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Late Recurrence of Ovarian Granulosa-Theca Tumor: A Case Report

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Case Report

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Abstract: Granulosa-theca cell tumors of the ovary are rare, follow-up must be prolonged given the very late recurrences, treatment of choice is surgery, associated with chemotherapy in case of recurrence. Through an observation of a clinical case of recurrence of a granulosa-theca tumor, occurring five years after the initial treatment, we describe anatomo-clinical, therapeutic and prognostic characteristics of granulosa-theca tumors.
Keywords: Granulosa-theca tumor, recurrence, surgery, chemotherapy.

INTRODUCTION

Granulosa-theca cell tumors belong to the sex cord–stromal category [1]. They are revealed during the first and second decades of life. These are rare ovarian neoplasms, but are the most common ovarian secretory tumors. Clinical features vary according to age. The treatment is surgery. They can be divided into juvenile, more frequent (95%), and adult tumors [2].

We report a case of recurrence of granulosa-theca tumor in a 54-year-old patient, five years after initial treatment. Through this case, we describe the different anatomo-clinical, therapeutic and prognostic aspects.

CASE REPORT

A 54-year-old patient, hypertensive on treatment for two years, Gravida 4 Pra 1 (three early abortions and a cesarean delivery), having as a past surgical history a total hysterectomy with bilateral salpingo-oophorectomy and omentectomy for a granulosa-theca cell tumor of the left ovary in March 2012, no adjuvant treatment was proposed at that time.

Missed for 5 years, she presented in consultation in May 2017 for a rapid increase in abdominal volume in a context of asthenia and weight loss with no other associated signs.

The abdominal examination found a large abdominal mass, fixed with regular borders. At the speculum examination, the vaginal smear was clean. The bimanual pelvic exam revealed a prolapsed mass in the cul-de-sac of Douglas with regular contour.

The abdominopelvic ultrasound found a multilocular image with a vascularized solid component at doppler, measuring more than 35 x 25 cm. The abdominopelvic CT showed a large, median, thick-walled, macro-partitioned, abdominal-pelvic mass containing multiple cystic stalls and a moderately enhanced tissue component after contrast injection, pushing the bladder upwards, with the presence of some internal iliac lymph nodes (Figure-1). The CT scan did not show any effusion, the liver, spleen, kidneys and pancreas were without abnormalities.

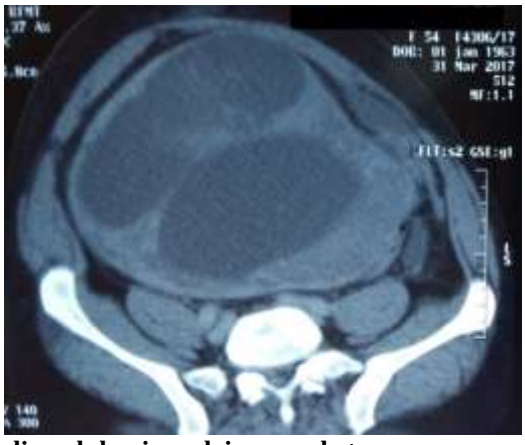

Fig-1: Axial CT scan showing median abdominopelvic mass, heterogeneous macro-partitioned, cystic and tissue component.

Labs were with no particularities. After multidisciplinary discussion, an exploratory laparotomy with possible excision surgery depending on the results of the exploration was proposed. The median incision of the anterior surgery was resumed with an umbilical enlargement; the surgical exploration found a large mass reaching the stomach, renitent with regular smooth surface but adherent to the bladder and intestinal loops (Figure-2). Surgical excision of the mass was performed without pelvic or lumbar-aortic lymph node dissection. The surgical piece was opened intraoperatively, it was of mixed structure; friable tissue and sero-hematic fluid.

