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Case Report

Serous cystadenofibroma of ovary mimicking malignancy: a case report and review of diagnostic challenges

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ABSTRACT

Ovarian cystadenofibroma is a rare benign epithelial tumour composed of both glandular and fibrous stromal elements. Although benign, its imaging features mimic those of malignant neoplasms, posing diagnostic and therapeutic challenges. We report a case of 31-year-old nulliparous woman who presented with heavy menstrual bleeding. Clinical examination revealed right adnexal fullness and imaging studies demonstrated a complex multiloculated right ovarian cyst measuring approximately 5cm. a provisional diagnosis of complex ovarian neoplasm was made. Patient underwent right ovarian cystectomy. Histopathological examination confirmed the diagnosis of benign serous cystadenofibroma.

Keywords: Serous cystadenofibroma, Histopathological examination, Ovary mimicking malignancy

INTRODUCTION

Ovarian neoplasms can be classified as benign, borderline or tumours of low malignant potential and malignant. These neoplasms can be either epithelial or of non-epithelial origin. Epithelial tumours are the most common and accounts for more than 95% of all ovarian neoplasms. Epithelial neoplasms can be subdivided on the basis of histology into serous, mucinous, clear cell, endometroid and Brenner tumours.[1] Non epithelial ovarian tumours are relatively uncommon and include germ cell and sex cord tumours.

Among all germ cell ovarian tumours dysgerminoma is the most common whereas granulosa cell tumours and fibromas are the common types of sex cord stromal tumours.[1] Serous ovarian cystadenofibroma is a relatively uncommon tumour comprising of serous as well as stromal components. It typically grows at a slow rate and can occur across a broad age range, most commonly between 15-65 years old.[2] The exact etiology remains unknown in most cases. The consistency of this tumour- whether solid, cystic or semisolid- varies based on the proportion of epithelial and stromal tissue as well as the secretory activity of epithelial component. It typically appears as a solitary mass within one ovary, however in rare instances, it may present as multiple masses within the same ovary or affect both ovaries.[3] Ovarian cystadenofibroma is usually asymptomatic and diagnosed incidentally on routine imaging; however, patient can present with signs and symptoms such as abdominal pain, bleeding per vaginum or pressure symptoms due to abdominal mass. Diagnosis is challenging as initial imaging studies such as USG or CT often mimic the appearance of malignant ovarian tumours. MRI can be a helpful modality for differentiating it from malignant tumours. On T2W imaging, solid portions of the tumour exhibit very low signal intensity while the cystic areas appear with high signal intensity creating a characteristic “black sponge” appearance.[4] Primary treatment for serous cystadenofibroma is complete surgical excision of the tumour. With timely and proper intervention, prognosis is typically favourable.

CASE REPORT

A 31-year-old nulliparous woman presented to the gynaecology OPD at Guru hospital, Madurai with chief complaint of infrequent menses since menarche. She also complained of heavy menstrual bleeding associated with passage of clots from past 2 cycles. There was no history of loss of weight or appetite. On examination, patient was conscious, well oriented to time, place and person. Her vital signs were stable. Abdominal assessment revealed a soft, nontender abdomen with no palpable masses. On per vaginal examination, uterus was found to be of normal size, mobile, anteverted, right forniceal fullness was present whereas left fornix was free and non-tender. Ultrasound report revealed presence of cystic echogenic lesion with multiple thin internal septations in right ovary of size 5.1×4.1cm suggestive of a likely benign neoplastic ovarian tumour. CA-125 titre was 7.16 IU/ml.

