AN ATYPICAL CASE OF MATURE CYSTIC TERATOMA: DIAGNOSIS AND MANAGEMENT. CASE REPORT

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Abstract

The preservation of reproductive capacity in a young and nulliparous patient is a call of responsibility for the gynecologist, all the more significant when the case is marked by a number of atypical cases, while the information focused around these exceptions is limited. Mature cystic teratoma is appreciated as a minority of benign ovarian tumor masses, and the most favorable "breeding ground" is adult women, bilaterality being another term for the low frequency in these cases.

The aim of this study is to present an unusual case of mature cystic teratoma, in terms of patient's age, localization, size and number of formations, along with the clinical and interventional management of this rarity.

Un Caz Atipic de Teratom Chistic Matur: Diagnostic şi Management. Case Report

Rezumat

Prezervarea capacităţii reproductive la o pacientă tânară şi nulipară este un apel de responsabilitate pentru medicul ginecolog, cu atât mai semnificativ atunci când cazul este marcat de o serie de atipii, iar informaţiile concentrate în jurul acestor excepţii sunt limitate. Teratomul chistic matur este apreciat ca fiind o minoritate a maselor tumorale ovariene benigne, iar "terenul" cel mai propice este reprezentat de femeile adulte, bilateralitatea fiind un alt termen al frecvenţei scăzute în aceste cazuri.

Scopul acestui studiu este prezentarea unui caz neobişnuit de teratom chistic matur, în ceea ce priveşte vârsta pacientei, localizarea, dimensiunile şi numărul formaţiunilor, împreună cu management-ul clinico-imagistic şi intervenţional al acestei rarităţi.

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Introduction

Mature cystic teratoma, dysgerminoma or dermoid cyst is the ovarian tumor of germ cell origin with the highest incidence in the fertile interval of women.

The etiopathogenesis of this abnormality is largely caused by the accumulation of certain ectodermal components at the embryonic fusion sites. [2]

The structure of the teratoma is dictated by the coexistence of several cellular patterns derived from the ectoderm, mesoderm and endoderm. Thus, the mature teratoma, which indicates benignity, and the immature, solid teratoma, which suggests malignancy, are differentiated lesionally. [3]

Of all ovarian tumors, mature cystic teratoma makes up an average of 10-20%. [4]

This pathologic process may be a tacit provocation due to the absence of symptoms in most uncomplicated cases. Exceptions occur by torsion or rupture of the cystic formation, thus therapy must be individualized: in asymptomatic cases the evolution of the cyst is followed without treatment, and in the situation of persistence of the cyst or the existence of symptoms, the only option is gynecological surgery. [5]

Case Presentation

A 21-year-old female patient, of urban residency, student, presents to the specialized check-up in the Gynecology Department, complaining of premenstrual abdominal pain. The young woman's hereditary history was inconclusive for a genital pathology.

From the personal physiologic history were relevant nulliparity, menarche at 12 years of age, regularity of menstrual cycles at 28 days, the rest of the data being in normal parameters. The patient presented first-degree obesity, with a body mass index of 33.2, without other associated diseases, medication or toxic consumption, and adequate living conditions.

The onset of symptoms was insidious, concomitant with the onset of menstruation (9 years ago), with hypogastric premenstrual abdominal pain, of high intensity, with irradiation in the iliac fossae, and the sensation of compression on the bladder recently installed.

During the gynecological examination it was found through the vaginal palpation that the uterus had normal size and consistency, and the existence of a tumor formation was discovered in each adnexal lobe. The tumor formations were characterized by mixed consistency (hard-elastic), mobility and tenderness to palpation.

On transvaginal ultrasonography, bilateral ovarian formations of increased size, multilocular, with inhomogeneous structure, suggestive of teratoma, were projected. Abdominal MRI[1] and CT[2] imaging investigations were recommended, which reflected 2 voluminous adnexal masses, with dimensions of 12 cm in the left ovary and 9 cm in the right ovary, respectively, raising the suspicion of malignant teratoma. (Fig. 1)

Fig 1-Migration of the ovarian formations from the pelvic cavity into the abdominal cavity, due to the high size and compression on the bladder. (A) MRI image, sagittal section. (B) CT image, frontal section.

