

Tuberculous Oophoritis Presenting as Adnexal Abscess with Abdominal Wall Sinus: A Case Report

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ABSTRACT

Ovarian tuberculosis is an uncommon entity of tuberculosis, which is mostly undetected and under-reported. Female genital tuberculosis is caused mostly by *Mycobacterium tuberculosis*, and some cases are caused by *Mycobacterium bovis* and atypical mycobacteria. This patient presented with a history of serous discharge at the surgical scar with a skin gap of 1.5 cm at the suprapubic region. Imaging studies revealed pus-filled, enlarged left ovary and forming a sinus tract and communicating with the skin at the suprapubic region. Another intercommunicating midline adnexal lesion was also noted. Intraoperative findings confirmed these findings and left salpingo-oophorectomy and excision of the sinus tract were done. Histopathological examination revealed granulomatous inflammation. The patient was put on anti-tuberculosis treatment, and the patient is on follow-up. Female genital tuberculosis is relatively uncommon among post-primary pulmonary tuberculosis and presents with subtle and uncertain clinical symptoms and if left untreated, leads to significant complications like infertility. Clinical suspicion and early treatment may potentially cure this disease and avoid uncorrectable complications.

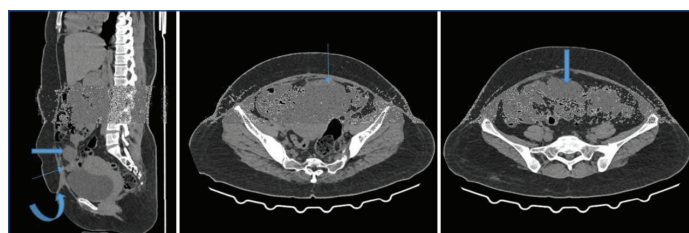
Keywords: Abdominal sinus tract, Endometrial biopsy, Infertility, Tuberculosis, Tubo-ovarian abscess

CASE REPORT

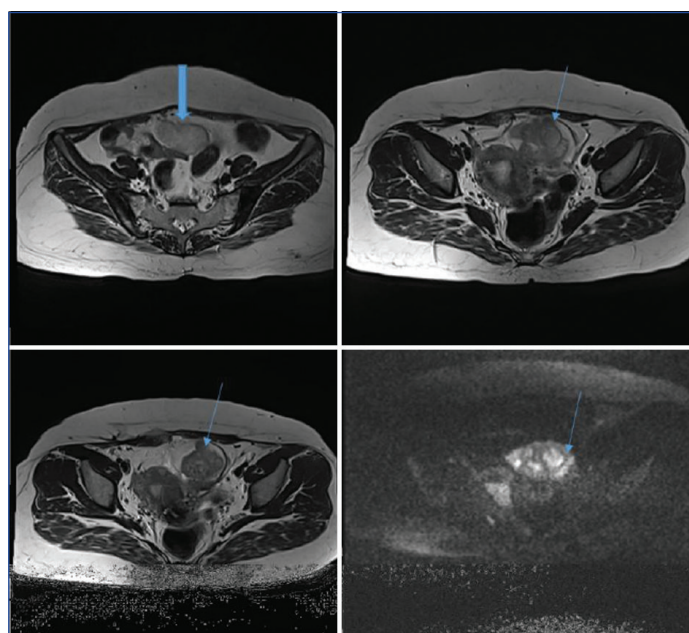
A 39-year-old female patient, G6, P2, L2, A4, came with a history of serous discharge from the surgical scar site at the suprapubic region on and off for seven months. No history of fever, evening rise of temperature, chronic cough, abdominal pain, or weight loss. No history of recent contact with a tuberculous patient. Patient had a history of previous Lower Segment Caesarean Section (LSCS) twice, the last one was done four years back, and there was history of left Salpingectomy for ruptured left tubal ectopic pregnancy, seven months back. Menstrual history was regular. There was no history of dysmenorrhoea. Clinical examination shows wound gaping of 1.5 cm at the surgical scar site, with minimal serous discharge. No abdominal tenderness or organomegaly was detected. There was no evidence of abdominal distension. No evidence of dysuria, urgency, or increased frequency was noted. Vitals were normal. Pus culture showed scanty colony count, which was positive for Methicillin-Resistant Coagulase-Negative Staphylococci (MR-CoNS) and sensitive to Vancomycin.

