

## Mis-Diagnosis of Genital Organ Tuberculosis Ending in A Severe Asherman Syndrome: A Case Report

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### Abstract

This case describes a female who had long lasting primary infertility, labelled with polycystic ovarian syndrome, who showed no response to the given related treatments. Hysterosalpingography, which was performed as part of the IVF preparation, showed Asherman syndrome and calcified lymph nodes. Subsequently, further evaluations confirmed tuberculosis. The case highlights the necessity and importance of the proper assessment of the patients presenting with infertility for early detection of genital TB, to prevent end-stage disease.

**Keywords:** Tuberculosis; Infertility; Imaging; Asherman Syndrome

## Introduction

Asherman syndrome or Fritsch syndrome which was first described in the late 19th and early 20th century is a rare gynecological problem [1]. Asherman syndrome is associated with a trauma to endometrial basal layers causing formation of adhesion in the endometrial cavity [2]. Causes of trauma can be Iatrogenic, such as curettage (most common factor) and trauma due to abortion, or less common due to infectious and inflammatory diseases including Tuberculosis and Schistosomiasis. In general, adhesions varies in the shape and locations and the severity of the disease is defined by its extent [2].

Different modalities could be employed to evaluate and diagnose intra uterine adhesion such as

Hysterosalpingography (HSG), Magnetic Resonance Imaging (MRI), Hysteroscopy as well as Ultrasonography including Sonohysterography (SHG) and 3D Ultrasonography (3). Genitourinary TB comprised 4.6% of all TB cases; however, this TB manifestation is frequently overlooked [4].

This type of infection is associated with inflammatory changes in one or multiple genitourinary organs including kidney, ureter, bladder or genital organ in both sexes (5) with or without pulmonary involvement.

Involvement of the uterus and fallopian tubes in women can lead to scar formation and subsequently to adhesions and strictures. Consequently, infertility (primary or secondary) or ectopic pregnancy may occur as a result [6].

The case of an infertile patient with mis-diagnosis and overlooked genital tuberculosis is presented here.

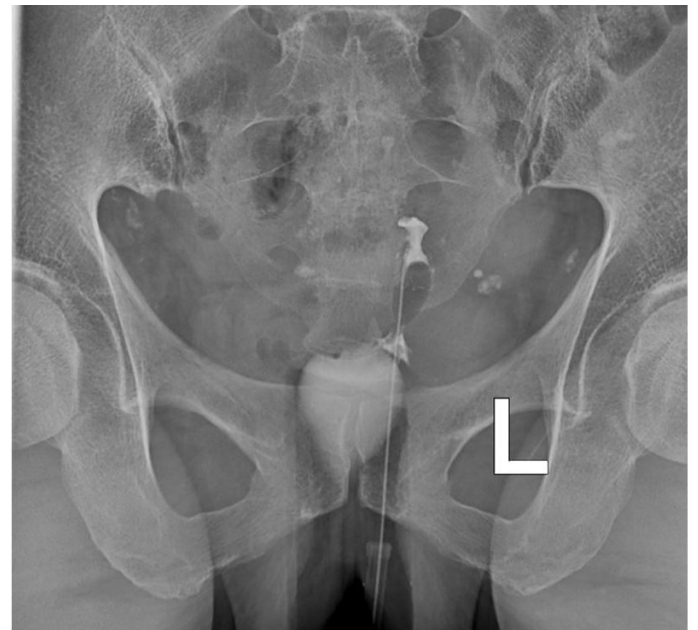
## Case Report

A 32 years old Afghan nulliparous lady was referred for evaluation by Hysterosalpingogram (HSG) for long term (nearly 10 years) infertility. Her gynecologist wanted to evaluate the suitability of endometrial cavity for a potential IVF. She had a history of hypomenorrhea and was labelled incorrectly to polycystic ovarian(PCO) disease according to the previous studies.

The HSG showed a minimal contrast in the lower segment of the endometrial cavity with no cavity distention, though the study had been done with a dedicated plastic catheter and a metal cone instrument. (Figures 1 & 2).



