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A Case Report of a Very Rare Case of Bilateral Spigelian Hernia

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Abstract: Spigelian hernias are rare accounting for 1-2% of all abdominal hernias, so bilateral spigelian hernia constitutes less than 1-2% of all abdominal hernias. Spigelian hernias are generally difficult to diagnose because of their location and vague non-specific symptoms. They are situated between the muscular layers of the abdominal wall and can be easily overlooked because of abdominal obesity. The diagnosis has been considerably aided by the introduction of ultrasonography and computed tomography (CT). These hernias require surgical treatment. We report a case of bilateral spigelian hernia which is a uncommon disease entity. This 55 year old female patient presented with history of two swellings in the lower abdomen below the umbilicus with mild colicky type of pain since 6months. USG abdomen showed spigelian hernia in bilateral lower lumbar region. Patient then underwent bilateral hernial repair with on lay prolene mesh placement.
Keywords: bilateral spigelian hernia, on-lay prolene mesh repair, strangulation.

INTRODUCTION

Spigelian hernia is a protrusion of preperitoneal fat, a sac of peritoneum or an organ, through a congenital defect or weakness in the Spigelian fascia. It is essential to recapitulate the anatomy of the anterior abdominal wall to properly understand Spigelian hernia. Adriaan Van der Spieghel was first to describe the semilunar line and hence the hernia got its name. Henry-Francis Le Dran described spontaneous rupture along the semilunar line in 1742, but Josef T.K. Linkosch was first to refer this condition as a hernia in 1764**.** Spigelian hernias are rare accounting for 1-2% of all hernias, with a slightly higher incidence in the female sex. Spigelian line marks the transition from muscle to aponeurosis in the transversus 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 or zone. Anteriorly throughout its length, the semilunar line is reinforced by the aponeurosis of the external oblique. Posteriorly in the upper two thirds it is reinforced by the transversus abdominis muscle which is muscular almost to the midline in the upper abdomen. This support prevents herniation and hence very rare above the umbilicus.

Spigelian hernia is defined as a protrusion of preperitoneal fat, a sac of peritoneum or an organ, through a congenital defect or weakness in the spigelian fascia [1]. It is usually located between the different muscle layers of the abdominal wall; therefore it is also called as interparietal, interstitial, intermuscular, intramuscular or intra-mural hernia. The majority of spigelian hernias are found in a transverse band lying 0-6 cms cranial to a line running between both anterior superior iliac spines referred to as the spigelian hernia belt where the spigelian fascia is the widest [2]. Hernias that penetrate the spigelian fascia within the Hasselbach's triangle (bounded by rectus abdominis muscle medially, inferior epigastric artery laterally and by inguinal ligament inferiorly) caudal and medial to the inferior epigastric vessels are called low spigelian hernias. 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 been reported to occur above the level of the umbilicus. Incisional hernias through the spigelian fascia or line conventionally are not considered as spigelian hernia, though some authors have described them as spigelian hernia [3].

We report this rare variety of hernia(bilateral spigelian hernia), found in one of our patients, with review of literature to discuss the diagnosis and management, as such kind of hernias are clinically elusive with fatal outcome if ignored.

CASE REPORT

A 55 year old female patient presented to the surgery out-patient department with complaints of two swellings in the lower abdomen just below and away from the umbilicus on either side since 6 months with mild on and off colicky type of pain. Both the swellings

were irreducible. Cough impulse was present in both the swellings. There was no complaints regarding vomiting, constipation, abdominal distension. And on examination two hemispherical shaped swellings were noted in the anterior abdominal wall just below and lateral to the umbilicus. The position of both the swellings were corresponding to lateral to the lateral border of the rectus abdominis muscle just below the umbilicus, with left one being positioned little higher compared to right with right swelling measuring size of ~7cm diameter and left one measuring size of ~ 5.5cm diameter (fig 1). Cough impulse was positive in both swellings & swellings were irreducible.

Fig-1: Bilateral spigelian hernia

Ultrasonography abdomen was showing bilateral spigelian hernia in bilateral lower lumbar region. Patient was posted for surgery under spinal anaesthesia . Defect size of right swelling ~ 3×4cms and left swelling ~2.5×4cms was noted (fig 2 & 3).

