

Spigelian Hernia: A Rare Diagnosis for a Common Presentation

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ABSTRACT

Spigelian hernias are rare and generally difficult to diagnose because of their location and vague non-specific symptoms. They are situated between the muscular layers of the abdominal wall and can be easily overlooked because of abdominal obesity. The diagnosis has been considerably aided by the introduction of ultrasonography and computed tomography (CT). These hernias require surgical treatment.

We report a 56-year-old male Bahraini who presented to Bahrain Defense Force Hospital Emergency department with severe abdominal pain and vomiting associated with mass in the right iliac fossa. A provisional diagnosis of Spigelian hernia was made and confirmed by CT scan. The hernia was operated and the defect was repaired. His recovery was uneventful.

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INTRODUCTION

Spigelian hernias are uncommon variety of hernias seen more in females than males¹. The line which forms the transition from muscle to aponeurosis in the transversus abdominis muscle is the spigelian line. The part of the aponeurosis that lies between the semilunar line and lateral edge of the rectus abdominis muscle is called the spigelian fascia. Anteriorly, the semilunar line is reinforced by the aponeurosis of the external oblique muscle. Posteriorly, it is reinforced by the transversus abdominis muscle which is muscular almost to the midline in the upper abdomen. Thus, anatomically will prevent herniation and accordingly, it is rare above the umbilicus.

Spigelian hernia is defined as a herniation of a sac of peritoneum or an organ, through a weak defect in the spigelian fascia. It is usually located between the different muscle layers of the abdomen; thus, it is referred as interparietal, interstitial, intermuscular, intramuscular or intramural hernia. Most of spigelian hernias are found in a transverse line lying 0-6 cm cranial to a line running between both anterior superior iliac spines known as the spigelian belt. Most spigelian hernias occur below the level of the umbilicus close to the level of the arcuate line, but also they have been reported to occur above the level of the umbilicus.

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This type of hernia was treated in the past by an open method, but with the new era and availability of laparoscopic technique, it played a great role in the repair of those hernias.

Emergency cases in which the repair has been performed laparoscopically was described also in the literature.

The aim of this report is to present a rare case of Spigelian hernia; it is difficult to diagnose clinically and could have serious consequences if missed.

THE CASE

A fifty-six-year-old male, known case of coronary artery disease, hypertension and hyperlipidemia presented to emergency department on 20 June 2013 with one day history of severe abdominal pain associated with nausea, vomiting and palpable lump at the right lower quadrant of the abdomen. He complained of constipation for one day. Patient had several visits to emergency department with abdominal pain in the past weeks. He had history of open appendectomy and history of repair of incisional hernia afterwards.

The patient's vital signs were as follows: afebrile, pulse 56/minute, BP 91/86, RR 20/minute, O₂ Saturation 96%, blood sugar 6.4. Abdominal examination revealed tenderness in the right iliac fossa and paraumbilical region; tender mass in the right iliac fossa was irreducible with absent cough impulse and sluggish bowel sounds.

Clinical impression of an obstructed hernia was made. His routine investigations including CBC, electrolytes, renal function, liver function and amylase were within normal range. X-ray of the abdomen did not show any air-fluid levels to suggest intestinal obstruction.

CT scan of the abdomen and pelvis confirmed an obstructed Spigelian hernia containing ileal bowel loops with mild dilatation of the afferent small bowel loops (reaching 4 cm in diameter) and collapse of the efferent ileal bowel loops with minimal free fluid in-between bowel loops, see figures 1 and 2.

