Case study

Strangulated spiegel hernia: A case report

Comment [H1]: Wrong – Spigelian hernia. And it should be in capital as it is a proper noun and same mistake has been repeated in the whole document.

Abstract:
Spigel'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 dullness. A 5 cm long mass was palpated in midle line between the right anterior superior iliac spine and the umbilicus, 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 and rull out other differential diagnoses. He found an bowel obstruction on strangulation of a right spiegel hernia [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

Comment [H2]: Correct the english

Comment [H3]: Correct the english

emergency herniorrhaphy after rescussitation by stomac aspiration with nasogastric tube and electrolytic disorders correction. The operation was performed by elective approach, after incision of the aponeurosis of the external muscle centered on the swelling area [figure 2]. A 4 cm hernia sac was discovered along the lateral border of the rectus sheath with 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 hernia sac was resected and closed. A transverse suture of the hernia ring with interrupted non absorbable stitches was performed. The external oblique aponeurosis was then closed. The postoperative course was simple, and the patient was discharged on the third postoperative day after the normal bowel function retook.

Comment [H4]: Correct the english

Comment [H5]: Frame the sentence properly

Comment [H6]: What is a transverse suture ?

Comment [H7]: There are no simple post operative recoveries

Comment [H8]: Correct the sentence framing

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

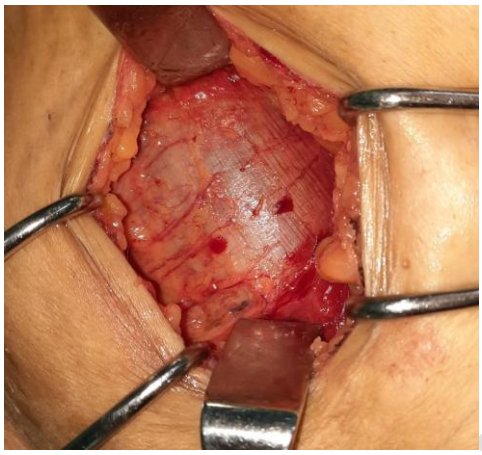

Figure 2: External oblique aponeurosis intact

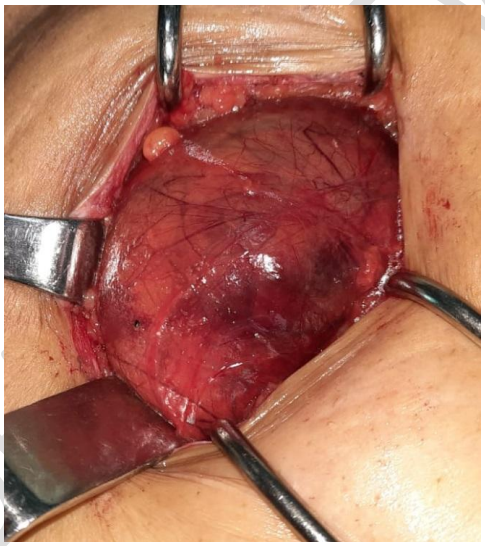

Figure 3: Spigelian hernal sac.

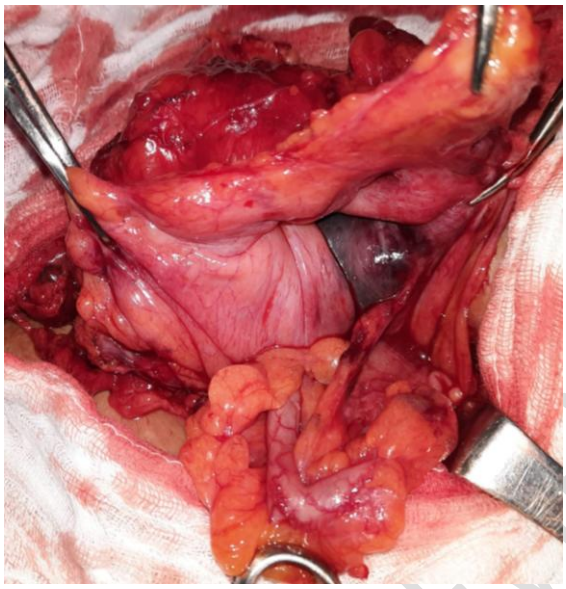

Figure 4: Sac of Spigelian hernia with appendix content

Discussion:

Spiegel's hernia or lateral ventral hernia, or semilunar line of spiegel hernia, is an 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]. 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 [4]. The hernia sac often contains the omentum, small intestine, cecum, appendix, or sigmoid [5]. The hernia ring is usually narrow of 0.5 to 2 cm, and the result strangulation with occlusive syndrome [4,5]. The main predisposing factors are intra-abdominal hyperpressure and weakness of the abdominal wall [6].

Comment [H9]: Correct the english

Comment [H10]: Increased intrabdominal pressure and not hyperpressure

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 [7,8]. 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 [2]. 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 [7,9]. 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

The study is exempt for ethical approval

Comment [H11]: There are no studies which are exept. Important to note that the patients consent is a must.

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 W, Sikakulya FK, Peter K, Vincent A. Large Strangulated Spigelian Hernia: Management of an Uncommon Presentation of Abdominal Hernias in Central Uganda. Case Rep Surg. 13 oct 2019;2019:1‑4.

4. Noomene R, Bouhafa A, Maamer AB, Haoues N, Oueslati A, Cherif A. Spiegel hernias. Medical Press. 2014 Mar; 43 (3): 247-51.

5. Abid M, Mzali R, Feriani N, Trabelsi A, Amar MB, Beyrouti MI. SPIEGEL'S HERNIA: ABOUT A CASE AND LITERATURE REVIEW. : 2.

6. Socea B, Smaranda AC, Nica AA, Bratu OG, Diaconu C, Socea LI, et al. SPIEGEL HERNIA - CASE PRESENTATION. : 3.

7. Mejri A, Arfaoui K, Yaakoubi J. Spiegel hernia: diagnosis to know and bilateral examination not to be omitted. PAMJ Clin Med [Internet]. 2020 [cited 9 Nov 2021]; 2. Available at: https://www.clinical-medicine.panafrican-med-journal.com/content/article/2/99/full/

8. Javaudin F, Simon G. A strangulated hernia on Spiegel's fascia. Ann Fr Emergency Medicine. 2017 Dec 1; 7 (6): 399-400.

9. Moszkowicz D, Paye F, Balladur P, Lefevre JH. A rare cause of acute small bowel obstruction: Strangulated Spiegel's hernia. Description of a case and review of the literature. Morphology. 2012 Mar; 96 (312): 12-5.