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ISOLATED OVARIAN TUBERCULOSIS – A CASE REPORT AND REVIEW OF LITERATURE

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ABSTRACT

Genitourinary tuberculosis in a developing country like India is quite common, but reports of isolated ovarian tuberculosis are rare. It is often misdiagnosed because they mimic ovarian carcinoma. We are reporting a case of 30 year old lady presenting with chronic pelvic pain, abdominal distention and significant weight loss. Ultrasound revealed left ovarian mass associated with ascites and elevated CA-125 level. A presumptive diagnosis of ovarian carcinoma was made and laparotomy was performed with resection of left ovary. Post-operative histological examination, however, revealed evidence of tuberculosis and no signs of malignancy was seen. Thereafter Antituberculosis treatment was started with complete resolution of symptoms and decrease in CA-125 level. Isolated ovarian tuberculosis are common in younger women of endemic zones. CA-125 level estimation is inconclusive, as it is non specific and raised in many conditions. Imaging studies are also rarely conclusive. Definitive diagnosis can only be made by histopathological examination. Early diagnosis of ovarian tuberculosis is vital as untreated disease can lead to infertility. In this respect, intra-operative frozen section of tissue specimen, if available are readily helpful.

INTRODUCTION

Tuberculosis has existed for millennia and remains a major health problem till date. It is the ninth leading cause of death worldwide ranking above HIV/AIDS. In 2016, 6.3 million new cases of tuberculosis and 1.3 million tuberculosis deaths were reported (Global Tuberculosis Report 2017)[1]. Extrapulmonary tuberculosis accounts for 15-20% of all cases, of which abdominal tuberculosis accounts for 11- 16% and pelvic tuberculosis accounts for 5-7% cases[2]. Although genitourinary tuberculosis is common, isolated ovarian tuberculosis is rare. Diagnosis is very tricky due to its protean manifestations and can easily be confused with peritoneal carcinomatosis and ovarian carcinoma. We are reporting here a case of isolated ovarian tuberculosis in a 30 year female treated in RIMS, Ranchi. The clinical features and diagnosis of ovarian tuberculosis are discussed, with a brief review of literature.

CASE REPORT

A multiparous women of age 30 year presented to the Gynaecology Department of RIMS, Ranchi with complain of chronic pelvic pain since last 6 months. It was associated with low grade fever, anorexia, fatigue, weakness and abdominal distention. She reported a weight loss of 7kg in last 6 months and her BMI was just 15. Previous history depicted that she has received the Bacillus Calmette-Guerin (BCG) at birth and there was no history of contact with tuberculosis.

Previous menstrual history depicted that she achieved menarche at the age of 12 years, with somewhat regular cycles, however she complained of amenorrhoea for the last 4 months. Her urine pregnancy test was negative. Physical examination revealed tense ascites with fluid thrill. No lymphadenopathy was noted. On vaginal examination, a mass was palpated in the fornix which was tender. Blood test revealed moderate degree of anaemia with a hemoglobin of 10g/dl and erythrocyte sedimentation rate (ESR) of 60 mm/hr.

Tumor markers were measured and the level of CA-125 was 500 units/ ml (15 times higher than upper limit). Serum LDH level was also raised (660 IU/L). Serum Beta-HCG, CEA, AFP, ANA, Anti ds-DNA,TSH,T3 and T4 level were within normal limit. HIV serology was negative. Ascitic fluid analysis showed total protein 4.5g%, sugar 70mg%, total cell count was 205 cells/mm^3. Differential count showed 90% lymphocytes and 10% neutrophils and elevated ADA (56.5 U/L). LFT, RFT and urine examination was normal.

Radiological study of chest and abdomen was normal. Pelvic Ultrasound demonstrated heterogenous right adnexal mass (52 x 50 mm) associated with ascites in the sac of Doughlas. Presumptive diagnosis of ovarian carcinoma was made laparotomy was performed. A discrete cystic mass of the left ovary was revealed which was fully excised and rest of the peritoneal cavity was unremarkable.

Post-operative histopathological examination revealed giant cell proliferation with epithelioid cell granuloma and central caseous necrosis (Figure 1 and 2).No features of malignancy was found. Diagnosis was revised to ovarian tuberculosis. No other focus of tuberculosis was found in the body. Endometrial biopsy showed no evidence of tuberculosis and it was in proliferative phase. Antituberculosis treatment was started and was continued according to current guidelines. Recovery was marked and complete resolution of symptoms occurred. She gained 3 kgs in 2 months, menstrual cycles became normal, pelvic pain ceased and CA-125 level also decreased.

