Abstract:
Juvenile granulosa cell tumors of ovary are rare form of neoplasm that makes up less than 5 of ovarian tumors in childhood and adults. 90 are diagnosed in stage 1 with favorable prognosis. A 23yrs P1L1 post lscs patient admitted with complaints of one year amenorrhea followed by continuous bleeding per vaginum for 1 month and diagnosed to have left complex ovarian cyst. Laparotomy proceeded and in view of young age and fertility requirements unilateral left ovariectomy was performed. Histopathology report was juvenile granulosa cell tumor of ovary grade 2. Immunohistochemistry was strongly positive for Inhibin and other tumor markers were normal and patient was on follow up. She conceived 5months after surgery and delivered an alive girl baby by caesarean section. At the time of cesarean section the residual ovary was normal, omental biopsy taken and found to be normal and patient was on follow up. After one year patient developed a left ovarian cyst. Total abdominal hysterectomy ,left cystectomy with right salphingo oophorectomy done. Histopathology report was normal.

Keyword: Juvenile granulosa cell tumor, Immunohistochemistry, Inhibin, Salphingo oophorectomy, Laparotomy, Ovariectomy.

INTRODUCTION
Gonadal sexcord-stromal tumors are rare tumors that develop from the gonadal non germ cell component. In local disease FIGO Stage 1 the beneficial roll of tumor ovariectomy is well established. Recurrences are uncommon but typically occurs within first year.

CASE REPORT:
In July 2010 23years old patient P1L1 Post LSCS,last child birth was 2years was admitted with history of one year amenorrhea followed by continuous bleeding per vaginum for one
month. On vaginal examination a firm mass of about 10X8cm was felt in the left and anterior fornix. Ultrasonogram revealed a large tumor of 11cm X 10cm X 6cm size with good vascularity and mixed echogenicity. There were multiple small cysts around the mass. The right ovary was normal. CT scan showed 11cm X 10cm heterodense well defined mass lesion arising from left adnexa with heterogenous enhancement of uterus with solid and cystic areas within the mass. Tumor markers serum alphafetoprotein, CA125, Sr. Progesterone, Sr. Testosterone, Sr. CA125 were normal. All routine investigations were within normal limits. After discussion with the patient and her attenders, in view of young age with normal tumor markers it was decided to proceed with Laparotomy with fertility sparing surgery. During Laparotomy uterus and right ovary were normal. Left ovary was replaced by a 15cm X 8cm X 6cm tumor with variable consistency. The surface was smooth and there were no fluid collection in the peritoneal cavity. Other abdominal viscera were found to be normal. As decided earlier left ovariectomy was performed with omental and peritoneal biopsies. Gross examination of the tumor revealed a smooth surfaced tumor with intact capsule. On cut section dark altered blood, blood clots in were found in the tumor tissue. Histopathology report suggested sex cord stromal tumors and negative malignancy in omental, peritoneal biopsies. Immunohistochemistry revealed a strong positivity for inhibin and the final pathological diagnosis was JUVENILE GRANULOSA CELL TUMOR - GRADE 2. She was followed up with the oncologist every 3 months and during the follow up ultrasonogram and tumor markers were normal. Five months after surgery patient conceived spontaneously. She had regular follow up given in oncology and antenatal clinic. In September 2011 patient delivered an alive girl baby by caesarean section. During cesarean section, the right left ovary was clinically normal and also other viscera. Right ovarian wedge biopsy, omental biopsy, peritoneal biopsy were taken and histopathological report did not reveal any malignancy. She continued her regular follow up with the oncologist and the gynecologist. After one year she developed another mass in the same left adnexa of about 6X7 cm size. CT scan revealed a complex adnexal mass and MRI suggested a cyst mass. Tumor markers were normal. In view of recurrence total abdominal hysterectomy with left cystectomy and right salphingo oophorectomy was performed with omental and peritoneal biopsy. Histopathology report did not reveal any malignancy.

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MRI Picture POSTOP SPECIMEN
DISCUSSION

Juvenile granulosa cell tumors occur is a rare form of neoplasm occurring in about 5% of children and young adults usually before 30 years of age. Gonadal sexcord-stromal tumors are rare tumors that develop from the gonadal non germ cell component such as granulosa cell, Sertoli cell, Leydig cells. Of these juvenile granulose cell tumors constitute the largest subgroup. The majority of prepubertal girls with juvenile granulose cell tumor come to attention because of isosexual pseudo precocity. Adults present with menstrual irregularities due to estrogen production, amenorrhea, abdominal mass, abdomen pain, virilization. Endocrine syndrome with hyperestroginism and increased serum AFP are usually present. 90% of these tumors are diagnosed in early stage and the prognosis is good. Ovariectomy of the affected ovary is the treatment of choice. Though recurrences are uncommon if they occur it is usually in the first year.

A positive immunohistochemistry for inhibin, an ovarian glycoprotein, is a key diagnostic feature. Tumor cells reveal strong immunoreactions for vimentin but no expression for keratin or epithelial membrane antigen. Serum mullerian inhibiting substance concentrations may be used to evaluate the completeness of tumor removal following initial surgery, during follow up and at recurrence.

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