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RESEARCH ARTICLE

A RARE CASE OF GENITAL TB, MIMICKING MALIGNANCY, WITH REFRACTORY ASCITES

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ABSTRACT

Tuberculosis, especially in developing countries is a major health problem, and causes significant morbidity and mortality. It is estimated that Genital Tb affects about 12% of women with pulmonary Tuberculosis (PTB) and 15 to 20% of women with Extra-Pulmonary T.B[(1)]. The commonest sites involved in the cases of genital T.B. are the fallopian tubes (90–100%), followed by endometrium (50–80%) and the ovaries (20–30%) [(3)]. The classical presentation is a triad of infertility, menstrual irregularity & chronic pelvic pain. Isolated ovarian tuberculosis presenting as an adnexal mass can mimick ovarian tumor and is extremely rare condition. Because of its uncharacteristic presentation, TB should also be considered in the differential diagnosis of a patient with an abdominal/pelvic mass and ascites [(7)]. It should be kept in mind that diagnostic imaging tests are also non-specific and both USG and CT/MRI scan appearances are similar in ovarian tuberculous abscess and other neoplastic ovarian masses [(4)].In genital Tb, the clinical presentation mimic malignancy which was also evident in our case, where provisional diagnosis of ovarian tumor was made on the basis of history given by the patient, clinical examination, radiographic findings and elevated CA-125 serum levels. An elevated CA-125 level is also found in some of the patients with ovarian tuberculosis which further increases the diagnostic dilemma [(1, 4, 10)]. Thus, diagnosis of TB is no easy task, as the symptoms are non-specific and mimicks gynaecological malignancy.

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INTRODUCTION

Abdomino-pelvic T.B. should be considered in all females presenting with pelvic mass, ascites and high levels of CA125, although clinical features and laboratory results can never make a definitive diagnosis of abdomino-pelvic T.B. or malignancy. It is estimated that Genital Tb affects about 12% of women with pulmonary Tuberculosis (PTB) and 15 to 20% of women with Extra-Pulmonary T.B [(1)]. Genital TB in most of the cases is secondary to TB elsewhere in the body and the most common primary being lungs [(2)].The commonest sites involved in the cases of genital T.B. are the fallopian tubes (90–100%), followed by endometrium (50–80%) and the ovaries (20–30%) [(3)].

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The classical presentation of Female with genital tuberculosis is a triad of infertility, menstrual irregularity & chronic pelvic pain. However, isolated ovarian tuberculosis presenting as an adnexal mass can mimick ovarian tumor and is extremely rare clinical variety and is reported only twice in the literature[(4)]. Genital tract is vulnerable to tuberculous disease after puberty, and most cases occur during the child bearing period[(2)].The age of presentation in 80% of women is 20–40 years, especially in developing countries[(3)]. Adnexal mass can arise from gynecologic as well as non-gynecologic sources. The differential diagnosis of an adnexal mass includes benign and malignant etiologies. The evaluation of an adnexal mass requires proper history, physical and gynecological examination, appropriate laboratory and radiographic studies.

CASE REPORT

35 Years female, P7L6, all vaginal deliveries, presented to emergency with complaint of abdominal distension since 6 months, shortness of breath since 1 day (NYHA Grade 1).

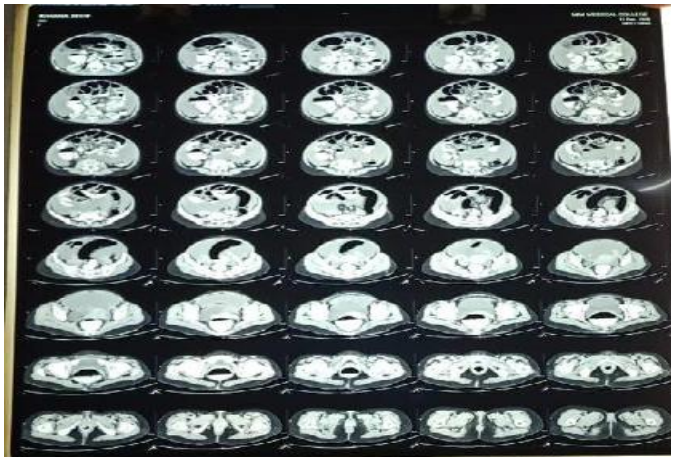

FIG 1:- CT scan showing massive ascites.

