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Extra Ovarian Granulosa Cell Tumor

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ABSTRACT

OBJECTIVE. The aim of this study is to report a rare case of "extraovariangranulosa cell tumor" arising from the mesentry.

METHODS. A thorough clinical history was taken and patient was subjected to laparotomy. The specimen which was removed on laparotomy was sent for histopathological study and the case was reviewed.

RESULTS. A 17-year-old female presented with pain in the right lower abdomen for 1 week. Per abdominal examination revealed a tender mass of 12 weeks size which was mobile. So, a provisional diagnosis of twisted ovarian cyst was made. When the abdomen was opened, the uterus and bilateral ovaries and fallopian tubes were normally visible. The size of the mesentry was found to be 10 cm x 7 cm cracked. Bilateral ovaries are usually visible and distinguished from the mass. Pathological examination revealed extra-ovarian "granulosa cell tumor".

Keywords:
Granulosa cell tumor, retro peritoneum , mesenchyme, extraovarian

Introduction

The most common malignant sex cord is the stromal tumor of the ovary [1]. It represents about 2-5% of ovarian cancer. Primary extracellular GCT is a very rare tumor [2]. Other GCTs may also be developed in women who have had an oophorectomy [3]. Granulosa cell tumors are thought to be caused by precursors of granulosa cells in particular. [4] A rare case of extracellular granulosa cell tumor has been reported here. In this case, the normal ovary was bilaterally identified and the tumor was found to have arisen from the mesentry.

CASE REPORT

Ms. S.M aged 17 yrs, presented to the OPD of IMS & SUM Hospital, Bhubaneswar with the chief complaints of right lower abdomen pain for 1 week. Her last menstrual period was on 13.9.2020. She had regular menstrual cycles, which is not associated with dysmenorrhoea. On examinations, pallor was of mild. There was no icterus or any lymphadenopathy. Her pulse was 88 beats per minute and blood pressure was 128/80 mmHg. She was afebrile at the time of presentation. Her respiratory system and cardiovascular system were normal. Per abdominal examination revealed a tender mass of 12 weeks size which was mobile. So, a provisional diagnosis of twisted ovarian cyst was made.

Ultrasonography revealed complex solid cystic lesion of size 10.1 x 6.6 x 3.6 cm noted in midline and in Right iliac fossa which appears to arise from left ovarian pedicle suggestive of partial torsion. CA-125 was done and the values were normal. So an emergency laparotomy was done. On opening the abdomen, the uterus and bilateral ovarian and fallopian tubes appeared normal. A ruptured mass of size 10cm x 7 cm was seen arising from the mesentry. The mass was removed and sent for histopathological study. Intra operative and post operative period was uneventful.

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The patient was discharged on the 7th post operative day. Her histopathology report showed features that are consistent with extra ovarian granulose cell tumor- adult type with evidence of capsular rupture and partial torsion.
Immunohistochemistry (IHC) was done in which vimentin, calretinin, WT1 SMA, CD99, Desmin were positive. Ki6% revealed 6-8% at highest proliferation area. But inhibin was negative on IHC.

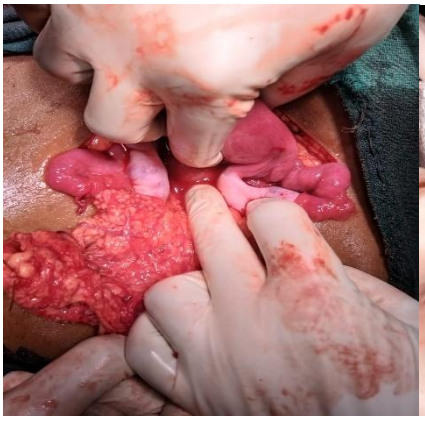

Fig.1: Normal uterus and ovaries.

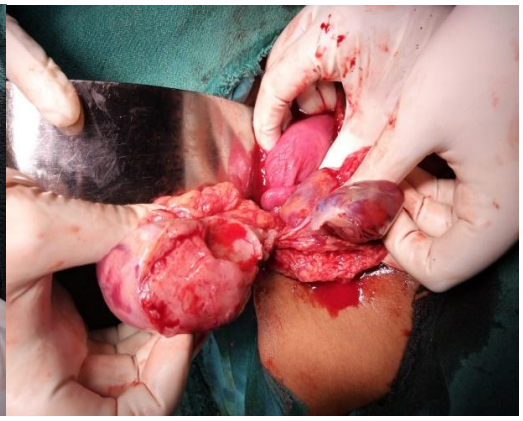

Fig.2: Ruptured mass.

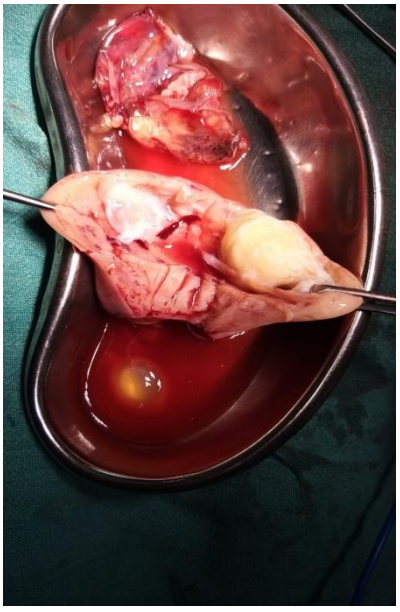

Fig.3: Cut section of the tumor.

