

Bilateral Spigelian hernia: Infrequent presentation of an unusual entity. A case report

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Case Report

General Surgery



Background:

Spiegel's hernia is defined as a spontaneous protrusion of preperitoneal fat or peritoneal sac, through a defect in Spiegel's fascia. It is a rare clinical entity that occurs between 0.12 and 2% of all hernias. Diagnosis through physical examination is a challenge, due to its morphological characteristics and differential diagnoses. Currently, it requires strict surgical management. According to the guidelines of the European Hernia Society (EHS) and the American Hernia Society (AHS), repair with the use of mesh is recommended regardless of the approach used. This article reports a case of bilateral, uncomplicated Spigelian hernia, which received scheduled surgical treatment.

KEYWORDS: Spiegel's hernia.

Spiegel's hernia (HS), centrolateral hernia of the semilunar line, interstitial hernia, interparietal hernia or covert hernia is defined as a spontaneous protrusion of preperitoneal fat or peritoneal sac, through a defect of Spiegel's fascia.

Adrian van der Spiegel, a Belgian anatomist, identified and analyzed the semilunar line, but it was not until 1764 that Klinklosch described the hernia as a clinical entity.

It is a rare clinical entity since it occurs in between 0.12 and 2% of all hernias and its clinical presentation is characterized by a painful increase in volume in the lateral region of the lower abdomen, most of the time reducible.¹

HS occurs through the aponeurosis of the transversus abdominis muscle, which is limited laterally by the semilunar line and medially by the lateral border of the rectus abdominis. Its usual presentation occurs within a 6 cm wide transverse area located on the interspinal plane known as the "Spigelian hernia belt".²

Case report

57-year-old female with a history of appendectomy (1973) and 3 cesarean sections (2001, 2003 and 2005), with no chronic-degenerative history or history of relevance to the current pathology.

She went to the emergency department with crampy abdominal pain associated with nausea and oral intolerance. During the physical examination, an increase in volume was identified in the lateral border

of the bilateral rectus abdominis; an evaluation by general surgery was requested.

The directed physical examination revealed an abdomen with increased volume in the bilateral flank area, soft, depressible, painful on palpation, right side with a defect of approximately 5 mm and left side of 10 mm respectively, both reducible, without erythema or increase of local temperature.

An abdominal ultrasound was performed with the following report: hernia defect corresponding to a right Spiegel hernia of 5 mm at rest and 7 mm in Valsalva, hernia defect corresponding to a left Spiegel hernia with a defect of 11 mm at rest and 19 mm in Valsalva with sac of 35x15 mm without appreciating content. (fig. 1)

No need for emergency surgical management was identified and discharge was granted with follow-up by the outpatient clinic, for pre-surgical protocol and programming of bilateral Spigelian hernia repair.

Through the outpatient clinic, preoperative and preanesthetic evaluation is requested, and a new ultrasound is requested six months apart, reporting: 10 mm right Spiegel hernia with mesenteric fat protrusion, 23 mm left Spiegel hernia with bowel protrusion, without vascular compromise. (fig. 2) With complete evaluations, a surgical procedure is scheduled.

The repair of both defects was performed with the Rives technique with placement of polypropylene mesh, with the following findings: right Spiegel hernia with a 3 cm sac, preperitoneal fat content, 1 cm defect, weak external oblique aponeurosis, Left Spiegel hernia

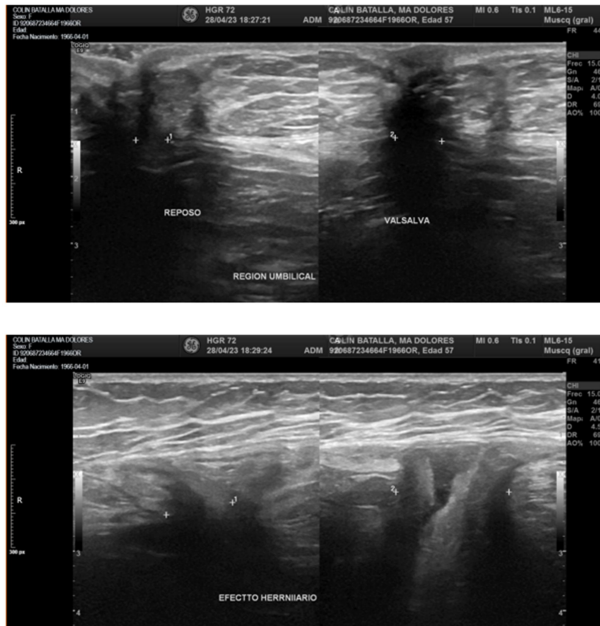


Figure 1. Abdominal USG, with presence of bilateral defects of 7 and 11 mm respectively.

with 6 cm sac, 4 cm defect of omentum content. (fig. 3 and 4)

Discussion

HS constitutes a rare entity within surgical pathologies. It is characterized by a defect of variable size, most often narrow, which increases the risk of strangulation.³ The hernial sac is covered with preperitoneal fat in most cases, as was visualized in our patient, and may contain structures such as omentum, small intestine, colon, or ovary.

