Case study

Strangulated Spigelian Hernia: A case report

Abstract:
Spiegel's Hernia is a rare pathology, presenting only 1 to 2% of all abdominal wall hernias. Its clinical diagnosis is often difficult. It is often diagnosed at the stage of complication. We report the case of a 64-year-old woman who presented with an acute painful swelling of the right iliac fossa due to a strangulated Spiegel Hernia with caecum and appendix contents in whom emergency surgery was performed.

Keywords: Spiegel's Hernia, strangulation, emergency surgery.

Introduction

Spiegel's Hernia is the protrusion of a peritoneal sac, organ, or preperitoneal fat through a congenital or acquired anatomical orifice located at Spiegel's line fascia level. It is a rare pathology, presenting only 1 to 2% of all abdominal wall hernias (1). It is asymptomatic in 90% of cases (1,2). Its prognosis is worsened by the occurrence of complication such as incarceration and strangulation requiring emergency surgical treatment.

We report the case of a 64-year-old female admitted to the emergency department for occlusion syndrome on a strangulated Spiegel Hernia with caecal and appendicular contents.

Presentation of case

64-year-old woman, diabetic mellitus treated with oral antidiabetics over 10 years, cholecystectomy by median laparotomy 25 years ago, 5 birth by normal route, with a BMI=35 kg/m2 consulted for right fossa swelling, painful with irreducible mass for 04 days associated with vomiting and occlusive syndrome without fever or other associated signs. The physical examination found a hemodynamically and respiratory stable woman, distended abdomen with the presence of a mass 4 x 5 cm midway between the right anterior superior iliac spine and the umbilicus. It was painful, not impulsive, and irreducible without inflammatory signs. The rectal examination revealed an empty rectal ampulla. An abdominal CT scan was performed to confirm the diagnosis. It shows the presence of an obstructed Spigelian Hernia with the sac containing a small bowel [Figure 1]. The biology assessment showed white blue cells of 17 600 /mm 3, CRP at

142 mg/L, and a moderate renal failure (urea at 0.63 g/L, creatinine at 11.3 mg/L); the other biological assessment was normal.

The patient underwent an emergency herniorrhaphy after satisfactory resuscitation. Under general anesthesia, a transverse incision is sited over the protrusion was made and findings were herniation through a fascia defect of about 5 cm by 4 cm along the lateral border of the rectus sheath [figure 2] . Hernia sac contained omentum, appendix, and caecal fundus contents without necrosis signs [Figure 3, 4]. An appendectomy has been performed while the omentum and the cecum were reintroduced into the abdomen. The peritoneal sac was resected and defect repaired with interrupted non absorbable sutures to approximate the internal oblique and transversus abdominis to rectus sheath. The external oblique aponeurosis was then closed.

Her post-operative recovery was sufficient. The patient was discharged on the third postoperative day after resumption of transit.

