Original Research Paper

Volume - 16 | Issue - 02 | February - 2026 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

General Surgery

A TYPICAL AND RARE CASE OF SPIGELIAN HERNIA: A CASE REPORT

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ABSTRACT Spigelian hernias are rare abdominal wall hernias. They account for approximately 0.1–0.2% of all abdominal wall hernias. They generally remain undetected and are misdiagnosed because they cannot be completely visible through general examinations. They are also referred to as "interparietal hernia" because they occur through the internal oblique muscle. Here, we report a case of a 62-year-old female patient diagnosed with Spigelian hernia, both clinically and radiologically, and underwent surgery for the same.

KEYWORDS : Spigelian hernia, abdominal wall, interparietal hernia, spigelian fascia

INTRODUCTION:

Spigelian hernia is a rare abdominal wall hernia, representing less than 2% (1-2%) of all abdominal wall hernias. It mainly affects woman age between 40-70 years [1,2].

Spigelian hernia was 1st described by the Belgian anatomist Adriaan van den Spigel in the early 17th century, hence the name. Although he did not report the hernia itself, he identified the semilunar line and termed it semilunaris, which forms the lateral border of the rectus abdominis muscle [2]. It is also called spontaneous "lateral ventral hernia" or "hernia of semilunar line. Spigelian hernias are difficult to diagnose clinically [3]. It is a protrusion of the preperitoneal fat, peritoneal sac, or organ through congenital or acquired defects in the Spigelian aponeurosis, which is the portion of the transverse abdominis aponeurosis between the lateral semilunar line and the lateral border of the medial rectus muscle [2,4]. In addition, patients generally have other comorbidities that lead to elevated intra-abdominal pressure. Elevated intra-abdominal pressure weakens the fascial layers of the abdomen, increasing the risk of ventral hernia formation. These comorbidities include chronic obstructive pulmonary disease (COPD), ascites, pregnancy, Ehlers Danlos syndrome, peritoneal dialysis, and obesity [5].

This case report aims to discuss a case of Spigelian hernia diagnosed in a 62-year-old female patient who underwent surgery for the same.

Case Presentation:

A 62-year-old female patient presented to OPD with a chief complaint of right lower abdominal pain for 9 months, which was dull aching, continuous, and of moderate intensity. The pain aggravated on taking food and was relieved on taking medication. The patient did not complain of vomiting or constipation, which ruled out any complications of Spigelian hernia. On perabdominal examination, approx. 5x4 cm sized diffuse, firm swelling was palpable approximately 5 cm below and lateral to the umbilicus with a mild cough impulse.

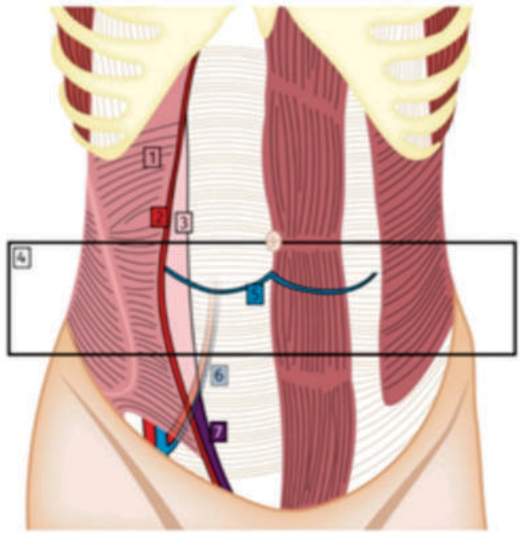
Baseline investigations, such as CBC, liver function tests, and renal function tests, were within the normal range. The patient had type-2 diabetes and hypothyroidism and was on regular medication for the same. Ultrasonography revealed an approximately 27 mm anterior abdominal wall defect in the lateral part (right side) of the rectus abdominal muscle region, through which omental fat was herniated, suggestive of a Spigelian hernia.

Surgery was planned using an open approach. The skin incision was approximately 5 cm below and lateral to the umbilicus on the right side. After dissection of the sac, a 15 × 15 cm mesh was placed in the preperitoneal space.

The surgery was uneventful, and the patient was vitally stable and shifted to the postoperative ward. The postoperative course was uneventful. On postoperative day 4, the patient was discharged and instructed to follow up routinely.

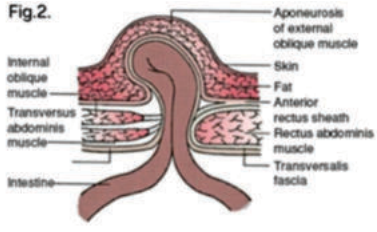
The sutures were removed on postoperative day12. No postoperative complications were observed during the hospital stay or regular follow-up visits.

