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Case Report

Ovarian Tuberculosis masquerading as malignancy - Case report of 2 cases with review of literature

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Abstract

Background: Tuberculosis is an unsolved problem and a disease with myriad presentations and manifestations. Isolated ovarian tuberculosis is very rare and always a diagnostic dilemma. **Case details**: We report here two cases that presented with abdominal pain and after all investigations surgery was done with suspected tuboovarian mass/tumor. Finally after the histopathological examination, special stain and polymerase chain reaction diagnosis of ovarian tuberculosis was made. **Conclusion**: Genital tuberculosis should always be considered in a female with tuboovarian mass and has to be evaluated accordingly to prevent complications.

Key words: Tuberculosis, Ovary. Granuloma of Ovary.

Introduction

Tuberculosis (TB) remains a significant major health problem in underdeveloped and developing countries all over the world.[1, 2] It is one of the top 10 causes of death worldwide and in 2017, 10 million people fell ill with TB, and 1.6 million died from the disease (including 0.3 million among people with HIV).[3] Even though genitourinary tuberculosis is common and accounts to 15-20% of extrapulmonary tuberculosis isolated ovarian tuberculosis is rare.[2] The classical clinical presentation of female with genital tuberculosis is a triad of infertility, chronic pelvic pain and menstrual irregularity. But isolated tuberculosis of ovary presenting as abdominal mass and mimicking ovarian tumor is very rare and reported only twice in the literature.[4] Here we report two rare cases of ovarian tuberculosis.

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Case 1

A 22 year old female presented with pain abdomen since 1month and distension of abdomen since 10days. The pain was diffuse in nature, more in lower abdomen, non-radiating, dull aching. She had married 5 years back and has 2 children's. Menstrual cycles were regular. On Physical examination she appeared pale .On vaginal examination left lateral uterine mass was palpable and was tender. Pelvic ultrasonography (USG) features suggestive of bilateral ovarian likely dysgerminoma was given. Later Magnetic resonance imaging of Pelvis was done and reported as features suggestive of bilateral malignant ovarian neoplasm likely mucinous cystadenocarcinoma with bilateral internal iliac and common iliac lymphadenopathy.

Tumor markers were estimated like AFP and CA 125 . CA-125 levels were increased >1000U/ml . USG guided FNAC was done and reported as features suggestive of Granulosa cell tumor.(FIG-1)Total abdominal hysterectomy with bilateral salphingoophorectomy was done and sent for frozen section. On frozen section features of inflammatory lesion was made and submitted for histopathology. On Gross uterus and cervix measured 8x6x4cms. Cervix was unremarkable. Right tubo-ovarian mass measured

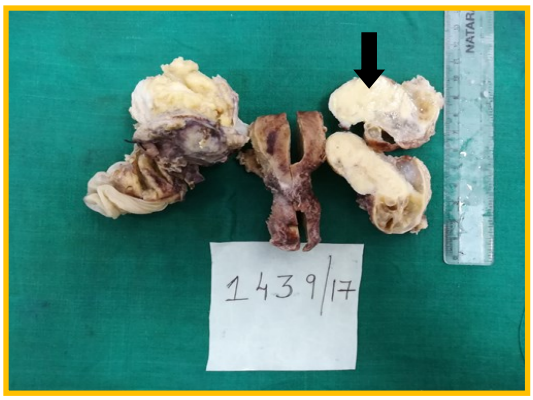

Figure 1. Case 1 – Gross image showing Uterus and Cervix with bilateral salphingoophorectomy arrow showing solid and cystic areas

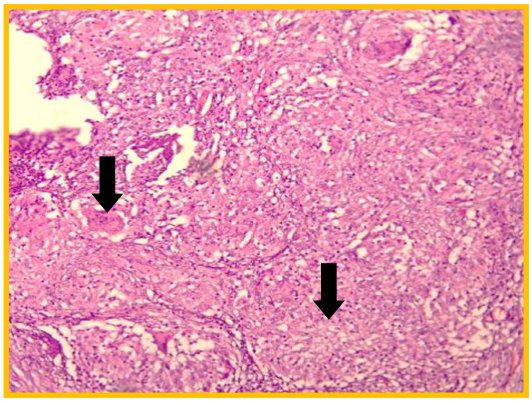

Figure 2. Case 1 – Microscopy sections from the ovary arrow showing multiple well formed epithelioid cell Granulomas with Langhan's giant cell H &E X 100

Figure 3. Case 2–Gross image showing Uterus and Cervix with bilateral salphingoophorectomy with arrow showing left ovary showing solid and cystic areas

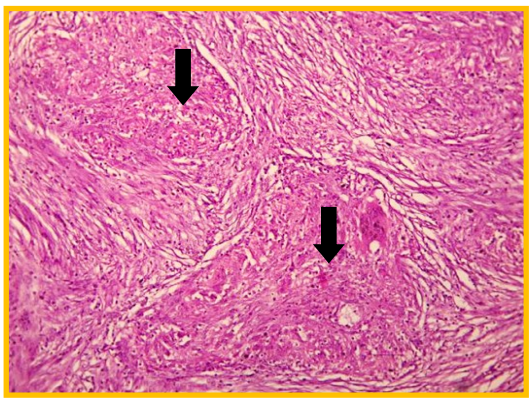

Figure 4. Case 2 – Microscopy showing section from the ovary arrow showing multiple well formed epithelioid cell Granulomas with Langhan's gaint cells H &E X 100

