

Case Report

Unveiling Rare Cases of Genital Tuberculosis: A Two-Case Report Emphasizing Diagnostic Awareness

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Abstract

Background: Female genital tuberculosis (FGTB) is a rare form of extrapulmonary tuberculosis that often mimics other gynecological pathologies, leading to diagnostic challenges and delayed treatment. In tuberculosis-endemic countries like Indonesia, awareness of this condition remains limited.

Methods: This study is a descriptive retrospective study that presents two case reports of female genital tuberculosis patients who were treated at Persahabatan General Hospital between 2023 – 2024. Both patients were referred from other hospital with two different diagnoses. The diagnosis in both cases was established through a combination of clinical evaluation, radiological imaging, and confirmatory pathological or bacteriological tests.

Results: We reported two cases of FGTB in reproductive-age women. The first case, a 33-year-old woman, presented with abdominal pain, distension, and elevated CA-125 levels serum, raising suspicion of ovarian malignancy. Laparoscopy and histopathological examination confirmed tuberculosis infection, and the patient showed full recovery after nine months of anti-tuberculosis therapy. The second case, a 32-year-old woman with a history of pulmonary tuberculosis, was diagnosed early through ultrasonography findings and successfully managed with medical therapy followed-up by serial ultrasound, avoiding surgical intervention.

Conclusion: Many cases of female genital tuberculosis remain underdiagnosed due to the challenges in its diagnosis. Early recognition through careful examination, imaging, and confirmatory tests can prevent misdiagnosis and unnecessary surgery. Greater awareness and multidisciplinary among clinicians can also lead to early diagnosis, proper treatment, and better patient outcomes.

Keywords: Tuberculosis, Female Genital Tuberculosis, Ultrasound Monitoring

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Tuberculosis or known as TB is an infection that primarily affects lung organ caused by *Mycobacterium tuberculosis*. Indonesia has been ranked second worldwide after India with known of 1.6 million death cases caused by TB.¹ Not only affects lungs, TB can also affects other organ or often known to be an extrapulmonary TB. Genital tuberculosis is one of rarest extrapulmonary TB that prevalence still unknown to this day due to challenges in the diagnosis. Manifestation of genital tuberculosis can mimicked other gynaecology disease with infertility, abnormal uterine bleeding, and enlarged stomach as their chief complaints.² Female genital tuberculosis (FGTB) usually occurs as secondary TB of the lung with transmission from hematogenous or lymphatic routes but it also can be a primary infection if the transmission is from a partner that infected genital tuberculosis. FGTB can be diagnosed by histopathological or microbiological examination but in most cases due to ambiguous manifestations, the bacterial examination often got overlooked.³

METHODOLOGY

This study is a descriptive study that presents two case reports of female genital tuberculosis patients who were managed at Persahabatan General Hospital, Jakarta, Indonesia, between 2023 – 2024. Both patients were referred from other hospital with two different diagnosis. Clinical data were retrospectively reviewed from patient medical records, including demographic information, presenting symptoms, menstrual and reproductive history, imaging findings, laboratory, microbiological results, histopathological confirmation, treatment regimens, and clinical outcomes. The diagnosis of FGTB was established based on a combination of clinical presentation, imaging findings, and confirmatory bacteriological or histopathological evidence, in accordance with WHO and national tuberculosis management guidelines.

RESULT

CASE REPORT 1

Mrs. F, 33 years old, P2A0, was referred to Persahabatan General Hospital with suspected ovarian cyst and cystic ovary neoplasm as differential diagnosis. She complaints having an abdominal pain and bloating since a month before admission to the hospital. On general examination, the abdomen was slightly distended, and shifting dullness was present. Laboratory test showed normal complete blood count, but there were an elevated ESR and high CA-125 more than 600. The chest X-Ray was normal, but the transvaginal ultrasound showed a suspected solid neoplasm on the right and left ovaries with specific process mass of the right fallopian tube and left ovary accompanied by massive ascites and suspected right pleural effusion.

