

Management of Non - Strangulated Left Lower Quadrant Spigelian Hernia: A Rare Presentation and Surgical Approach

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Abstract: *Spigelian hernia (SH) is a rare ventral hernia with an incidence of 0.1 - 2%. We report a case of a non - strangulated left lower quadrant Spigelian hernia and its management. A 43 - year - old female presented with gradually progressive swelling associated with vague pain in the left lower abdomen. Contrast - Enhanced Computed tomography (CECT) of the abdomen and pelvis demonstrated a left SH containing intermediate - sized small bowel and omentum without strangulation. The hernia was repaired via an open approach using polypropylene mesh. The post - op course was uneventful. SH usually possesses a vague clinical presentation which is confirmed in most cases by imaging only. All diagnosed SH should be planned for elective operation to prevent it from strangulation which then becomes an emergency surgery. The definitive treatment is surgery either by open or laparoscopic approach, depending on the surgeon's experience. In most cases, a mesh repair is generally advised. Though the presentation is rare, it must be considered in the differential diagnosis of abdominal hernia due to its high risk for acute complications.*

Keywords: Spigelian hernia, Strangulation, Surgery, Semilunar line

1. Background

Spigelian hernias (SH) are rare and represent 0.1 - 2% of all abdominal hernias [1]. It was Adriaan van den Spieghel, an anatomist who first described this rare hernia. However, the Flemish anatomist, Josef Klinkosch was acknowledged for recognizing and describing a hernia located in the Spigelian fascia, and coined the term Spigelian hernia [2, 3]. Spigelian fascia is located between the semilunar line and the lateral edge of the rectus abdominis muscle. SH is a spontaneous abdominal hernia that is actually caused by a defect in the Spigelian fascia [4]. SH occurs anywhere on the Spigelian fascia but most of SH occurs in the lower abdomen where the posterior sheath is deficient, It is also called "spontaneous lateral ventral hernia" or "hernia of the semilunar line" [5]. It is usually asymptomatic in 90% of cases and very difficult to diagnose on clinical examination. We present a case of rare SH in the left lower quadrant.

2. Case Presentation

A 43 - year - old female patient presented with gradually progressive swelling in the left side of the lower abdomen for the last 01 year which used to increase on exertion and reduce on lying down. She had a history of pregnancy and cesarean section in the lower abdominal region 12 years before, but there was no history of trauma or upper abdominal surgery. She gave no history suggestive of intestinal obstruction. Clinical examination showed a diffuse swelling of about 15 × 10 cm over the left lower abdomen. There was mild tenderness in the area of the swelling, and the abdominal skin was intact and smooth except for the lower abdominal surgical scar. Contrast - enhanced computed tomography (CECT) of the abdomen and pelvis showed a defect measuring approximately 5.0 x 3.0 cm along the left semilunar line with herniation of small bowel loops and omentum through the abdominal wall with the

herniated sac located lateral to the rectus abdominis muscle, with an impression of left - sided Spigelian hernia. (Fig 1) Underwent closure of the defect with reinforcement using polypropylene mesh through the open approach. During the intraoperative finding, there was a defect of approximately 04x 01cm with a small bowel as content, located between the semilunar line and the edge of the rectus abdominis muscles in the left lower abdominal wall and thinned out external oblique. (Fig 2) Post - op recovery was uneventful. On follow up surgical site is healthy with no evidence of recurrence.

3. Discussion

SH is a rare type of hernia that comprises 0.1 - 2% of all abdominal wall defects [1]. The SH orifice is usually localized at the Spigelian aponeurosis, which lies laterally to the rectus abdominis muscle and medially to the semilunar line. The term semilunarline refers to the edge of the transverse and internal oblique muscles aponeuroses, respectively [2]. The Spigelian belt is the most common localization of the SH, which lies within an imaginary 6 cm wide band superior to the interspinousline. [6] (Fig.3). This is the region that carries the greatest abdominal circumference resulting in the highest intra abdominal pressure. The SH - specific anatomic location within a rigid Spigelian aponeurosis, with a small hernia orifice that usually does not exceed 2 cm in diameter, and an interobliquehernia sac development makes this condition difficult to diagnose and more prone to incarceration. SH mainly affects the adult population, with a median age of 65 years at diagnosis [7, 8] and female preponderance, with a female - to - male ratio of 2: 1 [7, 9, 10]. Moreover, it is more common on the left side [1, 11], as was seen in this case. Risk factors include obesity, COPD, abdominal surgery, abdominal trauma, and other causes of increased intraabdominal pressure [1]. In our report, the patient was

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morbidity obese as well as had a prior history of abdominal hysterectomy. Patients most frequently present with intermittent pain, and swelling sensation in the lower abdomen [12]. Differential diagnosis of a palpable mass in the typical region of SH, includes lipoma [4], hematoma of the rectus abdominis muscle, or any abdominal solid tumor. It is estimated that around 50% of patients with SH do not have a proper pre-operative diagnosis [9]. Ultrasound and especially CT scans are useful for diagnosis. [1] They identify the hernia sac between the external and internal oblique muscles, as well as the continuity of the sac with the neck at the Spigelian line level. [13, 14] With the significant risk of incarceration, all SH should be repaired surgically [4, 8, 14]. According to the recent EHS guidelines [15], there are no definitive preferences between open and minimally invasive approaches and the choice is at the discretion of the operating surgeon. The mesh repair is recommended regardless of the approach used for larger defects, which was also done in our case as it was a large defect. Repair with

direct suture can be safely performed for SH with small defects. The overall recurrence rate after mesh repair is very low [16, 17].

