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Case Report

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Ovarian thecoma: case report and review of the literature

Abstract

This case presentation is about the surgical treatment of a patient with ovarian thecoma. A post–menopausal woman with a history of uterine fibroma visited the outpatient department of our clinic for a gynecological examination. The examination revealed a solid painless pelvic mass, probably originated from the right adnexa. All malignant markers were within normal range. Imaging examination reinforced the clinical diagnosis of adnexal mass and total abdominal hysterectomy with bilateral salpingo–oophorectomy was performed. Histologic examination of the surgical specimen confirmed the diagnosis of ovarian thecoma. After 7 days of hospital admission and uncomplicated post–operative state, the patient was discharged from the clinic. In the current paper, based on the current literature, a brief literature review is attempted of this rare clinical entity, regarding the diagnostic and therapeutic approach.

Keywords: ovarian thecoma, diagnosis, treatment

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Introduction

Urogenital ridge–ovarian tumors derive from the inextricable components of the developing gonad and, specifically, from the primitive gonadal ridges or the specialized ovarian substratum. Urogenital ridge–ovarian tumors are not common. It is estimated that it forms 8% of the total of primary ovarian neoplasms.[1] Pathogenetic mechanisms of the ovarian neoplasms of the urogenital ridge have not been yet fully disclosed. The high increase of serum gonadotropins as a result of ovarian depletion that describes post-menopausal women and various genetic factors that have been detected in experimental trials, have been the most likely causal theories of the urogenital ridge–ovarian tumors. The most common ovarian tumors of urogenital ridge are thecomas, fibromas and granulosa cell tumors. Androblastomas, gynandroblastomas and the rest of the neoplasms of this group are significaly less common.[2]

Thecomas are rare benign stromal ovarian tumors that are estimated to form around 1% of the total number of ovarian benign neoplasms.[3] Thecoma is a hormone secreting tumor: usually it secretes estrogens and less commonly androgens or a combination of androgens – estrogens. In most cases thecomas are unilateral tumors, have a diameter of 5 to 10 centimeters and generally affect women of both pre-menopausal and post–menopausal period (like in our case).[4,5] In extremely rare cases it's possible to affect childhood or teen age.[6] Ovarian thecomas have been described in literature as rare during pregnancy.[7] Bilateral placement of the tumor is rarer and is estimated as around 3% of the cases.[8] In the current paper, after the case presentation, a brief literature review of ovarian thecomas based on the current medical data is attempted, mostly regarding the diagnostic and therapeutic approach.

Case presentation

This case presentation is about a post-menopausal patient, 73 years old, who visited the outpatient department of our clinic and underwent a routine gynecologic examination. The patient entered menopause 20 years ago. From the past medical history she mentioned the presence of a uterine fibroma that was first diagnosed about five years ago. The family medical history was without any important pathologic entities. During clinical examination a painless pelvic mass was discovered located at the right adnexa. Based on the known history of uterine fibroma and the clinical suspicion of the presence of an adnexal mass, the patient underwent imagining examination. Abdominal ultrasonography was not very diagnostic. Transvaginal ultrasonogram demonstrated a solid, distinct, echogenic mass that was located in the anatomic space of the right ovary, without the presence of invasion on the area of the body of the uterus (Figure 1) (Figure 2). Computerized Tomography (Figure 3) and Magnetic Resonance Imaging (Figure 4) confirmed the ultrasonographic findings, without though being able to exclude the existence of a pedunculated subserosal fibroid of the uterus. The prescribed laboratory testing results were as follows: Ht 41%, Hb 13.1gr/dl, PLT 235x103/ml, WBC 7.1x103/ml, NEUT 63%. The malignancy markers were within normal range. Biochemical testing and urinalysis were without any pathologic results.

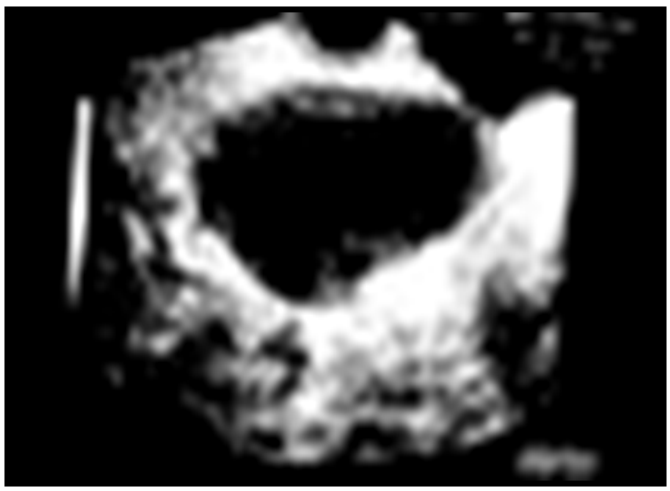

Figure 1 Transvaginal ultrasonographic imaging of ovarian thecoma, (our case).

