Case Report

Granulosa cell tumor complicated by torsion, rupture and hemoperitoneum

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ABSTRACT

Granulosa cell tumor, a sex cord stromal estrogen secreting tumor presents with vaginal bleeding and is seen in all ages. It accounts for <5% of all ovarian neoplasm. We reported a rare case of granulosa cell tumor in a postmenopausal woman undergoing staging laparotomy with total abdominal hysterectomy and bilateral salpingo-oophorectomy for malignant ovarian tumor, which was complicated by torsion, rupture and hemorrhagic ascitis. Any ovarian tumor with vaginal bleeding should arouse suspicion of granulosa cell tumor in the background of postmenopausal woman. For most patients, surgery alone is sufficient primary therapy, Radiation and chemotherapy are reserved for the treatment of recurrent or metastatic disease.

Keywords: Granulosa tumor, Malignant, Postmenopausal, Radiotherapy, Surgery

INTRODUCTION

Granulosa cell tumors account for approximately 1% to 2% of all ovarian tumors and 70% of all sex cord stromal tumors.1 It has a reported incidence of 0.5-1.5 per 100,000 women per year.2 It is mostly seen in peri-menopausal age group with a peak incidence between 50 and 55 years of age.3 Bilateral disease is observed in only 2% of patients. It is hormonally active tumor producing estrogen. Presenting manifestations are abdominal pain or swelling, menstrual irregularities or amenorrhea and postmenopausal bleeding.2 At times torsion and tumor rupture can complicate causing the patient to develop acute abdominal pain, abdominal distension and hypotension due to hemoperitoneum.2 We reported this case of 65 year old postmenopausal woman with torsion of granulosa cell tumor because of rarity of such presentation.

CASE REPORT

65 years old para 3 from a village in Nepal presented to OPD with irregular vaginal bleeding, progressive abdominal pain and abdominal distension of 11 months. She had no significant past medical or family history. On examination, she was pale. A firm to hard irregular tender mass of 14-16 weeks gravid size was felt in hypogastrium and bilateral iliac fossa with restricted mobility.2 It is mostly seen in peri-menopausal age group with a peak incidence between 50 and 55 years of age.3 Bilateral disease is observed in only 2% of patients. It is hormonally active tumor producing estrogen. Presenting manifestations are abdominal pain or swelling, menstrual irregularities or amenorrhea and postmenopausal bleeding.2 At times torsion and tumor rupture can complicate causing the patient to develop acute abdominal pain, abdominal distension and hypotension due to hemoperitoneum.2 We reported this case of 65 year old postmenopausal woman with torsion of granulosa cell tumor because of rarity of such presentation.

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Diascopy. The pale yellow tumor was easily palpated in the cul-de-sac. The tumor was semilargely necrotic and presented with multiple dense adhesions to the surrounding tissue. The adnexa of the right side was not palpable due to adhesions. The tumor was completely excised, along with part of the right ovary and tube. A follow-up examination revealed no symptoms of recurrence or metastasis, and the patient was free of cancer five years after the initial diagnosis.

**DISCUSSION**

Granulosa cell tumor of the ovary is a rare neoplasm that originates from sex cord stromal cells characterized by prolonged natural history, tendency to late recurrences and favorable overall prognosis. It is divided into adult type and juvenile type depending on the clinico-pathological findings, adult type being 95% of cases. It can manifest as an asymptomatic mass or symptoms related to hyperestrogenism like abnormal uterine bleeding, breast tenderness and postmenopausal bleeding. Granulosa cell tumor presenting as ovarian torsion is not common. Though there are few reports in juvenile type of tumor, it is very rarely seen in adult type. Tumor rupture is seen in 10% cases which manifest as abdominal pain and hemoperitoneum.

Imaging findings in adult GCT vary widely and range from solid masses to tumors with varying degree of hemorrhagic or fibrotic changes, to multicocular cystic lesions to completely cystic tumors. Tumor markers used in GCT are estradiol, inhibin, follicle regulatory protein and mullerian inhibitory substance. Surgery is the primary choice of treatment which alone provides cure in cases with disease confined to the ovaries. However, platinum-based combined chemotherapy regimen is advised in cases with high-risk factor or more advanced disease.

Five year survival rates usually are 90-95% for stage I tumors compared to 25-50% for patients presenting with advanced-stage disease. Staging is the most important prognostic factor though other factors like large size (>15 cm), bilaterality and tumour rupture can impact greatly on the survival. Despite the good overall prognosis, long-term follow-up always is required in patients with granulosa cell tumors.

**CONCLUSION**

Granulosa cell tumor is a rare tumor of ovary. Because of limited study, most cases remain undiagnosed even by histopathology. It should always be considered in a woman who presents with postmenopausal bleeding and co-existing ovarian tumor. Early diagnosis makes for a favorable prognosis where surgery alone is sufficient primary therapy. Radiation and chemotherapy are reserved for the treatment of recurrent or metastatic disease.

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**REFERENCES**


