

Granulosa cell tumors

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Introduction

Granulosa cell tumor is a low malignant potential ovarian tumor derived from special gonadal stroma. This tumor occurs in women of reproductive age group as well as in menopausal. Only about 5 % of Granulosa cell tumor occurs before puberty.

Case: 1

A 47 year's old women presented with complaints of intermittent abdominal pain, abdominal distension and menstrual irregularity since one year.

Patient was alright one year back when she had sudden onset of abdominal pain, for which she attended an Ayurvedic clinic and took some Ayurvedic medicines got relief from pain, but pain used to reoccur intermittently, which used to be associated with nausea and vomiting and patient used to take same Ayurvedic medicine. Pain was severe since last 12 days which was associated with abdominal distension, nausea; vomiting and decreased appetite for this patient attended a health camp. From this camp she was referred to gynaecologist for suspected gynaecological malignancy. Her bowel bladder habits were normal.

Her menarche was at 15 years, previous menstrual cycles were regular with 4-5 days flow and cycles of 28-30 days but since last one and half years cycles were irregular; she used to bleed for 10-15 days in cycles of 45-120 days. Couple never practiced contraception, Pap smear never taken. Patient had four full term vaginal deliveries at home with one late neonatal death at one month and three living issues. Last child birth was 13 years back.,

Past medical, surgical and family was not significant. She is nonvegetarian, does not consume alcohol but is chronic smoker; use to smoke 5-6 sticks per day.

On examination:

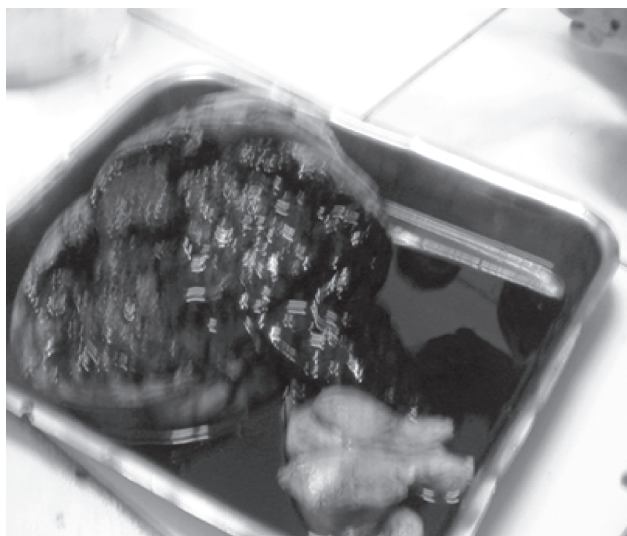
She was ill looking, afebrile, pulse rate 82 per minute, blood pressure 120/80 mm of Hg. Accessible lymph nodes were not palpable. Systemic examination revealed normal findings. There was 28 weeks gestational size abdominal mass, firm, tender immobile up-down and side to side. Tenderness over whole abdomen and more on left iliac region.

Cervix normal looking. Uterus 8 week gestational size, tender, whole pelvis and abdomen was occupied huge mass which was separate from uterus.

Ultra sonogram showed huge complex left ovarian cyst with ascetic, uterus and right adnexa unremarkable, cholelithiasis with gall bladder polyp. Other hematological, renal function, liver function findings were within normal range. Tumor markers: CEA, and CA125 were sent and emergency laparotomy was done with provisional diagnosis of twisted or hemorrhagic ovarian tumor. Operation done was staging laparotomy, total abdominal hysterectomy with bilateral salpingo-oophorectomy, infra-colic omentectomy and cholecystectomy, and appendectomy.

Operative finding: ascetic fluid one lit. Huge left ovarian cyst measuring 34x32 cm in diameter twisted on its pedicle twice with tube which was blue in color. Uterus 10 weeks gestational size, right tube edematous otherwise right tube and ovary normal looking. Gall bladder was protruding up to the upper margin of the incision (about 8 cm long with three big palpable stones) with gallbladder polyp. Liver

surface was free of metastatic deposits.



Appendix was inflamed.

Cut section of ovarian mass revealed hemorrhagic, multiloculated, solid cystic mass containing blood clots and necrotic tissue. Uterus; myometrium thickened but there was no ruff hurl appearance. Cut section of gallbladder; three stones measuring 2x2 cm each.

Patients post operative period was uneventful and discharged on fifth postoperative day and stitches were removed on tenth postoperative day as incision was long midline.

Histopathology revealed adult granulosa cell tumor of left ovary with presence of malignant cells in ascetic fluid however uterus, left tube, right tube and ovary and omental tissue, gall bladder and appendix was free of malignant cells. CEA and CA125 reports came after two days operation, which were normal. As only one ovary was involved, with intact capsule and positive ascetic cytology for malignant cells, she was diagnosed as granulosa cell tumor stage 1 C and sent for chemo therapy to the medical oncologist. She is getting BEP regimen of chemotherapy. Post operative mammography was done after histo-pathology report revealed granulosa cell tumor, and mammography report was normal.

