

Case Report

Genital tuberculosis: A great masquerader of ovarian malignancy and peritoneal carcinomatosis

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Abstract

Malignancies of genital tract is a worrisome condition due to its aggressiveness and complicated treatment modality. Lesions of the genital tract mimicking malignancy have to be diagnosed preoperatively to avoid unnecessary extensive surgery. High index of suspicion is required from clinician, radiologist, and pathologist to accurately diagnose malignant mimicking lesions in preoperative period. We report a case of 40-year-old multiparous female with bilateral adnexal mass, peritoneal nodules, and ascites mimicking advanced ovarian malignancy, diagnosed to have a common benign treatable condition by histopathological examination. This article emphasizes on the need for thorough investigation to diagnose benign lesions that mimic malignancy.

Keywords: Ascites, genital tuberculosis, ovarian malignancy, peritoneal nodules

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INTRODUCTION

Bilateral adnexal masses with ascites in a female is a challenging scenario because there is high rate of misdiagnosis of underlying cause. Clinicians have to consider all the causes which lead to this scenario to avoid extensive surgery in benign lesions and inadequate treatment in malignant lesions. The nature of causes varies from non-infectious and infectious etiology to extensive malignant etiology. Differential diagnoses for bilateral adnexal mass with ascites have been described in literature.^[1] Among them, differentiating tuberculous peritonitis and advanced ovarian carcinoma by history, clinical features, and radiological imaging is very difficult, and cases highlighting their similarities in clinical aspects have been reported in literature. Careful radiological assessment, tumor marker evaluation, and diagnostic laparoscopy aid in differentiating

these two similar appearing, but completely different entities. We report a case of 40-year-old multiparous female with adnexal mass, peritoneal nodules, and ascites that mimicked advanced ovarian carcinoma clinically and radiologically, who underwent exploratory laparotomy for the same, but later diagnosed with tuberculosis of genital tract and peritoneum by histopathological examination.

CASE REPORT

A 40-year-old multiparous female presented with complaints of progressive abdominal distension for 6 months and abdominal pain for 1 month duration. There was a history of on and off low-grade fever for the past 1 week, but no associated cough with expectoration. She had regular menstrual cycles. She was married for the

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past 2 years, cohabiting with husband, and had difficulty to conceive. The present patient had no previous history of tuberculosis, her family history was negative, and she denied any contact with diseased individuals. On general examination, she was afebrile. There was no pallor, icterus, pedal edema, and lymphadenopathy. Abdomen was diffusely distended with positive fluid thrill. Bimanual examination revealed a fixed uterus with bilateral adnexal masses. Urine pregnancy test was negative. Ultrasound examination showed bilateral solid ovarian masses and ascites. Chest X-ray was normal. Contrast-enhanced computed tomography (CECT) abdomen revealed bilateral solid ovarian masses of 6 cm × 5 cm × 5 cm (left) and 5 cm × 4 cm × 4 cm (right) size with calcifications. Ascites and irregular peritoneal nodules were present. CA-125 level was elevated (217 U/mL). Ascitic fluid analysis was negative for malignant cells. Pap smear was negative for intraepithelial lesion. Based on the clinical findings and investigations, a diagnosis of bilateral ovarian malignancy with peritoneal carcinomatosis was made. Exploratory laparotomy was performed, which revealed bilateral ovarian masses adherent to uterus with multiple variable sized peritoneal nodules, ascites, and omental nodules. Total abdominal hysterectomy, bilateral salpingoophorectomy and biopsy of peritoneal nodules was done. Specimens were sent for histopathological examination. Grossly uterus was normal in size with normal-appearing endometrium, myometrium, and serosa. Grossly right ovarian mass had surface whitish nodules and was gritty to cut [Figure 1]. Left ovarian mass had surface nodules with cut section showing predominant solid areas and focal cystic areas filled with serous fluid. Surprisingly, histopathological examination of the biopsied specimens showed numerous caseating granulomas consisting of epithelioid cells, macrophages, numerous Langhan, and foreign body type of giant cells [Figures 2-5]. The histopathological diagnosis was suggestive of genital tuberculosis, for which she is undergoing treatment and showing remarkable improvement.

DISCUSSION

Tuberculosis is a common infectious disease in developing countries routinely encountered in clinical practice. Extrapulmonary tuberculosis in the genital tract and peritoneum is very rare and has a varied and nonspecific clinical presentation. Pelvic tuberculosis in females is common in 20–40 years of age whereas ovarian carcinomas are usually occur in women above 40 years of age.^[2] Our patient presented with nonspecific symptoms such as abdominal pain and abdominal distension as reported in literature.^[3,4] Our patient had solid bilateral ovarian masses



Figure 1: Right ovary of 5 cm × 4 cm × 4 cm with surface nodules

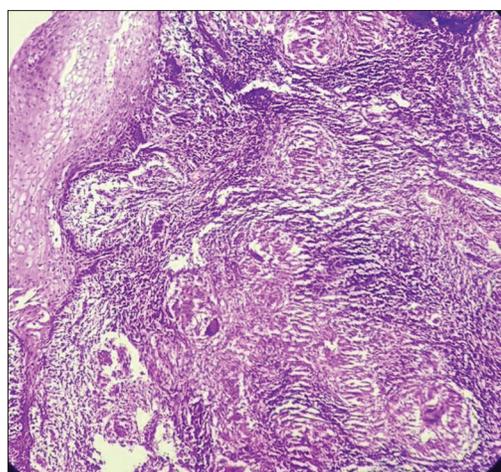


Figure 2: Microphotograph showing numerous granulomas in myometrium (H and E, ×40)

