Atypical presentation as large ruptured tumor with associated mesosigmoid hematoma of an ovarian granulosa cell tumor recurrence

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ABSTRACT

Granulosa cell tumors of the ovary represent a rare subtype of ovarian malignancies which is usually associated with low recurrence rates due to the fact that is usually diagnosed in early stages of the disease. The aim of the current paper is to report the case of a 50 year old patient diagnosed with such a recurrence at four years after the initial diagnostic. Case report: the 50 year old patient was initially submitted to surgery for an ovarian tumor at that moment radical surgery being performed. Four years later she self referred to our service for diffuse abdominal pain and was diagnosed with a presumptive hematoma at the level of the mesosigmoid loop in association with increased values of serum inhibin. The patient was submitted to surgery, intraoperatively a ruptured tumor in association with mesosigmoidian hematoma being discovered; therefore the lesion was resected en bloc with the rectosigmoidian loop. The histopathological studies confirmed the presence of negative resection margins. In conclusion, although granulosa cell tumors of the ovary rarely develop distant metastases, isolated recurrences might occur and in such cases radical resection seem to be an effective therapeutic option.

Keywords: ovarian granulosa cell tumor, recurrence, mesosigmoid hematoma

INTRODUCTION

Granulosa cell tumors represent a rare subtype of ovarian malignancies accounting for less than 5% of all ovarian cancers, the adult type representing up to 95% of cases [1]. Most often these tumors are diagnosed in early stages of the disease and have an overall good prognosis, recurrence being reported in less than 20% of cases; meanwhile, due to the relatively low biological aggressivity of these tumors recurrence might develop following a long period of time from the initial diagnostic [2,3]. Due to the rarity of cases diagnosed with recurrent adult granulosa cell tumors a standard therapy could not be established, most authors recommending the extrapolation of the standard treatment for epithelial ovarian cancer consisting of paclitaxel and carboplatin alone or in association with bevacizumab [4,5]. Meanwhile, due to the fact that ovarian granulosa
cell tumors are able to release estrogen which is responsible for the presence of irregular menstruation or postmenopausal bleeding. Hormonal therapy has been also proposed with promising results especially in cases presenting recurrent disease [6-8].

CASE REPORT

The 50 year old patient with history of left adnexectomy 13 years previously for benign ovarian cyst and total hysterectomy with right adnexectomy for ovarian cell granulosa tumor three years previously was referred to our service for diffuse abdominal pain. The clinical examination revealed no significant particularities; however the biochemical parameters revealed increased levels of serum inhibin (measuring 2270 pg/ml) while the abdominal ultrasound raised the suspicion of a retroperitoneal hematoma. The patient was further submitted to a magnetic resonance imaging which raised the suspicion of a hemorrhagic mass measuring 80/75/94 mm at the level of the retroperitoneal area in association with solid, hypercaptant areas; therefore the suspicion of a recurrent lesion was raised and the patient was resubmitted to surgery. Intraoperatively a large hemorrhagic recurrence was identified at the mesosigmoidian level; the tumor was resected en bloc with radical sigmoidectomy while the continuity of the digestive tract was reestablished through an end
to end colorectal anastomosis (Figures 1-4). No other intraabdominal lesions were identified, therefore, a complete cytoreductive procedure was achieved. The postoperative outcome was favorable, the patient being discharged in the fifth postoperative day. The histopathological studies demonstrated the presence of a recurrent adult type ovarian granulosa cell tumor as well as the presence of negative resection margins. Postoperatively the patient was deferred to the oncology service for further adjuvant treatment and follow up.

DISCUSSIONS

Initially described by Rokitansky in 1855, granulosa cell tumors of the ovaries are rare situations, usually encountered in perimenopausal and postmenopausal women [9]; the following risk category for the development of this malignancy is represented by prepubertal girls [10]. Most frequently these tumors are diagnosed in early stages of the disease and exhibit a low rate of proliferation being capable to lead to the apparition of distant recurrences even after a long period of time [2,3]. Another particularity of these tumors is related to their capacity to release different substances such as inhibit and estrogen; oppositely to epithelial ovarian cancer, ovarian granulosa cell tumors do not induce the increase of the serum levels of CA125 [11]. However, the increased serum levels of estrogen are responsible for the development of endometrial hyperplasia and in certain cases even endometrial cancer; therefore, a significant number of women will report abnormal vaginal bleeding. In this respect, whenever a granulosa cell tumor is suspected, hysterectomy should be also associated [12].

