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Case Report

A rare case report of Sertoli Leydig cell tumour of ovary

Rita D., Ravali G.*

Department of Obstetrics and Gynecology, NMCH&RC, Raichur, Karnataka, India

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***Correspondence:**
Dr. Ravali G.,
E-mail: ravaligullapalli0607@gmail.com

ABSTRACT

Sertoli-Leydig cell tumor (SLCTs) of the ovary, also known as androblastoma, is a rare neoplasm from the group of sex cord-stromal tumors of the ovary. They account for less than 0.5% of all ovarian tumors. They typically occur in young and reproductive women and the patients usually present with abdominal swelling or pain. A case of 35-year-old multiparous female presented with abdominal mass, ultrasonography revealed a large abdomino-pelvic complex solid cystic mass lesion arising from left ovary. She underwent staging laparotomy followed by total abdominal hysterectomy with left salpingo-ovariotomy and right salpingo-oopherectomy with partial omentectomy. Histopathological examination (HPE) revealed features suggestive of moderately differentiated SLCT of left ovary (with heterologous elements).

Keywords: Epithelial ovarian tumours, Amenorrhea, Sertoli Leydig cell tumour

INTRODUCTION

Ovarian tumours are classified according to their most probable cell of origin and histomorphological features. More than 90% of tumours are epithelial in origin. The peak incidence of invasive epithelial ovarian cancer is at about 60 years of age. About 30% of ovarian neoplasms occurring in postmenopausal women are malignant, whereas only about 7% of ovarian epithelial tumors in premenopausal patients are frankly malignant.[1] Sertoli-Leydig cell tumor (SLCTs) of the ovary, also known as androblastoma, is a rare neoplasm from the group of sex cord-stromal tumors of the ovary. They account for less than 0.5% of all ovarian tumors, with a median age at diagnosis of 25 years. They typically occur in young and reproductive women and the patients usually present with abdominal swelling or pain. SLCTs are divided into well-differentiated, intermediate differentiation, poorly differentiated, retiform, and mixed.[2]

CASE REPORT

A 35-year-old female patient, P2L2 came with complaints of mass per abdomen since 2 months which was sudden in onset, rapidly growing in size, involving whole abdomen and was associated with pain abdomen which was dull aching type and diffuse all over the mass, aggravated on doing work and relieved on taking rest.

She had associated loss of weight, generalized weakness and amenorrhea since 5 months with negative urine pregnancy test. There was no history of acne, hirsutism or hoarseness of voice. There was no significant past or family history. General physical examination revealed mild pallor, there was no edema or lymph node enlargement. Breast examination was normal, no secretions. Per abdominal examination revealed a diffuse mass of size 30×20 cm corresponding to 34-weeks size, moving with respiration firm to hard in consistency with smooth surface and well defined borders, all margins felt except the lower margin. Mass was mobile in all directions

and was resonant on percussion. On per vaginal examination uterus was found to be normal in size, anteverted, groove sign was present on left side, bilateral fornices were full, cervix was short and pulled up. Routine hematological investigations were found to be normal. Preoperative tumour markers such as beta human chorionic gonadotropin (hCG) was <1.2 mIu/ml, lactate dehydrogenase (LDH) -246.07, CA 125-17.3 IU/ml, CEA <0.5 ng/ml, and serum testosterone-46 ng/dl were found to be normal and her serum AFP level was raised to 622 ng/ml (normal value <10 ng/ml). Ultrasonography revealed a large abdomino-pelvic complex solid cystic mass lesion arising from left ovary measuring 17×14×15 cm. Solid areas appear hyperechoic showing minimal internal vascularity. Cystic areas are of varying size with cystic fluid of different echogenicity. Some of the cysts are simple and some show septations and low level internal echoes within it with features suggestive of mucinous cystadenoma/mucinous cystadenocarcinoma. Right ovary visualized separately and was normal. Risk of malignancy index was 51, which comes under moderate risk category for malignancy.

