OVARIAN GRANULOSA CELL TUMORS: A RETROSPECTIVE STUDY OF 14 CASE

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Background: Granulosa cell tumors (GCT) are malignancies with relative favorable prognosis. It is an uncommon neoplasm, which is characterized by a prolonged natural history and a tendency to late recurrences. Thus, the clinical characteristics, optimal treatment, and follow-up protocols are not well established.

The **objective** of this study was to determine the clinical presentation, pathological characteristics, outcome and prognostic factors for patients with GCT.

Methods: A retrospective analysis of 14 patients of GST of ovary from 2003 to 2017 was carried out. During this period 376 women with ovarian malignant tumors, were treated by surgery in the 1st Clinic of Obstetrics and Gynecology from Iasi. Clinical and pathological information, sonographic findings, and treatment were obtained from medical records.

Results: The average age of the patients was 54 years (range, 35-72 years). 12 patients were postmenopausal. The most common clinical manifestation at diagnosis was vaginal bleeding. 4 of them presented abdominal pain, 3 abdominal mass (fig. 1), other 5 ascites, and one hemoperitoneum. The mean tumor size was 15cm (range, 2-23cm– fig.2). GCT was always unilateral (fig. 3), more often on the left side (11 cases).

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Fig. 1 Abdominal mass

Fig.2 Huge ovarian tumor

Fig. 3 Unilateral left tumor

Antimüllerian hormone (AMH) has been studied only for 5 cases and was elevated. Normal postmenopausal women were found to have undetectable AMH levels, and premenopausal women never have values greater than 5 µg/L. Several studies show that AMH has sensitivity between 76% and 100%, but it's expression is reduced in 87% tumors more than 10 cm size.

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Results: CA 125 was normal before surgery for all women. Unfortunately serum concentrations of estradiol and inhibin were not measured for any patient from our study.

At ultrasonography thicknesses of the endometria was 10-16cm. Sonographic findings are a solid and cystic ovarian tumor with dominant cysts, and transvaginal Doppler sonography revealed a low RI in the solid portion of the mass, which suggested the possibility of a malignant ovarian neoplasm (fig.5). In accordance with sonographic criteria of IOTA Group (International Ovarian Tumors Anlysis) two kind of images for GCT exist. First of all, a big solid mass with heterogeneous appearance, similar to necrosis areas and secondly a tumoral mass with mixed aspect solid and multicystic (the cystic zone is in general without excrescences, with a great number of small liquid spaces – the typical aspect of „schweitzer” – an example from our study fig. 4).

Fig. 4 “Schweizer” ultrasound aspect of the tumor

Fig. 5 Transvaginal Doppler sonography revealed a low RI

Endometrial status was assessed in all except 3 patients.

The primary treatment consisted of surgery in all patients, based on the tumor stage and the age of the patient. It consists for a total abdominal hysterectomy and bilateral salpingo-oophorectomy for 12 of them. At histopathologic evaluation tumors were of adult-type. All cases were in stage IA grade 1. For the patients prognosis are important: the presence of Call-Exner bodies (favorable factor) – 3 cases, cellular atypia - 5 cases and mitotic index - 3 patients more than 5/10HPF. High-risk factors are large tumor size >10cm, tumor rupture, and high mitotic index. At 6 patients the endometrium presented simple and complex hyperplasia without atypia, the proof of estrogens tumors secretion. One case was associated to endometrial adenocarcinoma with scuamous differentiation - pT1N0MxG3. The follow-up involved only CA125 as marker and ultrasonography. Only 1 patient received chemotherapy – carboplatin, 3 months after surgery, because CA125 was elevated. Recurrence occurred for 2 cases, one after 2 years in pelvis and the other one after 10 years with lung metastases.

Conclusions: The GCT is one of the rarest forms of ovarian cancer – 1.06% in our study. It presents in early stage. We must think at an ovarian tumor with estrogen activity, when we find it at a women with postmenopausal bleeding. Surgery is the mainstay of initial management for histological diagnosis, and appropriate staging. Prolonged surveillance is mandatory because GCT tend to recur years after the initial diagnosis.

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