelial cells with pigmentation and dermal connective tissue. Section also showed infiltration by chronic inflammatory cells, plasma cells and giant cells with no evidence of vulvar malignancy. Culture of vulvar swabs in Löwenstein-Jensen medium grew *M. tuberculosis*. Other investigations including chest X-ray, abdominal ultrasound, complete blood count, and kidney function test were normal. The final diagnosis was established as vulvovaginal TB and the treatment consisted of isoniazid plus rifampicin plus ethambutol plus pyrazinamide orally. In addition, pyridoxine 300 mg a day was also administered to prevent neuropathy. Anti-tuberculous therapy was continued for 9 months and hepatic and renal function tests and periodical eye fundus, visual acuity and visual fields examinations were normal during the follow up. A year later, the lesions disappeared completely and decided the patient was completely cured. After one year, she gave birth to a child and now she is pregnant again.

## DISCUSSION

TB is seen in all ages and *M. tuberculosis* is the causative organism in 90-95% of cases where as *Mycobacterium bovis* can also cause the disease.<sup>3</sup> Infection of the female genital tract with TB is relatively rare entity. There are two main routes for the infection; the first is blood borne from a primary site such as the lungs or kidneys. The other route is through sexual intercourse where the infection can manifest itself as local lesions. Infection of the vulva, vagina and cervix can be caused by direct inoculation in the lower female reproductive tract if the sexual partner has genital and/or urinary TB infection. In that respect, genital TB can be considered a sexually transmitted disease.<sup>4</sup>

Nemati et al.<sup>5</sup> reported a case of vaginal TB in a postmenopausal woman who had a kidney transplant a few years earlier. It presented as nodular vegetation covered with necrotic white spots. Possible explanations were the transmission was through either the donor kidney or the reactivation of a previous TB infection, which can occur especially if the patient is receiving immunosuppressive drugs for her transplant. Genital TB can have several gynecological presentations, mostly infertility. Namavar et al. reported in their retrospective study of female genital TB and infertility an incidence of genital TB about 1.32% of all TB cases.<sup>6</sup> The incidence of infertility in these patients was 75.6% - a quite significant finding.

Endometrium TB and involvement of the Fallopian tubes are obvious explanations in relation to infertility as these conditions can interfere with implantation and sperm/zygote transport. In a study concerning the effect of genital TB on fertility, hysterosalpingogram (HSG) revealed tubal abnormalities in 17 (95.2%) out of 21 patients, the most common abnormality was a bilateral tubal blockage and deformity of the uterine cavity was found to be as 54.4% of cases.<sup>7</sup> TB can also affect the ovaries and cervix and this may have an impact on fertility as well. Another important manifestation of genital TB is menstrual irregularities. Irregularities may include oligomenorrhea or amenorrhea. An important pathological finding in women with genital TB is Asherman's syndrome that explains the menstrual irregularities and infertility as well. Intra and postoperative complications are increased after surgery in women with genital TB.<sup>8</sup>

Acquired vulvar lymphangioma can result from tuberculous lymphadenitis. It occurs because of impaired lymph flow to the vulva and is quite a rare presentation of genital TB.<sup>9</sup> However, in our presented case, due to the abnormal presentation and the malorientation of some of the treating physicians due to the rareness of TB among developed countries, led to the misdiagnosis and subsequently to the delayed management of the case. From this point of view, we conclude that thorough medical history taking, proper clinical examination and the presence of reliable diagnostic tools helps hugely in detecting and managing abnormal presentations of many clinical cases needing basic management rather than missing the whole story.

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