

Granulosa cell tumor of the ovary associated with Endometrial Cancer

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Abstract

Sex cord–stromal tumors (SCST) of the ovary comprise 5% to 8% of all ovarian malignancies. Granulosa cell tumors (GCT) are the most common type of malignant ovarian SCST accounting for 2% to 5% of all ovarian malignancies. Most tumors secrete estrogen. This can lead to an estrogen dependent endometrial hyperplasia and in some cases endometrial cancer. We report the case of a 62 year old woman with endometrial adenocarcinoma and adult granulosa cell tumor of the ovary who presented with postmenopausal bleeding and adnexal mass. She underwent total abdominal hysterectomy with bilateral salpingo-oophorectomy, infracolic omentectomy, and pelvic lymphadenectomy, and the specimen was submitted for histopathological examination. Concomitant adult GCT and endometrial Cancer is rare. This diagnosis requires a high index of suspicion along with imaging and histopathology.

Key Words: Sex cord tumors, Gynecological Malignancy, Surgery, Lymphadenectomy

Introduction

Sex cord–stromal tumors (SCST) of the ovary account for 5% to 8% of all ovarian malignancies. Granulosa cell tumors(GCT)are the most common type of malignant ovarian SCST accounting for 2% to 5% of all ovarian malignancies¹ Adult GCT of the ovary are indolent but have high re-occurrence². GCT may secrete estrogen, are seen in women of all ages, and are classified as either adult or juvenile granulosa cell tumors. Five percent of cases are found in prepubertal girls. The others are

distributed throughout the reproductive and postmenopausal years³. Adult GCT presents usually in postmenopausal women. Endometrial cancer occurs in association with granulosa cell tumors in at least 5% of cases, and 25–50% are associated with endometrial hyperplasia³

62 year P2L2, presented with post menopausal bleeding for one year. She required 4-5 pads/day. She had history of generalized weakness. No history of abdominal pain, postcoital bleeding, weight loss, abdominal mass or vaginal

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discharge. Her recalled age of menarche was at the age of 13 years and she had attained menopause 15 years back. She had no use of any hormonal drugs. She had no chronic medical illness. She was not pale on general examination.. On gynecological examination, uterus was found to be ten weeks size and right adnexa full.

She presented one year back with same symptoms when she had pervaginal bleeding for the first time. Abdominal ultrasound showed endometrial thickness of 7 mm. Fibroid of 27 * 24 mm seen in anterior wall of uterus. Right adnexal complex cyst 32*31 mm present. Endometrial biopsy revealed Grade 1 Endometroid Carcinoma with no lymphovascular and perineural invasion. MRI revealed bulky uterus(9*5*8 cm)with enhancing thickened heterogenous endometrium 1.4*3.1 cm, limited by junctional zone(<50% of myometrium involved).The lesion shows restricted diffusion. No extension to cervical stroma. Right ovary 28 * 55mm with solid and irregular cystic components. Heterogenous mild enhancement noted. No significant lymph nodes in the pelvis She refused further treatment due to financial restraints and did not come for further follow up.

Now, her MRI was repeated, which showed uterus size 9.4*7.2* 5.7 cm with widened endometrial canal.3.5*3.4*1.6 cm lesion present in endometrial cavity with intact junctional zone. The lesion shows restricted diffusion. No extension to cervical stroma. Heterogeneously enhancing right adnexal mass of 6.4*6.1*4.1cm with diffusion

restriction. The adnexal mass contains areas of hemorrhage. The left ovary was unremarkable

On the basis of these findings, she was planned for staging laparotomy provisional diagnosis of coexistent endometrial and ovarian malignancy. Intraoperatively, uterus was 11*7*5 cm with 4*3 *1 cm papillary growth in endometrial cavity. Grossly it involved less than 50% of myometrial involment. Endocervical canal was empty. 8*6*3cm right ovarian mass containing solid areas with areas of hemorrhage. No surgical spillage. Intramural fibroid of 3*3 cm present. The left ovary looked normal. Peritoneal fluid 200 ml straw colored present which was sent for cytological analysis. Omentum was oedematous. Liver, spleen, and bowel looked normal. Extrafascial hysterectomy with bilateral salphingoophorectomy with bilateral pelvic lymph node dissection with infracolic omentectomy was done. No significant intraoperative complications encountered. The specimen was submitted for histopathological examination. Her postoperative period was uneventful.