Since there was a history of discharge and a fistulous tract was suspected, an abdominal ultrasound was not done, and the patient was advised to undergo a CT abdomen. All haematological tests were within normal limits. CT abdomen plain study revealed two hypo-dense lesions in the pelvis, one in the midline and another one in the left adnexal region with minimal perilesional fat standing [Table/Fig-1a-c]. The midline lesion measured 5.3×2.9×3.5 cm (TR×AP×CC) and the left adnexal lesion measured 5.9×4.8×4.4 cm (TR×AP×CC). A linear sinus tract was seen arising from the right lateral margin of the left adnexal lesion and coursing through the anterior abdominal wall and into the subcutaneous plane and an external opening was noted in the suprapubic region in the midline. Contrast MRI study showed two adnexal lesions in the pelvic cavity, one in the midline and another in the left adnexal region [Table/Fig-2a-c]. Both lesions show areas of diffusion restriction, indicating abscess formation [Table/Fig-2d]. The midline lesion shows peripheral wall enhancement and the left adnexal lesion shows heterogeneous enhancement with multiple cystic areas within [Table/Fig-3a-d]. Both lesions, the midline lesion and the left adnexal lesion, are intercommunicating [Table/Fig-3c].

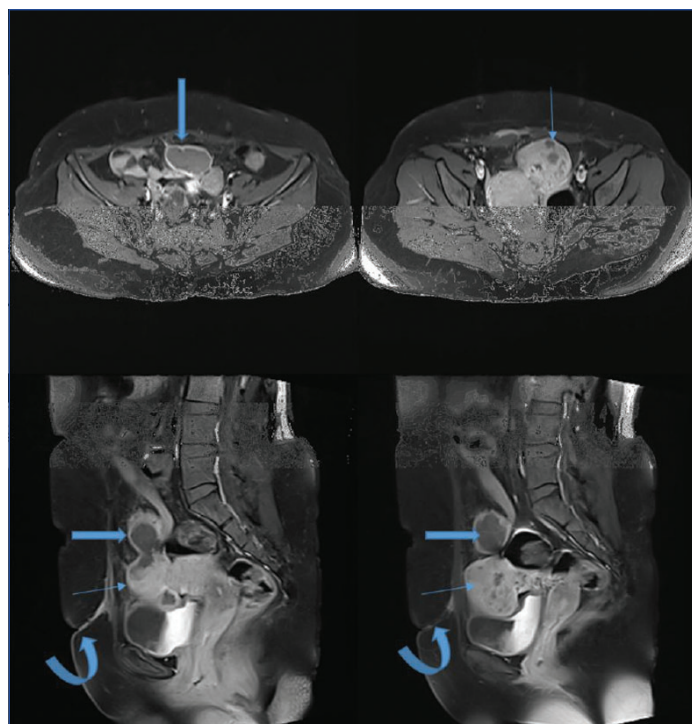
The patient underwent diagnostic laparoscopy. Intraoperative findings were an enlarged left ovary filled with purulent material, surrounded by omentum. Small bowel loops are seen adherent to the anterior abdominal wall. Left salpingectomy status was noted.



[Table/Fig-1a-c]: (CT images sagittal and axial sections) show left enlarged ovary (thin arrow), left adnexal abscess (bold arrow) and sinus tract (curved arrow).



[Table/Fig-2]: (a-c) (T2 axial) shows pus-filled, enlarged left ovary (thin arrow) with adjacent left adnexal abscess (bold arrow); (d) (DWI images) shows diffusion restriction within the enlarged left ovary (thin arrow) and left adnexal lesion suggestive of abscess formation (thin arrow).



[Table/Fig-3a-d]: (T1 sagittal and axial post contrast images) filled enlarged left ovary (thin arrow) with adjacent communicating left adnexal abscess (bold arrow) and an enhancing sinus tract (curved arrow) in the anterior abdominal wall.

The abscess was drained along with left oophorectomy and partial omentectomy. Methylene blue was injected into the sinus tract and the same was excised. Postoperative pus culture showed no growth. The Cartridge-Based Nucleic Acid Amplification Test (CBNAAT) was negative.