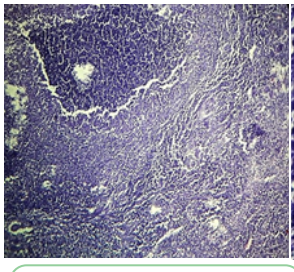

FIGURE 1. Section showing normal ovarian tissue along with areas of caseous necrosis (Low-power view ,10X)

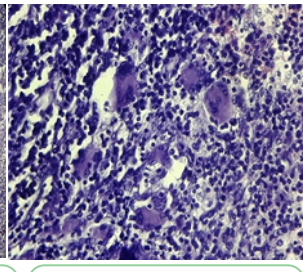

FIGURE 2. Section showing multiple giant cells within ovarian tissue (High-power view, 40X)

DISCUSSION

Genitourinary tuberculosis is the second most frequent location for extra-pulmonary tuberculosis, after the lymphatic system of which ovarian tuberculosis accounts for 20-30% of all cases[3]. Endometrium and fallopian tube are almost always affected by the disease. In developing countries, it may represent upto 19% of gynaecological admission[4]. Most frequently it is perioophoritis resulting from a spread of the adjacent fallopian tubes, when the

ovary seems to be encased among adhesions. However isolated ovarian tuberculosis with no other organ involvement, as in our case, is rarely reported in literature. It may spread by hematogenous pathway and cause caseating granulomas within the parenchyma of the ovary[5]. When it presents with ascites, pelvic mass and elevated CA-125 levels, differentiation from ovarian cancer is essential as the treatment protocol for the two conditions differ vastly. However it may pose a major diagnostic challenge[6].

It classically affects young women aged 20-30 years who are living in endemic zones, like India[7]. However with increased immigration, travel and the re-emergence of tuberculosis worldwide, reports from Western countries are also found[8]. Pulmonary tuberculosis may be detected prior to ovarian diasease. But it is not obligatory, as in our case. Patients usually presents with infertility, pelvic mass, pelvic pain, ascites, menstrual irregularities like amenorrhea and dysmenorrhea, low grade fever and weight loss. However, the patient can also be asymptomatic which accounts for at least 11% of the cases[9].Also past history of tuberculosis may not always be present. Preoperative test include Mantoux (Tuberculin) test and staining for Acid-fast bacilli in either ascitic fluid/ pleural fluid. However, these may be negative despite extensive disease[6].

Cancer Antigen 125 is an antigenic determinant which is expressed in most non-mucinous epithelial ovarian carcinomas and is raised in more than 80% of the cases. More useful in postmenopausal women where the positive predictive value for malignancy is nearly 95%, but in premenopausal women it may be elevated in benign conditions such as endometriosis, fibroids, pregnancy, cirrhosis of liver , pelvic inflammatory disease and indeed tuberculosis[10]. In cases of ovarian tuberculosis, its level rarely rises above 500 U/ml. Decreasing level of CA-125 correlates with resolution of the disease with antituberculosis treatment, thus serial measurement should be used to determine treatment efficacy. Imaging studies have low specificity for both ovarian malignancy and tuberculous abscess as they have similar appearance on ultrasound, Computerized tomography and Magnetic resonance imaging. Both can be heterogenous mass infiltrating omentum and neighboring organs. Ascitis and lymphadenopathy are frequently present in both the conditions, thus complicating the clinical differentiation[11]. Ultrasound-guided transvaginal or transabdominal biopsies may be useful for preoperative diagnosis. If resources are available, intraoperative frozen section of tissue specimen can be very helpful. Although histological demonstration of tuberculosis may be difficult, lack of malignant cells may indicate alternative diagnosis.

Medical treatment is the mainstay of treatment of genital tuberculosis. Most cases resolve completely with antitubercular drugs, but long term prognosis on patient's fertility is often dismal. One such study estimated that pelvic tuberculosis was responsible for more than 39% of cases of Tubo-ovarian infertility[11]. Early diagnosis and prevention of tuberculosis, including BCG immunization, are important in order to avoid infertility.

CONCLUSION

Isolated ovarian tuberculosis is rare and often mimics malignancy. Because of the diagnostic dilemmas, it should always be kept in mind as a differential diagnosis, both in developing and developed countries.

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