Laboratory tests were performed, hemoleukogram, liver and kidney samples had normal values.

The laparoscopic intervention is proposed and one of the 15 nodules is chystectomized, but considering a number of factors (including hemorrhage, the individual size of the nodules of each ovarian formation, the time needed, the intention to preserve as much ovarian tissue as possible and the risk of effraction of possible malignant content), it is decided to continue the intervention by Pfannenstiel laparotomy. (Fig. 2)

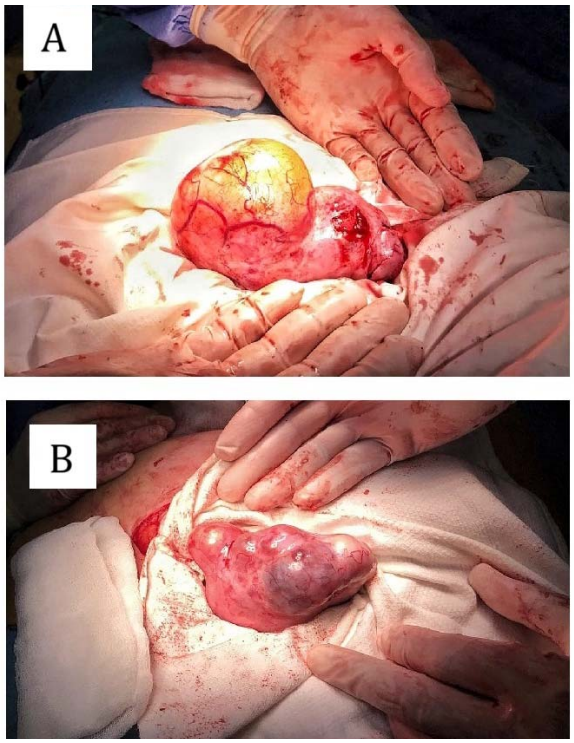

Fig. 2-Intraoperative image of multilocular ovarian formations. (A) Left ovary. (B) Right ovary.

Next, all the teratoma nodules were excised. (Fig.3)

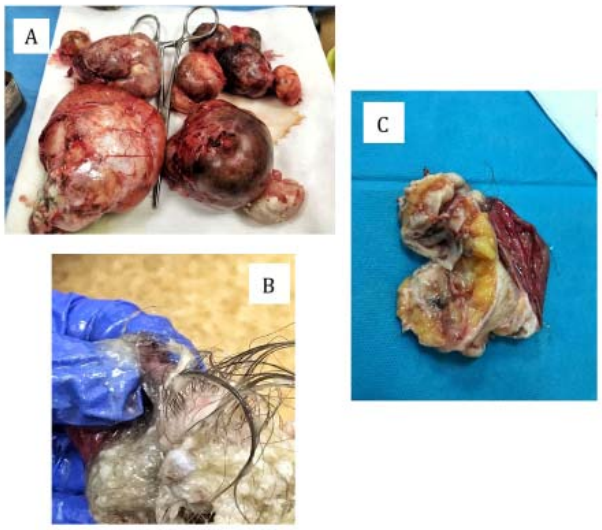

Fig. 3-Excised cystic nodules. (A) The entire nodules of the 2 ovarian tumor formations. (B), (C) The content of the nodules after dissection.

The next steps were ovarian reconstruction and laparorrhaphy. (Fig. 4)