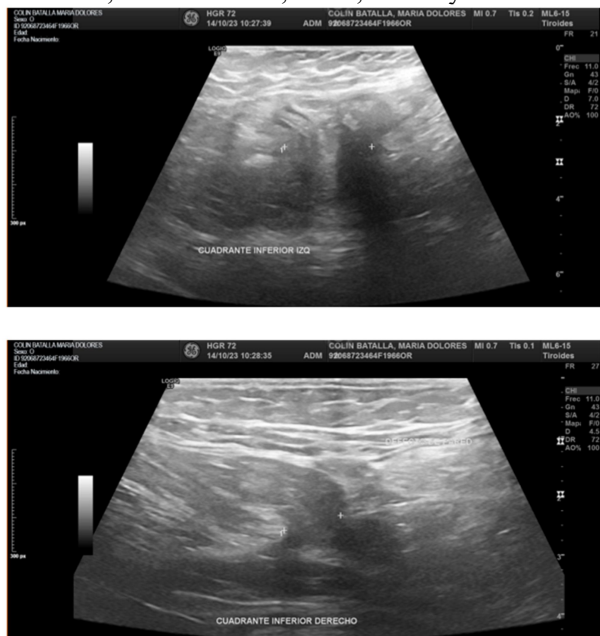


Figure 2. Abdominal USG, with presence of bilateral defects, 10 and 23 mm respectively.

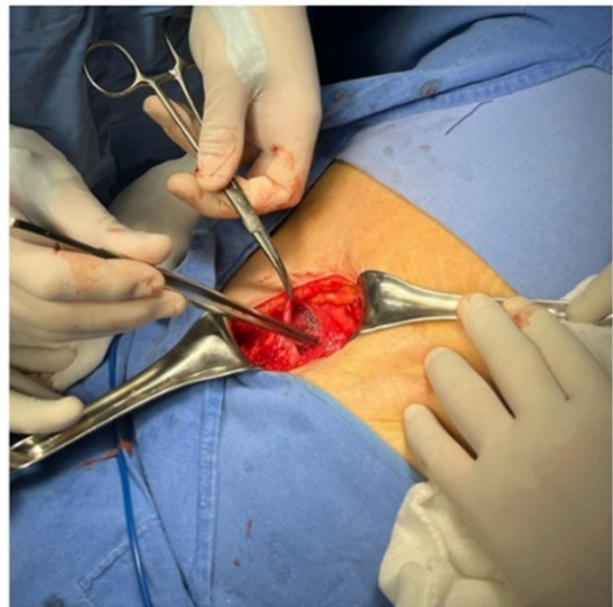
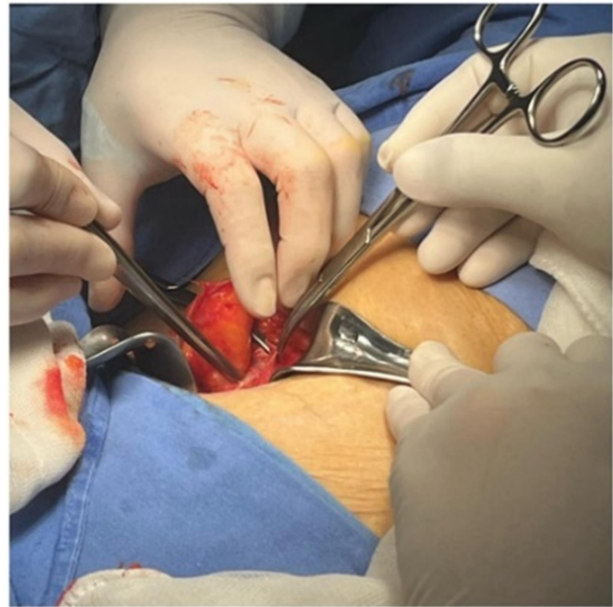


Figure 3. Right Spiegel hernia with preperitoneal fat content and subsequent reduction with mesh placement.

The incidence of HS is very low and even more so when it is associated with other conditions such as appendicitis, or bilateral presentation.⁴

The risk factors for the development of this type of hernia have in common the increase in intra-abdominal pressure such as chronic lung disease, multiparity or obesity.⁵ Although they are not essential for its development, as in the case presented.

Clinical diagnosis is challenging during physical examination, due to the absence of classic symptoms, the infrequency of their presentation, or the physician's lack of experience. It can be found above or below the umbilical scar and in low locations it can be easily confused with an inguinal hernia.⁶ In our patient, both defects were infraumbilical, so a