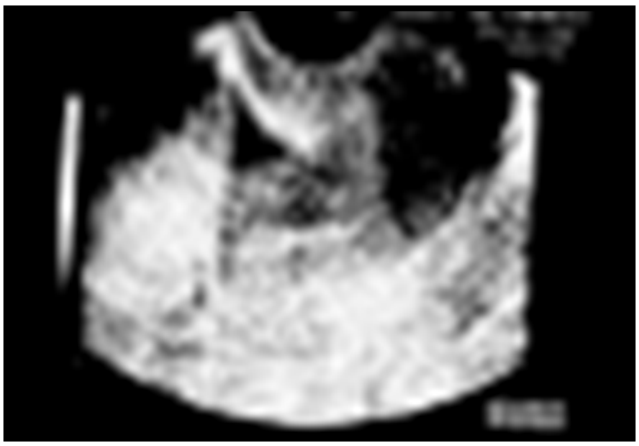

Figure 2 The smooth borders of the cyst support the presence of an adnexal mass.

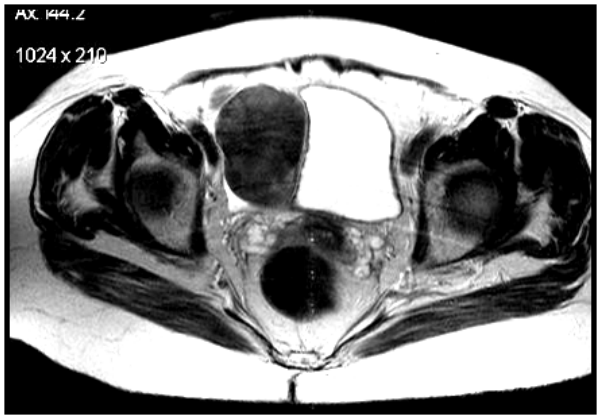

Figure 4 MRI imaging of ovarian thecoma (our case).

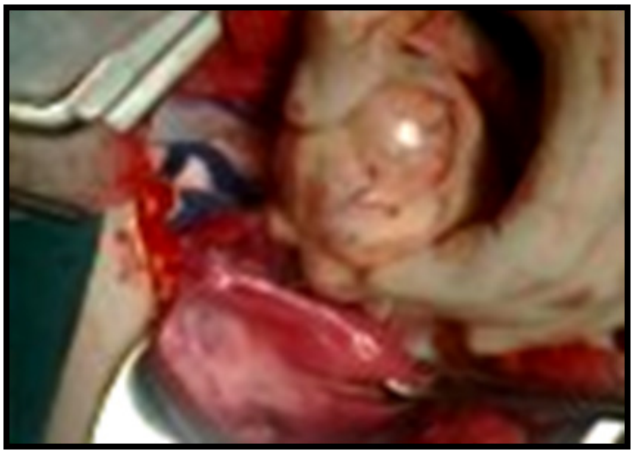

Figure 5 Operative view of ovarian fibroid (our case).

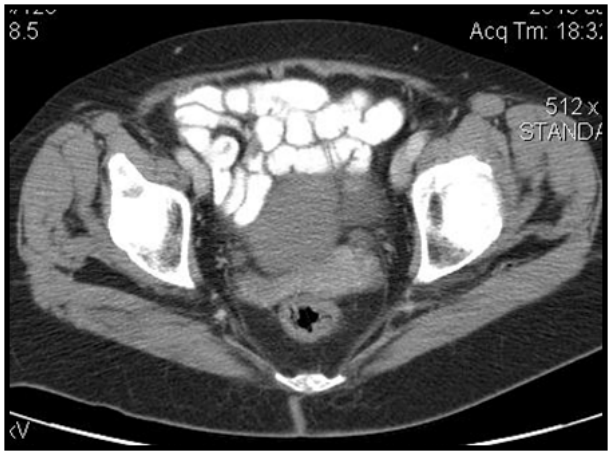

Figure 3 CT imaging of the thecoma (our case).

After the completion of pre-operative assessment, which also contained a colonoscopy, the results of which were normal, a surgical treatment of the patient through laparotomy was decided. During operation, after the incision of the abdominal wall and the peritoneum with a infraumbilical vertical midline abdominal incision, the presence of a solid ovarian mass was discovered, of maximum diameter of around 5 centimeters, with benign features (Figure 5). A total abdominal hysterectomy with bilateral salpingo-oophorectomy was performed. The histologic examination of the surgical specimen confirmed the diagnosis of ovarian thecoma (Figure 6). The cytologic examination of the peritoneal wash was negative for malignancy. After hospitalization of 7days and steady post-operative state of the patient, she was discharged from hospital and was instructed for examination and follow-up at the outpatient department.