Contents were reduced, defect was closed and an onlay prolene mesh was placed on both the sides (fig 4 and 5). Post-operative period was uneventful.

Fig-2: Right sided spigelian hernia

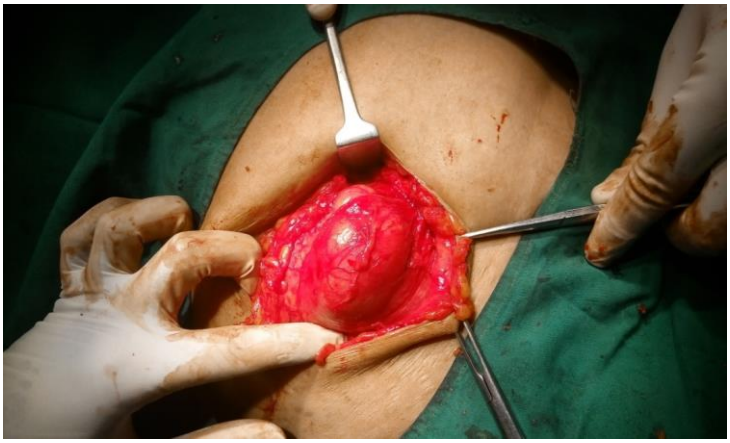

Fig-3: Left sided spigelian hernia

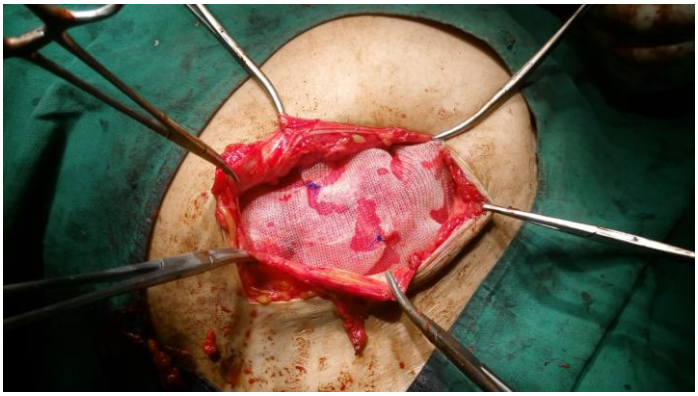

Fig-4: Right side mesh placement

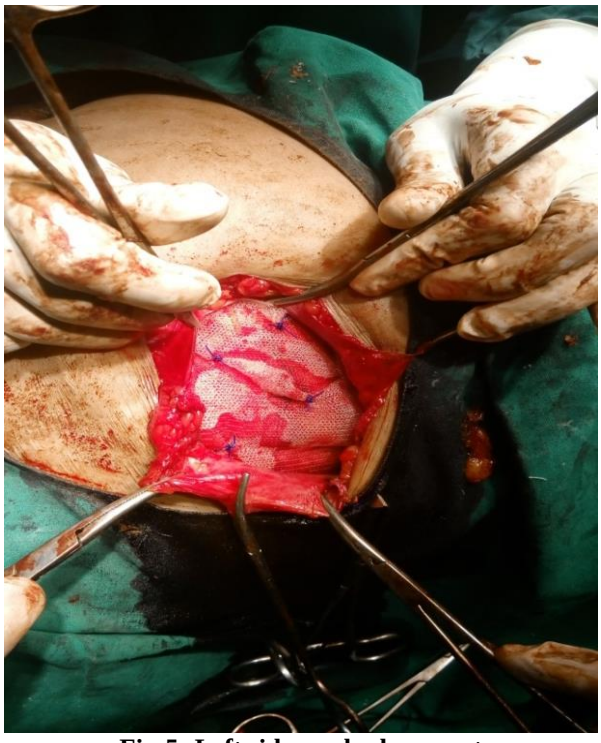

Fig-5: Left side mesh placement

DISCUSSION

Spigelian hernia is a rare ventral hernia and constitute only 0.12% of all abdominal wall hernias [4]. The male to female ratio is 1:1.18 [5]. Clinical examination is the mainstay of diagnosis. In its earliest form it is simply a protrusion of preperitoneal fat