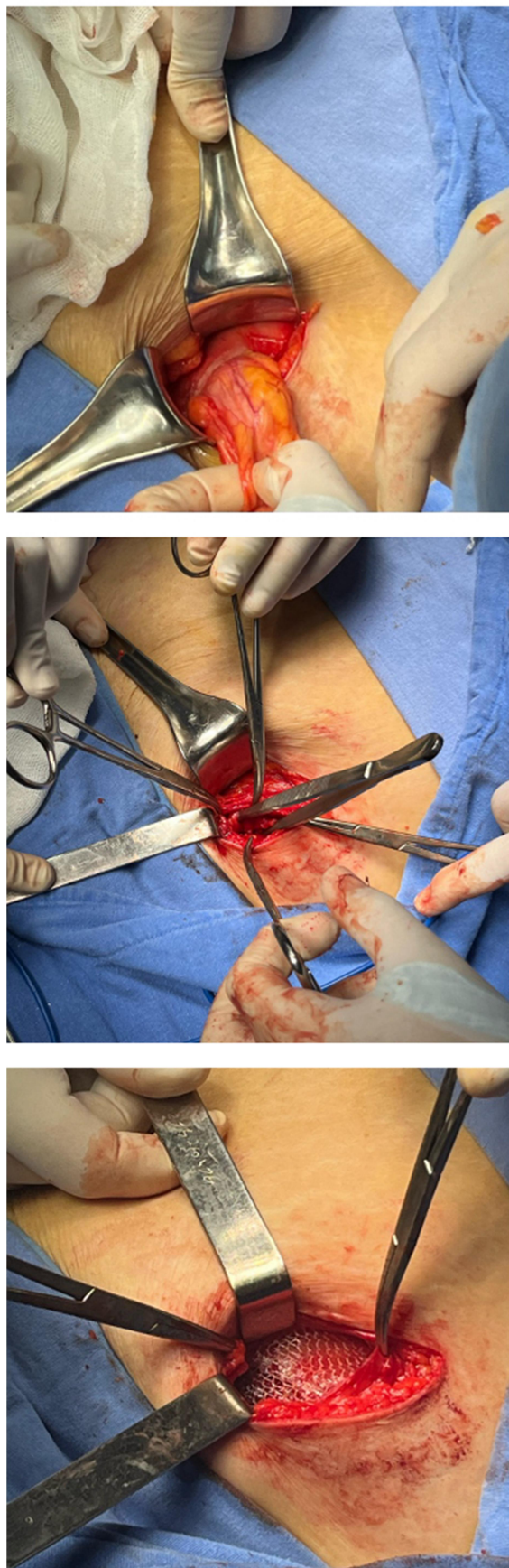


Figure 4. Left Spigelian hernia with omentum content, delimitation of defect and subsequent reduction with mesh placement.

suspected diagnosis of HS was reached, however, when presenting a small defect, it was necessary to use diagnostic cabinet studies to corroborate the diagnostic suspicion. Multiple studies suggest the use of cabinet studies such as ultrasound of the abdominal cavity for adequate bracing in suspected HS.⁷ Abdominal ultrasound allows us to visualize structures of the gastrointestinal tract with a sensitivity between 83 and 90%, also allows us to study the contents of the hernia sac, likewise, it allows us to identify factors that favor an increase in intra-abdominal pressure, such as the presence of asymptomatic cholelithiasis, it offers a dynamic and non-invasive evaluation of the soft tissues.⁸ In various studies, it has been compared with herniography, showing superior sensitivity; however, as it implies a risk of visceral injury and allergic reaction to the contrast medium, it has been replaced by ultrasound.^{9,10}

Being a rare pathology, the approach to HS with suspected complications often requires support from imaging studies. In the case of suspected strangulated hernia, the study of choice will be computed tomography.^{11,12}

In particular cases such as patients with obesity or those who present with acute intestinal obstructions, computed tomography exceeds 90% sensitivity and specificity, allowing an exhaustive study of the abdominal cavity, identifying the vitality of the compromised structures.¹³

Currently it requires strictly surgical management. According to EHS and AHS guidelines, a mesh repair is recommended regardless of the approach used.¹⁴

Multiple studies have been carried out comparing open and laparoscopic techniques, considering as variables the public and private environment and the type of intervention, whether urgent or elective, concluding that there are no statistically significant differences between the variables considered.¹⁵ One of the main advantages of laparoscopic surgery were the accurate diagnosis in case there was no pre-surgical diagnostic certainty, since the position and size of the defect can be identified under direct vision.¹⁶

The surgical management of Spigelian hernias is recommended due to the high risk of complications. In management with laparoscopy, there is a greater number of case reports managed with a transperitoneal approach (TAPP), but it is also possible to do it extraperitoneally (TEP) with similar clinical results.¹⁷ The use of PTFE Dual-Mesh type meshes has been reported, recommended by several authors.¹⁸ In our patient, polypropylene mesh was used, placed in a preperitoneal location with the Rives technique. Despite reports of management with PTFE Dual-Mesh with good results, its use is diminished due to its high cost.

Conclusion

From its description, Spiegel's hernia has been a challenge for clinical diagnosis, and the use of diagnostic images is essential to make an adequate surgical approach plan.

It is essential to consider it as a diagnostic option in patients with or without the previously mentioned risk factors.

The only specific recommendation regarding surgical management involves the placement of prosthetic material, since due to its anatomical characteristics it is an area with risk of a certain type of structural weakness, which benefits from the placement of mesh in its repair.

Conflicts of interest

The authors have no conflicts of interest to declare.

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