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Infertility in a young woman from Ecuador: a challenging diagnosis

Resumen

La tuberculosis genital representa una forma poco frecuente de tuberculosis extrapulmonar. El diagnóstico es con frecuencia difícil debido a lo inespecífico de los hallazgos clínicos y a la negatividad de las pruebas microbiológicas. Presentamos un caso de endometritis tuberculosa que permite constatar la utilidad de la histeroscopia en el diagnóstico y seguimiento de esta infección uterina; se hace evidente también la importancia de los datos epidemiológicos a la hora de valorar síntomas y signos clínicos.

Palabras clave: Tuberculosis. Ginecológica. Endometritis. Infertilidad. *Mycobacterium tuberculosis*.

Summary

Female genital tuberculosis is an uncommon presentation of extrapulmonary tuberculosis. Diagnosis is often difficult due to unspecific clinical findings and negativity of microbiological test. We present a case of tuberculous endometritis that shows utility of hysteroscopy in diagnosis and follow-up and the importance of epidemiological data in assessing clinical symptoms and signs.

Key words: Tuberculosis. Gynaecological. Endometritis. Infertility. *Mycobacterium tuberculosis*.

Introduction

During the course of the 20th century the dramatic decline in the incidence of tuberculosis in industrialized countries was primarily due to improved socioeconomic conditions and the discovery of effective antituberculous drugs. Nevertheless the picture is not the same all over the world: the are estimated to be nine millions of new cases are diagnosed in the world each year and the disease is responsible for the death of more than 1 million people annually; the bulk of

morbidity and mortality occurs in developing countries. We present the case of a southamerican woman who complained of abdominal pain and infertility.

Case report

A 41 year old Ecuador-born woman presented with persistent lower abdominal pain, genital discharge, oligo-

amenorrhea and infertility lasting for more than 2 years. She had been studied for primary infertility with no conclusive diagnosis. Physical examination was unremarkable. Chest-X ray and CT were normal and a sputum sample was not obtained because the patient could not produce it. Ultrasound of the pelvis revealed fluid and calcifications in the endometrial cavity. A hysteroscopy was performed, curettage was made under the suspect of pyometra and endometrial samples were obtained (Figure 1).

Histological examination revealed caseating granulomatous endometritis suggesting genital tuberculosis and

a single endometrial biopsy was obtained; although Zielh stain and PCR were negative, culture was positive for *M. tuberculosis* with no-resistance pattern. Mantoux test was positive. The patient did not refer any known epidemiological contact with TB patients or previous TB disease.

Therapy with isoniazid, rifampin and pyrazinamide was administered for two months, followed by 8 months of isoniazid and rifampin. A new hysteroscopy was performed at the end of treatment and clear improvement of the lesions was documented; nevertheless the patient still referred some abdominal pain and amenorrhea and hysterectomy was performed. No transmission to her sexual partner was documented.

Discussion

Although female genital tuberculosis (TB) is a common cause of infertility in developing countries¹, it is infrequent in developed countries, where it often occurs in postmenopausal patients, women who resided in countries with high prevalence of tuberculosis and HIV positive patients². The reported incidence of genital TB varies by geographic area with less than 1-2% reported cases in women with TB, although it is secondary to pulmonary TB in 25% of patients³. The most common sites of female genital infection are fallopian tube (100%), endometrium (50-60%), and ovary (20-30%).

Course of genital tuberculosis is often indolent and lack of clinical findings⁴ is characteristic. Clinical presentation varies from infertility and unspecific pelvic pain to vaginal bleeding and amenorrhea^{3,5}. Both, lack of symptoms and unspecific presentation resembling other pathologies make diagnosis difficult.

Generally, physical examination is normal or non-specific. Findings in imaging test including hysterosalpingogram are frequent, and vary from deformity of uterine tubes with filling defects in hysterosalpingogram⁶, to adnexal mass and fluid in pelvic cavity on pelvic ultrasound. Other abnormal tests that may be present are elevated level of Ca 125 (In that case, differential diagnosis with ovarian cancer may be difficult⁷) and chest X-ray with lesions suggesting tuberculosis³. Bacteriological confirmation can be difficult because genital TB is usually paucibacillary and smears and cultures are frequently negative^{3,8-9}. Multiple sampling from different sites and amplification of the mpt64 gene segment by PCR seems to increased sensitivity in determining TB aetiology in female infertility¹⁰. The polymerase chain reaction (PCR) could be useful in those cases in which Zielh stain is negative^{3,8-9}. Diagnosis is confirmed by positive microbiological culture. Hysteroscopy images may orientate in the diagnosis and therefore suggest the need of TB microbiological techniques³; it may also be useful in follow-up during treatment.



Figure 1. Tuberculous endometritis visualized by hysteroscopy

Treatment includes 2 months of drug combination with isoniazid, rifampin and pyrazinamide, followed by 6-9 months of isoniazid-rifampin (and modifications according to resistance patterns). Surgical treatment (hysterectomy and salpingo-oophorectomy) is reserved to those cases with persistent symptoms after medical treatment or positive endometrial culture or histology.

Tuberculosis should be suspected in women coming from countries where TB prevalence is high and who complain of amenorrhoea and/or infertility^{3,9-10}. Hysteroscopy images may guide the diagnosis and taking of samples for microbiological studies.

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