Patient also gives history of significant weight loss, appetite loss, disturbed sleep cycle and disturbed bowel habits for last 3-4 months. Patient gives no history of menstrual abnormalities. At the time of admission patient was sick, GCS-15/15, dyspneic, tachypneic. Her vitals were Pulse rate-124beats/min, BP-100/60 mmHg, afebrile on touch, RR-30/min, SPO2 – 90 to 92% on room air. Chest was clear with decreased air entry in basal area on both sides. On examination, abdomen was distended, tense, non-tender, fluid thrill present, shifting dullness absent. On bimanual vaginal examination, uterus size could not be made out due to tense ascites, cervix was central, bilateral fornices were boggy and non-tender. Baseline investigations like CBC, LFT, RFT, Viral markers were sent. Tumor markers like CA125 and LDH were also sent. CA-125 came out to be 575 U/ml. LDH came out to be 321 IU/L. ESR was 35mm/hr. Montoux test done was negative. Rest blood investigations were within normal limits.
USG was suggestive of anteverted uterus with bilateral bulky adnexa, right adnexal hypoechoic lesion of 6.5 X 3.3cm was seen with defuse omental thickening, massive ascites with bilateral pleural effusion seen. CECT abdomen-pelvis revealed bulky complex bilateral adnexal lesion with solid and cystic component. Right adnexal lesion measured 5.9cmX1.5cm and left adnexa 5.8X2.1cm with significant ascites with omental, peritoneal and mesenteric deposits, ?malignant ovarian epithelial tumor. Significant left pleural effusion seen with partial collapse of underlying left lung. Mild right pleural effusion with basal atelectasis.

Ascitic fluid was sent for cytology and biochemical examination. TLC was 620 cells/cumm, DLC-polymorphs 5%, lymphocytes 95%, ADA 9.89 U/L, albumin 1.9 gm/dl, glucose 69mg/dl, protein 4.8 gm/dl. Ascitic fluid gram staining was negative for any gram positive organisms. Cytological examination of ascitic fluid was negative for malignant cells. Ascitic fluid tapping was done 3-4 times for respiratory discomfort, each time 1000-1200 ml fluid was aspirated.

Endometrial aspirate cytological examination was negative for malignant cells. Patient was prepared for exploratory laparotomy i/v/o bilateral adnexal mass with refractory ascites.

Intra-op findings

- 2.5 litres of straw colored ascitic fluid drained.
- Omentum was densely adherent to anterior abdominal wall.
- Milliary deposits were seen all over gut loops.
- Gut loops were flimsy adherent to each other.
- Parietal peritoneum was thickened.
- Uterus with bilateral tubes and ovaries had miliary deposits all over the surface.
- Both fallopian tubes were dilated and had typical tobacco pouch appearance.
- Right tube and ovary were densely adherent to each other. Right salpingo-oophorectomy done.
- Left salpingectomy done. Left ovary was healthy, ovarian biopsy taken.
- Omental and peritoneal biopsies taken.
- liver and spleen were grossly normal

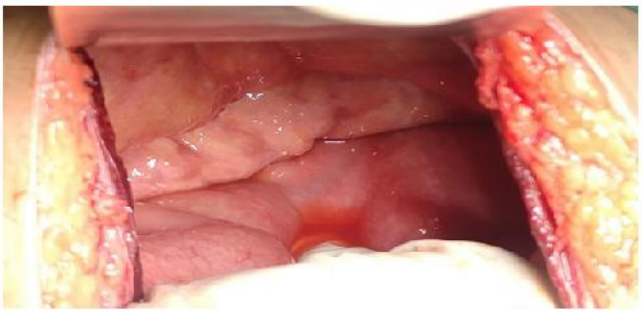

Fig 2. Straw colored ascites seen

Fig 3. Miliary Tubercles Seen All Over The Gut Loops

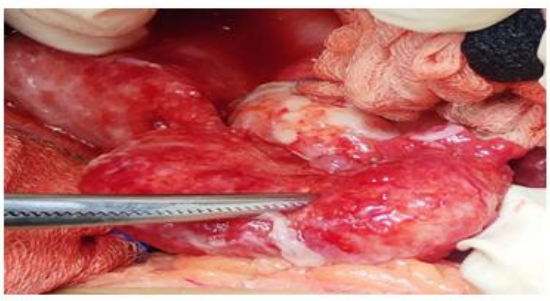

Fig 4. Both fallopian tubes seen dilated (tobacco pouch appearance)

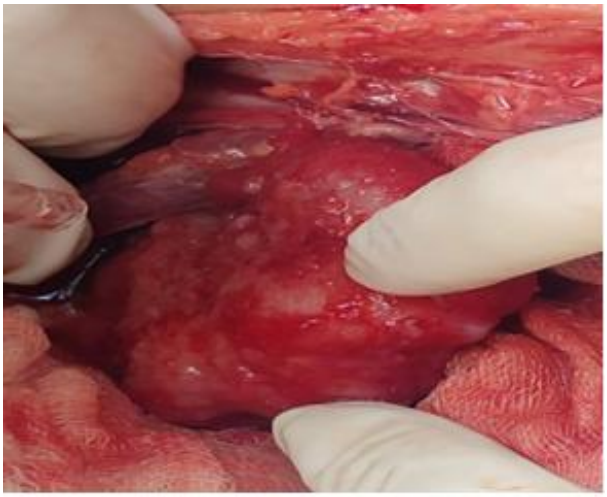

Fig 5. Right tube and ovary densely adherent to each other

Fig 6. Left salpingectomy done

Histo-pathology of specimen suggested genital and peritoneal tuberculosis. ATT(HRZE) was started as per DOTS weight band. Patient was discharged under stable condition on day 12. Patient is under regular follow up and is responding well to treatment with no ascites.

