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Case Series

Abdominal tuberculosis masquerading as ovarian tumor: a case series

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ABSTRACT

Tuberculosis (TB) is a major health problem in developing countries. Abdominal TB accounts for 6%-13% cases of extra pulmonary TB. The diagnosis of abdominal TB poses a major diagnostic challenge due to its non-specific presenting symptoms. Abdominal TB mimics ovarian cancers in terms of clinical presentation, laboratory and radiological findings such as abdominal distension, ascites and raised CA 125 levels. Hence, in such cases a thorough and planned diagnostic approach becomes essential so that timely diagnosis can be made and unnecessary surgical or oncological intervention burden is avoided.

Keywords: Abdominal tuberculosis, Ovarian tumor, CA 125, Extra pulmonary tuberculosis

INTRODUCTION

Tuberculosis (TB) is a major health problem in developing countries. India is amongst the countries with high TB burden with incidence of 2.8 million cases of the 10 million cases seen globally.[1] Abdominal TB accounts for 6%-13% cases of extra pulmonary TB.[2] Patients with abdominal TB usually present as ascites, weight loss, vomiting, abdominal distension, abdominopelvic mass and elevated serum CA 125 levels.[3,4] Apart from being a biomarker for certain malignancies, CA 125 is also raised in benign conditions like pulmonary and extra pulmonary TB.[5] Ovarian cancers usually present in advanced stages with nonspecific presentation with vague gastrointestinal symptoms.[1] Hence, abdominal TB and Ovarian tumor may simulate each other making the diagnosis difficult.

CASE SERIES

Three cases that diagnosed to be ovarian tumor initially from history, clinical examination, laboratory examination and radiological imaging and underwent laparotomy. During surgery they were found to have abdominopelvic TB that was confirmed later by histopathological examination (HPE) on microscopy. Demographic characteristics and clinical examination characteristics are shown in Table 1, investigations in Table 2 and intraop findings along with HPE findings in Table 3.

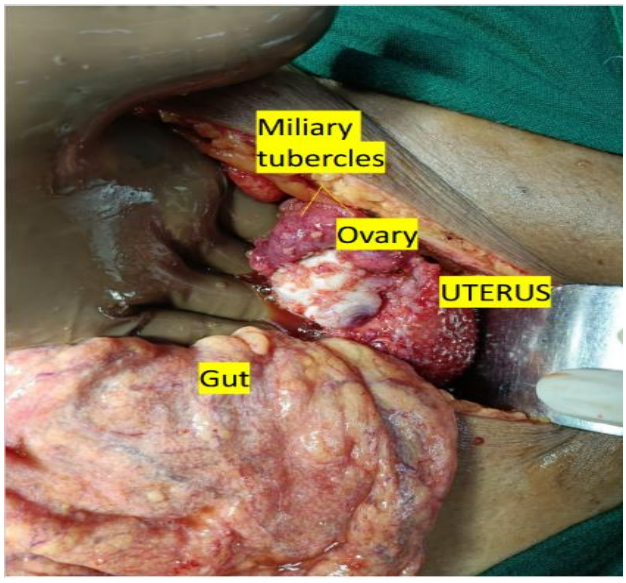

Figure 1: Intra operative image showing miliary tubercles.

Table 1: Demographic details and examination findings.

Variables	Case 1	Case 2	Case3
Age (in years)	43	24	32
Parity	Para 3 live 3	nulligravida	Para 2 live 2
Presenting complaints	Pain and abdominal distension	Pain and abdominal distension	Pain and abdominal distension
Risk factors for TB	Nil	Nil	Nil
Per abdomen	Ascites present	Ascites presents a 30-32 weeks abdominopelvic mass	Soft, no mass, no ascites
Per vaginum	3×3 cm left adnexal cystic mass	Same mass felt as on per abdominal examination	6×6 cm left adnexal cystic mass felt

Table 2: Investigations.

Variables	Case 1	Case 2	Case 3
CA 125 (IU/ml)	480	422	400
Ultrasonography/contrast enhanced computed tomography	Complex cyst of 3×3 cm with thick septation, omental caking and peritoneal thickening	Multiseptated cystic mass with solid areas with loculated hypodense collection of 12×12×23 cm	4×4 cm cystic mass felt in left adnexa
Ascitic fluid analysis adenosine deaminase, biochemistry, cartridge based nucleic acid amplification test, malignant cytology	Negative	Negative	Negative

Table 3: Intra operative findings.