Fig. 1.



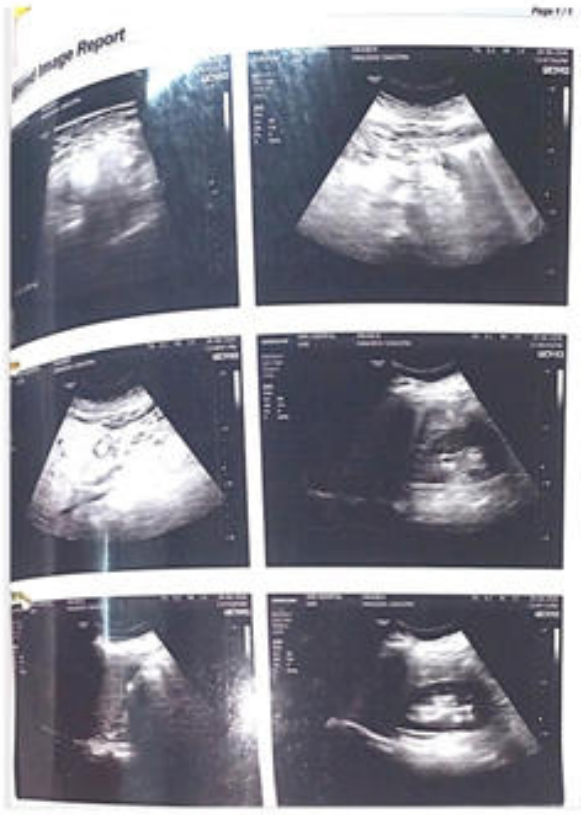
Surgical anatomy of the abdominal wall. Abdominal wall anatomy, coronal view. (1)Transverse abdominal muscle, (2) Semilunar line, (3) Spigelian fascia, (4) Spigelian hernia belt, (5) Arcuate line, (6) inferior epigastric artery and vein, (7) Low Spigelian hernia area [16]

Fig.2.



Transverse section of abdominal wall showing site of defect [18].

Fig.3.



Ultrasonography Images

DISCUSSION:

Spigelian hernia is a rare type of hernia, sometimes referred to as spontaneous lateral ventral hernia, which typically develops in response to elevated intra-abdominal pressure. Various predisposing factors, such as chronic cough, obesity, and peritoneal dialysis, have been strongly associated with the development of Spigelian hernia [7-13]. The anatomical location of a hernia plays a crucial role in its identification.

The Spigelian fascia, found beneath the umbilicus, is notable border and thus inherently weaker compared to the upper abdominal regions.[14]. A spigelian hernia represents a defect in the anterior abdominal wall, particularly involving the transverse abdominis aponeurosis near the semilunar line, often arising in areas where the posterior sheath is deficient. Most Spigelian hernias appear below the level of the umbilicus, near the edge of the rectus sheath; however, they can be found anywhere along the Spigelian line. There is a common misconception that they protrude below the arcuate line due to a deficiency of the posterior rectus sheath at that level; however, the defect is almost always above the arcuate line [19]. The clinical diagnosis of spigelian hernia can be challenging, as a visible or palpable mass is frequently absent during physical examination [15]. Above the umbilical level, however, the posterior rectus sheath is reinforced by contributions from the transverse abdominis and internal oblique muscles, rendering the spigelian fascia more resistant to herniation [14]. Spigelian hernia have pre-operative complications such as incarceration, strangulation, bowel obstruction etc. [17]. The risk of incarceration is higher than that of other abdominal wall hernias [16]. Postoperative complications may include hematoma, mesh infection, and hernia recurrence [17].

Diagnosis of spigelian hernia can be challenging because it lacks symptoms and visible or palpable masses. Diagnostic methods such as Ultrasonography and CT scans are used to diagnose Spigelian hernias. In this case, we used USG as a diagnostic modality. Our patient had no postoperative complications and did not complain of recurrence.

CONCLUSION:

Spigelian hernia is a rare condition characterized by lower abdominal pain. Diagnosis and treatment are challenging and require surgical experience because of the infrequency of cases. Timely recognition is crucial to avoid serious complications, such as incarceration or strangulation. This report discusses a patient diagnosed with a Spigelian hernia who underwent open repair with meshplasty. The presence of swelling along the linea semilunaris should prompt surgeons to maintain a high index of suspicion and conduct appropriate investigations to confirm the diagnosis of Spigelian hernia. Early surgical intervention remains the key to achieving optimal outcomes in the management of this condition.

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