

Case Report

Rare Clinical Presentation of Small Bowel Obstruction due to Spigelian Hernia in Adult: Case Report

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Abstract

Spigelian hernia, also referred to as a lateral ventral hernia, is a herniation occurring through the Spigelian aponeurosis, situated within the abdominal wall muscles. Unlike numerous ventral hernias that manifest beneath the layer of fat and abdominal skin, Spigelian hernia often exhibits minimal symptoms and may persist undiagnosed for an extended duration. Spigelian hernia comprises 1%-2% of all ventral hernia cases and can be addressed through various surgical approaches, including laparoscopic and open surgery.

In this report, we detail a case of Spigelian hernia leading to small bowel intestinal obstruction, necessitating emergency surgical intervention. The patient, a 48-year-old woman, presented with swelling and pain in the lower right quadrant of the abdomen. A preoperative diagnosis confirmed a Spigelian hernia causing small bowel intestinal obstruction. Open surgery was performed due to the presence of fecal contamination, edematous bowel, and anemia with a hemoglobin level of 7.6 g/dl. A resection of the gangrenous bowel, approximately 35 cm, was conducted, leaving a 7 cm segment from the ileocecal junction. This remaining 7 cm was closed, and an end ileostomy was created.

Keywords: Spigelian hernia; Small bowel obstruction

Introduction

The Spigelian hernia, initially documented by Belgian anatomist Adriaan van den Spiegel in 1645, saw its first reported case by Klinkosch in 1764 [1]. Also recognized as a lateral ventral hernia, Spigelian hernia denotes an acquired defect of the anterior abdominal wall along the semilunar line, extending through the transversal fascia near the pouch of Douglas. This hernia is a rarity, constituting only 1%-2% of all abdominal hernias [2,3]. Spigelian hernia is the protrusion of preperitoneal fat, peritoneal sac or organs through a congenital or acquired defect in the spigelian aponeurosis (i.e aponeurosis of the transverse abdominal muscles limited by the linea semilunaris, laterally and the lateral edge of the rectus muscles medially). Most these hernia lies in the "Spigelian hernia belt" a transverse 6 cm wide zone above the interspinal plane, lower hernias are rare and should be differentiated from direct or supra vesical hernias.

The open surgical approach for addressing Spigelian hernia has gained global acceptance in accordance with the guidelines set forth by the European Hernia Society and the International Hernia Society [4,5]. In this context, we present a case of Spigelian hernia managed through an open surgical technique.

Case Presentation

A 48-year-old woman presented with abdominal pain, and a protrusion in the lower right quarter of her abdomen was associated with constipation and vomiting. She had been vomiting fecal-like material for five days prior to her arrival at the emergency surgical department. The protrusion had first appeared approximately five months ago but had been gradually increasing in size. The patient experienced abdominal pain for two days, characterized by severe pain in the right lower quadrant, intermittent cramping pain, and a gradually distended abdomen (Figure 1).

During the abdominal examination, tenderness, hyper-tympanic note, and the absence of bowel sounds were observed, with an empty rectum noted on digital rectal examination (Figure 2).

With the patient and her family providing consent for immediate surgical intervention, the patient was administered general anesthesia, and a midline incision was executed to reach the abdominal cavity. Upon dissection through the subcutaneous layer, segment of herniated small intestine found to be gangrene with fecal contamination due to a perforated gangrenous bowel. The precise diagnosis identified the condition as a strangulated Spigelian hernia (Figure 3).

Citation: Massaga F, Munisi Y, Kibunto P, Kachide F, Byabato S, Izina A, et al. Rare Clinical Presentation of Small Bowel Obstruction due to Spigelian Hernia in Adult: Case Report. *J Surg Surgic Case Rep.* 2023;4(3):1039.

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Publisher Name: Medtext Publications LLC

Manuscript compiled: Dec 06th, 2023

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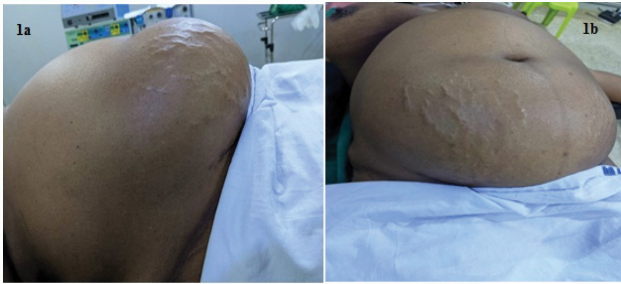


Figure 1: Depicts asymmetrical abdominal distension, more pronounced in the right iliac fossa, as illustrated in both lateral (a) and ventral (b) views.

