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Bilateral Adult Granulosa Cell Tumours of Ovary

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ABSTRACT *Adult granulosa cell tumours accounts for approximately 1% of all ovarian tumours and 95% of all granulosa cell tumours. These tumors mostly occurred in postmenopausal women and present with unilateral adnexal mass, bilateral involvement is rare. We are presenting a case of 40 year old premenopausal woman with bilateral ovarian mass.*

KEYWORDS : Bilateral granulosa cell tumours, Ovary, Gross pathology, Histopathology

CASE PRESENTATION:
A 40 year old woman presented with chronic intermittent lower abdominal pain and irregular scanty menses for last 3 months. On pelvic examination bilateral lower abdominal mass was palpated which was tender, soft, solid and fixed to the underlying structures. On bimanual examination, the mass was arising from ovary bilaterally, which was soft, solid with nodular surface. Rectovaginal pouch was empty without fluid.

Provisional diagnosis of ovarian tumour was made. All necessary biochemical investigations were done, but no remarkable results were found except for mild anaemia

Utrasonogram of lower abdomen showed B/L ovarian mass with endometrial hyperplasia. Left ovary showed a solid mass with cystic component measuring 7.2x5.2. No ovary was visualised separately. Right ovary showed a solid and cystic mass of size 7.5x6.9cm. No ovary was visualised separately.

CECT of lower abdomen shows moderate ascites, a large well defined lobulated, heterogenous, enhancing mass lesion with predominantly solid component noted at right side of pelvic cavity and appeared to be arising from right adnexa, extending upto umbilicus, of size 14x13x10 cm. Right ovary not delineated separately. An another large well defined lobulated, heterogenous, enhancing mass lesion with solid and cystic components noted at left side of pelvic cavity and appear arising from left adnexa, fused with right sided mass in midline of size 12x10x10 cm left side. The left ovary not visualised separately. Bilateral hydronephrosis with hydroureter was also present.

Surgical excision of the mass was planned. Total abdominal hysterectomy with bilateral salpingoopherectomy was done under general anaesthesia. Pelvic, iliac and lateral aortic lymphnodes along with part of omentum was also removed. Samples were sent for histopathological examination.

On gross pathological examination the mass was solid, soft to firm in consistency, greyish white in colour with few foci of haemorrhages. Cut section showed predominantly solid with few cystic components, foci of haemorrhages and pale yellow areas.

On microscopic examination H&E section of the tumour showed sheets and cords of monotonous population of round to oval cells having scanty cytoplasm, ill-defined border, round to oval, pale nuclei with grooving or nuclear folding in many nuclei, and occasional Call-Exner body seen.

INTRODUCTION:
Adult granulosa cell tumour is a rare sex cord stromal tumour of ovary, its incidence is less than 1%. It mostly occurs in postmenopausal women and presents with palpable unilateral adnexal mass. It arises from sex cords or ovarian mesenchymal stroma.

It is the most malignant sex cord sromal tumour of ovary. Median age of disease free interval is about 10 years after radical surgery.

DISCUSSION:
Granulosa cell tumor makes 1 to 2% of all ovarian tumors, derived from ovarian mesenchymal stroma. There are two types of granulosa cell tumors, (1) Juvenile type and (2) Adult type.

Juvenile type- mainly occurs in prepubertal children. Clinically presents with palpable mass and oestrogenic effects. Postpubertal patients presents with a mass, abdominal pain or swelling, menstrual irregularities and occasionally rupture and ascites.
Adult type- mainly occurs in peri and postmenopausal women. Median age of incidence is 45-55 years. The usual presenting symptom is post menopausal bleeding in older women and menorrhagia, metrorrhagia, or amenorrhea in premenopausal women. Most women with a granulosa cell tumour have a palpable unilateral adnexal mass.
Histologically several patterns have been described. These are often mixed.

Microfollicular pattern- it is the most characteristic pattern. Groups of granulosa cells forming Call-Exner bodies: small, round cystic spaces containing eosinophilic material or pyknotic nuclei.