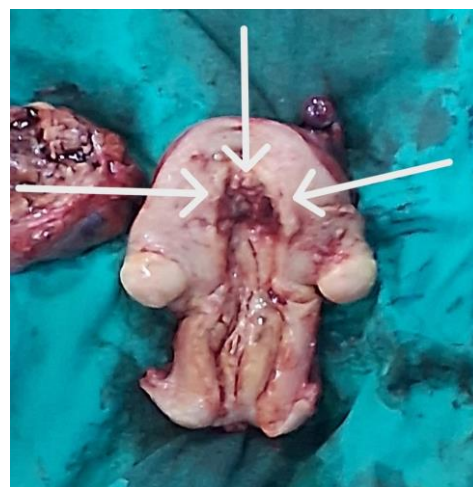


Figure 1: cut section of uterus showing papillary growth of 4*3*1 cm in endometrial canal

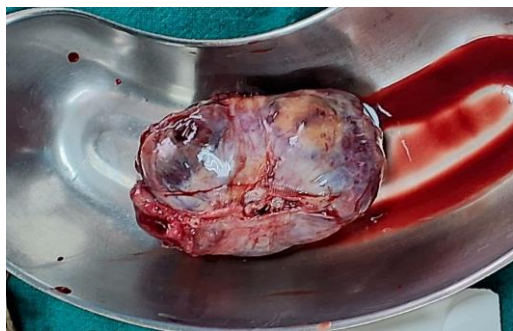


Figure 2: Right ovarian mass



Figure 3: Cut section of right ovarian mass showing whitish tan friable mass with hemorrhagic areas. Histopathology examination of the uterus revealed endometroid carcinoma. Tumor infiltration was less than half thickness of myometrium. No cervical involvement. Histopathological examination of the right ovarian mass showed adult granulosa cell tumor of ovary with involvement of right fallopian tube. Characteristic Call-exner bodies were seen. Peritoneal fluid was positive for malignant cells. Omentum contained inflammatory cells. No lymph nodes were involved.

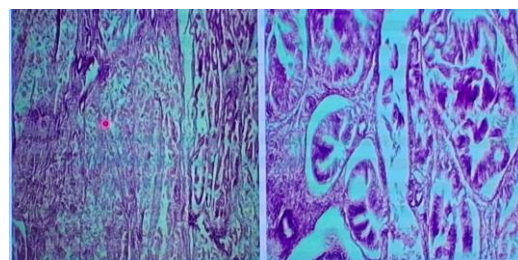


Figure 4: Section from endometrium showing glandular and villo-glandular pattern suggestive of endometrial cancer



Figure 5: Sections from ovarian mass showing proliferation of Granulosa cells. Call exner bodies present

The final diagnosis was stage 2A adult granulosa cell tumor with Stage 1A endometroid Carcinoma. At the three-week follow-up visit after surgery, the patient no longer had vaginal bleeding. Her vital signs were normal, and her abdominal wound had healed. She was then sent for adjuvant chemotherapy.

Discussion

Adult granulosa cell tumors account for approximately 95% of all granulosa cell tumors. They occur more often in postmenopausal women. The presenting symptoms are diffuse pelvic pain, breast tenderness, and vaginal hemorrhage.^{4,5} Adult granulosa cell tumors are stage I at diagnosis in 90% of patients and are associated with a very good prognosis, but may recur 5 to 30 years after

initial diagnosis⁶In our case too, our patient is menopausal with per vaginal bleeding. Inhibin is secreted by granulosa cell tumors and is a useful marker for diagnosis and post treatment surveillance. The sensitivity of inhibin A for diagnosis was 67% with a specificity of 100% compared with 89% and 100%, respectively, for inhibin B; therefore, inhibin B appears to reflect disease status more accurately than inhibin A.⁷ Our patient could not bear the financial burden of her treatment. So she refused tumor marker evaluation.

Synchronous endometrial carcinoma must be suspected in women with post menopausal bleeding who have adnexal mass on imaging. In order to reach the right diagnosis, an endometrial biopsy is mandatory.

Endometrial cancer associated with adult granulosa cell tumor is usually of type 1 variety. This is due to unopposed estrogen stimulation of the uterus. Other risk factors are estrogen replacement therapy, obesity, anovulatory cycles, nulliparity with a history of infertility, late menopause. They are well differentiated tumors that have a favourable outcome.⁸ Our patient had Stage 1a endometroid Cancer

The ideal management of these cases is a comprehensive surgical staging procedure. No further therapy for patients who have stage I granulosa cell tumors. Adjuvant therapy should be considered for juvenile granulosa tumour stage IC patients or for adult granulosa cell tumor stage IC2-IC3 patients. The most commonly used regimen is the Bleomycin, Etoposide

and Cisplatin (BEP) combination.⁹ Hence our patient received adjuvant chemotherapy.

Conclusion

Concomitant adult GCT and endometrial Cancer is rare. This diagnosis requires a high index of suspicion in addition to imaging and histopathology. Diagnosis and treatment at an early stage leads to excellent prognosis. An preoperative endometrial biopsy is necessary in all cases of adult GCT. A comprehensive surgical staging is mandatory for further management. Adjuvant therapy is determined by the stage of disease.

Consent

Informed written consent was taken from the patient and the patient's party

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