Variables	Case 1	Case 2	Case 3
Surgery performed	Exploratory laparotomy proceed total abdominal hysterectomy with bilateral salpingo-ophorectomy with infra-colic omentectomy	Exploratory laparotomy proceed peritoneal biopsy	Exploratory laparotomy proceed peritoneal biopsy
Intra operative findings	3.5 L ascites drained, extensive nodularity on abdominal wall, bowel and pelvic organs, complex ovarian mass with solid component (Figure 1)	Encysted collection with 4 L fluid, whole abdomen studded with miliary tubercles (Figure 2)	Jumbled up adnexal mass, whole abdomen studded with miliary tubercles (Figure 3)
Histopathology report	Necrotizing granulomatous lesion with giant cells and epithelioid cells		

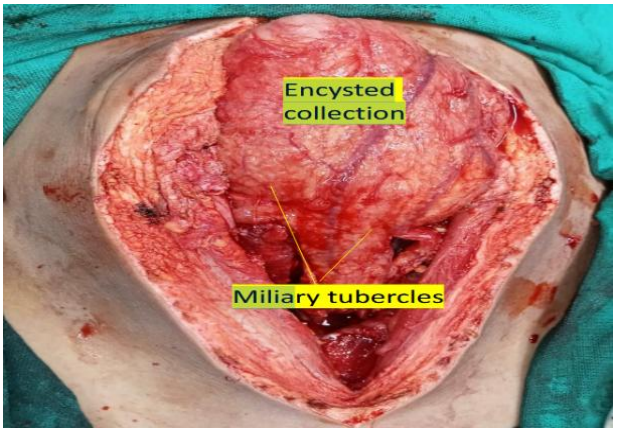

Figure 2: Intra operative image showing extensive abdominal wall nodularity.

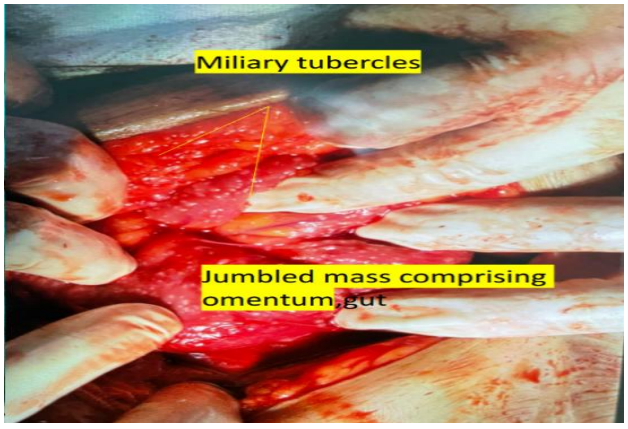

Figure 3: Intra operative image showing jumbled up omental mass.

DISCUSSION

Patients presenting with abdomino-pelvic mass along with ascites and raised CA 125 levels are usually suspected to have malignancy.[4] Due to various clinical presentations of extra pulmonary TB, it is generally difficult to diagnose abdominal TB. Abdominal TB has been shown to be one of the commonest sites of extra pulmonary involvement.[6] It can occur at any age but predominantly it is more common in 25-40 years age.[7] Diagnosing extra pulmonary TB often poses a unique challenge for clinicians worldwide due to lack of specific symptoms and history of TB contacts.[8] In our cases also due to lack of specific symptoms of TB like evening rise of temperature, lymphadenopathy diagnosis of TB could not be made. As ascitic fluid analysis for TB was also negative, pointing more in favor of malignancy. Imaging techniques like USG, CECT also have limited efficacy due to diffuse nature of disease and small implants Though USG, CECT help in differentiating malignancies from inflammatory and infectious conditions like TB, sometimes fail to distinguish them both.[9,10] Hence, in our case also laparotomy was required for further management.

The preoperative diagnosis sometimes becomes difficult due to low negative predictive value of ascitic fluid cytology and cultures.[1]Therefore, even after thorough investigations, it may not be possible to rule out ovarian cancer or abdominal TB without laparotomy. In such cases a laparoscopic approach would be helpful, as it would not only help in diagnosis through direct visualization of the abdominopelvic cavity, but will also provide with the tissue sample for histopathology for confirmed diagnosis. Thus, extensive surgical laparotomies could be avoided in such cases.

CONCLUSION

Due to lack of specific and optimized diagnostic approach for abdominal TB, there is increased burden of laparotomy, thus increasing the morbidity of the patient. Tissue diagnosis is the gold standard for diagnosis. However, it is sometimes not possible to perform as in cases of big masses due to risk of preoperative tumor rupture or spillage that has poor prognosis in case of ovarian cancer or due to poor available resources. Hence, diagnostic laparoscopy should be considered early in the work up of the patient rather than laparotomy. The need of the hour is a diagnostic approach based on clinical manifestations, laboratory and radiological findings so that diagnosis of abdominal TB could be considered before making a diagnosis of ovarian tumor.

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