8x6x5cms and external surface was ragged. Cut section showed necrotic areas. Left side ovary measured 9X6X5 cms and on cut section solid and cystic areas were seen. Left tube was normal [Figure-1]. On microscopy endometrium showed proliferative phase, myometrium was unremarkable, cervix showed chronic cervicitis. Section studied from bilateral adnexa showed multiple Caseating epithelioid granulomas involving both ovaries and fallopian tubes [Figure 2]. Left ovary also showed features of papillary serous cystadenoma. Ziehl Neelsen stain was done which showed no acid fast bacill. Auramine-rhodamine stain- was done which was weakly positive. Tissue was sent for Gene expert it was given as tuberculosis positive. Final diagnosis of bilateral adnexal ovarian tuberculosis with papillary cystadenoma of left ovary was made.

Case 2

A 60 year old female presented with pain abdomen since 15 days. The pain was diffuse in nature, non-radiating, dull aching. There was no significant past history & family history of malignancy. Attained menopause 10 years back. General Physical examination was within normal limits. On vaginal examination right lateral mass was palpable. Pelvic USG was done and reported as features suggestive of right complex adnexal cyst. Later Computed tomography (CT) scan was done and reported as multiseptate right ovarian cyst measuring 8.4X8.3X5.6 was given. CA 125 levels were estimated which was 38.1 U/ml. Total abdominal hysterectomy with bilateral salphingo-oophorectomy was done and sent for histopathological examination. On gross Uterus and cervix measured 7X3X2 cm. Right adenexa was unremarkable. Left ovaries measured 6X4X3 cm on cut section multicystic with papillary excrescences were noted at few areas. Left tube unremarkable [Figure-3]. On microscopy endometrium was atrophic, myometrium unremarkable, cervix chronic cervicitis. Section studied from bilateral ovary showed caseating epithelioid granulomas [Figure - 4]. 20% Ziehl Neelsen stain was done which showed positive for acid fast bacilli. Final report was given as bilateral ovarian tuberculosis.

Discussion

Tuberculosis remains a global health problem. [5] Genitourinary tuberculosis is the second most frequent location for extrapulmonary tuberculosis after lymphatic system. The commonest sites of involvement are fallopian tubes in 90-100%, endometrium in 50 – 80% and ovaries involved in 20-30%.[6] It usually affects young women between 20-30years mostly in the endemic zone. However due to increased travel and immigration there is re-emergence of tuberculosis worldwide. [1] After menopause genital TB is rare probably due to decreased vascularity of the tissue. Our first case was of a young female and the second case was of post-menopausal age. The genital tuberculosis remains undiagnosed in most women because it is either asymptomatic or associated with nonspecific symptoms like dysmenorrhea, amenorrhea abnormal vaginal discharge, and weight loss.[6] Presenting compliants in our both the cases was abdominal pain. Genital tuberculosis sometimes present with a misleading clinical symptoms and radiological findings which can mimic malignancy which was evident happened in our both the cases. [3] The proper diagnosis can be delayed due to absence of specific symptoms and conclusive signs during physical examination. [4]

Preoperative investigations which may aid in diagnosis include staining the pleural and ascitic fluid with ZN stain and look for acid fast bacilli and a positive mantoux test and sometimes these tests can be negative in spite of extensive disease.[7] Tumor markers like CA-125 levels can be estimated. It is an antigenic determinant and is expressed in most non-mucinous epithelial ovarian carcinoma and is raised in 80% of cases. It is nonspecific since it is also raised in benign conditions like fibroid, endometriosis, pelvic inflammatory disease and tuberculosis. It is useful marker in post-menopausal where suspicion of malignancy is >95%. In ovarian tuberculosis levels rarely raise above 500U/ml. [8.9] In our first case the levels was >1000 U/ml.

Diagnostic imaging tests are nonspecific and have low sensitivity since US and CT/ MRI scan have got similar findings in both ovarian malignancy and tuboovarian abcess. [4, 10] Both of our cases diagnosis was missed radiologically. Laparoscopy and laparotomy are important in the diagnosis of ovarian /tubo-ovarian TB. Intraoperative frozen section can help rule out the possibility of pelvic tuberculosis in patients. [4]

The definitive diagnosis lies on histopathological examination, identifying tubercle bacilli by microbiological examination including culture and polymerase chain reaction (PCR). [4] The management is mainly medical line of treatment for genital tuberculosis. Surgery is done when it is misdiagnosed as malignancy. Many cases resolve with antitubercular treatment. In order to avoid devastating outcome early diagnosis and prevention is necessary.

Conclusion

Isolated tuberculosis of ovary is a very rare form of genital tuberculosis in females. It can present as an adnexal mass and can masquerade as malignancy by which diagnosis becomes challenging. Tuberculosis should always be the differential diagnosis in a female with abdominal pain in tuberculosis endemic areas and should investigate thoroughly for the confirmation of the diagnosis.

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