Role of image finding and biomarker in the granulosa cell ovarian sex cord-stromal tumors

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Introduction
Granulosa cell tumors about 95% are adult type and the common estrogenically active ovarian tumor. Thus, they can commonly present with abnormal vaginal bleeding and can be associated with endometrial hyperplasia, polyps, and carcinoma. In image, adult granulosa cell tumors show a spectrum of manifestations.

Method
This retrospective study included 16 patients (mean age, 58.4 years; range, 35-85 years) with pathologically proven adult ovarian granulosa cell tumors from 2006 to 2018.

Results
Most commonly symptoms including combined abdominal discomfort and abnormal vaginal bleeding (n=6), vaginal bleeding alone (n=5), abdominal discomfort (n=4), no symptoms (n=1).

On the basis of sonographic findings, 16 cases of adult ovarian granulose cell tumor were categorized into five morphologic patterns: multilocular cystic, heterogeneously solid, complete cystic, thick-walled unilocular cystic, homogeneously solid. Two cases were found combined endometrial carcinoma after operation, which tumor size were small in the group. Besides, none of them had elevated serum estradiol (E2) levels.

Conclusion
Adult ovarian granulosa cell tumors have a varied histologic appearance, which can create a spectrum of imaging manifestations. Although these tumors are estrogenic dependent, the characteristic isn’t reflected in serum E2 values of patients. Besides, it seems that tumor volume has little relationship with concurrent endometrial cancer.