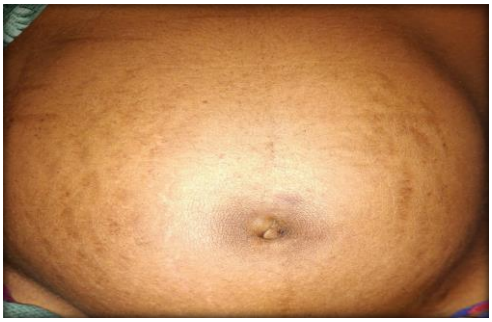

Figure 1: Per abdominal examination.

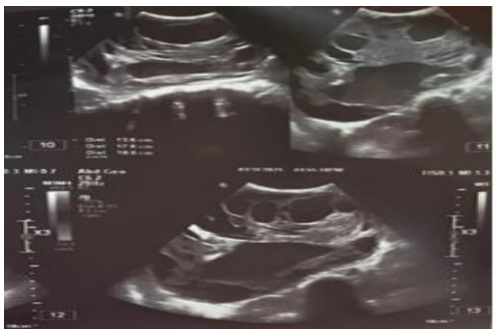

Figure 2: USG showing complex mass in left ovary with internal echos.

MRI pelvis was done, and was found to be inconclusive with features suggestive of mucinous cystadenoma/ adenocarcinoma appears more likely, germ cell tumor, and serous cystadenoma/adenocarcinoma.

Management

Staging laparotomy followed by total abdominal hysterectomy with left ovariotomy (intact capsule) with salpingectomy with right salpingo-oopherectomy with partial omentectomy was done. Intra-operatively, free peritoneal fluid was noted and was sent for cytological examination. Abdomen was inspected in a clockwise direction with systematic exploration of all the intra-abdominal surfaces and viscera. A mass of approximately 19×20×14 cm, with twisted pedicle was noted arising from the left ovary. Right ovary and fallopian tube appeared to be normal. Cell imprint cytology was done, reported as Superficial epithelial tumour likely benign. Surgical staging of this patient was stage 1A.

Post-operative period was uneventful. Peritoneal fluid analysis was negative for malignancy.

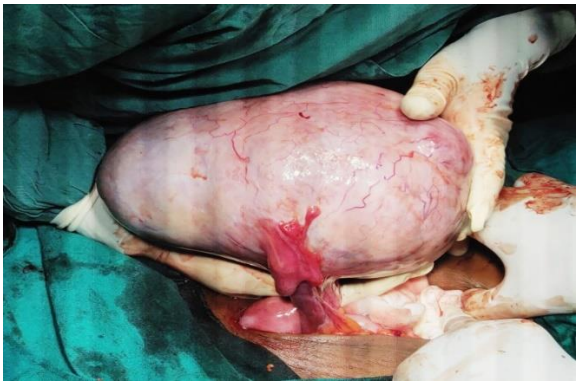

Figure 3: Inraoperative finding-shows mass arising from left ovary with twisted pedicle.

Gross examination revealed bulky cystic fluid filled large tissue mass measuring 19×20×14 cm with engorged blood vessels on surface.

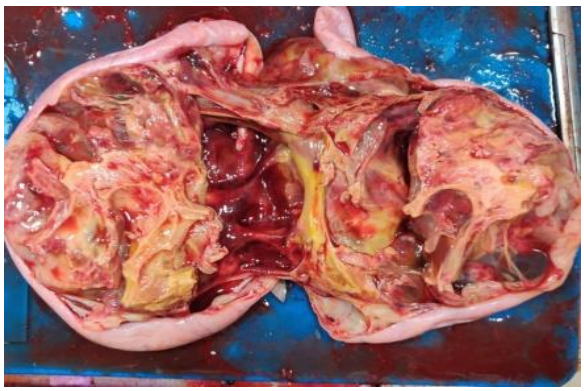

Figure 4: Cut surface of the tumour.

Cut section of tumour showing blood tinged yellowish fluid was expressed with partly solid and partly cystic areas. Cystic areas were multiloculated with thinned out smooth wall which was devoid of papillae. Solid areas were yellowish to tan, well demarcated with areas of hemorrhage.

