

sometimes used in these patients is percutaneous embolization of the hepatic artery.^{2,4}

Hemangiomas are the most frequent benign splenic primary tumor.^{3,5–7} Their prevalence in autopsies ranges between 0.03 and 14%.^{3,5} Hodge described the first surgical removal in 1895. Since then, only 100 cases have been reported.⁵ They are usually single, small, asymptomatic lesions and are 9 times more frequent in women.³ Diagnosis is usually incidental and the key to treatment is reaching a correct diagnosis in order to make proper therapeutic decisions.⁵ The ideal treatment for splenic hemangioma has not been clarified.⁵ Certain authors advocate splenectomy due to the possible risk of malignization toward angiosarcoma, affirming that this occurs more frequently in large hemangiomas or when there is diffuse splenic involvement. But the actual possibility of malignization seems remote and is not well defined.⁵ Other authors defend splenectomy due to possible spontaneous rupture especially in lesions that are large or symptomatic.^{5,8} The series by Willcox et al., which is the largest published series with 32 splenic hemangiomas, recommends monitoring small asymptomatic lesions, although they do not comment on cases with multiple hemangiomas.⁵ The surgical options included partial or total splenectomy.³ Percutaneous embolization is a therapeutic option that is also used.³ Several drug treatments used to produce the regression of hepatic or splenic hemangiomas have not been shown to be effective.³

The presence of multiple hemangiomas in the liver and spleen in adults is very rare. They may appear as diffuse hemangiomatosis in the so-called angiomatous syndromes.^{6,7} We have only found two cases similar to the case that we present in the literature after a database search (Pubmed) using the keywords *hemangioma*, *spleen* and *liver*.^{2,3} The treatments used in these two cases were: percutaneous embolization of the liver and spleen hemangiomas and later splenectomy in one case, and splenectomy and observation of the hepatic hemangiomas in the other patient.^{2,3} Since our patient was asymptomatic and the diagnosis was certain, we decided to follow the criteria put forth by Willcox in splenic hemangiomas and accepted in liver hemangiomas, which involves periodical observation of these hemangiomas.⁵

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Hepatic Endometrioma. An Update and New Approaches

Endometrioma hepático. Actualización y nuevos abordajes

Endometriosis is characterized by the presence of functioning endometrial tissue outside the uterine cavity.¹ It is most commonly located in the pelvis, but extragenital endometrial implantation has been reported,² such as in the liver.

We report a new case of symptomatic hepatic endometrioma, highlighting its differential diagnosis and surgical treatment using laparoscopy.

The patient is a 41-year-old nulligravida woman with no prior clinical history of interest, who had been experiencing pain in the right hypochondrium and right costal region coinciding with menstruation over the course of the previous two years.

Lab work-up showed normal liver function parameters and tumor markers levels (AFP, CEA, CA 125 and CA 19.9).

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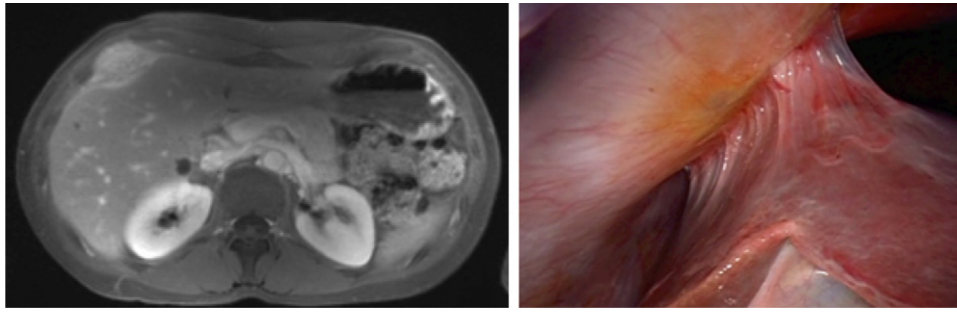


Fig. 1 – MRI of the liver (T1): lesion measuring 55 mm×45 mm×25 mm in liver segment V with multiple hemorrhagic foci in its interior and heterogeneous uptake; laparoscopic image showing the diaphragm implant adhered to liver segment V.

Abdominal-pelvic ultrasound and computed tomography (CT) demonstrated a cystic image measuring 48 mm in liver segment V and simple hepatic cysts. The study was completed with magnetic resonance imaging (MRI) that revealed several liver cysts and a cystic mass with hemorrhagic foci in the right subphrenic space and an impression on liver segment V, compatible with an endometrial implant in the liver (Fig. 1). With this suspicion, she was sent to our unit where surgical laparoscopic treatment was indicated.

The patient was placed in supine decubitus with the legs spread open. A Hasson trocar was used in the navel for the 0° optics and two 5 mm trocars were inserted (one in the right flank and one subxiphoid) along with one 12 mm trocar in the left flank, all of which enabled us to examine the entire abdominal cavity in detail, including the pelvis. Intraoperatively, several foci of ectopic endometrial tissue were observed in the pelvic peritoneum, both round ligaments and in the right uterosacral ligament. In the upper abdomen, we identified the lesion in liver segment V adhered to the right hemidiaphragm (Fig. 1) and therefore proceeded with the vaporization of the pelvic lesions and resection of the liver implant using a harmonic scalpel and after prior control of the hepatic pedicle.

