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Endometriosis of the round ligament revealed by an intermittent hernia

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Abstract Endometriosis is a common gynaecological pathology with pelvic and extra-pelvic localisations. We report a case of endometriosis of the round ligament revealed by an intermittent hernia. The endometriosis of the round ligament is unusual and the diagnosis may be difficult. The appearance of a roundish lump in the inguinal region associated with pain in relation to the menstrual cycle must raise the suspicion of endometriosis among the possible diagnosis. Ultrasonography and magnetic resonance imaging are the most useful examinations. But it is the histological examination of the surgical specimen that confirms the diagnosis.

Keywords Endometriosis · Round ligament · Hernia

Introduction

Endometriosis is a common gynaecological pathology that accounts for 8–15% of women of fertile age on average in the fourth decade of life [1, 2]. It is characterised by the development of ectopic endometrial tissue under the stimulus of ovarian hormones and takes on the typical proliferative and functional aspects of a normal endometrium.

It represents a disease of specific interest to the general surgeon due to extra-pelvic localisations, especially the skin (umbilical scar, surgical scars), the viscera (small intestine, left colon, rectum, appendix) and the groin [2–7]. In the latter case it can be confused with other common affections of the inguinal region, such as primitive or metastatic lymph nodes, soft tissue tumours and foreign body granulomas. It rarely causes a clinical picture

suggestive of irreducible or strangulated hernia that requires urgent surgery [8–10].

Case report

A 43-year-old, nulliparous woman, consulted for chronic pain she had been having for 3 years. Her medical history consisted of an appendicectomy. Two years earlier the patient had undergone an intraperitoneal exeresis of an ovarian endometriosis by laparoscopy. After the surgery the patient was treated for 3 months by a gonadotrophin-releasing hormone injection.

The patient noticed an intermittent round lump in the right inguinal region. At the physical examination, we noted a back utero, painless, and mobile mass with normal palpation of the ovaries. There was nothing to suggest recurrence of endometriosis.

The 1.5-cm lump of the right inguinal region was mobile under the surface plane, but fixed in depth, and was tender and irreducible. The left inguinal region examination was normal.

Ultrasound examination of the surface tissue showed a 10.4×31-mm egg-shaped nodule in the right inguinal region extending longitudinally along the axis of the inguinal canal. The mass had an unusual hypo-echogenic ultrasound structure in the background of the hernia sac (Fig. 1).

The MRI (Fig. 2) showed a left ovarian cyst with haemorrhagia of 2×3 cm and a 2-cm mass with hypointensity in the left ovary. An endometriosis implant is located on the right ovary (Figs. 3, 4).

The patient was therefore subjected to surgery consisting of explorative laparoscopy followed by cure of the hernia. The laparoscopy showed many peritoneal endometriosis implants. We performed a biopsy of the pouch of Douglas and multiple electro-destruction of the implants. Cure of the hernia consisted of a direct abdominal approach of the inguinal area. A 1-cm lump under the aponeurosis of the large abdominal muscle was found and was firmly adhesive to the round ligament. The dissection of the

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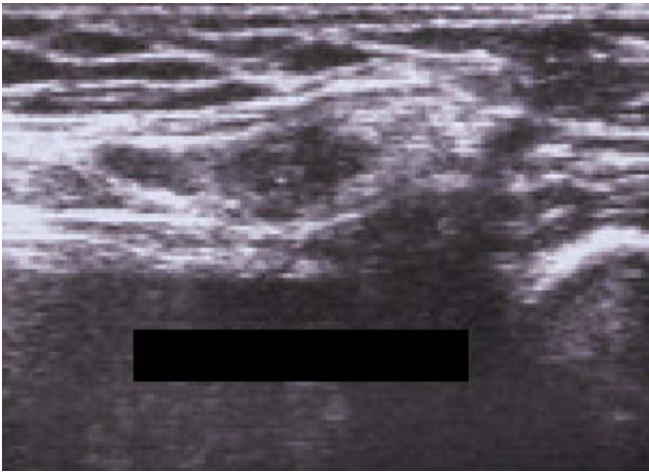


Fig. 1 Ultrasonography: hernia sac with an unusual hypoechogenicic ultrasound structure in its background

suspected hernia led to a cyst of the round ligament. Exeresis of the median part of the round ligament permitted removal of the cyst. Finally, the Shouldice procedure was carried out to strengthen the wall of the inguinal.

The histological examination showed a hyaline stroma with endometrial glands in the extraperitoneal round ligament associated with peritoneal endometriosis. There were no problems postoperatively.

