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Case Report

Spigelian hernia: rare so, beware!

Robinson George*, Vasanthi MS, K. Prasad, Arun Prasad

Department of General and Laparoscopic Surgery, Sree Narayana Institute of Medical Sciences, Chalakka-683594, Cochin, Kerala, India

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***Correspondence:**
Dr. Robinson George,
E-mail: docrg7@hotmail.com

ABSTRACT

Spigelian Hernia (SH) is a type of interparietal abdominal wall hernia which is usually present at the level of the arcuate line in the area of 'Spigelian belt'. Hardly, 1000 cases have been reported in surgical literature of which an acute presentation is rarely seen. Hence, we report this case which is an acute variant of Spigelian hernia, with a review of literature to discuss the diagnostic factors and treatment, as such kind of hernias are elusive clinically with fatal outcome, if ignored.

Keywords: Spigelian hernia, Ultrasonography, Computed tomography, Laparoscopy, Valsalva manoeuvre

INTRODUCTION

SH is a type of interparietal abdominal wall hernia which occurs through slit like defects in the anterior abdominal wall adjacent to the semilunar line which extends from the tip of the ninth costal cartilage to the pubic spine at the lateral edge of the rectus muscle inferiorly. Most of them occur in the lower abdomen, where the posterior sheath is deficient. It is also known as "spontaneous lateral ventral hernia" or "hernia of semilunar line". The diagnosis is difficult to make especially since, there are no predisposing factors. They can be repaired both conventionally (open) and laparoscopically.

CASE REPORT

A 58 year old lady presented with sudden onset lower abdominal swelling and pain of few hours duration, following lifting of a heavy urn. She gave no history of altered bowel habits. She had no past medical or surgical complaints.

Physical examination revealed a tense, tender swelling below and to the right of the umbilicus. Aspiration showed frank blood with subsequent disappearance of the swelling and complete relief of pain. She was advised admission for observation, since the patient had financial constraints. Ultrasonography (USG) showed no defects even on performing Valsalva manoeuvre. Her abdominal X ray showed no air fluid levels to suggest intestinal obstruction. All other routine tests seemed to be normal.

On 4th day she developed bilious vomiting. Later, she developed pain and swelling at the site of aspiration. Computed tomography (CT) showed a loop of bowel just distal to the sheath infraumbilically (Figure 1). Surgery performed (Figure 2) which showed an interparietal type of hernia at the Spigelian line with omental content and a wisp of jejunum attached to it (Figure 3). Anatomical closure of the wound was done. The patient's immediate postoperative period was uneventful, albeit, she succumbed to Acute Respiratory Distress Syndrome (ARDS) on postoperative day 6.

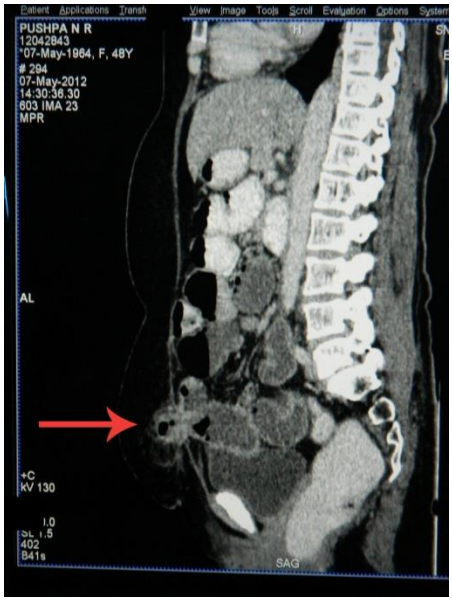

Figure 1: Loop of bowel distal to the sheath.

Figure 2: Site of the swelling.