When it comes to the long term outcomes, the overall prognostic is good, the five year survival rate being of approximately 90% [13]; however, recurrence is to be expected in up to 20% of cases, the disease free interval ranging between four and 23 years [14]. When it comes to the most important prognostic factors predicting recurrence, they are related to initial dimension and stage of the tumor as well as the mitotic index [15]. As for the most common sites in which recurrent disease develop, they are represented by omentum, appendix, liver surface, pelvis or at the level of the pelvic surface [16]. Similarly to epithelial ovarian cancer, ovarian granulosa cell tumors recur most often via peritoneal and lymphatic route followed by the hematogenous route. According to Abu-Rustum et al the most commonly encountered sites of relapse are represented by pelvic recurrences in 70% of cases, followed by pelvic and abdominal recurrence in 9% of cases and retroperitoneal recurrences in 6% of cases [17]. Meanwhile, Fotopoulou et al. underlined the fact that the peritoneal route is the most frequently encountered one in recurrent disease, in such cases multiple resections being needed especially if peritoneal carcinosis is present [18]. As for the lymphatic pattern of spread, it seems that it is responsible for the development of retroperitoneal recurrences; however, association of systematic pelvic lymph node dissection is not standardized in such cases due to the fact that lymph node metastases are rarely encountered at the time of the initial diagnostic [19]. When it comes to our case, few particularities should be underlined: the first one is related to the fact that at the time of relapse, an isolated lesion was encountered; the second one is represented by the pattern of spread, the lymphatic, retroperitoneal route being incriminated. Meanwhile, it should not be omitted the fact that the initial suspicion was the one of a retroperitoneal hematoma, which was partially confirmed intraoperatively; this situation could be explained through the fact that these tumors might release substances which increase the local vascularization and therefore, intratumoral bleeding might be encountered.

One of the largest studies regarding the clinical characteristics and the outcomes of recurrent adult type granulosa cell ovarian tumors has been recently published by Zhao et al. in the Journal of Ovarian Research in 2020 and included 40 patients treated in a single institution between 2000 and 2015. In this study group the progression free survival interval between the initial diagnostic and the moment of recurrence ranged between 7 and 408 months, the median interval being of 61 months. The recurrence was located at the level of the pelvic cavity in 15 cases, at the level of the abdominal and pelvic cavity in 24 cases and respectively at the level of the thoracic cavity in one case; however, isolated recurrences were encountered only in eight cases. When it comes to the location of the recurrent lesion at the level of the abdominal and pelvic cavity, it was represented by the greater omentum in seven cases, by the liver in five cases, by the splenic area in three cases and respectively by the abdominal wall in four cases. Surgery alone was the option of choice three cases while surgery followed by chemotherapy was performed in 31 cases; meanwhile in the remnant six cases chemotherapy alone was performed. The long term outcomes demonstrated a median progression free survival of 25 months and a median overall survival of 90 months from the time of initial recurrence, the most important favorable prognostic factors being represented by the association of adjuvant chemotherapy, by the achievement of negative resection margins. Meanwhile the authors underlined the fact that patients with a progression free interval longer than 61 months after post-recurrence therapeutic approach had a 3.5 fold lower risk of a second recur-
rence when compared to those with a lower progression free interval [20].

**CONCLUSIONS**

Granulosa ovarian cell tumors are rare ovarian neoplasms which recur in a reduced number of cases, the most common pattern of spread being represented by the peritoneal route; as expected in such cases disseminated lesions are encountered. In a reduced number of cases isolated recurrences might occur; in such cases debulking surgery to no residual disease seems to be the most efficient therapeutic option, increased long term survival rates being expected.

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**REFERENCES**