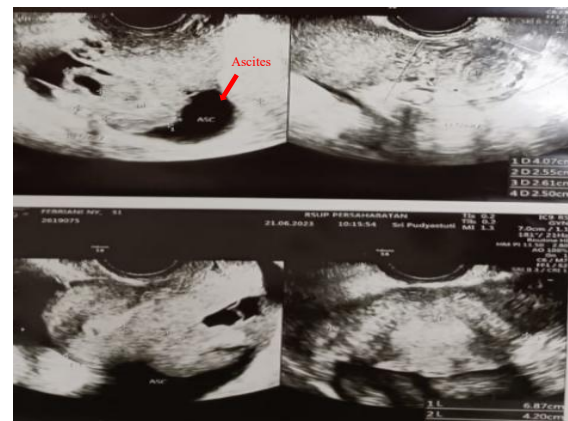


Figure 1. irregular solid mass in the right ovary and irregular complex solid mass in the left ovary. Ascites (+).

Hysteroscopy was performed followed by laparoscopy biopsy showed a yellowish ascites fluid with multiple miliary lesions spreads over omentum, peritoneum, intestines, uterus, and abdominal wall consist of caseous necrosis that identic with tuberculosis.

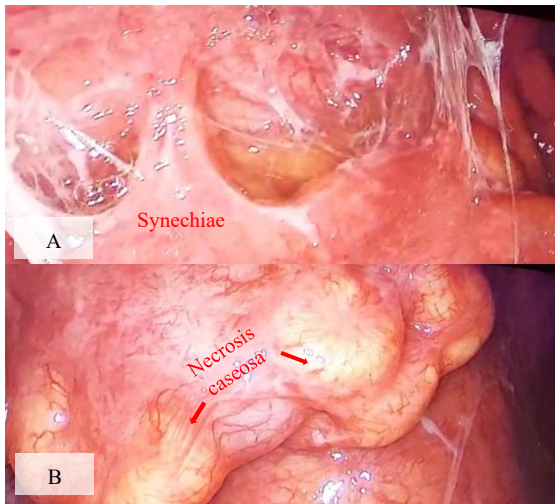


Figure 2. Tuberculosis characteristics was found in uterus: necrosis caseosa lesion and synechiae.

Whitish adhesions were also seen on the abdominal wall and peritoneum. Histopathological anatomy showed no malignant tumor cells, instead a consistent granulomatous inflammation cells was found due to tuberculosis infection.

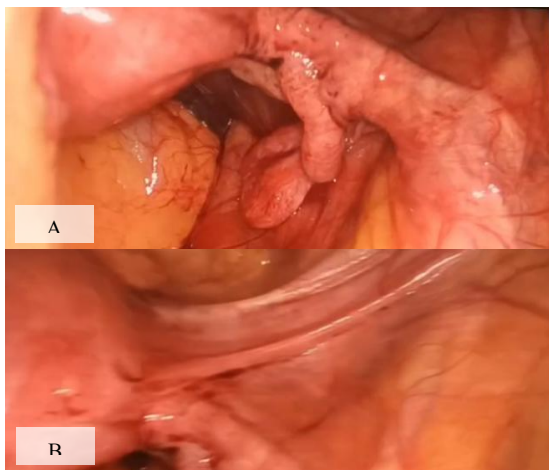


Figure 3. Second-look laparoscopy showing improvement after 9 months anti tuberculosis treatment.

Bacteriological examination confirmed there is MTB positive with rifampicin sensitive. Based on the pathological and bacteriological examination results, a diagnosis of genital tuberculosis was established, and the patient was initiated on a nine-month course of anti-tuberculosis therapy. After completing the treatment, follow-up ultrasound showed improvement on the genital interna, and second-look hysteroscopy was performed and pathology anatomy examination showed no sign of tuberculosis inflammation observed.

CASE REPORT 2

Mrs. H, 32 years old, P2A0, was referred from previous hospital with persistent lower abdominal pain after genitalia tuberculosis treatment for 6 months. The patient complains on having intermittent lower abdominal pain for almost 2 years with pain scale 5-6 (VAS) and aggravated by riding motorcycle or doing heavy activity.