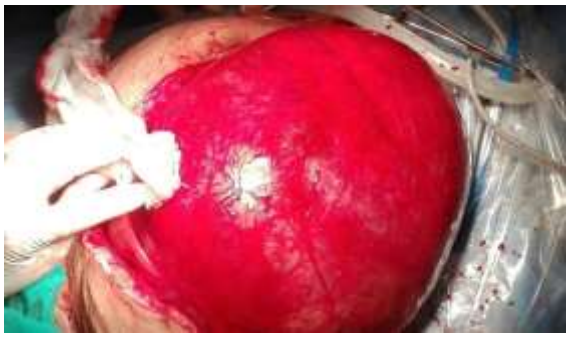

Fig-2: Intraoperative photograph showing an enormous mass reaching the stomach, renitent with regular smooth surface.

The histological study showed a tumor proliferation of cells with rounded and oval nuclei, organized into layers, masses and lobules associated with cords (Figure-3). The immunohistochemical study was positive for inhibin, vimentin, CD99 and actin (Figure-4).

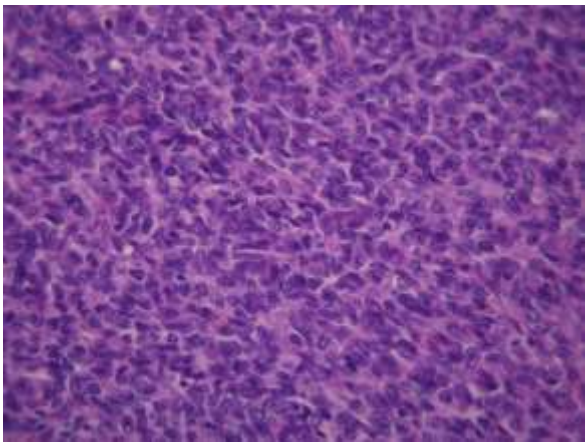

Fig-3: Histological section (hematoxylin eosin × 40) showing tumor proliferation of cells with rounded and oval nuclei, organized into layers, masses and lobules associated with cords

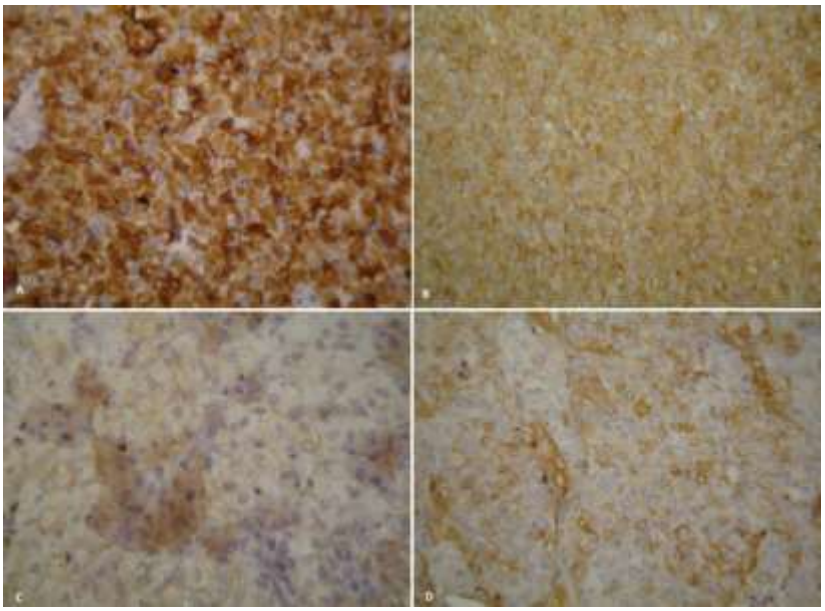

Fig-4: Histological sections (× 40) showing positive staining for inhibin (A), vimentin (B), CD99 (C) and actin (D).

After a multidisciplinary discussion, four cycles of adjuvant chemotherapy according to the BEP protocol were indicated instead of an abdominal irradiation in toto (Bleomycin 20 IU / m² at day 1, Etoposide 75 mg / m² from D1 to D2 and Cisplatin 20 mg / m2 Day 1 to Day 2 every 3 weeks).

With a follow-up of 18 months, the patient is always seen in control consultation, she is stable with no complaints, morphological examinations with no signs of recurrence. Hormonal tests were not requested as part of the control report.

