



Case Report

Genital Tuberculosis With Presentation of Spontaneous Abortion in a Patient With Miliary Tuberculosis

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Abstract

Tuberculosis (TB) is a major public health concern worldwide. In Taiwan, the annual mortality rate for TB is 3.4 per 100,000 people (783 deaths in 2007). TB primarily affects the lungs, but approximately one third of patients also demonstrate involvement of extrapulmonary areas such as the meninges, bones and genitourinary tract. Female genital TB is rarely seen in developed countries. The occurrence of genital TB is only 0.01% in Taiwan. We present here a rare case of miliary TB accompanied by endometrial spread with no known immunodeficiency. (*Tzu Chi Med J* 2009;21(4):331–333)

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1. Introduction

Tuberculosis (TB) is re-emerging as a major public health concern worldwide. Eight to ten million people develop TB every year; at least 2 million people die from this disease annually (1). In 1993, the World Health Organization declared it a global problem. In Taiwan, TB kills more than 700 people each year (2). The disease affects people of all ages, and may involve various body locations. Although the lung remains the most common site of infection, extrapulmonary infection via hematogenous spread is becoming more prevalent. We present here a rare case of miliary TB with endometrial spread presenting as a spontaneous abortion with no known immunodeficiency.

2. Case report

A 24-year-old woman complained of intermittent fever and bloody vaginal discharge for approximately 2 weeks prior to admission. She had been diagnosed with pulmonary TB and had been under anti-TB therapy since November 2007. She had suffered from a spontaneous abortion at her eighth week of gestation in the local clinic approximately 2 weeks prior to this admission. Intermittent fever was noticed the day before her abortion. She mentioned that the anti-TB drugs were vomited out when she was pregnant. The vital signs of this patient on arrival to our emergency department were as follows: temperature, 38.4°C; heart rate, 108 beats/min; respiratory rate,

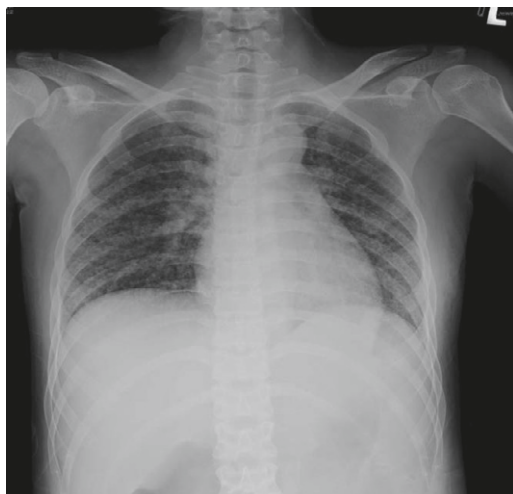


Fig. 1 — Chest X-ray shows miliary lesions in both lungs.

21 breaths/min; and blood pressure, 115/59 mmHg. Physical examination showed lower abdominal tenderness without rebounding pain. A gynecologist was consulted and pelvic examination revealed mild bloody discharge with a foul smell from the cervix and right adnexal tenderness. A complete blood count and routine biochemical analyses at the time of admission showed that the only abnormalities were hemoglobin of 6.8g/dL (reference range, 12–16g/dL) and C-reactive protein of 7.99 mg/dL (reference range, <0.5 mg/dL). Chest X-ray showed miliary lesions in both lungs (Fig. 1).

The patient received regular follow-up examinations at our clinic following the initiation of the anti-TB drug therapy. Nine sputum samples were stained with acid-fast bacilli (AFB) identification and cultured for *Mycobacterium tuberculosis* (*M. tuberculosis*). None of the AFB stains were positive for *M. tuberculosis*. However, *M. tuberculosis* was found in the last three sputum specimens approximately 1 week prior to admission. Her obstetrical history was gravida 3, para 2, abortion 1. Her two children were 4 years and 1 year of age. Both of them had been delivered transvaginally and were healthy.

In the emergency department, pyometra and hematometra were demonstrated using ultrasound and abdominal computed tomography (Fig. 2). Dilatation and curettage of the endometrium were performed and the collected endometrial tissue was sent for mycobacterial culture and histology. The specimen, fixed in formalin, showed granulomatous inflammation with caseous necrosis under microscopy (Fig. 3) but AFB staining demonstrated negative results.

The patient was admitted to the isolation unit and received an anti-TB regimen consisting of ethambutol, rifampin, pyrazinamide, and isoniazid. Drug susceptibility for *Mycobacterium* did not show any resistance. Enzyme immunoassay for HIV was negative.