A year ago, the patient complains to have prolong vaginal discharge and irregular menstruation for three months. She also felt a significant weight loss and fatigue for the past 2 months. From the previous hospital, ultrasound was performed and showed a suspected genitalia tuberculosis and the chest X-Ray showed a right pleuropneumonia with pleural effusion and homogenous opacity in the right lung base suggesting inactive TB. The patient then referred to pulmonology specialist and had 6 months treatment. Therefore, after completing the treatment she felt a lot better. After two months of treatment, the patient began to experience recurrent lower abdominal pain and subsequently referred to Persahabatan General Hospital.

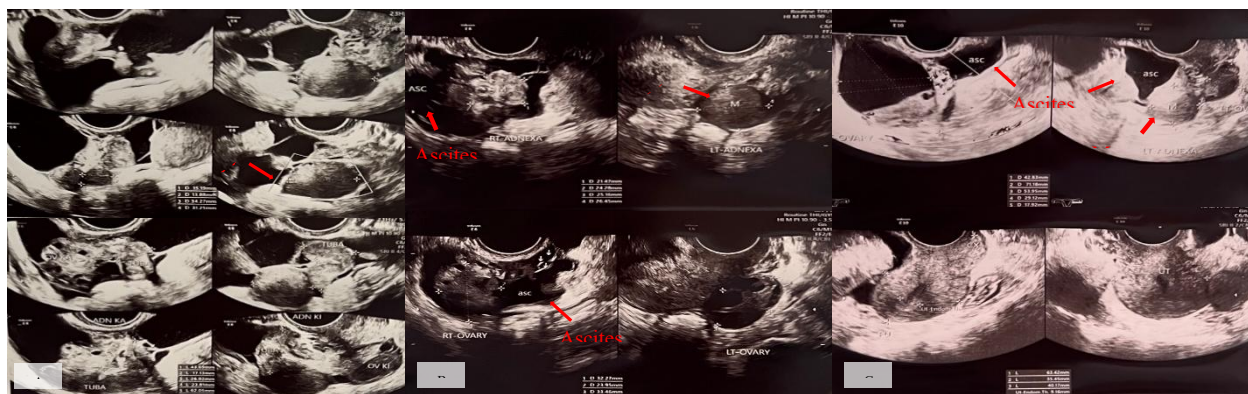


Figure 4 – 6. Serial ultrasonography was performed to monitor treatment progress. (A) **Initial ultrasound examination** showed hydrosalpinx, hypoechoic nodules, and ascites with fibrinous strands, indicating a specific infectious process in both adnexa. (B) **Two months** after anti-tuberculosis therapy (ATT), elongated cystic structures were still observed in both adnexa, consistent with hydrosalpinx. (C) **At nine months post-ATT**, a cystic mass originating from hydrosalpinx persisted only in the left adnexa, minimal free fluid was observed in the Douglas pouch.

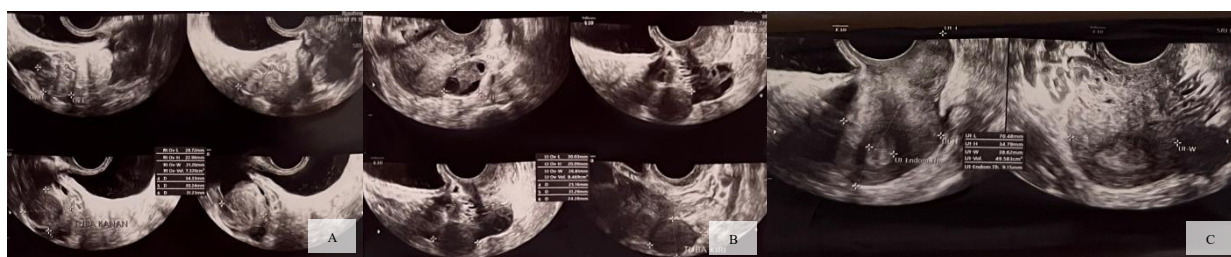


Figure 7. Ultrasound examination 12-months post Anti Tuberculosis Treatment (ATT) – (A) Hydrosalpinx or chronic salpingitis found on the right fallopian tube, no free fluid was detected in the right adnexal. (B) Improvement condition of hydrosalpinx or chronic salpingitis on the left fallopian tube, no free fluid detected. (C) No free fluid detected in the Douglas pouch