Microscopic findings (HPE)-revealed features suggestive of moderately differentiated Sertoli-Leydig cell tumour of left ovary (with heterologous elements).

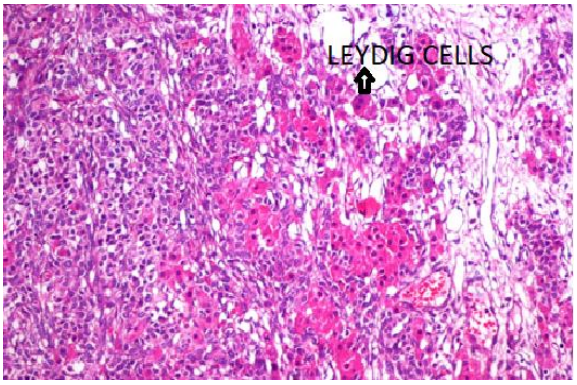

Figure 5: Leydig cells in clusters arranged in clusters with abundant eosinophilic cytoplasm and round vesicular nuclei with conspicuous eosinophilic nucleoli.

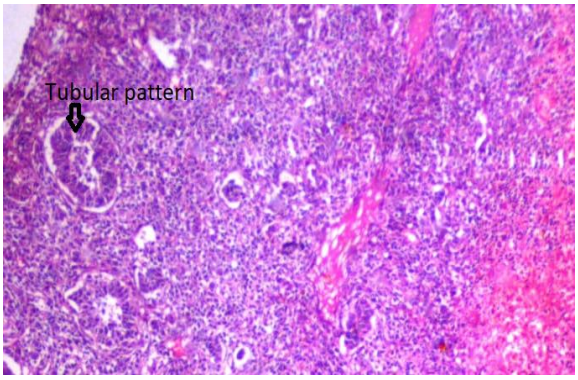

Figure 6: Sertoli cells arranged in tubular pattern with round to oval nuclei, inconspicuous nucleoli and vacuolated cytoplasm.

DISCUSSION

SLCT is a very rare ovarian tumor that included in the group of sex-cord-stromal tumors. It is suggested to be arising either from remnants of hilum or from the gonadal mesenchyme of ovary. It is characterized by uncontrolled proliferation of naturally occurring testicular structures (Sertoli and Leydig cells) of varying degrees of differentiation which include well differentiated, moderately differentiated, poorly differentiated, and with heterologous elements. Mixed (solid and cystic) components are most commonly encountered in roughly 60% of all ovarian SLCTs. The malignancy rate in tumors with heterologous elements is 15-20%.[2] Sonography remains the best imaging modality of preference for initial assessment of adnexal masses, due to its high sensitivity, suitability, and cost-effectiveness.[3] The use of sonography for ovarian cancer screening was first proposed by Campbell et al. SLCTs exhibit solid appearance, rich vascularization, lower vascular resistive index and peripheral necrosis on ultrasonography. In general, malignant tumors have neovascularization and distension of pre-existing vessels, which result in a low resistance to blood flow.[4] In a review of 207 cases by Young and Scully in 1985, all well-differentiated tumors were benign, whereas 11% of tumors with intermediate differentiation, 59% of tumors with poor differentiation, and 19% of those with heterologous elements were malignant.[5] Hence, imaging findings may help in early detection, preoperative differentiation and staging of SLCT in young female. Surgical resection represents the mainstay of management of ovarian SLCTs. Therefore, fertility sparing surgery (unilateral salpingo-oophorectomy) can be considered in all patients with well-differentiated ovarian SLCTs.

CONCLUSION

SLCT is a rare ovarian sex-cord tumor of the ovary with good prognosis postoperatively. Sometimes, imaging findings could be inconclusive with features suggestive of mucinous cystadenoma, serous cystadenoma or may mimic germ cell tumors of ovary. Hence, rare tumours like SLCT should be considered as one of the differential diagnosis in young and reproductive women presenting with abdomino-pelvic mass. Its management depends on degree of differentiation and staging of tumor, which mostly depend on histopathology.

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