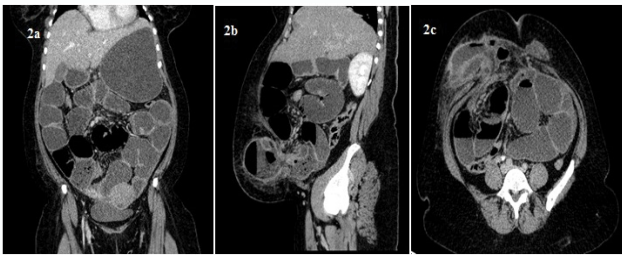


Figure 2: Contrast enhanced CT scan sagittal (a), coronal (b) and axial (c) images demonstrating dilated small bowel loops with air fluid levels, some loops are herniating through lower right para-midline anterior abdominal wall defect inferior and lateral to the umbilicus [Spigelian hernia] resulting into mechanical small bowel obstruction.

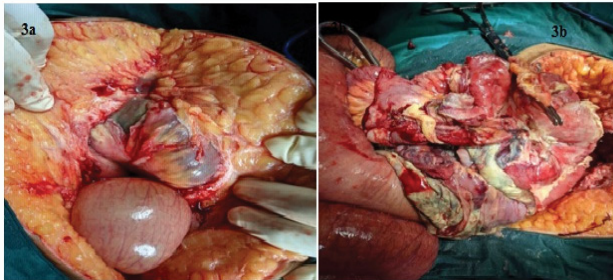


Figure 3: Shows the visualized herniated small bowel upon dissection through the subcutaneous layer (3a) and after widening the hernia defect (b).

Subsequent to our examination, we observed gangrene segment of the small intestine approximately 35 cm in length from about 7 cm from the ileocecal junction. The adjacent bowel proximal to the obstruction exhibited dilation and edema. A resection was performed on the gangrenous segment, and the portion from the ileocecal junction was closed, culminating in the creation of an end ileostomy of the proximal part. A thorough irrigation using warm Ringer lactate totaling 15 l was carried out. Subsequently, the hernia orifice was repaired, and the abdominal closure procedure was concluded (Figure 4).

Discussion

A Spigelian hernia manifests through the Spigelian aponeurosis, situated as the aponeurosis of the transversus abdominis muscle. It is delimited laterally by the semilunar line and medially by the lateral border of the rectus abdominis muscle. Typically observed in adults, this hernia is more prevalent in women than in men and tends to manifest more frequently on the left side than the right. Although it can occur anywhere along the semilunar line, it is most commonly



Figure 4: The final postoperative image with an end ileostomy.

identified in the Spigelian hernia belt—an approximately 6 cm wide horizontal area above the interspinous plane, which is the plane connecting the anterior superior iliac spines [6].

The exact cause of Spigelian hernia is idiopathic, however its development is related to many factors such as collagen disorders, aging, obesity, rapid weight loss, multiple pregnancies, chronic lung disease, trauma, history of surgery, and reproductive diseases [7]. Most of the described risk factors, including a history of surgery, were not present in our case report, although the patient was moderate obese and had five children. The diagnosis of Spigelian hernia.

Based on clinical examination can be difficult. This difficulty may be attributed to its rarity, the absence of Classical symptoms and the lack of clinical experience of the surgeon. Only around 50% to 60% of all Spigelian hernias are diagnosed in the preoperative stage. Most Spigelian hernias have a small defect, and abdominal ultrasound or CT can help establish the diagnosis. In our case effectiveness of an abdominal CT scan after clinical examination allowed for a preoperative diagnosis of small bowel obstruction due to spigelian hernia.

While the precise cause of Spigelian hernia remains idiopathic, its development is associated with various factors, including collagen disorders, aging, obesity, rapid weight loss, multiple pregnancies, chronic lung disease, trauma, history of surgery, and reproductive diseases [7]. Despite our case lacking several of the described risk factors, such as a history of surgery, the patient was moderately obese and had five children.

Diagnosing Spigelian hernia based on clinical examination can be challenging due to its rarity, the absence of classical symptoms, and the limited clinical experience of the surgeon. Typically, only about 50% to 60% of all Spigelian hernias are identified preoperatively. Given that most Spigelian hernias involve a small defect, the use of abdominal ultrasound or CT scans can aid in establishing a diagnosis. In our case, the effectiveness of an abdominal CT scan, following clinical examination, facilitated the preoperative identification of small bowel obstruction attributed to Spigelian hernia.

Conclusion

Spigelian hernias are now being recognized not merely as a condition affecting the elderly, but rather as an under diagnosed, latent

defect-akin to an incidentaloma that manifest in younger individuals and quietly progresses until symptomatic, ultimately impacting the quality of life.

References

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