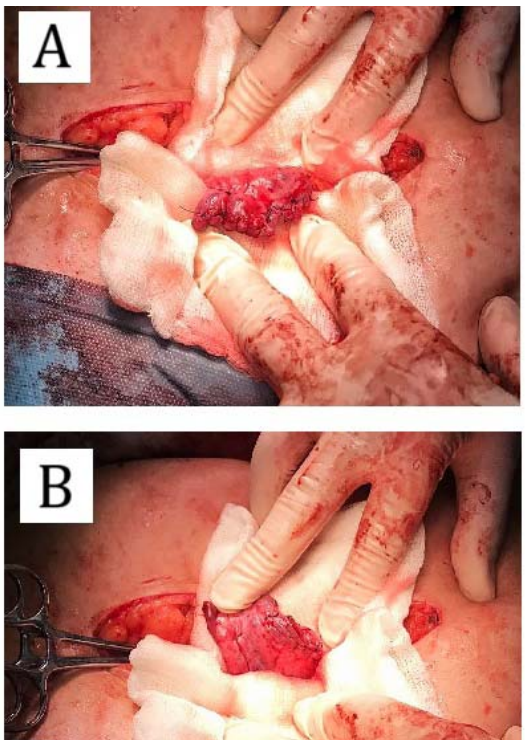

Fig. 4- Ovarian suture. (A) Left ovary. (B) Right ovary.

Postoperative course was uneventful, with discharge on day 3. Upon discharge, the patient was cardio-respiratory stable, with physiologic

urination, bowel transit resumed and good overall condition.

The result of histopathologic examination showed the presence of ovarian epidermoid cysts, bilateral, with lipoid, sebaceous, eccrine glands, mucoid and mixt glandular acini, adipose tissue, smooth muscle cells, mature cartilaginous tissue, cerebrally mature, vegetative ganglia, respiratory type cells and small areas of lymphoid tissue, with no atypia.

Discussions

The etymology of the current notion of teratoma has its origin in the Greek term "teraton", which is equivalent to "monster", and the first attestation belongs to Virchow, marking the middle of the 19th century. The studies in the literature highlight a limitation to only a few described cases of mature cystic teratoma with bilateral ovarian localization in patients under 21 years of age. [7]

The average size of teratomas ranges from 1 to about 7 cm. [8, 9]

A study performed on a sample of 55 patients diagnosed with benign teratoma emphasized useful investigations in the preoperative phase, for confirming or disproving the disease: clinical examination, abdominal ultrasound, CT and MRI scans, in selected cases CA-125[3], AFP[4] or LDH[5] markers. [10]

It is known that excision of a teratoma does not affect fertility, but the procedure requires careful attention to the adnexal structures to preserve ovarian integrity.[11]

According to The Royal College of Obstetricians and Gynecologists, the golden standard in the indication for removal of benign ovarian tumors is laparoscopy, with the most current method being robotic-assisted laparoscopic surgery. [12]

Although laparoscopy is preferred for several reasons, such as patient comfort during recovery, lower postoperative infectious risk or limiting adhesions, it presents the likelihood of cyst rupture and release into the pelvic and abdominal cavity. The consequences of this process of dissemination of cyst contents may lead to chemical peritonitis, recurrence of tumor mass over time, and even loss of reproductive function. [13]

In terms of size, for excisions of teratomas larger than 10 cm a Pfannenstiel laparotomy is recommended. [9]

In the situation of teratoma singularity, in women in their second reproductive period, oophorectomy is the conventional option.[12]

The malignant potential averages less than 2%, with most ovarian tumors of this type being benign. [14] According to a screening analysis of more than 200 cases, patients with large ovarian tumors, more than 10 cm, are more likely to be at risk of malignancy than those with smaller ovarian tumors. [15]

In the presented case, surgery was performed for the treatment of cystic teratomas with the intention of preserving as much ovarian tissue as possible in order to preserve reproductive function. Establishing benignity or malignancy was considered in the context of mixed signs. The patient presented for regular check-up, reporting monthly menses, without dysmenorrhea or menorrhagia.

Conclusions

The surgical treatment achieved all the proposed objectives, namely: defining the benign nature of the bilateral cystic ovarian teratoma, the favorable long-term prognosis, and last but not least, the confidence that at a future presentation of the patient could have confirmed the existence of reproductive function.

Abbreviations: MRI[1]=Magnetic Resonance Imaging, CT[2]=Computed Tomography, CA-125[3]=Cancer Antigen 125, AFP[4]=Alpha-Fetoprotein, LDH[5]=Lactate Dehydrogenase.

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Ethical Approval: This study was approved by the Ethics Committee of the Military Clinical Emergency Hospital Sibiu.

Consent: Written informed consent was obtained from the patient to publish this case report and any accompanying images.

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