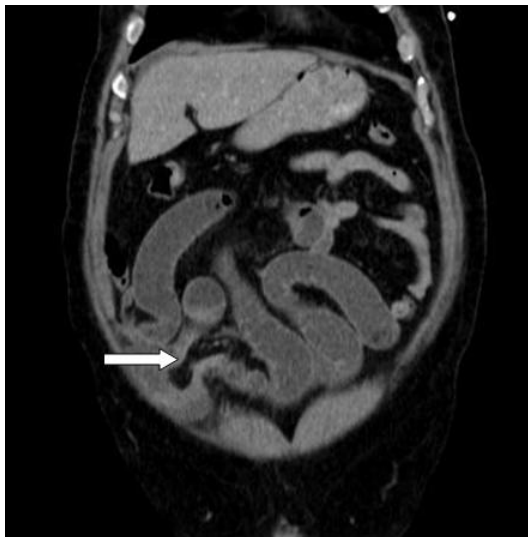


Figure 1: Abdominal CT Showing (arrow) the Hernial Defect

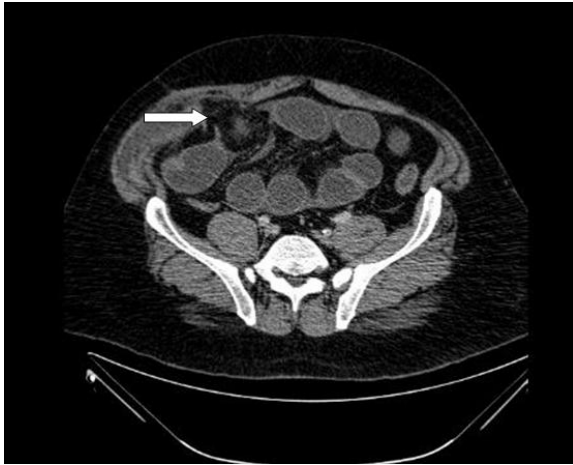


Figure 2: CT Scan of the Abdomen Showing (Arrow) Protrusion of the Hernia through the Defect

Laparotomy was performed on 20 June/2013. An obstructed hernia with ileal bowel loops was found; the bowel was viable with multiple adhesions between the bowel and abdominal wall. The hernia was reduced and adhesions were removed; the hernial defect was repaired with Mesh. Postoperatively, the patient had uneventful recovery.

DISCUSSION

Preoperative diagnosis of Spigelian hernia is difficult based on history and physical examination findings.

In the early stages, it is a protrusion of preperitoneal fat through the Spigelian aponeurosis. If the peritoneal sac has content, it is usually part of the intestine, the omentum or part of the colon. Spigelian hernias are rare to contain an inflamed appendix, Crohn's appendicitis or an incarcerated Meckel's Diverticulum. Bilateral Spigelian hernias are rarely reported. Moreover, such hernias have been reported following some laparoscopic procedures through an underlying fascial weakness².

The symptoms of Spigelian hernia are usually non-specific, mainly abdominal pain and nausea. Vomiting and altered bowel habits may also be the presenting complaints³. Physical examination is most helpful when a swelling is present, although the swelling caused by the underlying hernia is often hidden by the aponeurosis of external oblique muscle. A study of 76 patients at the Mayo clinic showed that diagnosing these hernias by means of physical findings alone was difficult⁴. An underlying abnormality was found in only 64% of Spigelian hernia patients who presented with abdominal symptoms³. The remaining 36% could not be diagnosed based on physical examination alone.

Risk factors for developing this form of hernia include COPD, obesity, collagen vascular disorders and other forms of congenital defects^{3,4}. Half of patients with Spigelian hernias had previous abdominal surgeries, according to some studies, either laparoscopic or open abdominal surgery².

The differential diagnosis includes appendicitis, abdominal abscess, abdominal wall hematoma, diverticulitis and malignancy arising from either the abdominal wall or intra-

abdominal organs⁵. A preoperative diagnosis of Spigelian hernia has become more feasible because of cross-sectional CT imaging and ultrasound. Spigelian hernias most often need surgical repair and fixation of the defect due to their anatomical presentation making them at high risk of serious complications such as strangulation and incarceration⁵.

CONCLUSION

This was a rare type of hernia which is sometimes difficult to diagnose by history and physical examination and requires special imaging modality, mainly CT scan; it can mimic a variety of surgical cases.

This kind of hernia is rare and needs to be diagnosed promptly because most often would need surgical repair due to high rate of complications such as incarceration and strangulation.

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