Trabecular pattern- it consists of cords of cells.

Insular pattern- sheets of tumour cell in a geographical arrangements.

Macrofollicular pattern- large cysts lined by granulosa cells.

Water silk pattern
Gyriform pattern
Diffuse or sarcomatoid pattern.

Granulosa cell tumours contain a variable amount of fibrous or thecomatous stroma. Any tumour in which granulosa cells comprise more than 10% of the cellular population is classified as a granulosa cell tumour.

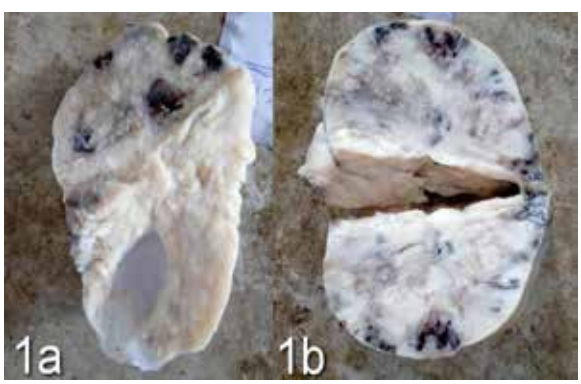
In 80% to 90% cases the tumour is confined to the ovary. All granulosa cell tumours have malignant potential, although most do not recur or metastasize. The recurrence rate is 10% to 15% for stage IA tumours and 20% to 30% overall. Extraovarian spread is to the peritoneum and omentum and occasionally to the liver or lungs. Lymph node metastases are uncommon. Granulosa cell tumours grow slowly, and metastases are often detected more than 5 years after initial treatment.

The standard treatment is total abdominal hysterectomy and bilateral salpingo-oophorectomy. unilateral salpingo-oophorectomy is appropriate treatment for stage IA tumors in young women who wish to conserve fertility.The recurrence rate is 10% to15% for stage 1A tumor and 20%to30% overall.

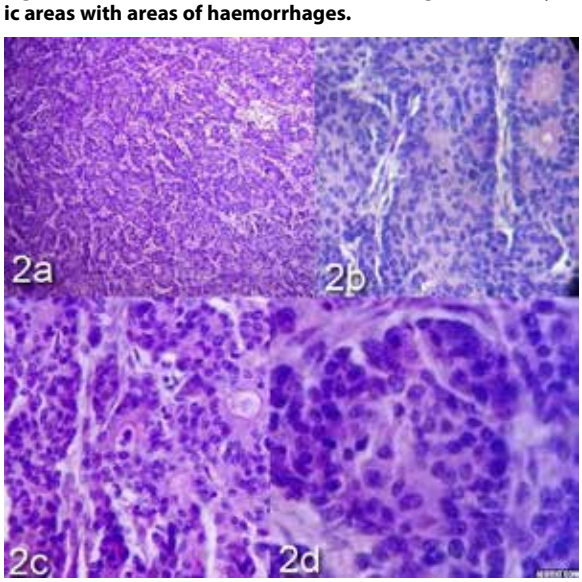
Poor prognostic factors- i) tumour size more than 15cm in diameter, ii) bilateral tumours, iii) tumours that are ruptured and spread beyond the ovaries. The stage is the single most powerful prognostic indicator. There is no correlation exists between the microscopic pattern and the clinical outcome.

CONCLUSION:

The case is being reported for its rarity. Treatment modality consists of total abdominal hysterectomy plus bilateral salpingo-oophorectomy. Although prognosis is poor but 80% to 90% cases detected in stage I, which have good prognosis. Some recurrent tumours have been treated by reoperation, radiation therapy, chemotherapy or a combination of these.



Figs 1a and 1b: Cut section of tumor showing solid and cystic areas with areas of haemorrhages.



Figs:H&E staining showing 2a: Clusters of granulosa cells; 2b & 2c: Call-Exner bodies; 2d: Nuclear grooving (coffee bean nuclei).

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