

Abdominal wall endometrioma

Endometrioma de parede abdominal

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A B S T R A C T

Objective: To report the authors experience with the clinical manifestations and surgical treatment of abdominal wall endometriomas.

Methods: A retrospective analysis of patients operated for abdominal wall endometrioma was carried out, with emphasis on age, symptoms, previous cesarean, relation of symptoms with the menstrual cycle, physical examinations and additional surgical treatment, postoperative course and histopathological results of specimens. **Results:** Fourteen patients were operated during the study period, aged between 28 and 40 years. The presence of a local mass and pain that worsened during menstruation were the main complaints. Ultrasound and Computerized Tomography examinations were important in the precise location of the disease. Surgical excision was wide, involving the tumor and affected tissues. The patients progressed satisfactorily and histopathology confirmed the diagnosis of abdominal wall endometrioma in all cases. **Conclusion:** There was a clear relationship between cesarean section and abdominal wall endometrioma. Ultrasound studies and CT scans helped to plan the surgical approach, allowing resection of the tumor and all adjacent affected tissues.

Key words: Endometriosis. Abdominal wall.

INTRODUCTION

Endometriosis is defined as the presence of functional endometrial tissue (endometrial glands and stroma) in locations outside the endometrial cavity and uterine muscle that usually responds to hormonal stimulation.

The exact incidence of endometriosis in the general population is unknown. Confirmation of this disease is only possible by histopathological analysis of a fragment obtained by an invasive procedure, as there is no safe clinical marker so far. When endometriosis presents as a mass, it is called endometrioma, which is a disease infrequently observed by the general surgeon, especially if it occurs in an extrapelvic location.

The main objective of this study is to report our experience concerning 14 cases of abdominal wall endometrioma, emphasizing the clinical presentation, the importance of computed tomography and the employed surgical treatment.

METHODS

We conducted a retrospective study of patients treated for abdominal wall endometrioma at the Azevedo

Lima State Hospital (Niterói) and at the Antônio Pedro University Hospital in the period from January 2000 to December 2008, analyzing data on age, symptoms and time course, previous cesarean section, relation of symptoms with the menstrual cycle, clinical assessment, surgical treatment, postoperative outcome and histopathology of surgical specimens.

RESULTS

Fourteen patients were operated (Table 1) during the study period, aged between 28 and 40 years (average 33.42). The time of the signs and symptoms ranged from six months to three years (average 2.63). Thirteen patients had a history of cesarean delivery, which occurred between four and twelve years (mean 6.9) before the appearance of the tumor.

The main complaint in all cases was a tumor in the abdominal wall, which increased in volume and became more painful during the period. The tumor was located in the iliac fossa in 11 patients (five on the right and six on the left) and left flank in one. All were located near the surgical scar from cesarean section (Figure 1). In two cases, they

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Table 1 - Clinical data, diagnostic methods, treatment and postoperative outcome.

Case	Age	Cesarean Previous (years)	Time of Symptoms (years)	Location	Size (cm)	Imaging Exams	Treatment	Postoperative Evolution
1	31	4	1,5	RIF	6 x 4	US; CT	Ample excision + mesh	Good
2	33	5	1	LIF	2,5 x 1,8	US; CT	Ample excision + mesh	Good
3	29	6	2	RIF	4 x 3	US; CT	Ample excision	Good
4	40	—	1	UmbS	1,5 x 1,6	—	Ample excision	Good
5	35	7	3	RIF	4 x 4	US; CT	Ample excision	Good
6	28	7	3	LIF	2 x 2	US; CT	Ample excision	Good
7	35	10	1	LIF	2,3 x 2,4	US	Ample excision	Good
8	40	12	1	UmbS	1,5 x 1,6	US	Ample excision	Good
9	26	8	7	RIF	3 x 3	US	Ample excision	Good
10	28	8	7	LIF	8 x 5	US	Ample excision + mesh	Good
11	32	2	1,5	LIF	4 x 4	US; CT	Ample excision + mesh	Good
12	39	9	3	LIF	3 x 3	US; CT	Ample excision	Good
13	40	7	7	RIF	3x3	US; CT	Ample excision	Good
14	32	5	0,5	LIF	3x3	US; CT	Ample excision	Good

RIF = right iliac fossa; LIF = left iliac fossa; LF. = left flank; UmbS = umbilical scar; US = Ultrasonography; CT= Computerized Tomography.

were in the umbilical region. One tumor was exophytic, with cerebriform appearance and external bleeding during menstruation. The size of lesions ranged from 1.6x1.5 cm to 6.0x4.0 cm. All had imprecise limits, soft consistency and increased tenderness at palpation.

Ultrasound was performed in 13 cases and abdominal Computerized Tomography (CT) scan in nine. In three, CT showed contrast enhancement by the tumor (only one of the patients was menstruated during the exam).

The applied surgical treatment was ample tumor resection, along with its adjacent affected tissues (Figure 2). On four occasions it was necessary to use a polypropylene mesh in the abdominal wall reconstruction, associated with active suction drainage for 48 hours on two occasions.

The postoperative course of patients was satisfactory, without any complications.

Histopathologic examination of the specimens confirmed the preoperative diagnostic impression of endometrioma in all cases.

DISCUSSION

Endometriosis is a well known clinical entity in the gynecological literature, but is not yet well understood among general surgeons. Its extrapelvic location is much less common than the pelvic one and has been observed in various organ systems (lungs, bronchi, pleura, gallbladder, kidney, bladder, small intestine, large intestine, appendix, omentum, lymph nodes, sub-arachnoid space)¹⁻³.