Figure 1: Abdominal CT-scan showing right-sided incarcerated Spigelian Hernia

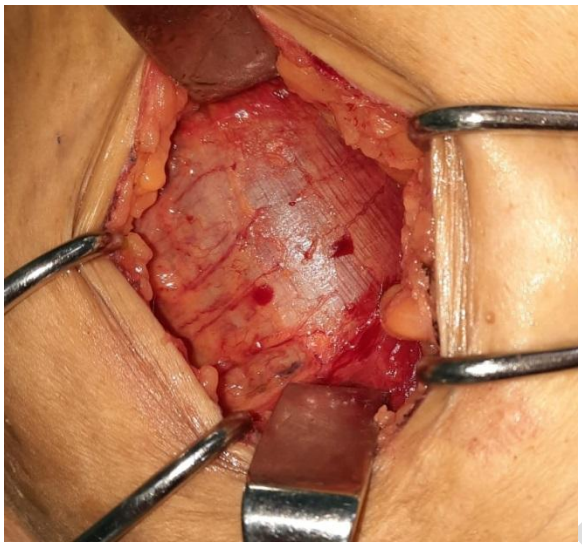

Figure 2: External oblique aponeurosis intact

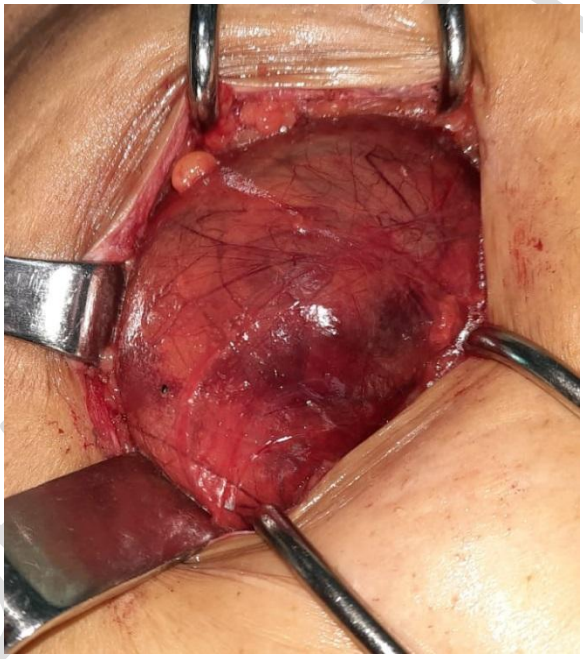

Figure 3: Spigelian Hernia sac.

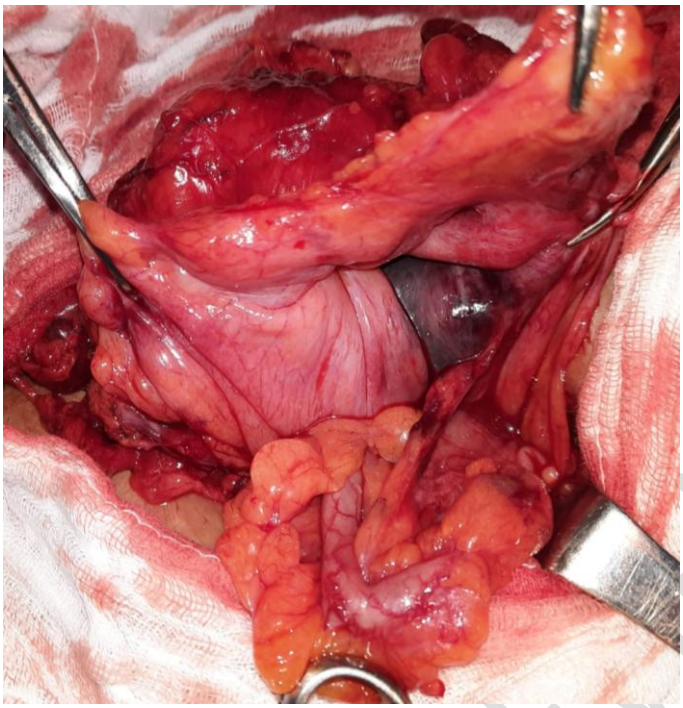

Figure 4: Sac of Spigelian Hernia with appendix content

Discussion:

Spiegel's Hernia or lateral ventral hernia, or semilunar line of Spiegel Hernia, is a parietal hernia that occurs at the semilunar line of Spiegel, at the lateral side of the rectus abdominis muscle sheath the junction of the fascia and broad abdominal muscles (3,4). It is often located at the level of the Douglas arch, usually between the arch and the lower epigastric vessels, at the level of the anterior and superior iliac spine to the umbilicus line(5) . The hernia sac often contains the omentum, small intestine, cecum, appendix, or sigmoid(6,7) . The hernia ring is usually narrow of 0.5 to 2 cm, and the result strangulation with occlusive syndrome (5,6). The main factors that lead to hernia are intra- abdominal pressure and weakness of the abdominal wall (8).

Spiegel's hernia is a rare condition compared to other abdominal wall hernias. It occurs most often in elderly people between 40 and 70 years with a female predominance (9) . Its diagnosis is difficult because of its interparietal development, especially in obese people. Approximately 50% of patients with Spiegel's Hernia have not had a correct preoperative diagnosis (10). The clinical signs are not very specific and vary according to the content of the hernia sac and its size.

