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CASE REPORT AND BRIEF REVIEW

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MRI Appearance of a Giant Ovarian Sero-mucinous Cystadenofibroma Mimicking Ascites. A Case Report and Brief Literature Review

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ABSTRACT

Introduction: Giant ovarian cystadenofibromas are rare, mostly benign tumors. In the early stages, they are asymptomatic; however, as they grow in size, they begin to produce symptoms, most often due to the compressive effects they exert on surrounding structures. In the early stages, they are frequently diagnosed by ultrasonography, but complicated cases or cystadenofibromas that reach giant dimensions are ideally evaluated by magnetic resonance imaging (MRI) to establish a therapeutic surgical decision that is as safe as possible for the patient. **Case report:** We present the case of a 49-year-old perimenopausal patient without vaginal bleeding or other gynecological symptoms who presented to the hospital with abdominal pain and abdominal distension with increasing intensity. Ultrasound examination revealed the presence of a high volume of fluid in the abdomen, and MRI and histopathological examination confirmed the diagnosis of a giant left ovarian type III seromucinous cystadenofibroma. The patient was treated surgically, with favorable postoperative evolution. **Conclusion:** Giant cystadenofibromas are rare clinical entities that must always be considered in the differential diagnosis of an abdominopelvic pathology in middle-aged female patients and should ideally be investigated by MRI to accurately define their origin, characteristics, and local invasion.

Keywords: ovarian cyst, magnetic resonance imaging, laparotomy, cystadenofibroma

INTRODUCTION

Ovarian cystadenofibromas are rare tumors of the ovary.[1] Depending on the type of epithelial cells found in the tumor, they are classified as either mucinous, serous, endometroid, clear-cell, or mixed; the most common subtype is serous.[2] Depending on the degree of epithelial proliferation, they are classified as benign or malignant. Ovarian cysts are classified as 'gigantic' when they have a diameter greater than 10 cm.[3] Ovarian cystadenofibromas most often do not cause signifi-

cant symptoms in a patient until they become very large in size. The imaging investigation of choice for diagnosis and staging of the tumor is magnetic resonance imaging (MRI).[4] Through MRI investigation, ovarian cystadenofibromas are classified into three types. Type I multilocular solid lesions are the most common and consist of a multiseptated cystic mass and an increased volume of ovarian stroma. The cystic component is most frequently multiloculated, and the solid component has well-defined edges appearing hypointense on T2 sequences with a typical black, 'sponge-like' appearance. Type II has a predominant cystic component with a very thick wall due to the presence of fibrous components; the cyst appears hyperintense on T2-weighted images and its wall appears hypointense. Type III consists of a single unilocular or multilocular cystic component with a thin wall, without solid components. Type III is the rarest subtype, with few cases described in the literature.[5,6]

The purpose of this article is to present the case of a 49-year-old female patient who was initially considered to have large-volume ascites. She was diagnosed by MRI and histopathological examination with a rare case of type III giant ovarian seromucinous cystadenofibroma at the level of the left ovary.

CASE REPORT

We present the case of a 49-year-old female primiparous patient who presented to the hospital with vague abdominal symptoms, including abdominal discomfort, intestinal transit disorders, and progressive abdominal distension. The patient did not present any clinically relevant medical history of the current pathology and had not been previously hospitalized for abdominopelvic pathologies. From the patient's anamnesis, we found no similar pathological antecedents in first degree relatives. In the clinical examination of the patient, no significant pathological elements were observed except for an enlarged abdomen, which exhibited accentuated dullness on percussion. For this reason, it was decided that the patient should undergo an ultrasonographic examination, which revealed the presence of a significant volume of fluid in the abdomen; the liver, spleen, and kidneys could not be visualized, and the fluid was initially assumed to be ascites. Following this investigation, the medical team decided to perform MRI to locate the source of the ascites and its exact volume.

The MRI examination protocol consisted of performing an abdominopelvic examination with T2-weighted sections in sagittal, axial, and coronal planes. The examination revealed the presence of a multiloculated cystic fluid formation with gigantic dimensions of approximately 27/26/12 cm (CC/LL/AP) located in the left ovary, with marked suprapubic extension (Figure 1).

The thin cystic wall appeared hypointense on T2-weighted sequences. No solid component was noted around the cystic component. Cranially, the lesion extended beyond the upper edge of the kidneys and the transverse colon. The process had a strong compressive effect on the anterior abdominal muscles, abdominal aorta, lower mesenteric artery, transverse and descending colon (Figure 2).

MRI examination did not reveal pathological signal changes in the abdominal viscera. At the pelvic level, the uterus, right ovary, and bladder could be visualized and had a normal appearance (Figure 3). No adenopathy was observed at the abdominopelvic level.