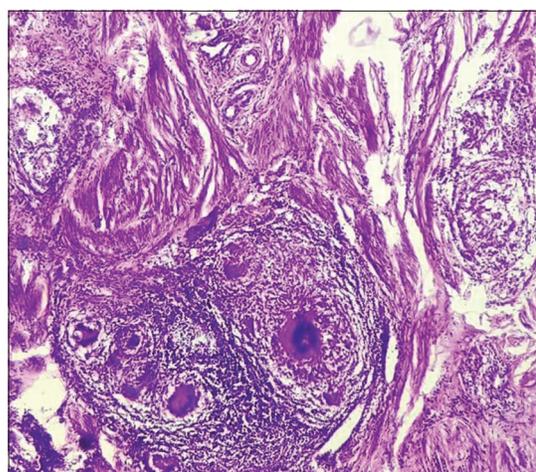


Figure 3: Microphotograph showing numerous epithelioid cell granulomas in cervix (H and E, ×40)

and ascites on CECT scan that misguided us to diagnose of ovarian malignancy.^[5] Extensive caseating necrosis in tuberculosis has resulted in dystrophic calcification of

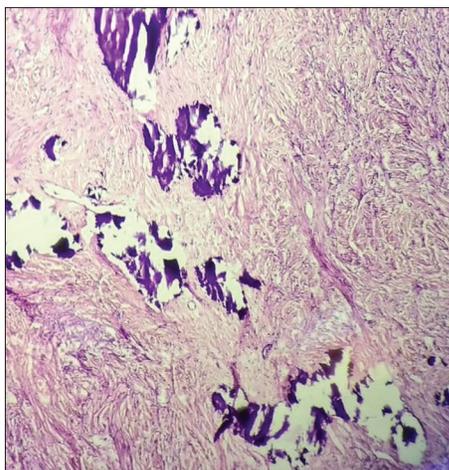


Figure 4: Microphotograph showing extensive areas of calcifications in ovarian stroma (H and E, x40)

ovaries in our case. CECT findings that actually aid in diagnosing tuberculous peritonitis are dense loculated ascites, smooth thickening and enhancement of peritoneum, dense enhancing lymphadenopathy, and mesenteric strands.^[2,4,6] CA 125 levels being a nonspecific marker are elevated in peritoneal and epithelial ovarian malignancies as well as in benign chronic inflammatory conditions of peritoneum such as tuberculosis.^[7] HE4 (human epididymis protein 4), a sensitive tumor marker for serous epithelial malignancy of ovary, will be elevated in both tuberculosis and ovarian malignancy. A study conducted by Zhang in 2006 evaluated clinical significances of serum HE4 and CA125 level in tuberculous peritonitis and epithelial ovarian malignancy. The study concluded that optimal cutoff values of HE4 >151.4 pmol/l and CA-125 >563.5 U/ml should be considered to differentiate between these two conditions. Values lower than the cutoff points towards tuberculosis while higher levels suggest malignancy.^[8] Our patient had CA125 level of 217 U/ml (less than cutoff value) due to tuberculous peritonitis. Ascitic fluid analysis for malignant cells, culture of acid-fast bacilli, and acid-fast stain has high false negative rate, which may not be useful in differentiating these two lesions. Adenosine deaminase (ADA) assay with a cutoff of 21 IU/L and reverse transcription polymerase chain (PCR) of ascitic fluid to detect mycobacterium bacilli may help in early diagnosis.^[9] Our patient had negative malignant cytology of ascitic fluid. ADA assay was not done as the patient could not afford. Diagnostic laparoscopy and biopsy proves to be the best preoperative minimally invasive investigation that definitely diagnoses the granulomatous inflammation in tuberculosis.^[7,9] The definitive diagnosis lies on histopathological examination, identifying tubercle bacilli by microbiological examination including culture and PCR.^[4] The management for genital tuberculosis is mainly medical line of treatment and most of the cases resolve with

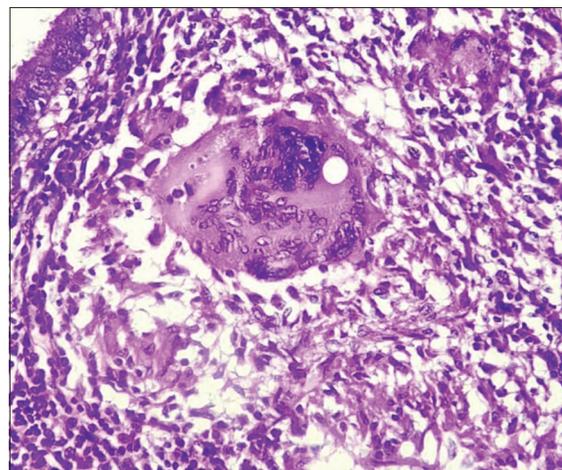


Figure 5: Microphotograph showing epithelioid granulomas in endocervix (H and E, x400)

antitubercular therapy. To avoid devastating consequences, high index of clinical suspicion for genital tuberculosis as well as early diagnosis and treatment is warranted in all such women presenting with nonspecific clinical symptoms, adnexal masses, peritoneal nodules, and ascites, especially in developing countries.

CONCLUSION

We reported a case of genital tuberculosis in a 40-year-old multiparous female mimicking advanced ovarian malignancy based on clinical and radiological findings. The diagnosis of genital tuberculosis remains difficult due to its nonspecific features. This case highlights the importance of considering genital tuberculosis as a differential diagnosis in all cases with non-specific abdominal pain, adnexal mass, peritoneal nodules, and ascites, particularly in developing countries.

Informed consent

Patient consent was obtained.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initial will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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