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Case Report

An Atypical Presentation of Pelvic Disseminated Tuberculosis Mimicking Ovarian Cancer; a Case Study

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Abstract

***Purpose*:** This study highlights the clinical and radiological challenges in distinguishing ovarian malignancy from pelvic tuberculosis (TB), underscoring the need for precise diagnosis and appropriate treatment. ***Background*:** Pelvic TB, a rare extrapulmonary form of tuberculosis, presents diagnostic challenges, particularly in developed countries where it is less prevalent. Its symptoms, including chronic pelvic pain, menstrual irregularities, and adnexal masses, can mimic those of ovarian cancer, leading to potential misdiagnosis. Although TB is uncommon in developed nations, it remains a significant global health issue, particularly affecting individuals from endemic regions. Pelvic TB typically spreads to reproductive organs through lymphatic dissemination, direct extension, or hematogenous routes. ***Case Presentation*:** A 46-year-old woman presented with abdominal pain, abnormal vaginal bleeding, breathlessness, weight loss, and night sweats. She had a history of lung sarcoidosis, recurrent chest infections, and prior TB exposure. Initial imaging suggested advanced ovarian malignancy, but an omental biopsy revealed granulomas consistent with sarcoidosis. Further tests confirmed disseminated TB, and the patient underwent a 9-month course of anti-tuberculous therapy, which resolved most disseminated TB lesions. However, a persistent complex pelvic cyst required conservative follow-up. ***Conclusion*:** Although pelvic TB is rare in developed countries, it should be considered in the differential diagnosis of pelvic masses with ascites and elevated CA 125, especially in patients with recurrent chest infections and TB exposure.

Keywords: Advances Ovarian Cancer (AOC), Abdomino-pelvic Tuberculosis (APTB), Tuberculosis (TB).

INTRODUCTION

Tuberculosis (TB) is a well-known infectious disease caused by Mycobacterium (M.) tuberculosis, which continues to pose a serious public health threat worldwide, particularly in developing and underdeveloped countries [1]. Each year, approximately two million people die from TB [2]. Pelvic tuberculosis (PTB) is one of the forms of extra-pulmonary TB, which constitutes about one-fifth of TB cases globally. Abdominal TB accounts for 11–16% of these extra-pulmonary cases, and abdominal-pelvic TB (APTB) accounts for 5.7% [3, 4]. PTB is often misdiagnosed as advanced ovarian cancer (AOC) or pelvic inflammatory disease (PID) in the absence of pathological findings [5], leading gynecologists to perform unnecessary surgeries. However, TB treatment is primarily pharmacological, so it is crucial to avoid surgery whenever possible.

Even though tuberculosis is uncommon in developed nations, it remains a global health concern and can present in individuals from endemic regions or those with specific risk factors. Pelvic TB usually spreads to the ovaries, endometrium, and fallopian tubes by lymphatic dissemination, direct extension from adjacent organs, or the bloodstream. This manuscript describes a case of pelvic disseminated tuberculosis (TB) that was as challenging as the initial diagnosis of ovarian cancer, and the importance of considering TB in the differential diagnosis, even in low-prevalence settings. By highlighting this atypical presentation, we aim to raise awareness among clinicians in developed countries and improve diagnostic accuracy for better patient outcomes.

Objective

To present the clinical and radiological difficulty in differentiating ovarian malignancy from

pelvic tuberculosis in reaching a definite diagnosis and subsequent treatment.

CASE PRESENTATION

A 46-year-old woman presented with abdominal pain and abnormal vaginal bleeding with associated breathlessness, weight loss, and night sweats. The patient had a history of lung sarcoidosis and repeated chest infections in past with known previous exposure to Tuberculosis. She was an ex-smoker 10 years ago. Due to multiple fibroid uterus, she had undergone a hysterectomy previously.