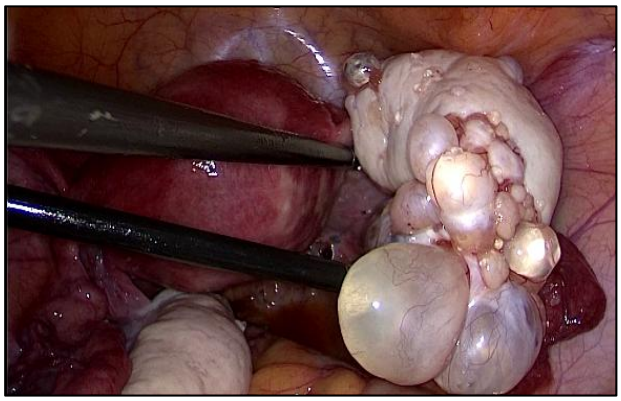

Figure 1: Intraoperative specimen of right complex ovarian cyst.

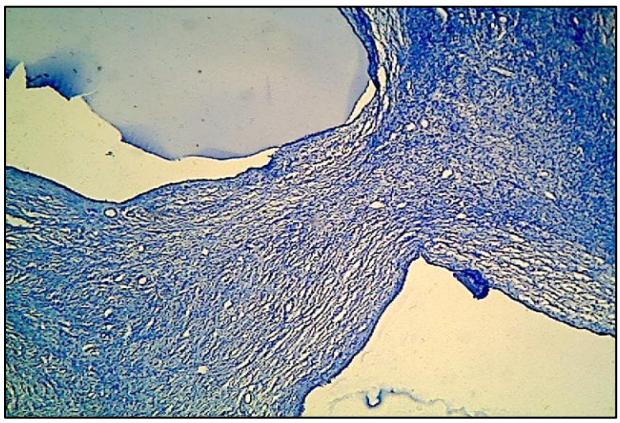

Figure 2: Histopathological slide of serous cystadenoma of ovary.

Routine preoperative blood tests were all within normal ranges. Based on a provisional diagnosis of complex ovarian cyst, patient was scheduled for staging laparoscopy. Intraoperatively, uterus appeared normal. Multiple seedlings of mucinous material of size 4×4 and 4×3 cm seen deposited over right ovary. Left ovary also showed deposit of some mucinous materials. Bilateral ovaries were polycystic. No ascites or free fluid was noted. In view of patient's young age, intraoperative frozen section was done. The excised specimen was submitted for histopathological examination which confirmed the diagnosis of serous cystadenofibroma. The post operative recovery was smooth and the patient was subsequently discharged in stable condition. At her follow up visit patient was clinically stable with no signs of mass recurrence or abdominal pain.

DISCUSSION

Adenofibromas are uncommon benign tumours with a very low likelihood of malignant transformation. They are most commonly of serous type as observed in our patient. Though they can also present as endometroid, clear cell or mucinous variants.[5] These tumours are most often seen in women aged 40-50 years, but can occasionally occur in younger women as was the case with our patient. A similar case was reported by Sivapragasam et al where the age of presentation of tumour was 28 years.[6] The younger women suffering from this tumour usually give history of diethylstilbesterol exposure in utero but no such history was elicited from our patient.[2]

They are typically asymptomatic but when they enlarge, they may lead to pelvic discomfort, difficulty in defecation, abdominal distension or urinary symptoms such as dysuria. In some cases, they can present with intermenstrual bleeding or signs of feminization which are believed to result from tumour induced hyperestrogenism.[7] Certain school of thought suggests that hyperestrogenism is due to hypersecretion of the hormone by the tumour itself but other studies have failed to prove this hypothesis. They present a diagnostic challenge due to imaging characteristic that may mimic malignancy.

Macroscopically, these tumours appear cystic with thin walls occasionally displaying papillary projections. Solid components are typically absent or minimal. They may reach upto 20 cm in diameter, are generally well encapsulated, often exhibit multiloculated architecture with broad based papillary structures.[6] Standard treatment involves complete surgical excision, with an excellent overall prognosis. Given that both gross morphology and ultrasound feature closely resemble malignancy, intraoperative frozen section analysis is crucial as it helps in preserving fertility and avoiding radical resection.

CONCLUSION

Despite its striking similarity to malignant ovarian tumours, benign cystadenofibroma of ovary carries an excellent prognosis when managed appropriately. Recurrence after surgical excision is exceedingly rare.

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