Sequential bilateral spigelian hernia

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INTRODUCTION

In 1645, a Flemish anatomist and surgeon named Adriaan van den Spiegel (1578–1625) described the linea semilunaris, which would later go on to be named after him as Spigelian line (linea Spigeli).1-3 Years later, in 1764, Josef Klinkosch described a hernia arising from the Spigelian belt as the Spigelian hernia (SH). The chances of complications in the very rare (1%-2%)4,5 hernia are relatively high. Due to its presentation within the abdominal wall musculature, the symptoms are often misjudged or unnoticed. Our patient is a case of a bilateral SH which has been rarely reported.

CASE REPORT

Our patient is a 52-year-old female with an incisional hernia for 3 years, in a badly scarred abdomen, following three surgeries. On examination, there was a reducible 7 cm × 6 cm swelling noted over the umbilical and hypogastric region to the right side of the previous lower midline scar. She gave a history of dull aching pain over the swelling aggravated during straining and lifting heavy objects and relieved while taking rest. All other hernial orifices were found to be normal.

Her history included two cesarean sections and an abdominal hysterectomy.

Ultrasound examination confirmed the diagnosis of an incisional hernia defect of 5 cm with omentum as content. The option of laparoscopic hernia repair was discussed with the patient. Due to financial limitations, open repair was planned. During the closure of the defect, a small bulge was noted to the right side beneath the external oblique aponeurosis. Further dissection revealed a defect in the Spigelian fascia [Figure 1a-c]. The hernia sac was then dissected from the surrounding conjoint tendon and the defect was closed with a sublay prolene mesh (Bard®) and interrupted 2-0 prolene sutures [Figure 1d]. A larger onlay 15 cm × 15 cm prolene mesh (Bard®) was placed to

Abstract

World over, Spigelian hernia (SH) is a puzzling entity and is a diagnosis of exclusion. It has a low incidence rate and a relatively high rate of omission. We present a 57-year-old female patient who came to our clinic 2 years ago with an incisional hernia. During dissection, she was found to have a bulge in the right Spigelian belt adjacent to the incisional hernia. Both the herniae were repaired. She again presented to us with a large bulge over the left iliac fossa. On evaluation, she was diagnosed with a left SH which was then repaired. We present this case to highlight the possibility of bilateralism of SH in patients.

Keywords: Acute abdomen, bilateral hernia, emergency exploration, Spigelian hernia
cover the anterior rectus sheath over the incisional hernia site. The wound was closed in layers over a closed suction drain, which was removed on the 6\textsuperscript{th} postoperative day and she was discharged the following week.

Two years later, she presented to us with an obvious swelling visible in the left iliac fossa [Figure 2]. On examination, there was a 5 cm × 3 cm swelling in the left iliac fossa, 7 cm to the left of previous surgical scar in the transtubercular plane over the Spigelian fascia [Figure 2]. The swelling had an expansile cough impulse and was reducible. The diagnosis of SH was confirmed with an ultrasound examination during the Valsalva maneuver. Although a computed tomography (CT) was contemplated, it could not be done due to financial constraints of the patient. The option of laparoscopic surgery was again discussed with the patient and her next of kin. This option was also turned down by the patient due to her financial constraints. She was then planned for open left SH repair.

Since this was a scarred abdomen, an oblique lateral incision was placed over the summit of the swelling. There was a hernia through a linear defect in the Spigelian fascia in the subaponeurotic plane. We noticed both a high and low component, which is a rare occurrence. The hernia sac was dissected, contents were reduced, defect closed by plication and a sublay 15 cm × 7.5 cm prolene mesh was placed [Figure 3]. She was discharged on the 5\textsuperscript{th} postoperative day following an uneventful recovery.

DISCUSSION

The Spigelian belt is defined as a 6 cm wide stretch in the Spigelian line caudal to the level of the umbilicus to the level of inferior epigastric vessels. Based on the relation of the hernia to the inferior epigastric vessels, it is again divided into:

1. High SH (arising cranial to the inferior epigastric vessels and
2. Low SH (presenting caudal to the vessels through the Hesselbach’s triangle).

The treatment, although controversial, is more commonly done with laparoscopic approach as compared to traditional approach.

Due to its low incidence (1%–2%), there have been various hypotheses regarding the development of SH, namely:\[1\]

1. The vascular nervous theory-(Astley Cooper): The SH belt is weakened by the deep iliac branch of the inferior epigastric vessels that penetrates it
2. The musculo-aponeurotic fasciculation theory (Zimmerman): The preperitoneal fat infiltrates the thinned out fibrous aponeurotic deep musculature and weakens it. This remains as the most accepted theory by authors’ world over
3. The embryologic transition theory speculates the cause to be due to zone of lower resistance between the developing muscles that form the anterior abdominal wall (the mid mesoderm and the lumbar and inferior thoracic myotomes)
4. The theory of Watson and Iason: a weakness in the semilunar line at the junction with arcuate line, which forms the caudal limit of the posterior rectus sheath.

SH warrants an early diagnosis and treatment as it is reported to have higher rates of complications with incarceration in 24%–27% and strangulation up to 14%[5]. The average age of presentation is in the 6th decade as reported by Moreno-Egea et al.,[4,6] but the presenting age of our patient was at 52 years and at 54 years. The diagnosis is based on the high index of suspicion following history and examination due to its rarity. CT of the abdomen and ultrasound examination during the Valsalva maneuver detects a large percentage of these herniae. Occasionally, they are still incidentally detected during other dissections and warrant immediate surgery. A recent trend toward the laparoscopic repair of these types of herniae is seen as it can detect with up to 100% accuracy[5] and treat these rare herniae that are usually missed routinely. Open repair of these herniae gives good intraoperative visualization and better dissection but requires a longer recovery period. On the other hand, benefits of laparoscopic approach include bilateral visualization, ruling out other defects, and faster recovery.[5,7,4] Our encounter with such a case has opened the possibility of bilateral presentation and an earlier presentation in adult patients with weak abdomen.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initials will not be published, and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Conflicts of interest
There are no conflicts of interest.

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