Ultrasound of the pelvis showed a left ovarian complex cyst (117x66x99) with raised CA 125 of 83 IU/ml. MRI of the pelvis and abdomen confirmed bilateral, complex adnexal (93 &50mm size) masses with the presence of ascites, right pleural effusion, and omental disease. CT thorax, abdomen and pelvis (CT-TAP) raised suspicion for advanced ovarian malignancy with lung change. As indicated by the gynae oncology MDT review, a US-guided omental biopsy was performed that showed omental granulomas likely sarcoidosis. A staging laparotomy was performed, which revealed disseminated granulomata. Frozen sections of the omentum and ovarian cyst fluid were negative for malignancy. PCR for tuberculosis was requested and the result came positive. The diagnosis of disseminated tuberculosis affecting the chest, abdomen and pelvis was made and anti-tuberculous therapy was initiated for 9 months.

Serial CT-TAP scans showed ongoing resolution of disseminated tuberculosis. A complex pelvic cystic structure persisted of the same size.MDT decided on conservative follow-up. However, the woman decided not to be operated on and she was discharged back to the GP.

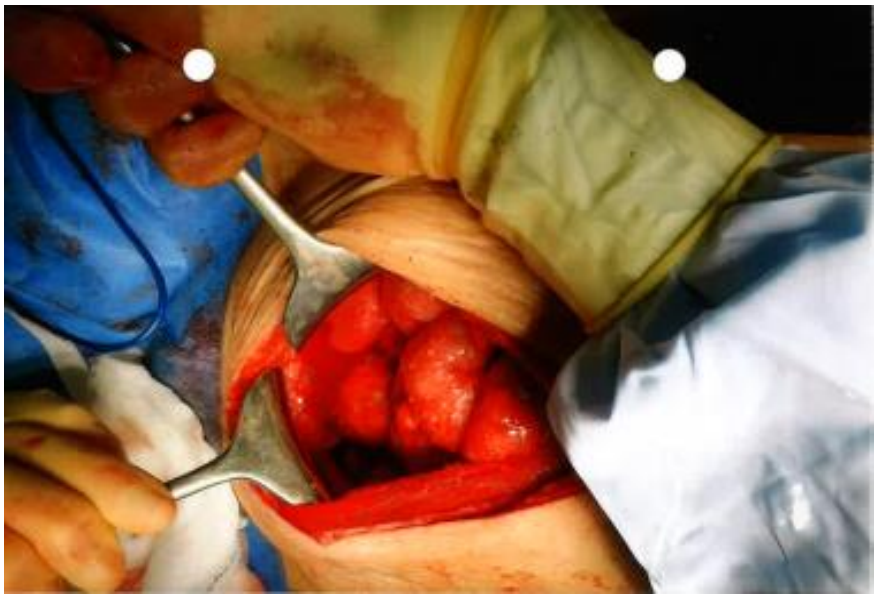

Figure 1: Intra Operative Finding Mid Line Laparotomy

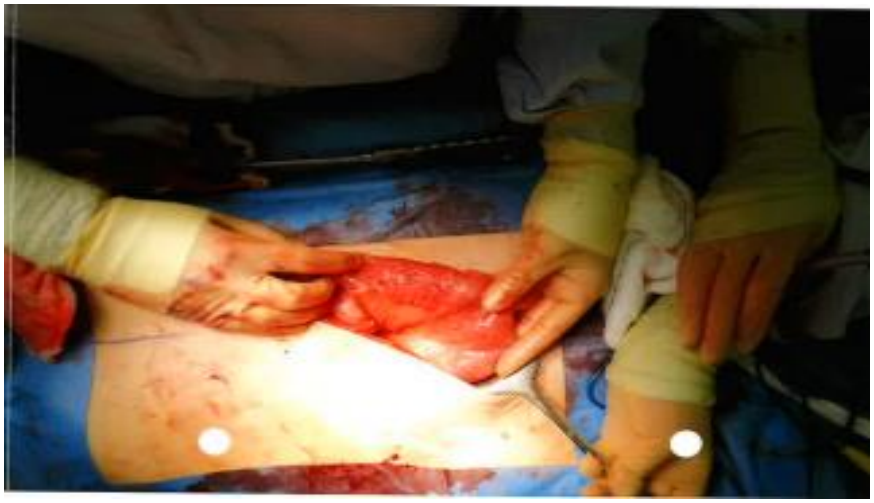

Figure 2: Omental Lesions Considered Sarcoidosis

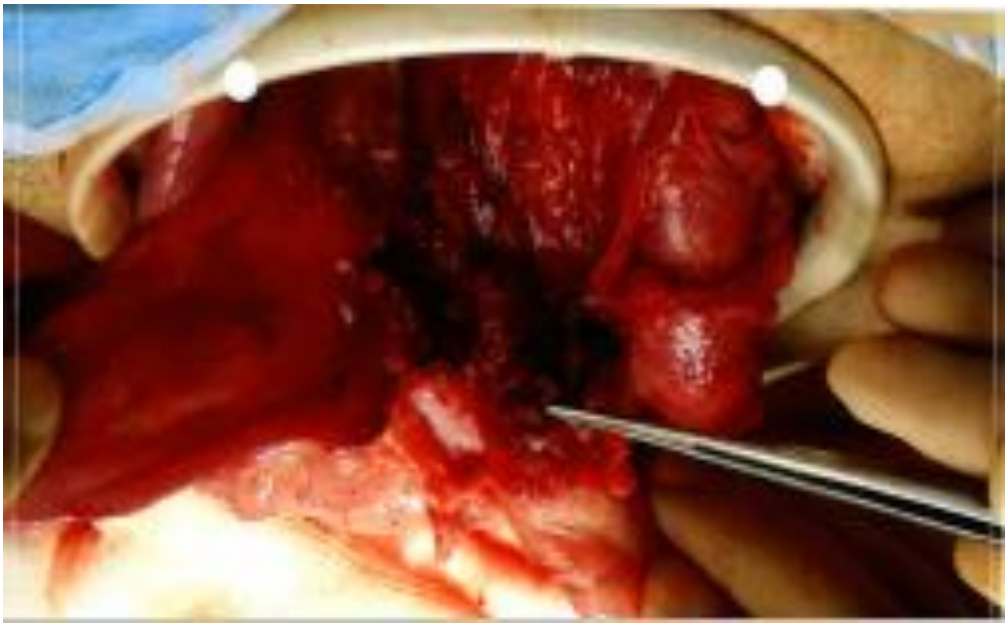

Figure 3: Disseminated Pelvic Deposits

DISCUSSION

Pelvic tuberculosis (PTB) is a rare form of extrapulmonary tuberculosis that presents significant diagnostic challenges due to its diverse manifestations and the absence of specific symptoms. While tuberculosis primarily affects the lungs, it can also involve other organs, including the female genital tract and peritoneum [6]. PTB is typically considered a secondary infection, often spreading hematogenously from the lungs. It can also result from the rupture of mesenteric lymph nodes or the ingestion of contaminated food, leading to the release of TB into the peritoneal cavity [7].