DIFFERENTIAL DIAGNOSIS OF ADENEXAL MASSES

GYNECOLOGICAL

- Benign ovarian cyst
- Ectopic pregnancy
- Endometrioma
- Hydrosalpinx
- Leiomyoma
- Tubo-ovarian abscess
- Malignant ovarian cysts

NON- GYNECOLOGICAL

- Appendiceal abscess/Appendicitis
- Bladder and ureteral diverticulum
- Pelvic kidney
- Peritoneal cyst
- Krukenberg tumour
- Retroperitoneal sarcomas

Fig 7. Before and after image of the abdomen of the patient

DISCUSSION

Tuberculosis (TB) is one of the top causes of mortality worldwide. Although pulmonary TB is most common, the incidence of extra-pulmonary Tuberculosis (EPTB), particularly abdomino-pelvic TB, is progressively increasing especially in developing countries due to the poor hygiene, poor sanitation, lack of healthcare facilities, over-population, emergence of HIV/AIDS[5]. The absence of specific symptoms and conclusive signs during physical examination may delay a proper diagnosis [3,6]. Because of its uncharacteristic presentation, TB should also be considered in the differential diagnosis of a patient with an abdominal/pelvic mass and ascites [7]. Signs and symptoms, imaging examinations and CA-125 serum levels in peritoneal TB also mimicks ovarian carcinoma [8]. For the diagnosis of AP-TB, the imaging and laboratory findings can be misleading. A Montoux skin test may be non-reactive and mycobacterium difficult to detect in ascitic fluid by smear or culture due to the paucibacillary nature of pelvic disease [9].

It should be kept in mind that diagnostic imaging tests are also non-specific and both USG and CT/MRI scan appearances are similar in ovarian tuberculous abscess and other neoplastic ovarian masses [4]. An elevated CA-125 level is also found in some of the patients with ovarian Tb which further increases the diagnostic dilemma [1,4,10]. In genital TB, the clinical presentation mimic malignancy which was also evident in our case, where provisional diagnosis of ovarian tumor was made on the basis of clinical, radiographic findings and elevated CA-125 serum levels. CA-125, a non-specific epithelial tumor marker, does not discriminate between ovarian malignancy and TB because the elevated levels may be found secondary to the peritoneal involvement in the disease process [11,12]. Diagnostic laparoscopy is currently the principle modality of diagnosing genital tuberculosis because many of the common findings can be seen during the procedure. The most common macroscopic finding is pelvic adhesions, followed by tubal pathology or occlusion, peritoneal, fallopian tube, or ovarian tubercles, peri-hepatic adhesions, tubo-ovarian mass, ascites, and caseous or granulomatous nodules [13]. Sometimes the diagnosis of pelvic TB can be made instantly when small tubercles (milia) are observed on the peritoneum, but when milia are not present, frozen section is also valuable intraoperatively and can prevent unwarranted, extensive surgery [11]. Laparoscopy and laparotomy are important in making the definitive diagnosis of ovarian/tubo-ovarian TB. Intraoperative frozen sections (if available) are valuable to rule out the possibility of pelvic TB in patients undergoing surgery for tubo-ovarian masses, especially in highly prevalent areas [4].

CONCLUSION

Tuberculosis, especially in developing countries is a major health problem, and causes significant morbidity and mortality. Diagnosis of TB is no easy task, as the symptoms are non-specific and mimicks gynaecological malignancy. Knowledge of the clinical and radiologic presentations is paramount for early detection and diagnosis. In the reported case, the patient's vague clinical signs along with the radiologic findings of adnexal mass, peritoneal and omental thickening, and ascites arose the suspicion of metastatic ovarian carcinoma, but histological findings gave definitive diagnosis of disseminated pelvic tuberculosis correctly. The great majority of reported cases were diagnosed at laparotomy after they were initially misdiagnosed as tumors or carcinomas [14,15]. In female patients, misdiagnosis was made more likely due to the raised levels of CA-125. An elevated level of CA-125 has been recognized as a marker of non-mucinous epithelial ovarian carcinomas [16,17]. In the light of this finding, Thakur *et al* [16] suggested that high serum CA-125 should always raise a suspicion of TB. Abdominal TB is generally responsive to medical treatment, and early diagnosis and management can prevent unnecessary surgical intervention. Thus, it can be concluded that our case was mimicking ovarian cancer completely, therefore, tuberculosis must always be considered in differential diagnosis of ovarian carcinoma especially in the developing countries.

Statement of Ethics: Informed consent was obtained from the patient for publication of this case report and any accompanying images.

Conflict of Interest Statement: The authors of this article do not have any conflict of interest to declare.

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