

ANSWER TO PHOTO QUIZ (PAGES 132-133)
AN UNUSUAL CAUSE OF BREAST ENLARGEMENT

DIAGNOSIS

We had a working diagnosis of ovarian cancer and therefore decided to perform a staging laparotomy. Both adnexa were removed and omentectomy was carried out. Histopathological examination of the material showed a malignant granulosa cell tumour of the right ovary (figure 3). The inhibin-B and CA 125 were preoperatively measured and proved to be 88,470 ng/l (reference post-menopausal women: < 10 ng/l) and 115 kU/l (reference: < 35 kU/l), respectively. Our final diagnosis was a malignant granulosa cell tumour (stage Ia) of the right ovary.

Granulosa cell tumours (GCTs) are rare, malignant, ovarian tumours, comprising approximately 2 to 4% of all ovarian malignancies.¹ Presenting symptoms are often related to the tumour itself (abdominal pain, swelling, bloating) but the majority of GCTs also produce oestrogen, making vaginal bleeding a common presenting complaint.² The mainstay of treatment for GCTs remains cytoreductive surgery. Complete surgical staging consists of total abdominal hysterectomy, bilateral salpingo-oophorectomy and exploration of the peritoneal cavity. There is little or no evidence for adjuvant chemotherapy.¹ GCTs have a more favourable prognosis than epithelial tumours of the ovary, because they are generally discovered at an early stage when the tumour is confined to the ovary.^{1,2}

Our patient also presented with symptoms indicative of overproduction of female sex hormones, but instead of the more common vaginal bleeding, her presenting symptom was bilateral mammary gland enlargement. After removal of the tumour, the swelling of the breasts disappeared and her inhibin B levels dropped to < 10 ng/l. She has been in follow-up for almost a year now and there are no signs of residual or recurrent disease.

This case illustrates the importance of ruling out sex hormone-producing malignant ovarian tumours in case of unexplained breast enlargement.

ACKNOWLEDGEMENT

The authors would like to thank Drs. L.F.S. Kooreman for her help with the histopathological slides.

REFERENCES

1. Mancari R, Portuesi R, Colombo N. Adult granulosa cell tumours of the ovary. *Curr Opin Oncol.* 2014;26:536-41.
2. Stine JE, Pierce S, Soper JT. A comprehensive review of diagnostic and treatment options for granulosa cell tumors of the ovary. *Obstet Gynecol Surv.* 2014;69:29-38.

Figure 3. A) Haematoxylin and eosin stain: the tumour shows densely cellular sheets with focally trabecular pattern. It consists of bland uniform cells with oval, partly grooved nuclei and little cytoplasm. B) Inhibin: diffuse staining with inhibin, consistent with sex cord-stromal tumours