The pathology study confirmed the presence of foci of endometriosis amongst the normal liver parenchyma (Fig. 2). The patient had an uneventful recovery and was discharged on the third day post-op and remains asymptomatic to date.

Initially described by Rokitansky in 1960, endometriosis is a benign invasive disease characterized by functioning ectopic endometrium present in up to 15% of women of reproductive age.¹ It mainly affects the organs of the pelvis; the ovaries are the most frequent location, followed by peritoneal serosa, but there have also been reports of lesions in extrapelvic organs in 8.9% of cases.² The only organ in the abdominal cavity that seems to resist involvement is the spleen. Among the extragenital localizations of endometriosis, the liver is quite uncommon. It was reported for the first time in 1986³ and to date only 22 cases have been published in the literature.⁴

There are several hypotheses on the etiopathogenesis of endometriosis of the liver. The classic theory is that retrograde menstruation is responsible for the dissemination and implantation of endometrial cells in the pelvis. This mechanism, however, would not explain the existence of extrapelvic and intraparenchymal implants, although they would be justified by hypothetical distant cell dissemination by the

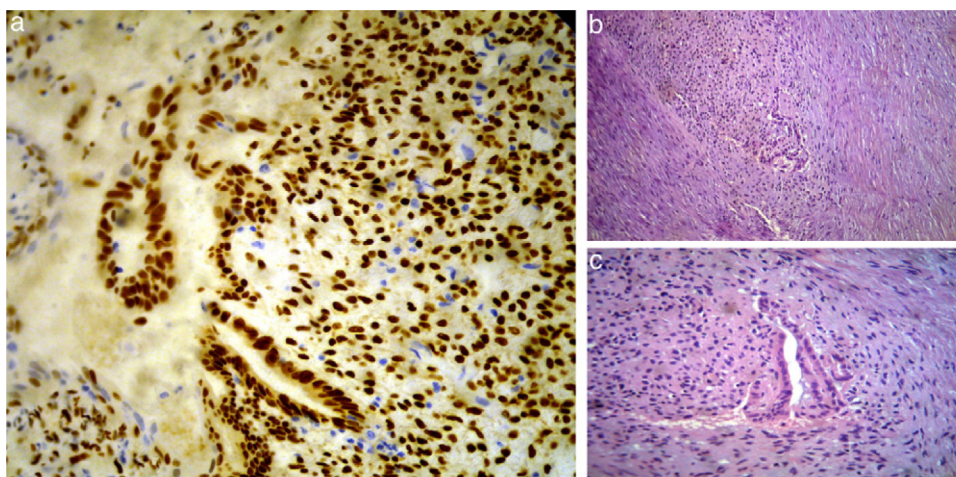


Fig. 2 – (a) Immunohistochemistry for estrogen receptors with positivity in the nuclei of the glands and stroma; (b) endometrial glands with endometrial stroma in the middle of a desmoplastic fibrous tissue (HE×100); (c) endometrial glands with endometrial stroma in the middle of a desmoplastic fibrous tissue at a greater magnification (HE×200).

lymph or blood. In addition, in the case of hepatic endometriosis, there is a greater incidence of right liver lobe involvement. This asymmetrical distribution can be the result of the clockwise dissemination of the peritoneal liquid from the pelvis to the hepatic capsule and the diaphragm.⁵ Respiratory movements and intestinal peristalsis both favor this process, thus diaphragmatic endometriosis can be the precursor to hepatic and pleural endometriosis.⁶

Endometriosis of the liver can present multiple symptoms, especially epigastralgia or pain in the right upper abdomen. The cyclical exacerbation of the symptoms coinciding with menstruation is very characteristic, but it is uncommon in women with extrapelvic endometriosis.⁷

The diagnosis of this entity requires a high clinical suspicion and is done with imaging tests, such as MRI, CT or abdominal ultrasound, but there are no specific findings that allow us to differentiate it with certainty from other lesions, which makes the patient's medical history essential. The most common radiological image is the presence of a heterogeneous mass with walled cystic content,¹ secondary to the continuous changes that the endometrial tissue undergoes due to hormonal stimulation.

The treatment is still controversial and should be determined on an individual basis. The initial treatment can be hormone therapy, but it often does not offer long-term benefits, and disease recurrence is frequent.⁸ Moreover, there is a risk of malignization of the endometriosis^{4,9} (5% ovarian and 1% extraovarian), so most authors recommend the surgical removal of the lesion with adequate safety margins as an initial treatment, which would provide a final diagnosis with the histopathology study of the resected lesion.

Out of the 22 cases of endometriosis of the liver described in the literature, only 2 published by Nezhat et al.⁷ have been treated by laparoscopic surgery and our patient is the third reported case. The main advantage of the laparoscopic approach is the possibility to examine the entire abdominal cavity in detail, including the pelvis. Based on our experience and on publications to date, we believe that the laparoscopic approach to hepatic endometriosis is a safe technique.¹⁰

Endometriosis of the liver is a rare pathology that should be considered within the differential diagnosis of chronic pain in the upper abdomen in middle-aged women. The final diagnosis is only possible with the pathological study of the lesion and, taking into account the risk of malignization, the initial treatment should be radical exeresis. The laparoscopic approach of endometriosis of the liver is a reliable and effective method, so it is therefore recommended.

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