**Figure 1:** Hysterosalpingogram with metal cone instrument shows obliterated endometrial cavity except for most lower segment after contrast injection



**Figure 2:** Hysterosalpingogram with plastic catheter shows obliterated endometrial cavity except for most lower segment after contrast injection

So further ultrasonography was done that showed some calcification in the endometrial myometrial interface with no definite signs of PCO disease.

In the hystero gram films, some calcifications of the pelvic cavity indicating pelvic side wall lymph nodes were seen, which implied a potential presence of uterine Tuberculosis. (Figure3)



**Figure 3:** Hystrosalpingogram scout film demonstrates multiple pelvic calcification indicating lymph nodes calcification

Since the patient didn't accept to undergo the hysteroscopy procedure, fearing damage of uterus, fine-needle aspiration (FNA) PCR of lymph as well as blood PCR were performed to diagnose Mycobacterium Tuberculosis. Even though the lymph node PCR was negative, the peripheral blood PCR was positive for mycobacterium Tuberculosis. Finally, she was referred to an infectious specialist for an antimicrobial therapy.

## Discussion

The patient was diagnosed for TB without having any TB symptoms through evaluations for a possible IVF suitability.

Most cases of the genitourinary TB are symptomatic (menorrhagia, dysmenorrhea, amenorrhea, dyspareunia and postmenopausal bleeding) [7]. However in some cases, the bacilli can infect other organs after being dormant for a while in the alveolar macrophages through the vessels (blood and lymphatic) while the patient can be completely asymptomatic. Microbiology and histopathology examinations are the most reliable diagnostic tests but they can be invasive and take up to 6 weeks [8]. Alternatively, PCR tests can be done on blood and other samples and specimens of the patients for diagnosis of Mycobacterium Tuberculosis as a specific and sensitive tool. It is helpful for diagnosis of extra-pulmonary and pulmonary TB since it is fast, reliable and can be done on any sample from various sites [9].

Though pulmonary TB is more common, extra-pulmonary types are more challenging to detect considering their non-specific and vague patterns [10] and can be relatively severe at time of diagnosis.

The most presenting symptom in the female genital TB is infertility (sterility, sub fertility).

The infertility can be caused by the involvement of tubes (causing scarring and stricture), endometrium (causing fibrosis and even Asherman syndrome) or ovaries (causing cyst and masses) [4].

In India tuberculosis seems to be an important cause of oligomenorrhea or amenorrhoea and the infertility associated with Asherman syndrome [11].

Inappropriate diagnosis could cause significant problems and progressive damage. For example TB induced salpingitis may progress to the endometritis and Asherman if remains undiagnosed. Hence, extra attention to the vague signs (hypomenorrhea) and findings (calcified lymph nodes) is highly recommended for the patients from the suspected regions.

Our patient was wrongly marked as "polycystic" ovarian disease, which was later diagnosed as "multifollicular" ovaries associated with chronic problem (infection). IVF had been considered for her as the ultimate treatment for her infertility and multiple ovarian stimulation had been given to her to induce ovulation.

If she had undergone a comprehensive evaluation in response to her prolonged infertility considering the risk factors (susceptible patient from a developing TB endemic country), the complete obliteration of the endometrial cavity could have been avoided.

## Conclusion

Though Genito-urinary tuberculosis is not common in developed countries, however it should still be considered as a possible diagnosis for the patients who are susceptible to it.

Evaluation for TB should be part of the exams for the patients with pelvic pain, menstrual problems and infertility specially when no other cause is found. Considering TB in high-risk patients with vague symptoms can prevent extensive and poor prognostic stages.

Since a proper and adequate treatment for preserving fertility is attributed to an early diagnosis, complete evaluation of the suspected patients should be done as early as possible.

## Ethical Declaration

The patients referred by a gynecologist for routine evaluation for IVF and this is a retrospective study so no consent for participation is needed, though the consent for contrast study was taken as routine also after evaluation a consent for the publication was taken from her. All the images and patient related material and consent are available.

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