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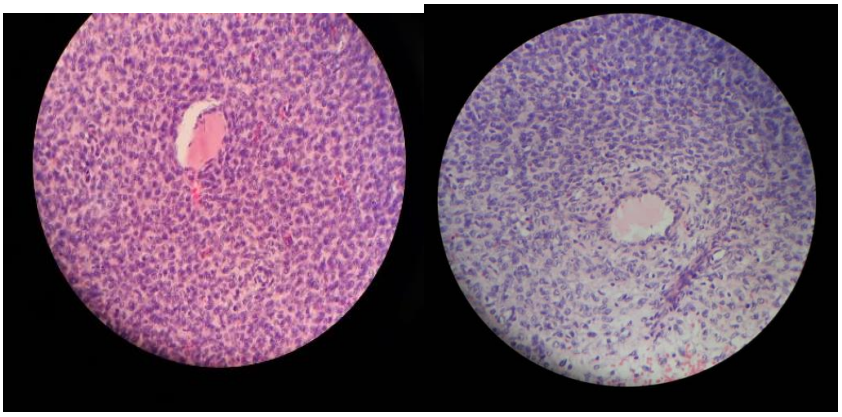

Fig.4: Diffuse growth pattern. Fig.5: Call Exner body like area.

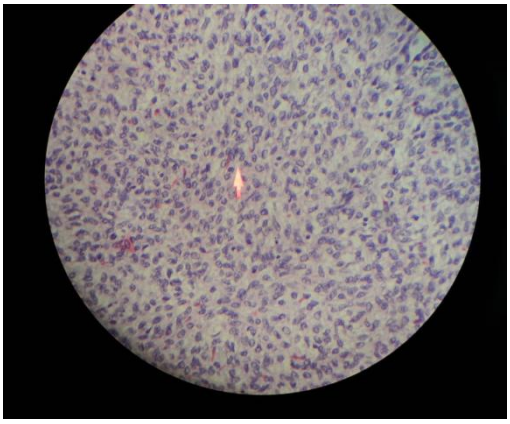

Fig.6: Angulated grooved nuclei.

DISCUSSION

It is very rare that GCTs can develop at sites other than ovaries. Adult type of GCT is more common and can occur at any age, with a high incidence in the fifth and sixth decades of life. But we report a case of extra-ovarian GCT in a 17-year-old.

The presence of granulosa cell tumors (GCTs) at sites other than the ovaries increases the chances of sex cord – a stromal tumor originates from the mesenchyme of the gonadal ridge. Primary granulosa cell tumors have not been reported in the literature. Early extraterrestrial GCT has been reported from the adenoids, retro-peritoneum, broad ligament, and uterus. In the literature, they are classified as "uterine tumors that look like ovarian sex cord tumors", and not primarily as ectopic and granulosa cell tumors. It is indicated that the malignant tissue originates from the mesenchyme of the gondal ridge, which helps in migration. The second theory is that granulosa cell tumors are derived from ectopic tumor tissue, which supports the more popular view of the sex cord - the stromal tumor derived from the predecessor of the sex cord in the ovary [5]. The overall shape of the GCT may vary. They can be partly cystic and partly solid. H. hemorrhage is common in cysts. Histopathologically, these tumor cells resemble normal granulosa cells. Extracellular GCT must be distinguished from asymmetric carcinoma, small cell carcinoma, carcinoid, and endometrial stromal sarcoma, which have similar forms. [7]. We can

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come to a final diagnosis through histological findings and immunohistochemistry (IHC). These tumors usually inhibin negativity. In our case too, inhibin was negative. Other immunostaining agents that help diagnose extracurricular GCT include cytokerin, calcitonin, Milan-A, FLI-I, CD99. They help differentiate from GCT. It can be distinguished from metastatic ovarian tumors with GCT positives for anabolic and caloric nanoparticles, later markers are more sensitive but less specific [8].Other, Immuno-stains that are positive in GCTs are vimentin, smooth muscle actin, and CD99 (MIC2) [9]. GCT patients need to have a reasonable date in the future, with a physical examination, and a study of tumor markers, as relapses account for 17% of 10 years after diagnosis [10].

CONCLUSION

Extra ovarian GCTs are a rare type of tumors. This case has been reported due to its rarity and difficulty in diagnosis. Immunohistochemistry, clinical history, and histopathological findings help diagnose extracellular granulosa cell tumors..

Extra ovarian Granulosa cell tumors are very rarely reported in literature. They can arise in locations such as mesentery, broad ligament, retroperitoneum. It is postulated that these tumors may be derived from the 'mesenchyme of the genital ridge.'

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