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Case Report

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ADULT GRANULOSA CELL TUMOR OF THE OVARY: A CASE REPORT

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ABSTRACT

Adult-type granulosa cell tumors (AGCTs) belong to the sex cord-stromal group of ovarian tumors and account for 2-5% of ovarian neoplasms. Histopathology remains the gold standard fo rmaking a diagnosis of GCTs. Recent evidence has shown association of this tumour with Forkhead box L2 gene mutations.Surgery is the mainstay of treatment. Chemotherapy and/or radiotherapy are considered in patients with advanced stage or with unresectable recurrent disease. Granulosa cell tumors are well known for late recurrence and the stage at time of diagnosis is the only prognostic factor that is unequivocally related to survival.

INTRODUCTION

Granulosa cell tumours (GCT) are uncommon neoplasms, accounting for 2-5% of all ovarian carcinomas.[1]

Rokitansky (1859) was the first to describe granulosa cell tumor of the ovary as a single tumor entity.[2]

Although adult granulosa cell tumor (AGCT) can present at any age, it typically occurs around menopause, suggesting that the perimenopausal hormonal changes contribute to its pathogenesis.[3]

Hyperoestrogenism reported in patients with GCT is related to tumor production of oestrogens, anti-Mullerian hormone(AMH), and inhibin B.[4] According to histological findings, two different subtypes of GCT were identified: adult (AGCT)and juvenile(JGCT).AGCTs are more frequent.[5]

CASE REPORT

A 52-year-old peri-menopausal woman (gravida 2, para 2), with no significant pathological history presented with a two years history of pelvic mass . Clinical examination found a pelvic mass lateralized to the left with 7cm long axis.Ultrasound(fig1) shows a left latero-uterine mass measuring 13 cm long axis , vascularized on Doppler suggesting an ovarian tumor. On MRI (fig2) heterogeneous right supra-latero-uterine mass suspicious of malignancy most probably of ovarian origin. The CA 125 was negative. The patient underwent a left adnexctomy by laparotomy, peritoneal cytology,right ovary biopsy and epiploic biopsy. The histopathological results showed: morphological and immunohistochemical profile consistent with AGCTs. Based on the histological findings a total hysterectomy with right adnexctomy and omentectomy were performed. The suites were simple, currently under clinical supervision.

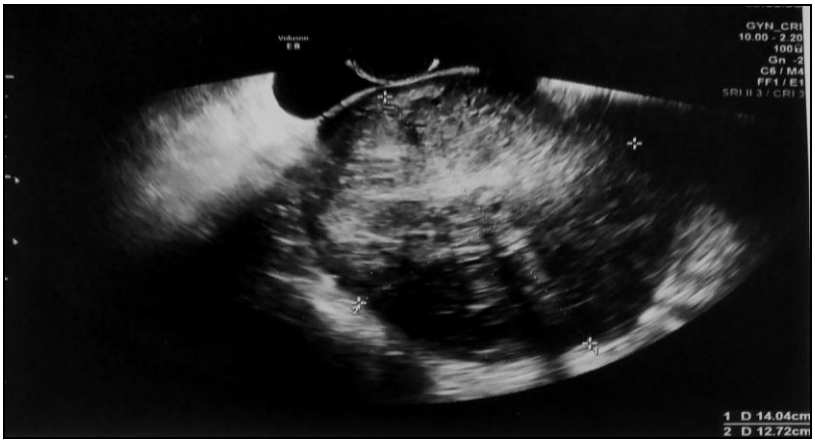

Figure 1: Ultrasound shows a left latero-uterine mass with heterogeneous ecogeneity.

