



Case Report

Journal Homepage: <http://crp.tums.ac.ir>

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



Azadeh Hajati

Taba Medical Imaging Center Zand BLVD, Moadel st; Taba building Shiraz, Fars, Iran.



Citation Hajati A. Mis-Diagnosis of Genital Organ Tuberculosis Ending in a Severe Asherman Syndrome: A Case Report. *Case Reports in Clinical Practice*. 2022; 7(1):41-44.

Running Title Mis-Diagnosis of Genital Organ Tuberculosis

**Article info:****Received:** 13 January 2022**Revised:** 06 February 2022**Accepted:** 13 February 2022**Keywords:**

Tuberculosis; Infertility; Imaging; Asherman syndrome

ABSTRACT

This case describes a female with long-term primary infertility, labelled with polycystic ovarian syndrome, who showed no response to the given treatments. Hysterosalpingography, performed as part of the *in vitro* Fertilisation (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.

Introduction

Asherman syndrome, or Fritsch syndrome, first described in the late 19th and early 20th century, is a rare gynecological problem [1]. Asherman syndrome is associated with trauma to endometrial basal layers, causing adhesion formation 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 infectious and inflammatory diseases including Tuberculosis and Schistosomiasis. In general, adhesions vary in shape and location, and the severity of the disease is defined by its extent [2].

Different modalities could be employed to evaluate and diagnose Intrauterine adhesion, such as Hysterosalpingography (HSG), Magnetic Resonance Imaging (MRI), Hysteroscopy, as well as Ultrasonography, including Sonohysterography (SHG) and 3D Ultrasonography [3].

*** Corresponding Author:****Azadeh Hajati, MD.****Address:** Taba Medical Imaging Center Zand BLVD, Moadel st, Taba building Shiraz, Fars, Iran .**E-mail:** azadeh.hajati@gmail.com

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 organs in both sexes with or without pulmonary involvement [5].

Women's involvement in the uterus and fallopian tubes can lead to scar formation, adhesions, and strictures. Consequently, infertility (primary or secondary) or ectopic pregnancy may occur [6]. The case of an infertile patient with misdiagnosis and overlooked genital tuberculosis is presented here.

Case Report

A 32 years old Afghan nulliparous lady was referred for evaluation by HSG for long-term (nearly 10 years) infertility. Her gynecologist wanted to evaluate the suitability of the endometrial cavity for a potential *in vitro* fertilisation (IVF). According to the previous studies, she had a history of hypomenorrhea and was labelled incorrectly to Poly Cystic Ovaries (PCO) disease.

The HSG showed a minimal contrast in the lower segment of the endometrial cavity with no cavity distention. However, the study was done with a dedicated plastic catheter and a metal cone instrument (Figures 1, 2). So further ultrasonography was done that showed some calcification in the endometrial myometrial interface with no definite signs of PCO disease.

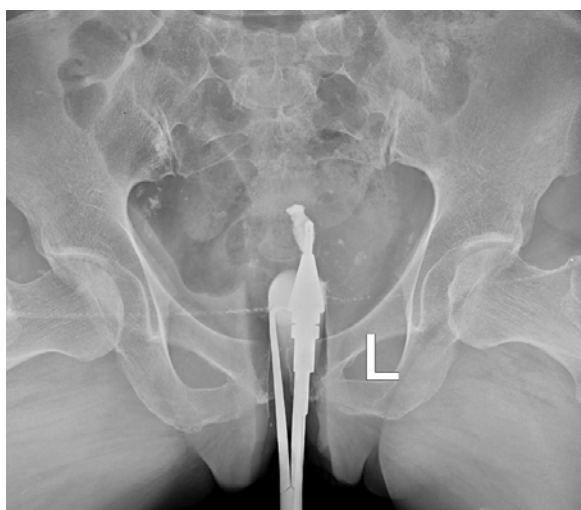


Figure 1. Hysterosalpingogram with metal cone instrument shows obliterated endometrial cavity except for the most lower segment after contrast injection

In the hysteroogram films, some calcifications of the pelvic cavity indicating pelvic sidewall lymph nodes were seen, which implied a potential presence of uterine Tuberculosis (Figure 3).

Since the patient didn't agree to undergo the hysteroscopy procedure, fearing damage to the uterus, Fine Needle Aspiration (FNA) PCR of lymph and 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 antimicrobial therapy.