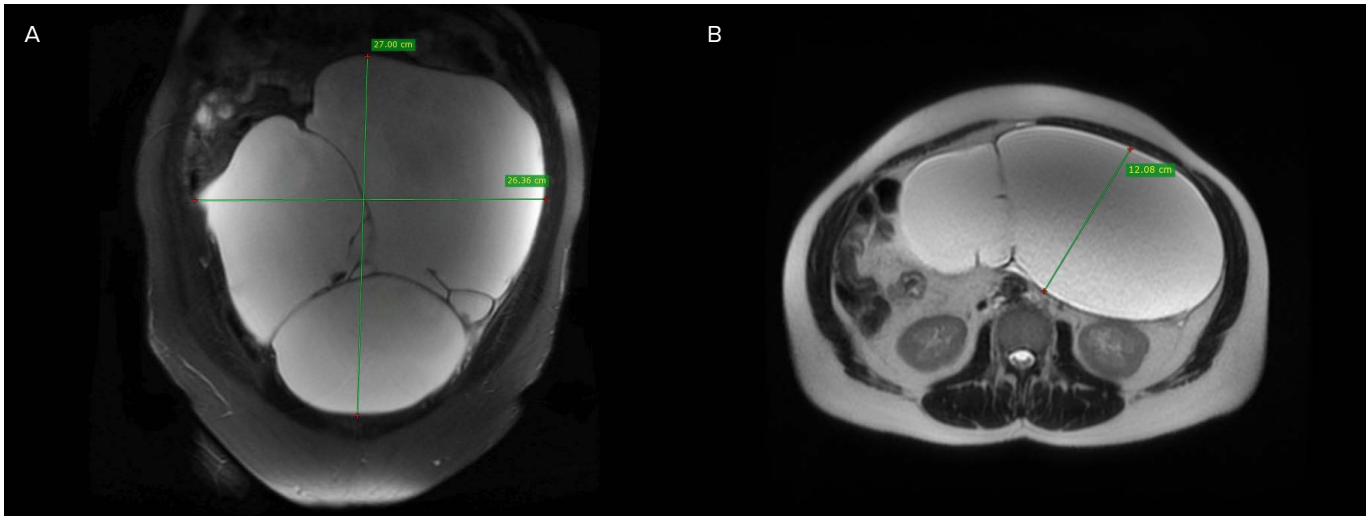


FIGURE 1. **A** – T2-weighted abdominal MRI, coronal plane, showing the length and height of the tumor; **B** – T2-weighted abdominal MRI, axial plane, showing the width of the tumor

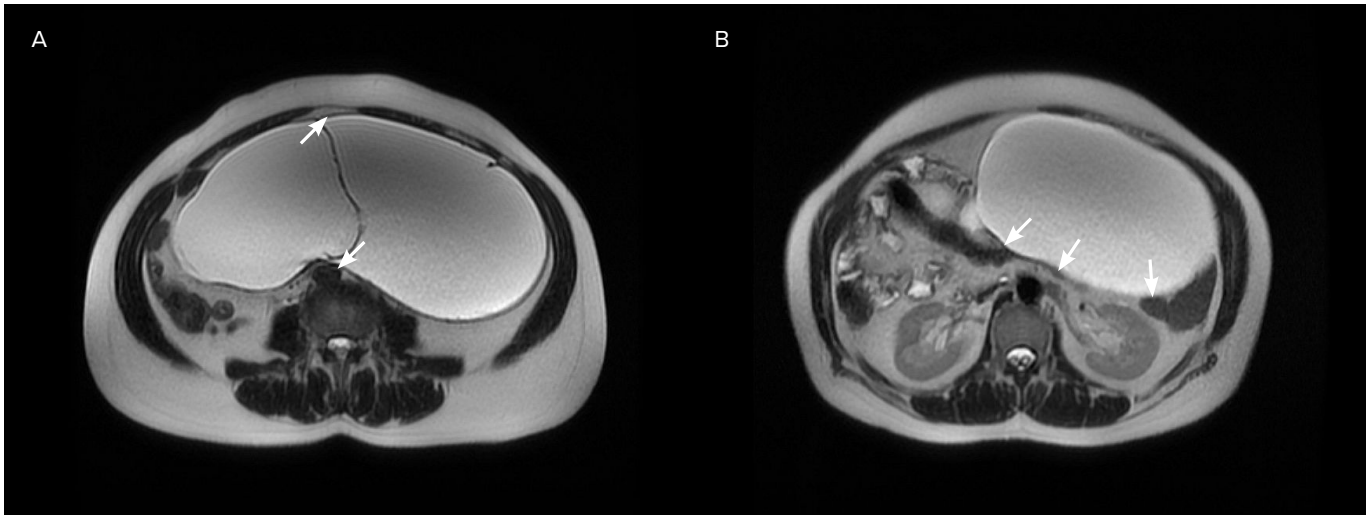


FIGURE 2. **A** – T2-weighted abdominal MRI, coronal plane, showing the length and height of the tumor; **B** – T2-weighted abdominal MRI, axial plane, showing the width of the tumor

