

# *Uterine Synechia Revealing Endometrial Tuberculosis : A Case Report and Literature Review*

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## Abstract

**Introduction :** Female genital tuberculosis (FGTB) is a rare extrapulmonary manifestation of tuberculosis that predominantly affects women of reproductive age. It is frequently underdiagnosed because of its nonspecific clinical presentation and may result in infertility, menstrual disorders, and endometrial damage, including intrauterine adhesions.

**Case Presentation:** We report the case of a 31-year-old woman with no significant past medical history who underwent endometrial curettage following the diagnosis of uterine synechia. Histopathological examination revealed endometrial glands compressed within a fibrotic stroma containing epithelioid granulomas and Langhans-type multinucleated giant cells without caseous necrosis. These findings were highly suggestive of follicular endometrial tuberculosis.

**Conclusion:** Endometrial tuberculosis should be considered in the differential diagnosis of unexplained uterine synechia, particularly in tuberculosis-endemic regions. Histopathological examination remains a key diagnostic tool and contributes to early therapeutic management.

**Keywords :** Endometrium ; Female genital tuberculosis ; Granuloma ; Infertility ; Uterine synechia.

## Introduction

Tuberculosis remains a major global public health concern, particularly in low- and middle-income countries. According to the World Health Organization, millions of new cases are reported annually [1]. Although pulmonary disease represents the most common presentation, extrapulmonary tuberculosis accounts for approximately 15–20% of all cases. Female genital tuberculosis is an uncommon but clinically significant form of extrapulmonary disease [2].

The fallopian tubes are the most frequently involved site, followed by the endometrium and ovaries. Female genital tuberculosis predominantly affects women during their reproductive years and may lead to infertility, amenorrhea, menstrual abnormalities, chronic pelvic pain, and adverse reproductive outcomes [3]. Diagnosis is often challenging because symptoms are nonspecific and microbiological confirmation may be difficult in paucibacillary disease [4].

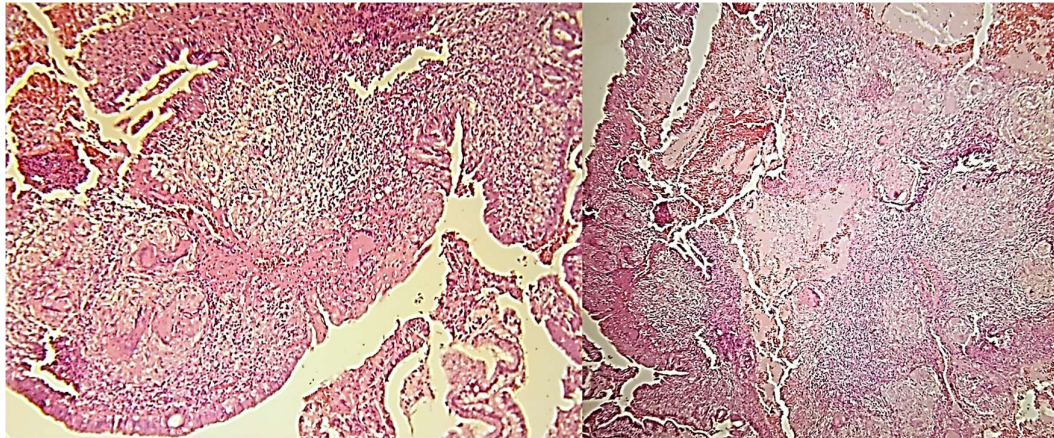
This report aimed to describe a case of uterine synechia revealing endometrial tuberculosis and to review the current literature regarding the diagnostic aspects of this condition.

## Case Presentation

A 31-year-old woman with no relevant medical history was investigated for gynecological complaints that led to the diagnosis of uterine synechia. Diagnostic endometrial curettage was subsequently performed.

Gross examination revealed multiple brownish tissue fragments measuring approximately  $1.5 \times 1.5$  cm in aggregate. Microscopic examination demonstrated endometrial glands compressed by a markedly fibrotic stroma. Multiple epithelioid granulomas associated with Langhans-type multinucleated giant cells were identified (Figure 1). No caseous necrosis was observed.

Taken together, these histopathological findings were consistent with follicular tuberculosis of the endometrium and strongly supported the diagnosis of female genital tuberculosis.



**Figure 1 : Endometrial curettage specimen showing epithelioid granulomas associated with Langhans-type giant cells, without caseous necrosis. Hematoxylin and Eosin stain (H&E)  $\times$  400 magnification.**

Source: Department of Pathology, University Hospital, Andrainjato Fianarantsoa, Madagascar.

## Discussion

Female genital tuberculosis is an uncommon extrapulmonary form of tuberculosis that is frequently underdiagnosed because of its insidious onset and nonspecific manifestations. The disease predominantly affects women of reproductive age, making its reproductive consequences particularly important. In many cases, diagnosis is established during infertility investigations or following the evaluation of menstrual abnormalities or intrauterine lesions [2,3,5].

Genital involvement usually results from hematogenous dissemination from a primary tuberculous site. Less commonly, lymphatic spread or direct extension from adjacent structures may occur [5]. The chronic granulomatous inflammatory process may induce progressive fibrosis and destruction of the endometrial architecture, leading to intrauterine adhesions, reduced endometrial receptivity, tubal obstruction, and infertility.

The fallopian tubes are the most commonly affected site; the endometrium is also involved in a significant proportion of cases, which leads to direct damage to the uterine cavity [6].

The clinical presentation is variable. Infertility remains the most commonly reported reason for seeking medical care, but the disease can also present as amenorrhea, intermenstrual bleeding, chronic pelvic pain, or vaginal discharge [7,8].

Histopathology plays a pivotal role in diagnosis. The identification of epithelioid granulomas and Langhans giant cells strongly suggests tuberculosis, particularly in endemic settings [9]. Although caseous necrosis is considered highly suggestive of tuberculosis, its absence does not exclude the diagnosis, especially in localized or paucibacillary forms. Differential diagnoses include sarcoidosis, fungal infections, and other granulomatous inflammatory conditions [10].

Microbiological confirmation remains challenging because female genital tuberculosis often contains very low bacillary loads. Conventional culture methods may lack sensitivity and require prolonged incubation times. Molecular techniques, particularly polymerase chain reaction (PCR)-based

assays, may improve diagnostic yield and provide valuable support when histological findings are suggestive but microbiological tests are inconclusive [4,11].

Hysteroscopy also contributes to the evaluation of endometrial lesions and intrauterine adhesions. Findings may include adhesions, cavity distortion, endometrial irregularities, and obliteration of tubal ostia. However, these findings are not specific and should always be interpreted alongside histopathological and microbiological data [12].

The present case highlights the importance of systematically submitting endometrial curettage and biopsy specimens for histopathological examination in endemic areas. Early recognition of endometrial tuberculosis is essential because delayed diagnosis may result in irreversible reproductive sequelae and persistent infertility.

### Conclusion

Female genital tuberculosis remains an uncommon but potentially severe disease that is frequently diagnosed late. Uterine synechia may represent a revealing manifestation of endometrial tuberculosis, even in the absence of overt infectious symptoms. Histopathological examination remains fundamental for diagnosis and should be considered an essential component of the diagnostic workup.

In tuberculosis-endemic regions, genital tuberculosis should be systematically considered in women presenting with unexplained uterine synechia, infertility, or endometrial abnormalities. Early diagnosis and prompt treatment are crucial for preserving reproductive function and improving patient outcomes.

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