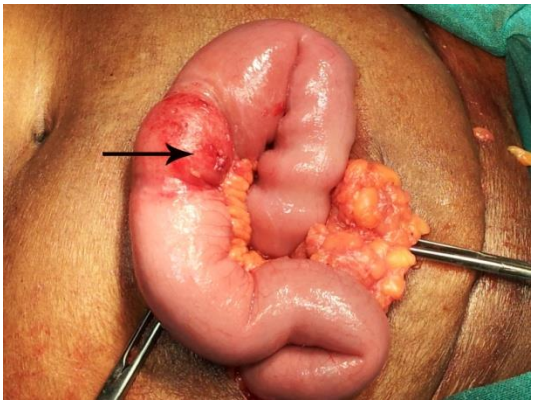

Figure 3: Wisp of jejunal loop.

DISCUSSION

Spigelian hernia is named after Adriaan van Spieghel, who described the semilunar line. However, the hernia was first described by Klinkosch in 1764.[7] SH peak in the 4th to 7th decades with male to female ratio of 1:1.18.[10] They are very rare and constitute only 0.12% of all abdominal wall hernias.[3] Spigelian line marks the transition from muscle to aponeurosis in the transverses abdominis muscle of the abdomen. It is a lateral convex line between the costal arch and the pubic tubercle. The part of the aponeurosis that lies between the semilunar line and lateral border of the rectus muscle is called the Spigelian fascia / Spigelian belt. Anteriorly throughout its length, the semilunar line is reinforced by the aponeurosis of the external oblique. Posteriorly in the cephaled two thirds it is reinforced by the transversus abdominis muscle which is muscular almost to the midline in the upper abdomen. This support will prevent herniation and hence, found to be very rare above the umbilicus.

SH can be congenital or acquired.[8] Perforating vessels may weaken the area in the Spigelian fascia and fat enters here which gradually leads to hernia formation. They can be related to stretching in the abdominal wall caused by obesity, multiple pregnancies, previous surgery or scarring. The Spigelian aponeurosis is widest between 0 and 6 cm cranial to the interspinous plane and 85-90% of the hernias occur within this "Spigelian hernia" belt. The sac, surrounded by extraperitoneal fat, is often interparietal passing through the transversus and the internal oblique aponeuroses and then spreading out beneath the intact aponeurosis of the external oblique, or lying in the rectus sheath alongside the rectus muscle.

Clinical examination forms the mainstay of diagnosis, although Spigelian hernias are elusive. Spigelian hernias are rarely known to contain an acutely inflamed appendix, Crohn's appendicitis, even an incarcerated Meckel's Diverticulum.[11] Bilateral Spigelian hernias are still rare. Richter type of Spigelian hernia has also been reported. Such types of hernias have also been reported following laparoscopic procedure, through a pre-existing fascial weakness, that became manifested as a result of the pneumoperitonem.[12]

Diagnosis of a SH is difficult; few suspect it, since it has no characteristic symptoms, and may be interparietal with no obvious mass on inspection or palpation. Less than 50% of cases are diagnosed preoperatively.[10] Rarely, they enter the rectus sheath and get confused with spontaneous rupture of rectus muscle or with a rectus sheath hematoma. SH present in two ways - acute and chronic / incidental. In the first type, patient presents as an acute abdomen. Patient requires urgent investigation and surgical treatment at the earliest.

In the second type, this hernia is diagnosed incidentally while investigating recurrent abdominal pain. In our case, patient presented with acute symptoms but, surgery was delayed on account of late diagnosis and financial constraints of our patient.

USG is recommended as a first line imaging investigation. The advantage is the ability to perform in both supine and upright positions and while patient

performs the Valsalva manoeuvre. Presently, CT with thin sections is considered most reliable in doubtful cases.[2]

These hernias are prone to strangulation because of sharp fascial margin around the defect. Surgery can be performed either conventionally or laparoscopically. Carter and Mizes performed first intra-abdominal laparoscopic repair of SH in 1992[1] suture closing the defect. Spigelian hernias are ideally suited to preperitoneal laparoscopic repair because the defect in the Spigelian aponeurosis is more clearly identified in the preperitoneal plane. The best results are offered by the extra peritoneal laparoscopic approach.[13]

Spigelian hernias with no strangulation, are elusive clinically. When diagnosed, surgery should be advised and repaired successfully by laparoscopy (intraperitoneal or extraperitoneal approach) to confer all advantages to patients.

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