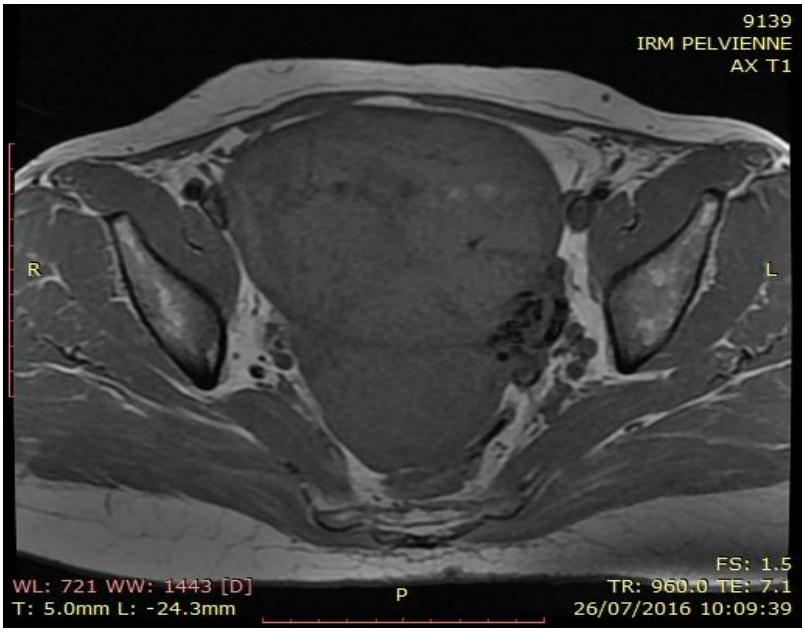

Figure 2: Images of MRI showing heterogeneous right supra-latero-uterine mass.

DISCUSSION

Granulosa cell tumor (GCT) is a malignant tumor originating from the sex-cord stromal cells of the ovary and represents 2% to 5% of all primary ovarian cancers.[6] Approximately 5% occur before puberty (juvenile GCT) and the majority (95%) of the cases are the adult type of GCT (occur in people of reproductive age and postmenopausal age).[7]

Adult granulosa cell tumors are usually considered low grade malignant tumors with a tendency to remain localized and demonstrate an indolent clinical course and late relapse.[8]

The most reported signs in the literature are abdominal pain and/or abdominal distension (30% to 50%) and hormonal event such as postmenopausal bleeding,amenorrhea, and intermenstrual bleeding.[9]

The differential diagnosis for GCTs should include other cystic masses and malignant tumors of the ovary (e.g., follicular cysts, cystadenoma, carcinoid, adenocarcinoma, and ovarian thecoma).In ultrasonography, the appearance of AGCT varies from cystic to solid, although the most common presentation is a solid and cystic mass with occasional hemorrhagic fluid.[10]

MRI could provide useful information in accurately diagnosing OGCT(Ovarian granulosa cell tumor). The heterogeneous signal intensity on both T1WI (T1 weighted imaging) and T2WI(T2 weighted imaging) and high signal intensity on DWI images are more suggestive of OGCT diagnosis. ADC(Diffusion weighted imaging) value might be useful in differentiating OGCT from Other sex-cord stromal tumor.[11]

On histological examination, the presence of Call-Exner bodies and "coffee-bean" nuclei with a low mitotic activity are typical characteristics of AGCTs.

Several studies have reported that approximately 70–97% of adult granulosa cell tumors carry a somatic c.402C>G missense point mutation in the FOXL2 gene.[12] This makes FOXL2 a highly sensitive and relatively specific marker for adult granulosa cell tumors, as well as a useful diagnostic test for distinguishing between adult and juvenile granulosa cell tumors types and other sex cord- stromal tumors.[13]

The mainstay of treatment is a complete surgery (hysterectomy with bilateral salpingo-oophorectomy) with staging for early stage and debulking surgery for advanced stage or recurrent disease.[14]

Reccurence is predominantly located intraperitoneally.[15] To date, an adjuvant chemotherapie for patients with completely (macroscopic) removed granulosa cell tumor of the ovary is not obligatory.[16] Some authors recommend polychemotherapy containing cisplatinum, vinblastine and bleomycin for patients with advanced stage or relapse.[15]

and radiotherapy may also represent a treatment option for selected cases.[15] The most important prognostic factor in this tumor types is the tumor stage.[17]

The standard follow-up of AGCT patients typically includes regular gynecologic examinations with pelvic/transvaginal ultrasound and serum tumor markers. As in preoperative evaluation, the most sensitive and specific serum markers are inhibin B and AMH, which are also elevated in relapsed settings and correlate with disease burden.[18]

CONCLUSION

Granulosa cell tumor is an uncommon ovary neoplasm.Disease stage seems to be the only reliable prognostic factor.

