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Rare Case of Richter - Type Spigelian Hernia

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Abstract: ***Richter hernia is the herniation of the anti - mesenteric portion of the intestine through a fascial defect. Spigelian hernia is a ventral abdominal wall hernia that occurs through congenital or acquired defect in the transversus abdominis aponeurosis (also known as the Spigelian aponeurosis) which lies at the linea semilunaris. Spigelian hernias are uncommon, comprising only 1–2% of all hernias presenting to the emergency department. The cause of Spigelian hernias is generally thought to be multifactorial, involving both congenital and acquired factors. However, some reports suggest that up to 50% of Spigelian hernias occur in patients with history of prior abdominal surgery. Abdominal computed tomography (CT) establishes the diagnosis. Richter hernias are more common in women and usually involves a segment of distal ileum. Richter - type Spigelian hernias are extremely rare, with very few reports in the literature. Clinical diagnosis is challenging and CT scan is the diagnostic study of choice. Here we document a case of a Richter - type Spigelian hernia in a woman, at Dr. D Y Patil hospital, Navi Mumbai.***

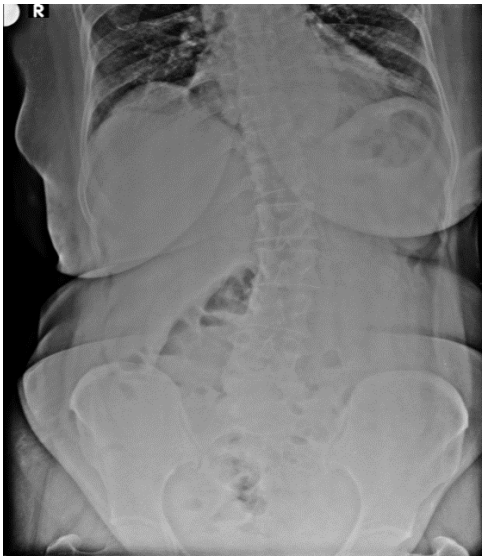
Keywords: Richter hernia, Spigelian hernia, Richter - type Spigelian hernia

1. Case Presentation

A 66 - year - old female with history of resection anastomosis at the age of 61 and history of appendicectomy 20 years ago, presented with history of right iliac fossa pain not associated with vomiting. On physical examination, severe tenderness was noted in the right iliac fossa with a bulge measuring approximately 3.0 x 2.0 cm which was not reducible. Blood tests showed increased inflammatory parameters (elevated acute phase reactants and mild leucocytosis).