Case 2

65 years old lady, P4+0 L3, for past 2 months she had developed increasing pain abdomen, and bleeding per vaginum at the intervals of 10-15 days, had history of some thing coming out per vaginum with involuntary passage of urine during straining.

She attended menarche at 13 years previous cycles were regular, menopause for 13 years. As already maintained earlier she gave birth to 4 children first 47 and last 40 years back, all were full term vaginal deliveries at home.

She presented with complaints of postmenopausal bleeding since two years. She was known hypertensive, under treatment.

Personal and family history was unremarkable.

General physical and systematic examination revealed normal findings.

Abdomen was fatty, non-tender, no palpable organomegaly.

Utero-vaginal prolapse with cystocele and rectocele, uterus bulky, right ovary palpable (enlarged). left side restricted

On investigation : in liver function test LDH was significantly raised (1230) USG revealed uterus bulky (10x5.6x5.6cm), endometrial echo complex displaced inferiorly and measuring 0.6 cm, gall bladder lumen single calculus of 2 cm.

Histopathology report of endometrial biopsy revealed simple hyperplasia without atypia.

Staging laparotomy, total abdominal hysterectomy, cholecystectomy, and pelvic floor repair was done.

Operative findings : omentum thickened, unhealthy, friable, right ovary cystic 4x3 cm, Lt ovary normal looking Uterus about 10 weeks gestational size; cervix elongated; Ut:Cx ratio 2:1, adhesion present between Lt infundibulopelvic ligament with gut. Liver, gut & rest of abdomino-pelvic structures free of any metastatic deposits. There was solitary calculi 2.2 cm in gall bladder.

Cut section: Thin, irregular endometrium with pedunculated polyp (1.5x0.5 cm) from posterior wall of cervical canal. A focal growth near Lt cornua (1x1 cm). Ovary brownish cystic spaces.

Post operative diagnosis was Stage Ia ovarian tumor.

Post operative hospital stay was uneventful, was discharged on third postoperative day and stitches removed on 8th post op day.

Histopathology report came out; B/L Granulosa cell tumor of ovary, adult type, TNM T1c N0 M0, FIGO Ic.

She received two cycles of chemotherapy (VAC regimen).

After this patient lost in follow up and after two months she reported to the emergency with complaints of pain and weakness and Tingling sensation in Rt. Lower limb since three days and was admitted under surgery with diagnosis

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of Acute arterial occlusion

USG Doppler- suggestive of complete occlusion of Rt. External iliac and femoral artery. She underwent above – knee amputation of affected lower limb.

Discussion

Granulosa cell tumor occurs in women of reproductive as well as postmenopausal age group women. Only about 5% of this tumor occurs in prepubertal age. One of our patient is 47 years perimenopausal lady and another was 65 years old menopausal. As Granulosa cell tumor is estrogen secreting tumor many patients present with menstrual problems, both of our patients had menstrual problems first with irregular bleeding and second with post menopausal bleeding but the pain abdominal mass was since one year so the tumor might be existing since longer period in first case. Though second patient had also pain abdomen she did not have palpable abdominal mass. On retrospective asking the first patient had history of breast fullness and increased vaginal discharge. Inhibin, which is a tumor marker for granulosa cell tumor could not be done in our setup and granulosa cell tumor was not suspicion at the time of presentation in either case. Inhibin is a polypeptide hormone, that is secreted by granulosa cells of the ovary. Though most patients with this tumor present with nonspecific symptoms like awareness of an abdominal mass, abdominal pain or bloating and some patients may present with an acute abdomen due to internal tumor rupture or hemorrhage. About 10% of the patients with this lesion harbor an endometrial carcinoma; in this case though the tumor existed probably since more than one and half year and menstrual problems (oligomenorrhea with prolonged bleeding) were since then, there was endometrial hyperplasia in second case which is found in about 25-50 % of the patients.

Granulosa cell tumor vary greatly in gross appearance some times they are they are solid tumors that are soft or firm. They are yellow or gray depending upon intra cellular lipid. Cut section this tumor generally found to be filled with serous fluid or clotted blood. in first case the tumor was bluish probably due to torsion and the tumor was multiloculated, solid and cystic containing clots and necrotic tissue, while in second case tumor was multiloculated, brown colored..

These tumors are adequately managed during reproductive years removing the involved ovary and ipsilateral tube. The tumor and uninvolved adnexa should be removed in peri and postmenopausal age group which is treatment for other benign or low malignant potential tumors. In a series from the Mayo clinic 92% of patients had survived 5-10 years (78

patients; 82% of whom had stage 1 disease). Adverse prognostic factors that have been reported include large tumor size, bilateral involvement, intra abdominal rupture of neoplasm, nuclear atypia, and high mitotic rate.

In first case though it was unilateral tumor, it was huge with positive peritoneal cytology, and patient had already completed family, second case patient was post menopausal. In both the cases total abdominal hysterectomy with bilateral salpingo-oophorectomy and infracolic omentectomy followed by chemotherapy seems proper management.

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