Discussion

The patient was diagnosed with TB without having any TB symptoms through evaluations for possible IVF suitability. Most cases of 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). At the same time, the patient can be completely asymptomatic. Microbiology and histopathology examinations are the most reliable diagnostic tests, but they can be invasive and take 6 weeks [8]. Alternatively, PCR tests can be done on blood and other samples and specimens of the patients to diagnose Mycobacterium Tuberculosis as a



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



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

specific and sensitive tool. It helps diagnose 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]. They can be relatively severe at the time of diagnosis. The most presenting symptom of female genital TB is infertility (sterility, subfertility).

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

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

Inappropriate diagnosis could cause significant problems and progressive damage. For example, TB-induced salpingitis may progress to 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 with “polycystic” ovarian disease, which was later diagnosed as “multifollicular” ovaries associated with chronic problem (infection). IVF was considered the ultimate treatment for her infertility, and multiple ovarian stimulations 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, it should still be considered 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, mensural problems, and infertility, especially 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, a complete evaluation of the suspected patients should be done as early as possible.

Ethical Considerations

Compliance with ethical guidelines

There were no ethical considerations to be considered in this research.

Funding

This research did not receive any grant from funding agencies in the public, commercial, or non-profit sectors.

Conflict of interest

The authors declared no conflict of interest.

References

- [1] Anjum A, Tabassum K. Atypical case of asherman or fritsch syndrome due to prolonged retained fragment of Cu-T in myometrium. *Research & Reviews: Journal of Medicine*. 2017; 7(1):10–12. [DOI:10.37591/rrjom.v7i1.1617]
- [2] Smikle C, Yarrarapu SN, Khetarpal S. Asherman syndrome. *Stat-Pearls* [Internet]. 2021 [2021 Agu 9]. [PMID] [PMCID]
- [3] Dreisler E, Kjer JJ. Asherman's syndrome: Current perspectives on diagnosis and management. *International Journal of Women's Health*. 2019; 11:191-8. [DOI:10.2147/IJWH.S165474] [PMID] [PMCID]
- [4] Mann C, Maki G, Zervos M, Ravishankar N. Diagnosing genitourinary tuberculosis: A Case Report. *Clinical Medical Reviews and Case Reports*. 2019; 6:268. [DOI:10.23937/2378-3656/1410268]
- [5] Kulchavenya E. *Current therapy and surgery for urogenital tuberculosis*. Berlin: Springer; 2016. [DOI:10.1007/978-3-319-28290-9]
- [6] Sharma N, Sharma V, Singh PR, Sailwal S, Kushwaha RS, Singh RK, et al. Diagnostic value of PCR in genitourinary tuberculosis. *Indian Journal of Clinical Biochemistry*. 2013; 28(3):305-8. [DOI:10.1007/s12291-012-0279-7] [PMID] [PMCID]
- [7] Kapoor R, Ansari MS, Mandhani A, Gulia A. Clinical presentation and diagnostic approach in cases of genitourinary tuberculosis. *Indian Journal of Urology*. 2008; 24(3):401-5. [DOI:10.4103/0970-1591.42626] [PMID] [PMCID]
- [8] Abdissa S, Abebe T, Ameni G, Teklu S, Bekuretsion Y, Abebe M, et al. Endometrial tuberculosis among patients undergoing endometrial biopsy at tikur anbesa specialized hospital, Addis Ababa, Ethiopia. *BMC Infectious Diseases*. 2018; 18(1):304. [DOI:10.1186/s12879-018-3202-x] [PMID] [PMCID]
- [9] Amin I, Idrees M, Awan Z, Shahid M, Afzal S, Hussain A. PCR could be a method of choice for identification of both pulmonary and extra-pulmonary tuberculosis. *BMC Research Notes*. 2011; 4:332. [DOI:10.1186/1756-0500-4-332] [PMID] [PMCID]
- [10] Shah S, Miller A, Mastellone A, Kim K, Colaninno P, Hochstein L, D'Amato R. Rapid diagnosis of tuberculosis in various biopsy and body fluid specimens by the AMPLICOR mycobacterium tuberculosis polymerase chain reaction test. *Chest*. 1998; 113(5):1190-4. [DOI:10.1378/chest.113.5.1190] [PMID]
- [11] Sharma JB, Roy KK, Pushparaj M, Gupta N, Jain SK, Malhotra N, et al. Genital tuberculosis: An important cause of Asherman's syndrome in India. *Archives of Gynecology and Obstetrics*. 2008; 277(1):37-41. [DOI:10.1007/s00404-007-0419-0] [PMID]