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SPIGELIAN HERNIAS AND MANAGEMENT, A DIAGNOSTIC ENIGMA

General Surgery

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ABSTRACT

Spigelian hernia occurs through slit like defect in the anterior abdominal wall adjacent to the semilunar line. Most of spigelian hernias occur in the lower abdomen where the posterior sheath is deficient. The hernia ring is a well-defined defect in the transverses aponeurosis. The hernia sac, surrounded by extraperitoneal fatty tissue, is often intraparietal passing through the transversus and the internal oblique aponeuroses and then spreading out beneath the intact aponeurosis of the external oblique. Spigelian hernia is in itself very rare and more over it is difficult to diagnose clinically. It has been estimated that it constitutes 0.12% of abdominal wall hernias. The spigelian hernia has been repaired by both conventional and laparoscopic approach. . Most of the authors have managed it by transperitoneal approach either by placing the mesh in intraperitoneal position or by raising the peritoneal flap and placing the mesh in extraperitoneal space. There have also been case reports of management of spigelian hernia by extraperitoneal approach. (TEP).

KEYWORDS

· Spigelian hernia, Semilunar line, Spigelian fascia, Preperitoneal space, Extra peritoneal space, Transperitoneal approach, · Total extra peritoneal approach

INTRODUCTION

Spigelian hernias 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 spigelian hernias occur in the lower abdomen where the posterior sheath is deficient. It is also called "spontaneous lateral ventral hernia" or "hernia of semilunar line". The hernia ring is a well-defined defect in the transversus aponeurosis. The diagnosis of spigelian hernia is difficult. The hernia may be intraparietal with no obvious mass on inspection or palpation. The spigelian hernia has been repaired by both conventional and laparoscopic approaches. Most of the time when laparoscopy has been used as a treatment modality for spigelian hernia it has been done by transabdominal approach.[1–4] Total extra peritoneal repair (TEP) of spigelian hernia has also been reported in literature.[5,6] The advantage of TEP approach is that it eliminates the complications related to violation of peritoneal layer to reach the preperitoneal space.

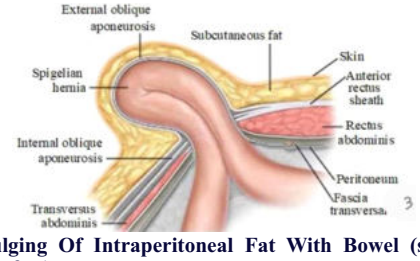

Fig.1 Bulging Of Intraperitoneal Fat With Bowel (spiegelian Hernia Defect)

I.case Report

A 50 year old female reported to us with a history of pain and a swelling in the left lower abdomen for 2 months. He gave a history of constipation and regular straining to have bowel movements.

Fig .2 Examination of patient ,coughing on impulse present

On examination she was of a bulky built. A swelling was noticed in the left side of her abdomen at the level of the arcuate line. A soft to firm lump of about 6 X 5 X 3 cm3 was palpable in the left lower abdomen but there was no palpable hernial orifice. In recumbent posture the lump was decreasing in size and impulse was visible on coughing. Tone of abdominal muscles was good. Clinically a diagnosis of left sided Spigelian hernia was made. Sonographic imaging confirmed the diagnosis.

Fig.3 Ultrasonography picture patient with spigelian hernia

The hernial orifice in the Spigelian fascia, at the level of the mass was 3X3cm2. Patient was posted for a open hernioplasty.

Under epidural anesthesia, a horizontal incision was made over the swelling and the subcutaneous tissue was dissected down to the external oblique aponeurosis. The external oblique was incised in the direction of its fibers and the peritoneal sac was isolated by circumferential dissection.

The peritoneal cavity was entered after dividing the hernia ring. An adhesiolysis was done to free the sigmoid colon and omentum, which were the contents. Redundant peritoneum and fascia transveralis was trimmed and sutured after reducing the contents. The peritoneum was repaired. A polypropylene onlay mesh was put in the preperitoneal space overlapping the defect by 2-3 cm, and fixed with loose sutures.

The gap in the transverse abdominis and internal oblique was approximated. . Then aponeurosis of the external oblique was closed by continuous suture, and the subcutaneous tissue and skin were closed with staples. The postoperative course was uneventful. Patient was advised to avoid strenuous activity during recovery and to come for a follow up after 3 days.