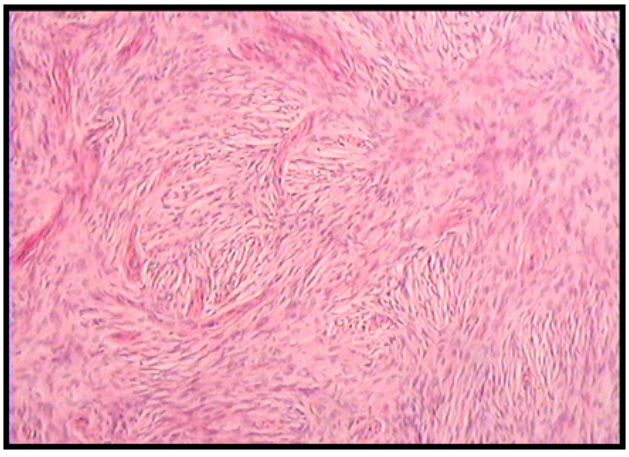

Figure 6 Histologic presentation of ovarian thecoma (our case).

Discussion

Clinical diagnosis of ovarian thecomas is not usually easy. Even though in some cases the patient probably does not present any symptoms (like in our case), in most cases thecomas in one or both ovaries present themselves with not specific symptoms, like abdominal distension, abdominal bloating, non-specific abdominal discomfort and abdominal pain, or with symptoms indicating an endocrine disorder. Contrary to ovarian fibroids that aren't accompanied with menstrual disorders, ovarian thecomas, as previously stated, tend to

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produce hormones and often cause endocrine imbalances. Generally, endocrine disorders that are caused from gonadal ridge tumors depend on the kind of the secreting hormone and the patient's age. During a woman's reproductive age, the typical clinical presentation of androgen secretion is the appearance of oligomenorrhea, loss of female sex characteristics and the progressive development of secondary male sex characteristics, like hirsutism, hypertrophy of the clitoris and muscle development.[9] Also, in some cases, women of post-menopausal age are possible to present symptoms of mild masculinization. Ovarian thecomas, metrorrhagia in menopause, endometrial hyperplasia and endometrial cancer are mentioned in women of post-menopausal age.[10]

Contrary to the clinical criteria, the contribution of modern imaging methods in diagnosis of ovarian thecomas seems much more decisive. Abdominal, and even more transvaginal ultrasonography, as well as doppler ultrasonographic imaging of the pelvis have been well documented nowadays as the best diagnostic methods for organic pelvic masses (like in our case), although in the diagnostic approach of ovarian thecomas they face many difficulties regarding the differential diagnosis among other ovarian tumors.[11,12] Magnetic Resonance Imaging is a secondary diagnostic utility with excellent results in the imaging of soft tissue tumors, and is widely used in the investigation of adnexal tumors that can't be described in detail through ultrasonographic methods.[13–15] Also, recent studies demonstrated the remarkable results of Magnetic Resonance Imaging regarding the differentiation of malignant and benign adnexal tumors.[16,17] Computerized Tomography faces many difficulties in distinguishing ovarian thecomas from other ovarian masses, some of which can present malignancy features, or orexclude the presence of a pedunculated subserosal fibroid of the uterus (like in our case).[18] Ovarian fibroma and ovarian leiomyoma are the most important pathologic entities that should be taken into consideration when in differential diagnosis of ovarian thecomas.[19]

Ovarian thecoma's treatment is surgical. Adnexectomy with or without hysterectomy, depending on the patient's age and her general health condition seems to be the most suitable therapeutic option. In patients of post – menopausalage as well as patients with endometrial hyperplasia or endometrial cancer total abdominal hysterectomy with bilateral salpingo-oophorectomy is the only therapeutic option. In any case, histologic examination of the surgical excised specimen (like in our case) is necessary for the confirmation of the diagnosis. Somewhere in between the immediate post-operative period and a few months after surgery virilization symptoms regress. Hypertrophy of the clitoris might remain even after many years after surgery.[20]

Conclusion

Ovarian thecomas are not common. The modern diagnostic approach is a very crucial step towards a successful treatment of this rare pathologic entity. Early recognition of the symptoms related to the disease and proper application of the current evolved technology permit the in-time diagnosis and the immediate application of the most proper modern available therapeutic options, in order to ensure the best treatment of the disease and to lessen the risk of morbidity and mortality.

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None.

Conflicts of interest

The author declares that they do not have any conflicts of interest.

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