Granulosa cell tumors are well known for late recurrence. As a clinical consequence, life long follow-up for all patients with granulosa cell tumors is warranted and should not end after five years.

REFERENCES

1. Young RH Sex cord-stromal tumors of the ovary and testis: Their similarities and differences with consideration of selected problems. Mod Pathol, 2005; 18: S81-S98.
2. Vani BR, Geethamala K, Geetha RL, Srinivasa MV Granulosa cell tumor of ovary: A clinicopathological study of four cases with brief review of literature. J Midlife Health, 2014; 5: 135-138.
3. Stine JE, Pierce S, Soper JT. A comprehensive review of diagnostic and treatment options for granulosa cell tumors of the ovary. Obstetrical & gynecological survey, 2014; 69(1): 29-38.
4. J.-Y. Park, K. L. Jin, D.-Y. Kim et al., "Surgical staging and adjuvant chemotherapy in the management of patients with adult granulosa cell tumors of the ovary,"Gynecologic Oncology, 2012; 125(1): 80–86.
5. Khosla D, Dimri K, Pandey A, et al. Ovarian granulosa cell tumor: clinical features, treatment, outcome, and prognostic factors. N Am J Med Sci., 2014; 6: 133–8.
6. Bufa A, Farkas N, Preisz Z, Poór V, Páger C, et al. Diagnostic relevance of urinary steroid profiles on ovarian granulosa cell tumors: two case reports. J Med Case Rep, 2017; 11: 166.
7. Li J, Bao R, Peng S, Zhang C The molecular mechanism of ovarian granulosa cell tumors. J Ovarian Res., 2018; 11: 13.
8. Tak JY, Chong GO, Park JY, et al. Adult granulosa cell tumor presenting with massive ascites, elevated CA-125 level, and low 18 F- fluorodeoxyglucose uptake on positron emission tomography/ computed tomography. Obstet Gynecol Sci., 2015; 58: 423–6.
9. D. Pectasides, E. Pectasides, and A. Psyrri, "Granulosa cell tumor of the ovary," Cancer Treatment Reviews, 2008; 34(1): 1–12.
10. Kim JA, Chun YK, Moon MH, Lee YH, Cho HC, Lee MS, et al. High resolution sonographic findings of ovarian granulosa cell tumors: correlation with pathologic findings. J Ultrasound Med, 2010; 29(2): 187-93.
11. Zhang H, Zhang H, Gu S, Zhang Y, Liu X, Zhang G. MR findings of primary ovarian granulosa cell tumor with focus on the differentiation with other ovarian sex cord-stromal tumors. *J Ovarian Res*., 2018; 11(1): 46. Published 2018 Jun 5. doi:10.1186/s13048-018-0416-x.
12. Takahashi A, Kimura F, Yamanaka A, et al. The FOXL2 mutation (c.402Cˆ|ˆgt;G) in adult- type ovarian granulosa cell tumors of three Japanese patients: clinical report and review of the literature. Tohoku J Exp Med, 2013; 231: 243–50.
13. Fuller PJ, Leung D, Chu S. Genetics and genomics of ovarian sex cord- stromal tumors. Clin Genet, 2017; 91: 285–91.
14. V. D. Kottarathil, M. A. Antony, I. R. Nair, and K. Pavithran, "Recent advances in granulosa cell tumor ovary: a review," Indian Journal of Surgical Oncology, 2013; 4(1): 37–47.
15. Sehouli J, Drescher FS, Mustea A, Elling D, Friedmann W, et al. Granulosa cell tumor of the ovary: 10 years follow-up data of 65 patients. Anticancer Res., 2004; 24: 1223-1229.
16. Sehouli J, Drescher F, Mustea A Chemotherapy for Granulosa Cell Tumors of the Ovary: A Review of 25 Patients with Long-term Follow-up. Geburtsh Frauenheilk, 2003.
17. Schmidt D, Kommoss F. Diagnose und Differenzial diagnose des Granulosa zell tumors. Der Pathologe, Ausgabe, 2007.
18. Farkkila A, Haltia UM, Tapper J, McConechy MK, Huntsman DG, Heikinheimo M. Pathogenesis and treatment of adult-type granulosa cell tumor of the ovary. Ann Med, 2017; 1-13.