DISCUSSION

Granulosa-theca cell tumors represent 3 to 4% of all ovarian tumors and 5 to 10% of all ovarian cancers. Therefore, they are relatively rare. They can be bilateral in 3% of cases [1].

There are two different anatomoclinical forms: (1) The adult form usually occurs between the ages of 40 and 70, 70% of which after menopause and (2) The juvenile form that occurs most often before the age of 20, which 44% of cases between 0 and 10 years old [2].

Clinically, these tumors are manifested by a tumor lysis syndrome with painful abdominal distension related to the size of the tumor, sometimes severe in case of tumor of the adult granulosa, as is the case of our patient who had a giant mass that fill the entire abdomen [3]. They are also manifested by metabolic syndrome linked to the secretory functions of this tumor; pseudo-puberty, hirsutism, clitoral hypertrophy in the case of androgenic secretion or by signs of hyperoestrogenesis giving postmenopausal metrorrhagia, endometrial hyperplasia sometimes atypical or associated with adenocarcinoma [4]. These two tables are generally associated with asthenia and weight loss.

Ultrasound, CT scan and magnetic resonance imaging [5] show an aspect in favor of a non-specific cystic and solid mixed tumor [6], multilocular thick-walled, usually devoided of vegetation [7].

Hormonal tests guide the diagnosis and assess therapeutic efficacy. Estradiol should be measured in case of pseudo-precocious puberty and serum androgens asked for a masculinizing syndrome. Inhibin is a specific marker for granulosa tumors, its value is correlated with tumor size, negative after radical excision, and its elevation is predictive of relapse. The anti-Müllerian hormone (AMH) is a marker of therapeutic efficacy, specific to tumors of granulosa. Hormonal test were not done because our patient couldn't afford their cost [2].

The anatomopathological study of the operative specimen confirms the diagnosis. Macroscopically, it is a regular tumor with a smooth surface, without vegetations, the content is mixed solido-liquid serosa, sometimes necrotico-haemorrhagic foci are present. Microscopically, the juvenile form is characterized by dense ranges of non-incisored, hyperchromatic and often mitotic cells, often with luteinization; in the adult form microfollicular coral kernels are often found, they are characterized by the presence of Call and Exner bodies, luteinization is also rare. At immunohistochemistry, vimentin is positive in about 80% of cases [2].

The disease is slowly progressive that can take several years to reach a symptomatic stage and remains long confined to the ovaries. The treatment primarily involves surgical excision; in juvenile tumors

this is adnexectomy, in adult forms it is a total hysterectomy with bilateral adnexectomy [8]. Adjuvant therapy uses chemotherapy or radiation therapy and will depend on the quality of the surgical procedure and the tumor stage. Radiation therapy has not been proven effective [6]. Chemotherapy is proposed in case of stage Ic or stage II tumor, in case of recurrence in addition to a surgical revision, as is the case of our patient.

Remissions are interrupted by recurrences whose frequency is dependent on the initial stage but remain rare and are mainly noted after conservative treatment. Metastases are very rare and mainly affect the lung, liver and bone. Poor prognostic factors are height, tumor stage, mitotic index which is inversely proportional to survival and stage, presence of tumor rupture and age greater than 40 years [9]. Juvenile granulosa tumors have a better prognosis than adult tumors and are associated with an overall survival rate of 92% at 5 years. In our case, the recurrence occurred after five years of remission [10].

CONCLUSION

Granulosa-theca cell tumors are very rare, the clinical diagnosis is easy before puberty, it is more complex in adulthood. Para-clinical diagnosis is based on ultrasound and the determination of serum hormonal markers, especially inhibin and AMH. The diagnosis certainty is histological. The treatment is essentially surgical. The prognosis remains favorable. Monitoring is clinical, radiological and biological, and should be prolonged because of very late recurrences. In case of recurrence, surgical revision associated with chemotherapy remains the reference treatment.

DECLARATION OF CONFLICT OF INTEREST

The authors certify that they have no affiliations or participation in any organization or entity with financial or non-financial interests in the subject discussed in this manuscript.

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