4. Conclusion

As SH lacks specific and consistent physical findings, making a delayed diagnosis is a frequent occurrence. So, a high index of clinical suspicion is always required due to the potential for life-threatening complications. Imaging (USG/CT) plays a pivotal role in establishing the diagnosis. According to the literature, operative repair remains the mainstay of treatment and regardless of the technique employed, a mesh repair is recommended. Despite the rarity of SH, it must be always considered in the differential diagnosis of abdominal hernia due to its high risk for acute complications.

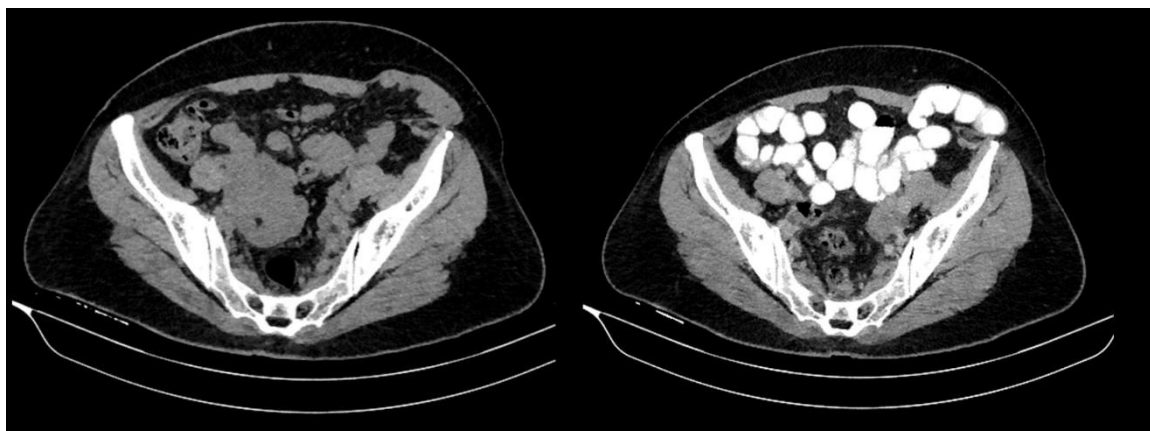


Figure 1: CT Abdomen. Left interparietal hernia with small bowel as content.

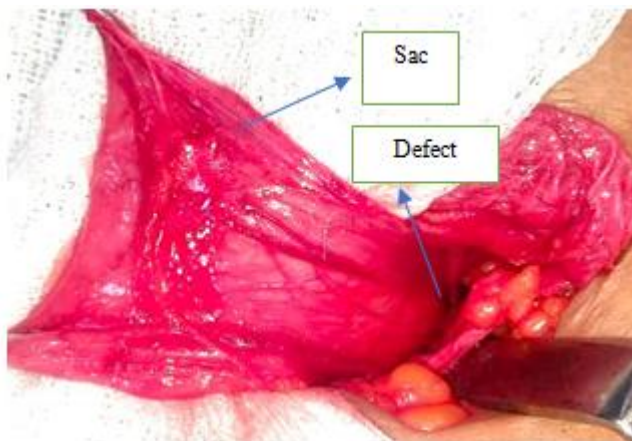


Figure 2: Intraoperative findings

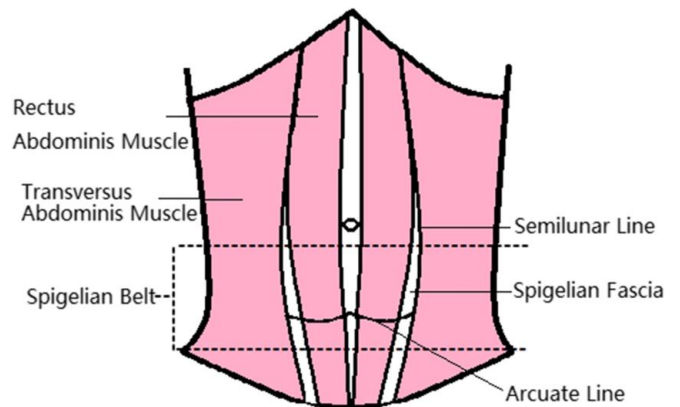


Figure 3: Diagram showing the Spigelian belt

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Ethical approval - NA

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