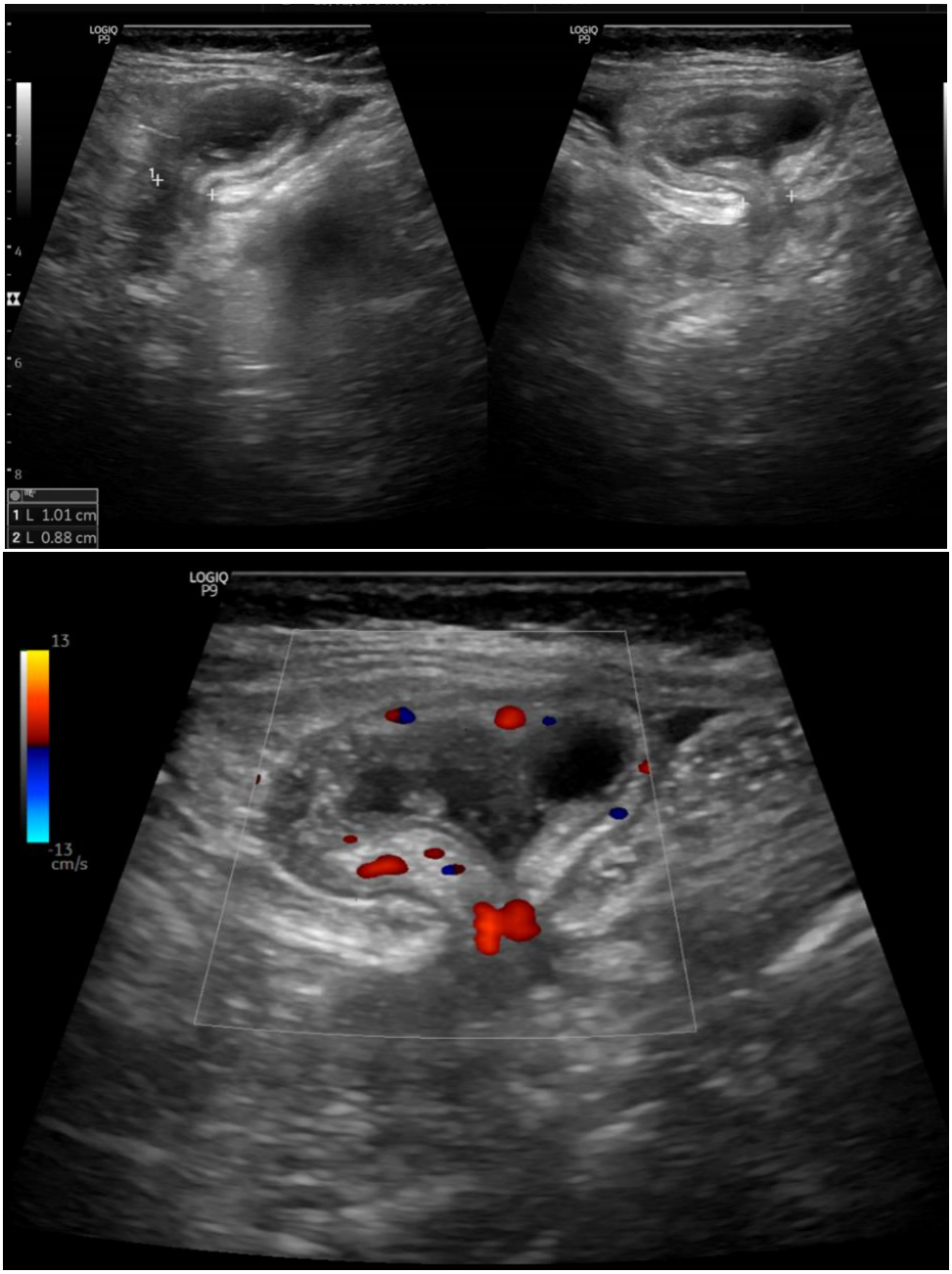
2. Imaging Findings

1) Abdominal radiography revealed no evidence of dilated bowel loops/signs of obstruction/ perforation.



Abdominal radiograph revealing no significant intra-abdominal abnormality. Mild scoliosis is noted towards the right.

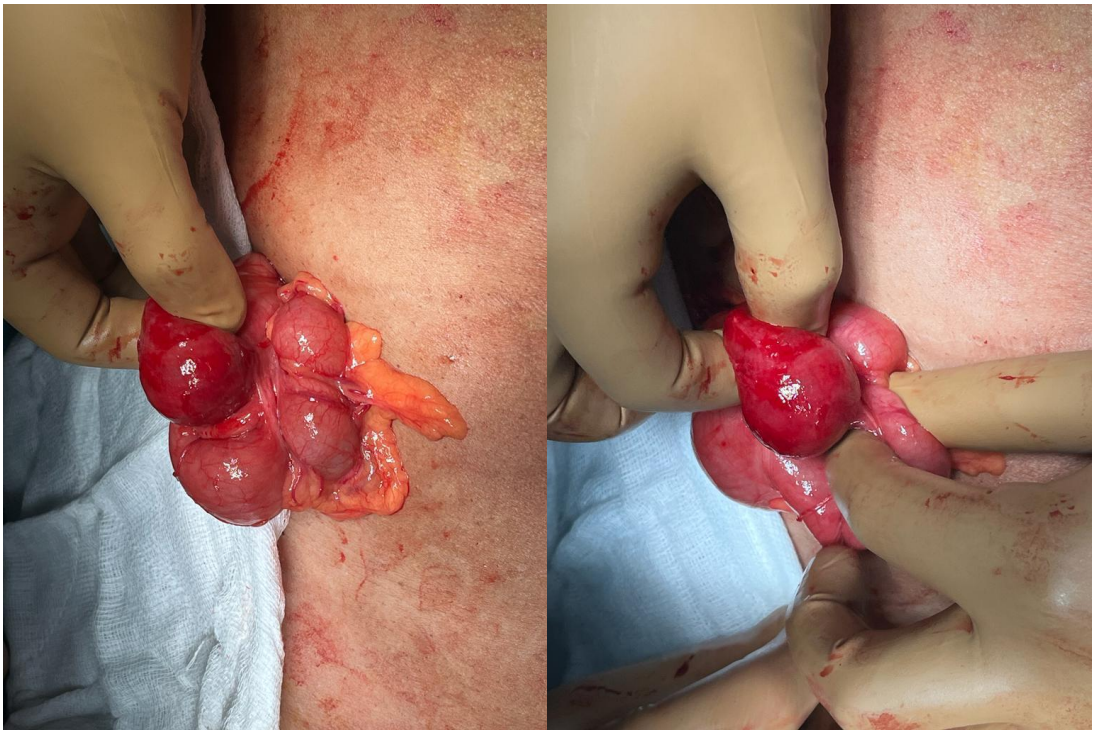
2) Abdominal ultrasonography findings:
The right lower quadrant of the abdominal wall shows evidence of a small defect measuring approximately 1.0 x 0.8 cm in size through which there is herniation of anti - mesenteric border of fluid filled dilated bowel loop into the intermuscular plane. Small amount of fluid is also seen along with a portion of the omental tissue in the herniated sac. On colour doppler the bowel wall shows preserved vascularity. Focal tenderness is elicited over it.



