Case Study: Granulosa Cell Tumour of the Ovary

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Introduction:

Granulosa cell tumours are rare representing approximately 3% of all ovarian cancers but are the most common (70%) sex cord stromal tumours. They are characterised by a long natural history and 25% may recur years after removal of the primary tumour.

They arise from the ovarian stroma responsible for estradiol production and consist of two types; the rare juvenile form and the more common adult form as described in this case. Endometrial hyperplasia is often found with granulosa cell tumours occurring in 25-50% of cases due to excess oestrogen produced by these tumours. This can lead to endometrial adenocarcinoma in approximately 5-10% of cases.

Case Report:

A 48 year old female patient was referred by her GP to the Ultrasound Department for an urgent pelvic ultrasound scan. The patient presented with abdominal pain and had suffered with heavy, irregular bleeding for over 6 months.

A pelvic ultrasound scan was performed. Grey scale ultrasound images demonstrated a thickened inhomogeneous endometrium with multiple interspersed cystic spaces and an endometrial thickness of 23mm.The endocervix appeared abnormal showing multicystic change and endo-cervical expansion (fig 1).

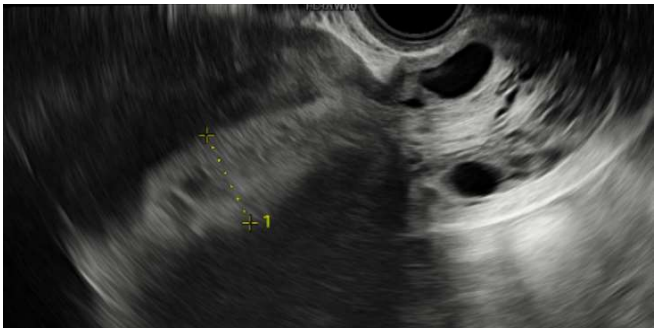

Figure 1: Longitudinal view of uterus.

A predominantly solid, cystic mass with moderate vascularity measuring 107mm was identified in the right adnexa. The Appearances suggested an ovarian malignancy (fig 2). Adnex calculations classified the right ovarian mass as a stage II-IV invasive tumour (fig 3).

Management:

The patient underwent emergency surgery and had a total abdominal hysterectomy, bilateral salpingo-oophorectomy, omentectomy and appendicectomy.

The post-op pathology results showed good agreement with the ultrasound findings and adnex classification.

Right ovary-Adult granulosa cell tumour -

Uterus-Atypical hyperplasia with a G1 endometrioid adenocarcinoma

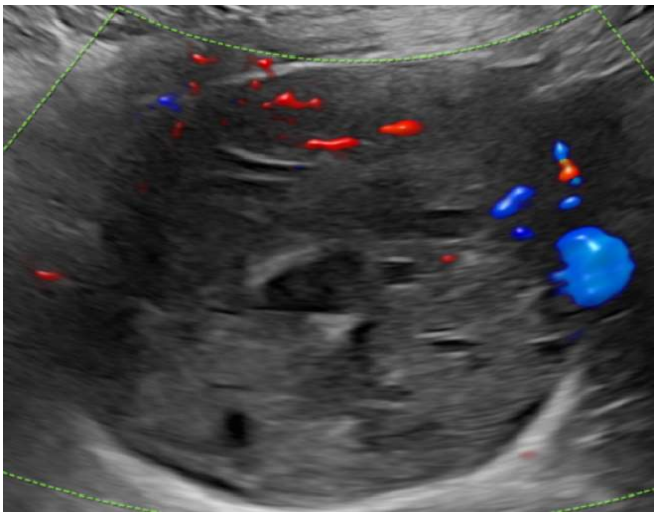

Figure 2: Right Granulosa Cell Tumour

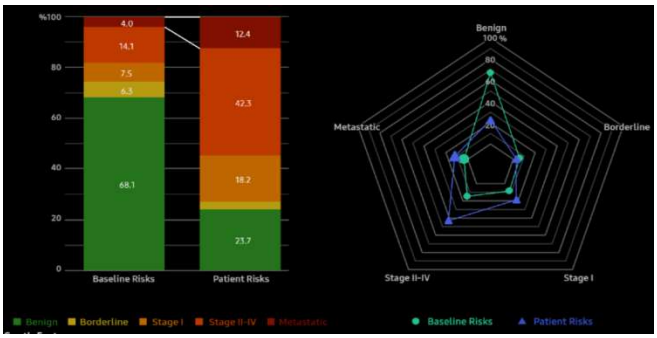

Figure 3: Adnex Calculations

Discussion:

Granulosa Cell Tumours can either be purely solid or of a solid/cystic consistency. Most tumours have marked vascularity, but a few will display minor vascularity. They are often associated with abnormal, heavy bleeding and have a peak incidence of presentation in perimenopausal/ postmenopausal cohorts. There is a risk of endometrial hyperplasia or adenocarcinoma because of the effects of prolonged unopposed oestrogen as represented in this case. Surgery is the primary treatment for granulosa cell tumours where fertility is not an issue. This involves a total abdominal hysterectomy, bilateral salpingo-oophorectomy and removal of all gross disease. Fertility preserving surgery can be carried out for patients with early stage disease. The prognosis is generally positive for patients presenting early with more than 75% surviving long term.

References:

Khosla et al; Ovarian Granulosa Cell Tumour; N Am J Med Sci; 2014; Mar 6(3); 133-138

Pectasides et al; Granulosa Cell Tumour of the Ovary; Cancer Treat Rev; 2008; 34:1-12