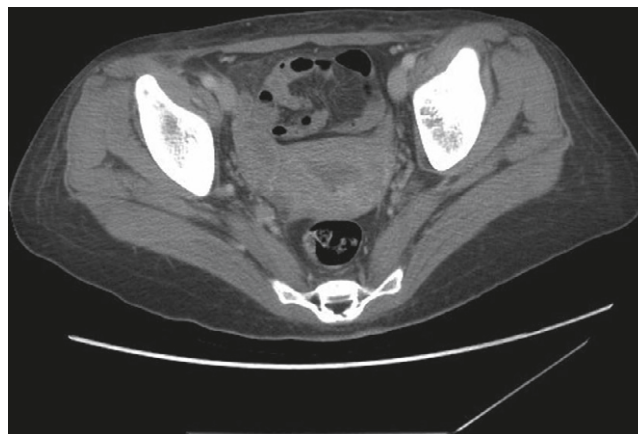


Fig. 2 — Abdominal computed tomography with contrast shows an enlarged uterus and right adnexa with intrauterine fluid accumulation.

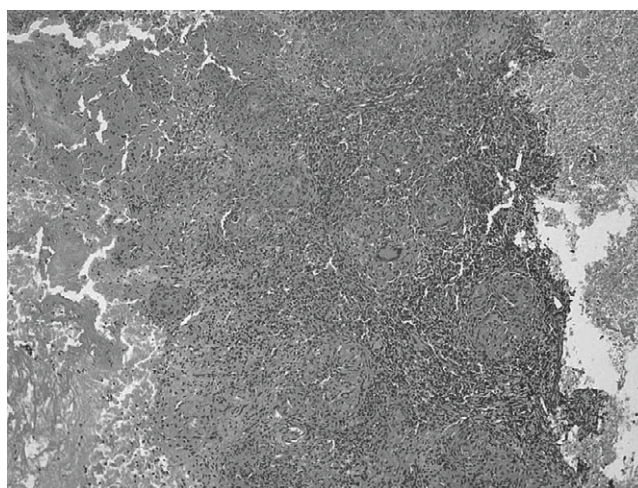


Fig. 3 — A specimen of the endometrium shows granulomatous inflammation with caseous necrosis on microscopy (hematoxylin & eosin, 200×)

Two months after the anti-TB therapy, the vaginal discharge had improved and the fever had subsided. She was discharged 3 months after admission.

3. Discussion

We present an unusual case of miliary TB with endometrial spread. *M. tuberculosis* flared up according to the positive result of *M. tuberculosis* from the sputum culture during the patient's pregnancy. Miliary dissemination of *Mycobacterium* accounts for 2.6% of all cases of TB (3). The majority are associated with drug abuse, malignancy, old age, and HIV infection (4). Our case had a normal immune defense. Therefore, overwhelming infection may explain the hematogenous spread of tubercle bacilli in this patient.

Definitive diagnosis of endometrial TB depends on the positive demonstration of tubercle bacilli in the genital tissue. However, AFB was demonstrated in only 2% of cases (5). Currently most authorities accept a diagnosis based on the standard histopathological criteria of tissue biopsies (6). In fact, more than two thirds of the cases of genital TB reported in the literature were diagnosed using histopathological evidence (7). The pathological evidence of numerous multinucleated Langerhans-type giant cells and clinical improvement after anti-TB medication indicate that chronic inflammation might result from TB.

Genital TB is almost always secondary to TB elsewhere; usually the lungs and sometimes the kidneys, gastrointestinal tract, bones, and joints. Occasionally, it is part of a generalized miliary disease process. The mode of spread is usually hematogenous or lymphatic and occasionally via direct contiguity with an intra-abdominal or peritoneal focus (8). Primary genital TB is extremely rare. In our case, *M. tuberculosis* might have spread from the lungs to the endometrium after anti-TB therapy was interrupted during pregnancy. The occurrence of genital TB is only 0.01% in Taiwan (9). The characteristics of genital TB make the disease difficult to detect. However, extrapulmonary TB represents a progressively greater proportion of new cases, and the trend is still increasing (10), which parallels the increasing prevalence of HIV infections (11).

The most typical findings in endometrial TB consist of small, isolated, ill-defined, frequently sparse granulomas of epithelioid macrophages and do not often contain giant cells. In addition, caseation is rarely observed in the granulomas except during the postmenopausal period or anovulation state (12). However, endometrial pathology of the present case revealed a mature granuloma with the presence of giant cells and caseous necrosis, which are rare and tend to be a late feature (13). Considering the caseous necrosis and giant cell formation in the microscopic findings and history of the interruption of her anti-TB drugs during the patient's pregnancy, it is reasonable to speculate that endometrial TB was formed during her pregnancy and her abortion may have been a complication of the endometrial TB. In either case, this patient had a rare presentation of genital TB. The most common presentations of genital TB are infertility (44%), pelvic pain (25%), vaginal bleeding (18%), amenorrhea (5%), vaginal discharge (4%), and postmenopausal bleeding (2%). Less common presentations include abdominal mass, ascites, tubo-ovarian abscess, and vague abdominal distention (14). There has been only one case report showing unassisted conception in a patient with active endometrial

TB (15). Despite the advances in chemotherapeutic treatments, pregnancy after diagnosis of genital TB has been reported to be rare and when it did occur it was more likely to be an ectopic pregnancy or a spontaneous abortion (16).

In conclusion, we have presented a rare case of miliary TB with endometrial spread with the initial presentation of a spontaneous abortion.

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