3) CT of the abdomen and pelvis with intravenous and oral contrast findings:

The right semilunar line in the right lateral abdominal wall at the L4 vertebral body level appears stretched out with separation of the visualized lateral aspect of the adjacent right rectus abdominis muscle and medial aspect of the adjacent right transverse abdominis and internal oblique muscles (**Spigelian hernia)** through which a thin walled (wall thickness measuring approximately 1.4 mm) tubular structure - - - antimesenteric aspect of caecum (**Richter hernia),** is seen protruding out which measures approximately 3.2 x 0.9 cm. No evidence of oral contrast is seen within it. The contrast enhancement was preserved indicating that there was no significant arterial compromise. The hernial sac shows evidence of minimal free fluid. No dilatation of proximal bowel loops are noted. **Findings are likely suggestive of right sided Richter - type spigelian hernia with part of the circumference of caecum as its content.**

Axial, coronal and sagittal views show a thin-walled tubular structure protruding in the inter-muscular plane of the right lateral abdominal wall suggestive of a herniated small bowel loop protruding through the linea semilunaris and consistent with a Spigelian hernia.



Intra-operative images which show the inflamed anti-mesenteric portion of the caecum

3. Discussion

Although Richter's hernia and Spigelian hernia are two relatively common entities on their own, the fact that both phenomena can occur simultaneously (Richter's herniation through linea semilunaris) is very unusual.

Spigelian hernias occur through a defect in the linea semilunaris, a fibrous union of the rectus sheath with the aponeuroses of the transverse abdominal and abdominal internal oblique muscles that extends from the level of the ninth rib cartilage to the pubic symphysis.

Usually wall defects are secondary to acquired weakness of the abdominal wall, often related to surgical incisions.

Diagnosing Spigelian hernia clinically is difficult because it produces nonspecific symptoms. The most common is pain in the location of the hernia. Herniation may be apparent on clinical exam or ultrasound in some patients. Nevertheless, abdominal CT with intravenous contrast is the imaging test of choice because it reveals vascular compromise or other underlying pathology. Immediate treatment is recommended because of the high risk of incarceration. On the other hand, Richter's hernia results in strangulation of only a part of the bowel wall circumference in a hernia sac. It occurs more commonly in the femoral region; it is more frequent in women and it usually involves a segment of distal ileum. Since only one side of the intestine is affected, the obstruction is rare. This type of hernia is usually found incidentally, but intestinal necrosis and perforation can occur. The treatment of choice for Spigelian and Richter's hernias is laparoscopic mesh repair of the abdominal wall defect. If intestinal necrosis is established, the affected segment must be resected.

4. Conclusion

Richter - type Spigelian hernia is rare and has been reported infrequently in the existing literature. Clinical diagnosis is challenging and USG & CT scan aides the diagnosis.
Computed tomography with intravenous contrast is the imaging technique of choice for the diagnosis of this entity to determine the extension and severity of bowel impact. The findings in this imaging test determine the treatment and prognosis.

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