Diagnosing PTB can be particularly difficult because its clinical presentation often mimics that of ovarian cancer. Studies on women with PTB have shown that many present with ascites, and some exhibit adnexal masses along with elevated serum CA125 levels. These symptoms, in the absence of acute abdominal conditions, are very similar to those seen in advanced ovarian cancer (AOC), leading to initial misdiagnosis [8]. For example, in our case, the patient presented with a complex adnexal mass, a large ovarian cyst, and elevated CA125 levels, all of which pointed towards advanced ovarian cancer.

Reaching an accurate diagnosis in such cases is a significant challenge. CA125, a tumor marker commonly associated with ovarian cancer, can also be elevated in various benign conditions, including tuberculosis. This overlap can complicate the diagnostic process. Clinicians should maintain a high index of suspicion for respiratory and disseminated tuberculosis in patients with sarcoidosis who present with worsening respiratory symptoms. Sarcoidosis, a condition characterized by granulomatous inflammation, can coexist with or mimic tuberculosis, further complicating the clinical picture.

The multidisciplinary team's decision to adopt a conservative follow-up approach for the persistent pelvic mass in our patient reflects a balanced consideration of the risks and benefits of surgical intervention. This decision was made in the context of a unique clinical presentation where the risks of surgery might outweigh the potential benefits. Conservative management included close monitoring and follow-up imaging to assess the resolution of the mass over time.

CONCLUSION

Disseminated Pelvic tuberculosis is uncommon in developed countries. Clinicians should consider this while investigating pelvic masses with ascites and raised CA-125 given recurrent chest infection and tuberculosis exposure.

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