Histopathological examination revealed necrotising epithelioid granulomatous inflammation involving the left ovary, omentum, and wall of the sinus tract, suggestive of mycobacterial infection. Patient was put on nine months of Anti-Tubercular Therapy (ATT) and on follow-up. During follow-up surgical scar was healed and healthy. No evidence of discharge noted and advised to complete the course of anti-tuberculous treatment and follow-up.

DISCUSSION

Pulmonary tuberculosis is more prevalent in India and makes a significant burden on healthcare facilities, which is mostly caused by *Mycobacterium tuberculosis* and a few cases caused by *Mycobacterium bovis* [1]. Extrapulmonary tuberculosis is also becoming more common due to the increased incidence of HIV/AIDS. Lymphatic involvement is the most common site of extrapulmonary tuberculosis, and the genitourinary system is the second most common site of involvement of extrapulmonary tuberculosis [1,2]. Twelve percent of women with pulmonary tuberculosis had genital tuberculosis [2]. Incidence rate of tuberculous infection is 196 per one lac population and the mortality rate of 23 per one lac population. A total of 19 lac tuberculosis cases have been identified in India in 2025 [1].

Fallopian tubes are the most common site of infection, involving 90-100% and endometrium is involved in 50-80% cases, and ovaries in 20 to 30% cases of genital tuberculosis, which may present with chronic pelvic pain, menstrual irregularity, and infertility. A few cases are asymptomatic and may mimic ovarian malignancies [2,3].

Missed and delayed diagnosis are common in cases of ovarian/genital tuberculosis. Complications of genital tuberculosis include infertility, ectopic pregnancy, multiple recurrent abortions, abscess formation with rupture into the peritoneal cavity, and, rarely, sinus tract formation. These complications are developed due to delayed and missed diagnosis [4,5]. The standard short-

course anti-tuberculous regimen for six months is recommended for genital and ovarian tuberculosis and 12 months of therapy is recommended in case of widespread genital tuberculous infection. Surgery is recommended in case of failure of medical therapy and abscess formation, and removal of sinus tracts. Surgery mainly involves drainage of pus, affected organs, and removal of sinus tracts [5].

Sharma JB et al., evaluated 374 cases of infertility with female genital tuberculosis with laparoscopic evaluation. Among these patients, 210 had features of genital tuberculosis (56.14%) and pelvic adhesions in 23.52% cases, peri-hepatic adhesions in 47.86%, and shaggy areas in 11.7% cases. No cases of sinus tract were identified in this study, which signifies the rarity and lower incidence of this condition due to tuberculous infection [5].

Mangla M et al., presented a 35-year-old female who presented with the complaint of severe abdominal pain and bloody discharge from the supra pubic surgical scar of a previous caesarean section during menstruation. On evaluation, she was having chronic Methicillin-resistant *Staphylococcus aureus* (MRSA) infection and found to have genital tuberculosis manifesting as tubo-ovarian abscess and uterocutaneous fistulous tract, which was confirmed by histopathological examination of resected tissues and fistulous tract wall [6].

Gudu W published a case report of isolated ovarian tuberculosis in an immunocompetent 25-year-old woman during the postpartum period and presented with abdominal pain, pelvic mass and fever. After complete evaluation patient underwent laparotomy, and the right adnexal lesion was excised, and right oophorectomy was done. Histopathological examination of the excised specimen revealed a tuberculous lesion. The patient recovered after taking anti-tuberculous treatment. This case report signifies the rarity of isolated ovarian tuberculous infection among the cases of genital tuberculosis [7].

Untreated tubo-ovarian tuberculosis leads to adhesions and fibrotic changes in the pelvis can cause pelvic abscess, may be located in the adnexa, or farther from the adnexa. Adhesion leads to tubal scarrings and kinking because of peritubal fibrotic changes, which brings significant challenge to the operating surgeon and leads to inadvertent injuries to other pelvic organs like the ureter and bowel loops and may cause fistulous connections. Early identification and treatment will preserve the reproductive function of the patient and avoid inadvertent complications and the complexity of surgical correction.

CONCLUSION(S)

Tuberculous oophoritis is a rare and often overlooked manifestation of female genital tuberculosis, especially when presenting with adnexal abscess and abdominal wall sinus tract formation. This case underscores the diagnostic challenge posed by such atypical presentations. Early consideration of tuberculosis in endemic areas, especially in women with chronic adnexal symptoms, is crucial.

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