The MRI examination concluded the presence of a gigantic cystic formation at the level of the left ovary, and surgery was performed to evacuate the cyst and obtain a biopsy for histopathological examination. The patient was surgically treated with median xipho-pubic laparotomy. Upon opening the abdominal wall, the cystic formation was observed with a starting point at the level of the left ovary, developing around the mesosigma, with similar characteristics previously described during the MRI examination. Laborious dissection of the formation and the left ovary was performed, a drain tube was placed in the Douglas space, and a suture was made to restore the abdominal wall. Postoperatively, the patient received antibiotic treatment; her recovery was good, and she was discharged one week after the intervention.

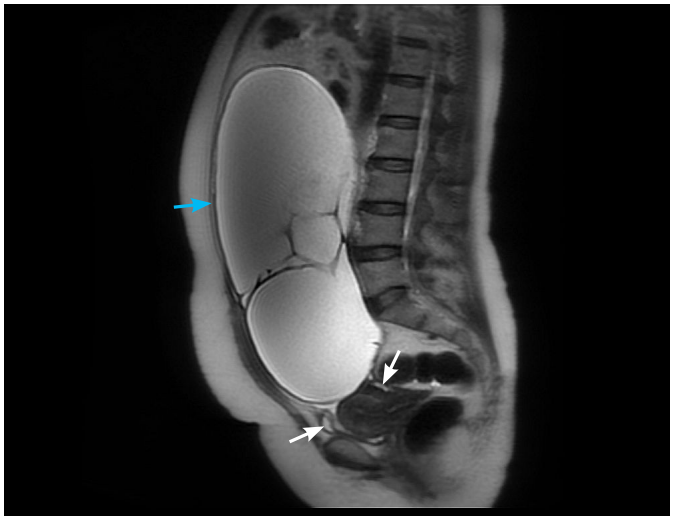


FIGURE 3. T2-weighted abdominal MRI, sagittal plane, illustrating the tumor and the normal looking uterus and bladder

Histopathologically, tissue fragments lined with a partially denuded, mucin-secreting cylindrical epithelium were observed, without atypia. Papillary projections had a hypocellular, fibrous stroma, and were lined with serous ciliated epithelium. In some places, the cystic wall exhibited hemorrhagic infiltration, with the presence of psammoma bodies.

The patient signed an informed consent for the publication of this manuscript.

DISCUSSION

Seromucinous cystadenofibroma is a rare, benign epithelial ovarian tumor that is most common in older and postmenopausal women. However, cases have been reported even in younger patients.[7] This type of tumor is bilateral in many cases.[8] The most common symptoms are abdominal pain and abnormal vaginal bleeding.[9] Our patient did not have pathological bleeding, but the pain and continuous abdominal distension were the main symptoms that motivated her to visit the hospital.

Cystadenofibromas are predominantly cystic with a solid component that can be visualized on MRI. Septations are observed in 35% of cases and solid parenchymal nodules in 60% of cases.[10] In half of the cases, the tumor is avascular, while in vascularized tumors, the typical structure involves peripheral vascularization with high blood flow throughout the solid component.[11,12] Due to the solid component or irregular thick septa observed on MRI, even a benign tumor can often be misdiagnosed as malignant on preoperative imaging.[13] In our case, the cystic component was multiseptated, without a peripheral solid component,

and the cyst wall and septa inside the cyst were thin. These MRI imaging aspects and the gross appearance of the tumor indicated a benign nature; however, these tumors can sometimes be very similar to malignant tumors. In premenopausal women, conservative surgery may be considered.[14] In perimenopausal and postmenopausal women, total hysterectomy with bilateral salpingo-oophorectomy is most often performed because some elements of malignancy may later be reported histopathologically.[15] Our patient was perimenopausal, and MRI strengthened the benign nature of the tumor; therefore, only the cyst and left ovary needed to be surgically removed, a decision augmented and supported by the subsequent histopathological examination.

CONCLUSIONS

Simple infracentimetric ovarian cysts are among the most common diseases in the pelvic pathology of women. However, giant type III seromucinous cystadenofibromas with compressive effects on the surrounding organo-cavitary structures represent a very rare entity and a true medical challenge that must be diagnosed as accurately as possible via high-quality imaging methods (i.e., MRI). They must be surgically treated due to compressive side effects on adjacent organs and due to the permanent risk of malignant transformation.

CONFLICT OF INTEREST

The authors declare no competing interests.

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