

Granulosa Cell Tumor with Androgenicity

Rini K, Pralhad K

Abstract: *Background:* Granulosa cell tumor (GCT) contributes to 1% of all ovarian tumors. Their most common presentation is abnormal uterine bleeding, especially in menopausal women. Though rare to have androgenic effects, large cystic GCTs can present with rapid onset virilization. One such case is presented. *Case:* A para 2 aged 46 years, presented with rapid onset hirsutism, acne and 18 x 18 cm cystic ovarian mass. She had attained menopause an year ago. After preoperative evaluation, she was subjected to staging laparotomy. Doppler flow studies did not show loss of resistance. Pathology and immunohistochemistry reported as adult granulosa cell tumor stage 1A, intermediate to high grade necessitating adjuvant chemotherapy with paclitaxel and carboplatin. *Conclusion:* Ovarian tumor presenting with androgenic effects are rare. In women having cystic ovarian tumor, presenting with early menopause and androgenic features, Granulosa cell tumor should be considered in the differential diagnosis for an early initiation of treatment.

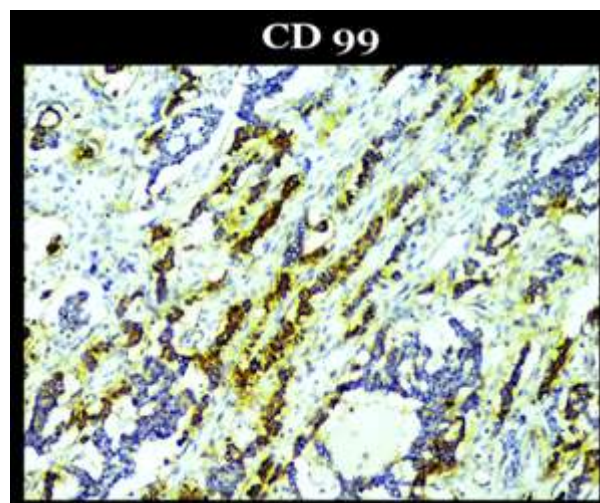
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1. Introduction

Granulosa cell tumor (GCT) contributes to 1% of all ovarian tumors. Their most common presentation is abnormal uterine bleeding, especially in menopausal women. Though rare to have androgenic effects, large cystic GCTs can present with rapid onset virilisation. One such case is presented.

2. Case Report

A para 2 aged 46 years, presented with rapid onset hirsutism, acne and 18 x 18 cm cystic ovarian mass. She had attained menopause an year ago. After preoperative evaluation, she was subjected to staging laparotomy. Doppler flow studies did not show loss of resistance. Histology could not rule out Sertoli cell carcinoma and neuroendocrine tumor. Immunohistochemistry reported as adult granulosa cell tumor stage 1A, intermediate to high grade necessitating adjuvant chemotherapy with paclitaxel and carboplatin.



3. Discussion

Granulosa cell tumors are known to be associated elevated levels of Inhibin. Excessive levels of inhibin may lead to suppression of FSH and hypoestrogenic state¹ which in turn results in elevated levels of LH, decrease SHBG, and enhance androgen synthesis in theca cell by paracrine action^{2,3} resulting in virilization. In this patient, estimation of inhibin was not done preoperatively since the diagnosis of GCT was made on histopathology. It was thought unnecessary to get inhibin level determined after ovariectomy. GCTs are tumors of low malignant potential which recur at varied time gap of even 20 years. She was given six cycles of chemotherapy in view of high grade tumor, even though it is not recommended in stage 1A.

4. Conclusion

Ovarian tumor presenting with androgenic effects are rare. In women having cystic ovarian tumor, presenting with early menopause and androgenic features, Granulosa cell tumor should be considered in the differential diagnosis for an early initiation of treatment.

References

- [1] S.W.J.D. van Liempt, L.E. van Rheezen-Flach, J.H.T.M. van Waesberghe, M.C.G. Bleeker, J.M.J. Piek, C.B. Lambalk; Solely inhibin B producing ovarian tumor as a cause of secondary amenorrhoea

- with hot flushes: case report and review of literature, Human Reproduction, Volume 27, Issue 4, 1 April 2012, Pages 1144–1148
- [2] Nahum R, Thong KJ, Hillier SG. Metabolic regulation of androgen production by human thecal cells in vitro. Hum Reprod 1995;10(1):75–81.
- [3] Evron, A, Blumenfeld, Z, et al, Glob.lib. women's med., (ISSN:17562228)2015 ; DOI10.3843/ GLOWM.10288