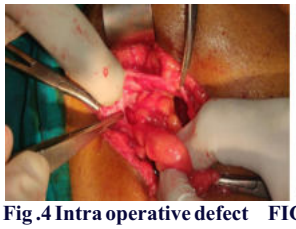

Fig .4 Intra operative defect FIG .5 Intra operative open sac

II.DISCUSSION

Spigelian hernia commonly occurs in patients over 50 years. It tends to be small and develop in the abdominal wall. Patients may not experience a visible bulge or evidence of swelling unless they possess.

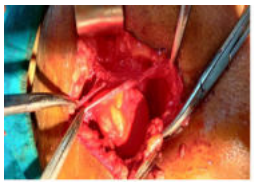

Fig.6 Repair of hernial defect

Fig.7 onlay meshplasty

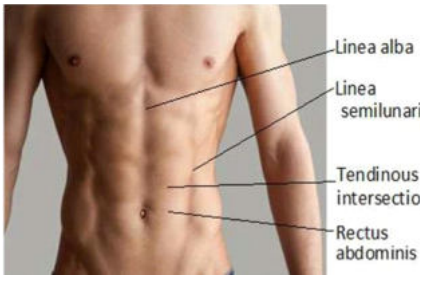

FIG.7 Normal anatomy of anterior abdominal wall muscle

minimal fat in the abdominal area. But in this case bulge was clearly visible. A CT was not advocated as ultrasound gave a clear cut diagnosis.

The linea semilunaris or Spigelian line is a curved tendinous intersection visible on lateral border of the rectus abdominis muscle, is formed by the aponeurosis of the internal oblique. The aponeurotic layer between the rectus abdominis medially and the semilunar line laterally is the Spigelian fascia. A hernia through this fascia is called a Spigelian hernia, or spontaneous lateral ventral hernia. These are very rarely seen hernias and constitute only 0.12% of all abdominal wall hernias.[1] Usually the sac content is omentum but small gut, appendix, sigmoid colon, gall bladder, stomach or ovary also have been reported. It can be congenital or acquired.[2] The weak spot in spigelian fascia created by perforating vessels may gradually lead to hernia formation. Other risk factors being obesity, multiparity, lifting heavy objects, excessive fluid in the abdomen, abdominal trauma, previous abdominal surgery, as a complication of continuous ambulatory peritoneal dialysis (CAPD).[3] The hernia can rarely enter the rectus sheath through linea semicircularis, and gives an impression of a hematoma in the rectus sheath. They are usually small with a high risk of strangulation [4 ,5], due to sharp fascial margin around the defect. A Richter type of hernia can occur if part of the bowel wall becomes trapped. It requires immediate evaluation and emergency surgical intervention. If the defect is < 2cm there is ample chances of developing intestinal obstruction. 20% of these patients can present with strangulation. It is rare, in comparison to other ventral hernias. Fortunately, surgery is straight forward and an inversion of sac alone is enough. Only larger defects require a mesh prosthesis in pre-peritoneal space or above the fascia. Laparoscopic approach to small uncomplicated Spigelian hernias combines the benefits of laparoscopic localization, reduction, and closure without the morbidity and cost associated with mesh.[6] Laparoscopic hernia repair, with either TAPP or TEP approach is recommended when the patient is not having obstruction [7,8,9]. A mesh is fixed with either tackers or manual suturing. The prognosis is excellent. Peri-operative care is same as given to the patient as to any other hernia patient There is significant advantages for laparoscopy in terms of morbidity and hospital stay . The total extraperitoneal laparoscopic technique offers best results in the elective treatment settings of spigelian hernia [10]

III. CONCLUSION

Spigelian hernia, also known as lateral ventral hernia, is very rare, with only 1000 cases reported in literature.[10] Usually presents as a mass appearing intermittently with localized pain or features of intestinal obstruction. Some cases present as only abdominal pain with no lump. It is extremely hard to diagnose the condition and it frequently remains unidentified as located inside the muscles of the wall of the abdomen. They need imago logical investigations to arrive at a correct diagnosis. An abdominal sonography is recommended first. A CT or a contrast enhanced CT reveals the diagnosis in doubtful cases. MRI is quite useful in difficult cases for a preoperative evaluation. If diagnosed, operation should always be advised.[11] It can be repaired by both conventional or laparoscopic approach. Usually an inlay mesh is put to cover large defects of 4 cm or more in diameter. Can be managed by transperitoneal approach either by placing the mesh in intraperitoneal position (onlay IPOM repair) or by raising the peritoneal flap and placing the mesh in preperitoneal space (TAPP) or a total extraperitoneal repair (TEP). There is significant advantages of laparoscopy in terms of morbidity and hospital stay . The total extraperitoneal laparoscopic technique offers best results in the elective treatment settings of spigelian hernia [12]

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