



Spigelian Hernia: A Rare Case Report

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Abstract

Spigelian hernias are rare abdominal wall defects that occur at the semilunar line lateral to the rectus abdominis muscle. They are located between the muscular layers of the abdominal wall and can be easily overlooked because of abdominal obesity. Generally, they are difficult to diagnose because of their location and vague symptoms. The diagnosis has been considerably aided by the introduction of ultrasonography and Computed Tomography. Once the diagnosis is made operative management is indicated due to risk of incarceration. We report a 32 years old female patient from who presented with right upper abdominal pain associated with a swelling below the right subcostal margin. A diagnosis of Spigelian hernia and gallbladder stones was made. The patient underwent laparoscopic mesh repair and cholecystectomy. Her recovery was uneventful.

Keywords: Spigelian hernia; Lateral ventral hernias; Laparoscopic mesh repair

Introduction

Spigelian hernia is named after Adrian Van der Spighele who described semilunar like (lineaspigeli) in 1645. The hernia was first described Klinkosch in 1764 [1]. Spigelian hernia is a rare abdominal hernia, occurring through the spigelianaponeurosis, it carries a significant risk of incarceration and strangulation. Most spigelian hernias occur below the level of the umbilicus close to the level of the arcuate line (inferior margin of posterior leaflet of rectus sheath within the abdomen), though they have being reported to occur above the level of the umbilicus [2].

Diagnosis of Spigelian hernia requires a high degree of suspicion, with the most common finding on clinical examination being a lump at the semilunar line. Radiological tests are useful in confirming the diagnosis. Once diagnosed, Spigelian hernias require operative repair. Elective repair of uncomplicated Spigelian hernias can be performed both laparoscopically and by an open technique, with the former reported to be associated with a lower morbidity and shorter hospital stay [3]. We present a case of spigelian hernia in a female patient and its management and discuss about the various investigations and the treatment modalities available for its repair, with literature review.

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Case Presentation

A 32 years old female patient presented to the outpatient department with history of intermittent right upper quadrant pain for 8 years. She underwent laparoscopic sleeve gastrectomy 2 years ago. On examination, she had a weight of 89 kg with a BMI of 33 kg/m². Physical examination revealed a firm lump of about 6 x 5 cm was found on the right upper abdomen at the margin of the right semilunar line. The lump would increase on coughing and decrease in lying position.

On investigation, haemogram, liver function tests, blood urea and creatinine were normal. Ultrasonography showed multiple gall stones and right hypochondrium anterior abdominal wall defect (Figure 1). CT scan showed the defect of a Spigelian hernia about 3 cm in diameter, containing omentum (Figure 2).

After adequate preparation she was planned for laparoscopic cholecystectomy and hernia repair. Intraoperatively, right sided SH was detected. There was also hemangioma on the lower part of the right lobe. Laparoscopic cholecystectomy was done and the hernia was managed laparoscopically. Omentum adherent to the defect was reduced. The defect was seen as a large opening in the peritoneum, along the lateral margin of rectus abdominis muscle on the right side (Figure 3). After dissection of the adhesions with the help of Harmonic scalpel, a prosthetic composite mesh (10 x 10 cm) was introduced into the peritoneal cavity and was fixed with the help of tacks to cover the defect (Figure 4). A full laparoscopic exploration of the abdomen was completed without finding other defects. Postoperative recovery was uneventful and the patient was discharged on postoperative day 2.



Figure 1: Right hypochondrium anterior abdominal wall defect averaging 2.6 cm with omental content.



Figure 2: CT scan showing the defect of a Spigelian hernia about 3 cm in diameter, containing omentum.



Figure 3: Laparoscopic image showing the defect of a Spigelian hernia and the previous port.

Discussion

Spigelian hernia constitute about 0.12 to 0.2% of all abdominal hernias usually found between 50-60 years, affecting both sides and both sexes equally [4]. In 2002, Morenao Egea et al, did a medline search and found that there were only 497 cases of spigelian hernia reported in the literature till that date [1]. Most of the Spigelian hernia occurs in the lower abdomen where posterior sheath is deficient. SH most commonly presents at the level of the semicircular line (arcuate line of Douglas). Below this line, the Spigelianaponeurosis is a single layer and resistant to herniation. However, at the level of the semicircular line, the fascias of the oblique and transverse muscles begin to split, to allow the formation of two separate layers. It is at this juncture, that the layers of aponeuroses are at their weakest.



Figure 4: Laparoscopic image showing the defect covered with composite mesh and right lobe hemangioma.

The overlying external oblique muscle and fascia remains intact, contributing to the difficulty in diagnosis of this partial abdominal wall hernia [5]. In our case, the defect was located in the upper part of the semicircular line and this is a rare entity.

The hernia sac usually contains the greater omentum. However, involvement of other organs has been reported, including the small intestine, colon, stomach, gallbladder, Meckel's diverticulum, appendix, ovaries and testes [6]. Clinical symptoms of SH are not characteristic and the preoperative diagnosis is often difficult. Given the rarity of Spigelian defects and lack of personal clinical experience, the diagnosis often remains elusive for years with only half of cases are diagnosed preoperatively. The most common diseases that mimic Spigelian hernia include rectus sheath hematoma, abdominal wall abscess and seroma. Incisional hernias through the spigelian fascia or line conventionally are not considered as spigelian hernia, though some authors have described them as spigelian hernia [1]. Our case underwent laparoscopic sleeve gastrectomy, and the site of the defect was close to one of the ports, therefore diagnosis of port site hernia was considered initially. Intraoperatively, the port site of previous surgery was clearly seen away from the defect.

Repair of this hernia has typically been accomplished with a transverse incision and primary repair. With the advent of mesh and laparoscopic techniques, other options now exist. In 1992, Carter published the first laparoscopic correction [7]. Nowadays, laparoscopic hernia repair, with either trans-peritoneal or total extra-peritoneal approach is recommended for patients with SH. The advantage of intra-peritoneal laparoscopic approach is that, it can be done at the same time with other surgical procedures, as clearly seen in our report. A mesh is fixed with either tacks or manual suturing. To prevent adhesions, presently there is composite mesh, which has both absorbable as well as non-absorbable components and costlier mesh can be used [8]. Laparoscopic repair offers advantage over open mesh repair, including reduced morbidity, shorter hospital stay, cosmetic and perhaps the lower recurrence rate.

Conclusion

A high index of suspicion is required for accurate diagnosis. Radiographic studies may facilitate the diagnosis of such hernias, which ultimately require operative repair. This case illustrates the role of laparoscopy in the treatment of spigelian hernia.

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