

Adult granulosa cell tumour presenting in reproductive years

Nikisha Mc Eachnie, Keren T. Jurawan

Introduction

Granulosa cell tumours (GCTs) are rare, slow-growing, non-epithelial ovarian malignancies, comprising about 2-5% of ovarian tumours and 10% of sex cord stromal tumours¹. Most (95%) are adult type (aGCT), typically presenting as a unilateral adnexal mass in postmenopausal women². These tumours often cause hyperestrogenism, leading to heavy or postmenopausal bleeding and endometrial hyperplasia/polyps². Due to their indolent nature, there is a high 10-year survival rate exceeding 90%.

Case report

A 38-year-old nulligravida with polycystic ovary syndrome presented with a six-year history of heavy menstrual bleeding. Her body mass index was 28kg/m² and there was no family history of cancer. Oral progestogens and combined oral contraceptives provided minimal relief. Two diagnostic curettages, six years apart, were normal. Ultrasound revealed a heterogeneous left ovarian mass (7.2 x 5.6 cm) with multiple cystic areas; tumour markers were normal. She underwent left salpingo-oophorectomy, and histology confirmed an adult-type granulosa cell tumour (FIGO stage 1A) with intact capsule and no surface involvement; mitotic count was 10/12 hpf.



Figure 1:
Gross appearance ovarian cyst

Discussion

aGCTs are rare but generally carry a favourable prognosis. They most frequently occur in individuals aged 50 to 55, unlike in this case. It has been found that women with a body mass index above 30 kg/m², and with a family history of breast or ovarian cancer were more susceptible to GCT³. Conversely, women who were parous or used oral contraceptive pills had a lower risk of GCT.²

Symptoms can range from abdominal pain or swelling due to an adnexal mass, endocrine manifestations, such as abnormal uterine bleeding, as in this case, or postmenopausal bleeding. 10% present with ovarian torsion, tumour rupture and hemoperitoneum².

The elevated oestrogen levels associated with these tumours increase the risk of endometrial hyperplasia, polyps and carcinoma (5%). Like this case, approximately 60% and 95% of aGCTs are diagnosed at an early stage^{3,4}, usually FIGO grade 1 and superficial⁵. Most are diagnosed early, and complete removal of the tumour at Stage I is usually curative.

In this case, the patient had fertility ambitions. 2018 European Society for Medical Oncology (ESMO) and 2020 National Comprehensive Cancer Network (NCCN) guidelines state that if the disease is confined to the ovary, fertility sparing surgery is a feasible option when considering fertility options^{3,4}.

Considering, the recurrence rate of GCT is 20% in Stage IA⁷, careful follow-up is important. Evidence is still low on the use of markers for disease recurrence, however anti-Müllerian hormone and inhibin B has been shown favourable in aiding diagnosis⁷. This patient will be monitored until menopause, then a hysterectomy and adnexectomy of the contralateral ovary will be offered.

Conclusion

aGCTs generally have low malignant potential and a favourable prognosis, although recurrence may occur years later. Early diagnosis and prompt surgery improve outcomes. In this case, the Stage IA tumour carries a 10-year survival rate exceeding 90%¹.

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