Complementary examinations are performed in case of diagnostic doubt (9,11). Ultrasound of the abdominal wall allows demonstrating the defect in the Spigelian aponeurosis with a sensitivity of 83 to 90%. An abdominal CT scan with a sensitivity of 100% remains the reference examination to confirm the diagnostic without doubt, as it

accurately shows the parietal defect, the location, and the contents of the sac, as well as allows to indicate therapeutic management in emergency when there are strangulation signs.

The treatment of Spiegel's Hernia is surgical (1). The increased risk of strangulation with necrosis of the hernial contents makes the systematic cure of any diagnosed Spiegel's hernia. They can be treated by direct approach or by laparoscopy. Direct approach herniorrhaphy is often performed if the hernial ring is narrower than 2 cm or in case of contraindication to general anesthesia. Otherwise, hernioplasty by direct or laparoscopic approach is recommended, with a lower risk of recurrence than with simple suture, whatever the approach. Laparoscopy has the advantage of facilitating the localization of the hernial orifice, recognizing the hernia in the presence of a painful syndrome that is not proven, and sometimes finding multiple orifices. It also allows reducing the postoperative morbidity and hospital stay.

Conclusion

Spiegel's Hernia is a rare condition, the clinical diagnosis is often difficult, hence the interest in medical imaging. It is frequently diagnosed at the stage of strangulation. Its management is surgical.

Ethical approval

A written ethical approval has been collected from the patient and preserved.

Consent Disclaimer:

As per international standard or university standard, patient's consent has been collected and preserved by the authors.

Reference

1. Hanzalova I, Schäfer M, Demartines N, Clerc D. Spigelian hernia: current approaches to surgical treatment—a review. Hernia [Internet]. 19 oct 2021 [cité 19 nov 2021]; Disponible sur: https://link.springer.com/10.1007/s10029-021-02511-8

2. Dkhissi Y, Labbi I, ElBouhaddouti H, Mouaqit O, Benjelloun E, Ousadden A, et al. Spigelian Hernia: A Cases Report. 2021;3.

3. LUCIEN, Wasingya, SIKAKULYA, Franck Katembo, PETER, Kisembo, *et al.* Large strangulated spigelian hernia: management of an uncommon presentation of abdominal hernias in Central Uganda. *Case reports in surgery*, 2019, vol. 2019.

4. SPANGEN, Leif. Spigelian hernia. *World journal of surgery*, 1989, vol. 13, no 5, p. 573-580.

5. NOOMENE, Rabii, BOUHAFA, Ahmed, MAAMER, Anis Ben, *et al.* Hernies de Spiegel. *La Presse Médicale*, 2014, vol. 43, no 3, p. 247-251.

6. ABID, M., MZALI, R., TRABELSI, N., *et al.* Hernie de Spiegel: a propos d'un cas et revue de la littérature. *JI MSfax*, 2009, vol. 17, no 18, p. 36-37.

7. YE, Zhou, WANG, Mo-Jin, BAI, Li-Fen, *et al.* Spigelian hernia in the right upper abdominal wall: a case report. *BMC surgery*, 2018, vol. 18, no 1, p. 1-3.

8. SOCEA, Bogdan, SMARANDA, A., NICA, Anca A., *et al.* Spiegel hernia–case presentation. *Arch Balk Med Union*, 2018, vol. 53, no 1, p. 152-154.

9. Mejri A, Arfaoui K, Yaakoubi J. Hernie de spiegel: diagnostic à connaitre et l´examen bilatéral à ne pas omettre. PAMJ Clin Med [Internet]. 2020 [cité 9 nov 2021];2. Disponible sur: https://www.clinical-medicine.panafrican-med-journal.com/content/article/2/99/full/

10. JAVAUDIN, F. et SIMON, G. Une hernie étranglée sur le fascia de Spiegel. *Annales françaises de médecine d'urgence*, 2017, vol. 7, no 6, p. 399-400.

11. MOSZKOWICZ, D., PAYE, F., BALLADUR, P., *et al.* Une cause rare d'occlusion aiguë du grêle: la hernie de Spiegel étranglée. Description d'un cas et revue de la littérature. *Morphologie*, 2012, vol. 96, no 312, p. 12-15.