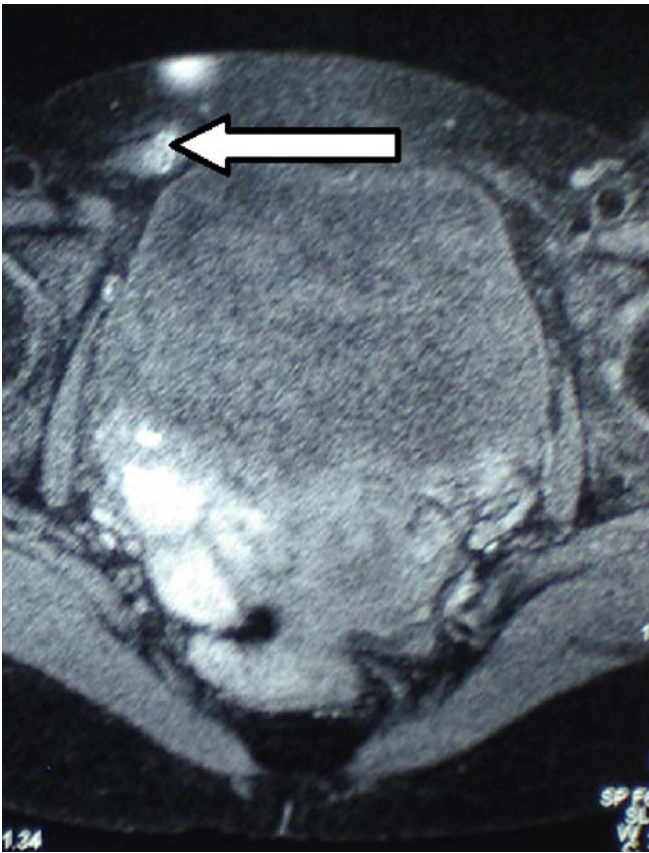


Fig. 2 Pelvic T1 magnetic resonance image (MRI) with fat suppression sequence, axial slice showing endometriosis of the right round ligament (*white arrow*)

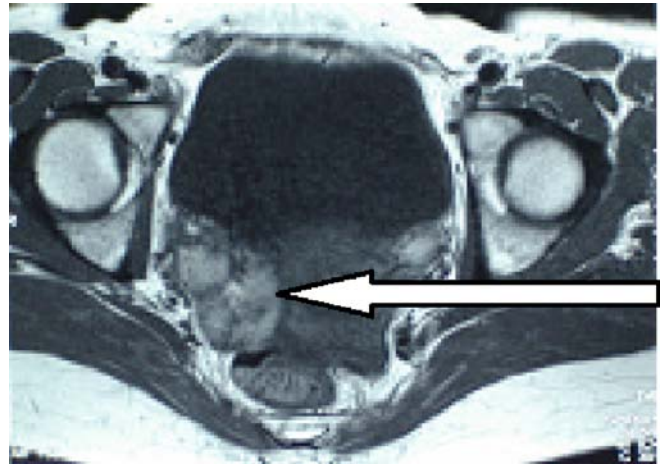


Fig. 3 Magnetic resonance imaging: endometriosis implant on the right ovary (*white arrow*)

Discussion

Endometriosis of the extraperitoneal portion of the round ligament, or more generally of the inguinal region, was first described by Cullen in 1986, and represents a rare affliction that accounts for 0.3–0.6% of patients affected by endometriosis [11].

After reviewing the literature, it was possible to add another seven cases to the 61 reported by Proposito et al. in



Fig. 4 Pelvic T1 MRI, sagittal slice showing endometriosis of the right round ligament (*white arrow*)

2002 [1, 12, 13]. It is interesting to note that more than half of these cases (62%) date back 20 years, and that these data show that inguinal endometriosis is a pathology that has been previously underestimated. It is likely that in the future it may be diagnosed preoperatively with greater frequency than reported in the past, namely by Sataloff et al. in 1989 (in 38 % of the cases) [10].

The mean age of the patients at diagnosis is 37 years (range: 22–67). The disease appears with the onset of a lump of ~2–3 cm in diameter in the inguinal region, associated with increased bulk and more painful symptoms during the menstrual period in 50% of the cases [7, 11]. The right side is far more frequently involved (94% of the cases), while bilateral involvement is exceptional (only one case described) [3].

In 37% of the patients, endometriosis of the round ligament is associated with a groin hernia (23 inguinal hernias and 2 crural hernias). Though rare, malignant degeneration is possible, as testified by the two cases of adenocarcinoma that have recently been described [13, 14].

Among the diagnostic tools, colour Doppler ultrasound is the examination of choice. The pedicular characteristics of the ultrasound semeiotics are the nodular aspect of the lesion, its hypoechoic structure, and the absence of vascular flow around the lesion [15].

Computed tomography proved useful for ruling out most of the pathologies of the inguinal region, but it is often unable to distinguish a nest of endometriosis from a haematoma [16]; such a distinction resulted in the present case being detected on MRI, which was able to detect the small deposit of haemosiderin and methaemoglobin typical of endometriosis [17].

Surgery is based upon radical excision of the lesion en bloc with the extraperitoneal portion of the round ligament. Care should be taken not to weaken the posterior abdominal wall. After surgery, a careful gynaecological assessment is recommended, considering that further intraperitoneal localisations may be associated in 91% of the cases [1] and considering this localisation as an extrapelvic peritoneal endometriosis. This leads to proposing laparoscopic explorative surgery during the hernia repair procedure followed by treatment with gonadotrophin-releasing hormone injection.

Conclusion

Endometriosis of the round ligament must always be suspected in the presence of an inguinal-crural lump associated with pain and increased bulk during menstrual periods. Explorative laparoscopy can lead to diagnosis and to radical surgical excision to reduce the risk of relapse.

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