In Persahabatan General Hospital, the patient underwent re-evaluation ultrasound and from the ultrasound was found an elongated convoluted structured that adhered to bilateral ovaries suspected from hydrosalpinx or chronic salpingitis. From the pelvic cavity, ascites was found with fibrinous strands, suggestive of specific process. The patient received another treatment with the same regimen for 12 months. Ultrasound serial was performed at the start of the treatment followed by 2 months, 9 months, and 12 months post anti tuberculosis treatment. During follow-up visits for ATT collection, the patient did not report any symptoms. On the second months ultrasound evaluation, an elongated cystic structure that adherent to both ovaries were still observed, suggestive of chronic salpingitis. Ascites and fibrinous strands was also noted, likely results from a specific inflammatory process like tuberculosis. On the ninth month ultrasound, chronic salpingitis still persisted, but however the amount of ascites had decreased in the Douglas pouch. By the twelfth-month ultrasound,

there were improvement in the fallopian tubes and no free fluid was detected in the Douglas pouch.

DISCUSSION

Female genital tuberculosis is a common form of extrapulmonary TB that usually occur as secondary infection. However, based on *Kementerian Kesehatan Indonesia*, it is estimated that there are 1,090,000 TB cases in Indonesia which ranked second in the world after India. But up to now, the prevalence of genital tuberculosis in Indonesia remains unknown. Most of female genital tuberculosis patient showed no symptoms, but some of the symptoms can be similar to other gynaecology pathologies such as infertility, menstrual irregularities, pelvic pain, and abnormal vaginal discharge.² Due to the nonspecific symptoms, many cases of genital tuberculosis are frequently underdiagnosed that can cause delayed treatment and reducing quality of life.

In diagnosing gynecological pathologies, genital tuberculosis should be considered as a differential diagnosis, especially those patients with treatment failure.⁴ Given that Indonesia still remains a tuberculosis-endemic area, the diagnostic approach should be based on thorough history taking and physical examination such as familial history on tuberculosis infection, followed by confirmation through bacteriological examination.⁴ In addition to gynecological evaluation, a comprehensive systemic assessment should also be performed.

The clinical manifestations of genital tuberculosis may resemble genital neoplasm or other gynaecological disorders.⁵ From the given case, the first patient has a main complain of lower abdominal pain with distended abdomen that can lead to several pathologies. Laboratory findings revealed markedly elevated CA-125 levels, and ultrasound showed bilateral ovarian masses accompanied by ascites, raising suspicion of an ovarian malignancy. CA-125 is a cancer marker usually detects ovarian neoplasm⁶, but it is reported that there has been an increase CA-125 marker in patient with pulmonary and extra-pulmonary tuberculosis. Many studies confirmed high serum CA-125 levels are higher in extrapulmonary tuberculosis patients with abdominal involvement.⁷ Many cases of ovarian tuberculosis and ovarian carcinoma have similar symptoms, laboratory findings, and radiological characteristic that makes surgical exploration is the only possible way to make definite diagnosis that later confirmed by histopathology.⁸ In contrast to the first case, the second case was diagnosed early based on ultrasound findings, as the patient presented with gynecological symptoms in the context of a secondary infection from pulmonary tuberculosis.

The surgical procedure such as laparoscopy can find TB characteristics such as beaded tubes, caseous nodules, and tubercles while ultrasound is more economical and useful modality to diagnose female genital tuberculosis. Ultrasonography findings can detect tubo-ovarian masses, hydrosalpinx, ascites, and thin endometrium. However, ultrasound has its limitations and alone cannot be used for diagnosing female genital tuberculosis while the gold

standard remains microbiological methods.⁹ However, serial ultrasound assessments may be useful as an alternative monitoring for treatment response in female genital tuberculosis and can help minimize unnecessary surgical interventions.

CONCLUSION

Many cases of female genital tuberculosis remain underdiagnosed due to the challenges in its diagnosis. Early recognition through careful examination, imaging, and confirmatory tests can prevent misdiagnosis and unnecessary surgery. Greater awareness and multidisciplinary among clinicians can also lead to early diagnosis, proper treatment, and better patient outcomes.

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