No theory can fully explain the exact mechanism of endometriosis formation, it being likely to result from a

combination of events. The most accepted hypothesis is that particles of the endometrium would reflux through the fallopian tubes into the abdominal cavity, blood and lymph vessels. Another possibility is the presence of primitive extra-uterine multipotent cells that under certain conditions would produce endometriosis.

Ectopic endometrial foci are almost always under the influence of ovarian hormones, with all the changes of the menstrual cycle, including bleeding.

According to Han *et al.*⁴, malignant transformation of endometriosis is rare, but cannot be ruled out.

As we see in these cases, the endometrioma usually affects women during their reproductive life, with peak incidence in the third and fourth decades⁵. When in the abdominal wall, they preferably locate near or in a surgical scar. Although in most cases occurring in patients with previous cesarean⁶, endometriomas have also been observed in the surgical incisions after conventional or laparoscopic hysterectomy^{7,8}, appendectomy and inguinal hernia, as well as in patients without any previous intervention⁹, a fact found in one of our patients. For prophylaxis of endometriosis after cesarean section Wasfie⁶ recommends vigorous wound irrigation with saline before closure of the abdominal wall. The only patient in our study without previous operation reported a normal delivery 12 years before.

The time elapsed between the previous operation and the onset of symptoms resulting from the installation process can vary from six months to 20 years^{1,9}. In our patients, this period was between four and 12 years.

The classic symptoms of abdominal wall endometrioma are: a tumor that is very tender to

palpation, intermittently painful, which increases in volume and tenderness according to the phase of the menstrual cycle.

The presumptive diagnosis should always be considered when signs and symptoms clearly coincide with the phases of the menstrual period. However, this relationship is not always very clearly presented, making it difficult to ascertain the real etiology of the problem. It is important to establish a differential diagnosis with the following tumors: sarcomas, metastatic carcinoma, hernias, hematomas, and granulomas among others. In our cases the clear link between the signs and symptoms with menstruation improved the correct diagnostic impression of endometrioma.

Ultrasonography and computed tomography are important to define not only the size of the lesion, but also the degree of involvement of the abdominal wall. A CT scan shows a heterogeneous mass with no capsule, capable of capturing contrast, and perfectly locate the tumor, identifying compromised structures of the abdominal wall. This information is very important in the planning of surgical strategy. CT also allows study of the whole pelvic cavity that may also be compromised by the disease.

Koger¹, Patterson¹⁰, and Calabrese¹¹ still defend aspiration biopsy with fine needle, which in our opinion would be contraindicated by the possibility of spreading disease in healthy tissues in the path of the puncture.

The treatment of abdominal wall endometrioma is surgical resection and has as main goal the complete excision of the disease, since no endometrial tissue should remain in the affected area. Therefore, excision should be ample^{1,12-15} to remove all the segments of skin, subcutaneous tissue, muscle, aponeurosis and peritoneum potentially involved. If possible, the defect created by excision borders must be corrected with the patient's own abdominal muscles and aponeurosis. But should this lead to tension in the suture lines, the most widely used option would be a polypropylene mesh.



Figure 1 - Endometrioma near a cesarean scar. Note the darkened skin coloration.

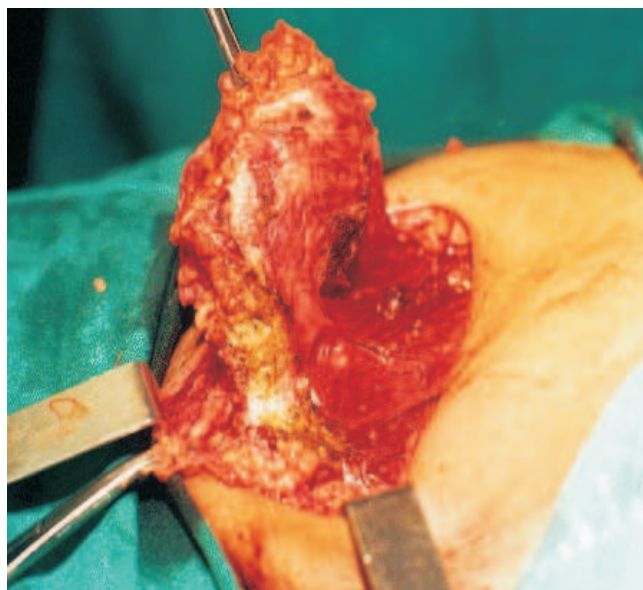


Figure 2 - Wide excision of endometrioma and tissues including skin, subcutaneous tissue and part of the musculature of the anterolateral abdomen (case 1).

R E S U M O

Objetivo: Relatar a experiência dos autores com as manifestações clínicas e o tratamento cirúrgico em pacientes com endometrioma de parede abdominal. **Métodos:** Análise retrospectiva das pacientes operadas por endometrioma de parede abdominal, dando ênfase aos dados relativos à idade, sintomas, cesariana prévia, relação dos sintomas com o ciclo menstrual, exames físicos e complementares, tratamento cirúrgico, evolução pós-operatória e resultado histopatológico dos espécimes. **Resultados:** Foram operadas 14 pacientes no período estudado, com idade entre 28 e 40 anos. A presença de massa e dor local que piorava durante a menstruação foram as queixas principais. Ultrassonografia e tomografia computadorizada foram exames importantes em localizar precisamente a doença. O tratamento cirúrgico foi exérese ampla da tumoração e dos tecidos comprometidos. As pacientes evoluíram satisfatoriamente e o histopatológico confirmou a suspeita de endometrioma de parede abdominal em todos os casos. **Conclusão:** Foi nítida a relação entre cesariana prévia e endometrioma de parede abdominal e estudos ultrassonográficos e tomográficos auxiliaram a planejar a abordagem cirúrgica permitindo a exérese da tumoração e de todos os tecidos adjacentes comprometidos.

Descritores: Endometriose. parede abdominal.

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