through the Spigelian aponeurosis. The hernia can also be part of an extra peritoneal organ, but a peritoneal sac is found in most cases. If the peritoneal sac has content, it is usually greater omentum, small intestine, or part of the colon. Spigelian hernias are rarely known to contain an acutely inflamed appendix, Crohn's appendicitis, even an incarcerated Meckel's Diverticulum [6]. Bilateral Spigelian hernias are rare. Richter type of Spigelian hernia has also been reported. Such type of hernias have also been reported following laparoscopic procedure, through a preexisting fascial weakness, that became manifested as a result of the pneumoperitonem [7].

The symptoms that cause a patient to consult a physician are usually abdominal pain, a swelling in the anterior abdominal wall or signs of incarceration with or without intestinal obstruction. The pain, severity and location depends on the content of the hernia. Pain can often be provoked or aggravated by maneuvers that increase intraabdominal pressure and is relieved by rest. If the hernia produces a palpable swelling along the spigelian aponeurosis the diagnosis is generally easy to make provided the possibility of this hernia is considered. Patients, who do have pain, but have no visible or palpable swelling present the greatest difficulty in diagnosis. This condition exists when the hernial sac content is reduced at the time of examination or when a small interparietal hernia cannot be detected on palpation. Physical examination should be carried out while the patient alternately tenses and relaxes the abdominal muscles. When the abdominal muscles are tensed all patients with spigelian hernias have a tender spot over the hernial orifice in the spigelian aponeurosis. On palpation the hernia is pressed against the ring which is firm when the intra-abdominal pressure is raised. This finding is not pathognomic of spigelian hernia but offers a useful method for screening. Plain abdominal x rays are not particularly sensitive in diagnosing spigelian hernias.

This hernia is uncommon and clinical diagnosis can be difficult. The appearance of the lesion is comparable with others in and around the abdominal wall, including rectus sheath hematoma, seroma, parietal abscess, lipoma, peritoneal tumor implants and pseudocyst at the end of the ventriculoperitoneal shunts. Clinical and sonographic differentiation is emphasized. Ultrasonic scanning is now a valuable diagnostic tool in both palpable and non palpable spigelian hernias. It is rapid, accurate, non invasive and easy to perform. A CT scan is only required if there is a doubt in making the diagnosis. A Spigelian hernia may be confused with a lipoma or a parietal abscess [8].

Spigelian hernia should be treated by surgical repair because of the risk of strangulation [9]. Spangen recommended simple closure of the defect in the form of hernioraphy. Nozoe *et al* [10] performed a simple hernioplasty by suturing the internal oblique and transversus muscles to the rectus sheath. Development of mesh and concept of tension free application to other hernias by Liechtenstein led to its use by many for spigelian hernias. Tension free fascia lata graft or mesh repair is also employed for the repair of spigelian hernias. The advent of laparoscopy has made these conventional approaches old-fashioned in experienced hands [11]. 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 [12]. Spigelian hernias are clinically elusive often until strangulation occurs. Ultrasound examination of the semi lunar line is simple and accurate method of diagnosis. Surgery should always be advised. Apart from the discomfort these hernias cause, they strangulate frequently and hence should be repaired.

CONCLUSIONS

Spigelian hernias are rare disease entity and when compared to unilateral spigelian hernia ,bilateral spigelian hernia are very much rare to occur comprising <0.12% of all abdominal hernia and 50% of the patients of spigelian hernia are asymptomatic and remaining may present in acute condition such as strangulation since the defect is usually narrow in spigelian hernia. So clinically strong suspicion is needed to diagnose this hernia. Ultrasonography and CT abdomen helps in confirming the diagnosis as well as it gives the information of the defect size. Surgery with mesh placement is the treatment of choice. Here bilateral spigelian hernia was promptly diagnosed and treated with onlay mesh placement, which helped in better survival of the patient.

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