

E-TEP APPROACH FOR CONCURRENT SPIGELIAN HERNIA WITH INGUINAL HERNIA - A CASE REPORT

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ABSTRACT

Spigelian hernia is a rare type of primary ventral hernia that develops through a defect in the Spigelian fascia along the arcuate line and accounts for less than 2% of all abdominal wall hernias. Owing to its interstitial location and frequently vague clinical presentation, diagnosis is often delayed until the hernia enlarges or complications develop. .

We report the case of a 85-year-old male who presented with a progressively enlarging swelling over the right side abdominal wall of several years duration. Contrast-enhanced computed tomography demonstrated a large right-sided Spigelian hernia with an abdominal wall defect measuring 2.5 cm containing bowel loops without evidence of obstruction. The patient also had a recurrent left inguinal hernia . Both these defects were addressed by eTEP approach . The postoperative recovery was uneventful, and the patient was discharged in stable condition without early complications.

KEYWORDS: Spigelian hernia; Ventral hernia; eTEP; Inguinal hernia; Unilateral TAR ;Mesh repair; Abdominal wall reconstruction.

INTRODUCTION

Spigelian hernia is an uncommon form of ventral hernia that accounts for less than 2% of all ventral hernias and is frequently encountered in older patients with factors that increase intra-abdominal pressure or weaken the abdominal wall. Owing to its deep location beneath the external oblique aponeurosis, clinical diagnosis may be challenging, particularly in obese patients or those presenting with large or complex abdominal wall defects. Spigelian hernias have a relatively high risk of incarceration and strangulation because of their often narrow hernial neck. They may coexist with other abdominal wall hernias, making surgical planning more complex.

Computed tomography is the preferred imaging modality for defining the hernial defect, its contents and its relationship to the abdominal wall and intra-abdominal structures. Surgical repair is the definitive treatment, with laparoscopic and robotic approaches increasingly favored because of their superior visualization and ability to provide wide mesh overlap. The extraperitoneal approach, including enhanced-view totally extraperitoneal (eTEP) repair, allows mesh placement in the retromuscular plane while avoiding direct contact with the abdominal viscera.

We report a rare and technically challenging case of an 85 year old male with right Spigelian hernia associated with a recurrent left sliding inguinal hernia containing a major portion of the urinary bladder, successfully managed using an eTEP approach with unilateral transversus abdominis release (TAR) and mesh repair.

Case report:

A 85-year-old gentleman presented to the General Surgery outpatient department with swelling in the right side abdomen and left groin, progressively increased in size over the past 10 years, abdomen pain for one month, gradually progressive associated with intermittent difficulty in micturition for 2 weeks, and no other specific complaints. History of previous left inguinal hernia surgery done twice 30 years back. He was a known case of hypertension, on ayurvedic treatment.

On general physical examination, the patient was with normal vital parameters. His weight was 63 kg. Cardiovascular, respiratory, and central nervous system examinations were within normal limits.

Local examination revealed a huge swelling measuring approximately (15 × 10) cm over the right lumbar region with swelling of size 4x3cm over the left inguinal region. A visible expansile cough impulse was noted on inspection. There was no local rise in temperature, and the swelling was non-tender. On palpation , the size, shape, and site of the swelling were confirmed. There was no divarication of the recti. All other hernial orifices were free, and the external genitalia were normal. An expansile cough impulse was palpable. The swelling was partially reducible, bowel sounds present over the swelling . There were no scars, sinuses, dilated veins were seen over the skin.



Fig. 1: (A) Clinical presentation showing right Spigelian hernia and left recurrent inguinal hernia (B) Intraoperative surface markings

CT abdomen revealed bilateral polycystic kidney disease, a right Spigelian hernia with a 2.5 cm defect containing omentum and small bowel loops, and a recurrent left sliding inguinal hernia with a 3 cm defect containing omentum, small bowel loops, and more than two-thirds of the urinary bladder as content. The findings were consistent with a large right-sided Spigelian hernia.

The patient was planned for e-TOP for right Spigelian hernia and recurrent left inguinal hernia mesh repair. The patient underwent surgery under general anaesthesia with epidural analgesia. Ports were placed in 10mm in left midclavicular line above the level of umbilicus, 5mm port mid clavicular line at the level of umbilicus, 10mm port midclavicular below the level of umbilicus 5mm port in infraumbilically 5mm port in RIF.

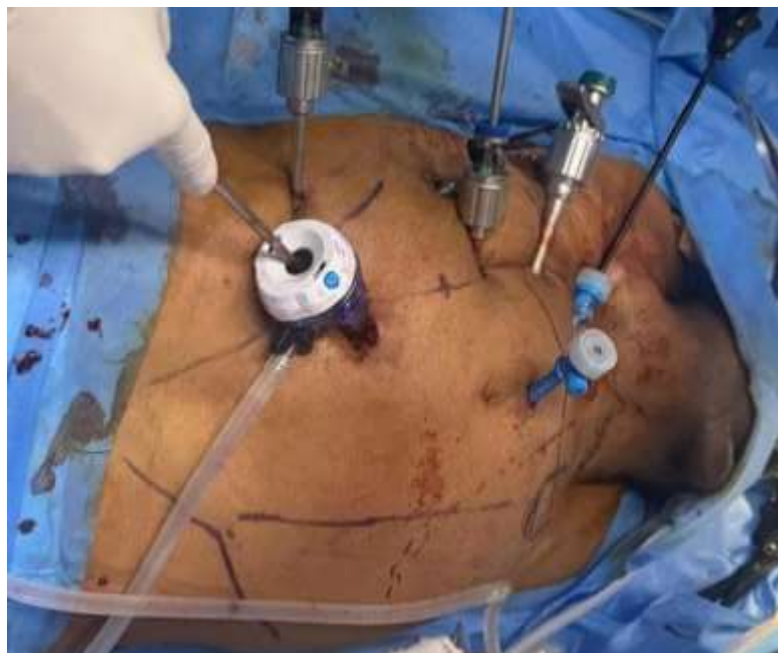


Fig. 2: Intraoperative port positioning

Incision made 4cm above the level of umbilicus in the midclavicular line. Visiport inserted and pneumoperitoneum created. The retrorectus space was developed. Space of Bogros and space of Retzius created. Hernial sac identified. 3/4th of Bladder was noted as content of direct hernia sac. The contents were reduced and parietalisation of cord structures done. A polypropylene mesh of size 10x15 cms was placed over the left hernial defect and secured with tackers. The

monitor shifted to the right side. Right side retrorectus plane was created by doing an inferior cross over. Laterally the space of Bogros was enlarged towards the head end of the patient. Cave of Cornud was created. Right side unilateral TAR was done which exposed the right half of the Spigelian hernia sac, which otherwise will never be coming under vision. Sac reduced completely as it was empty. Defect in the roof was closed with 2-0 barbed sutures. Polypropylene mesh of 13x14 cms was placed over the defect and covered.

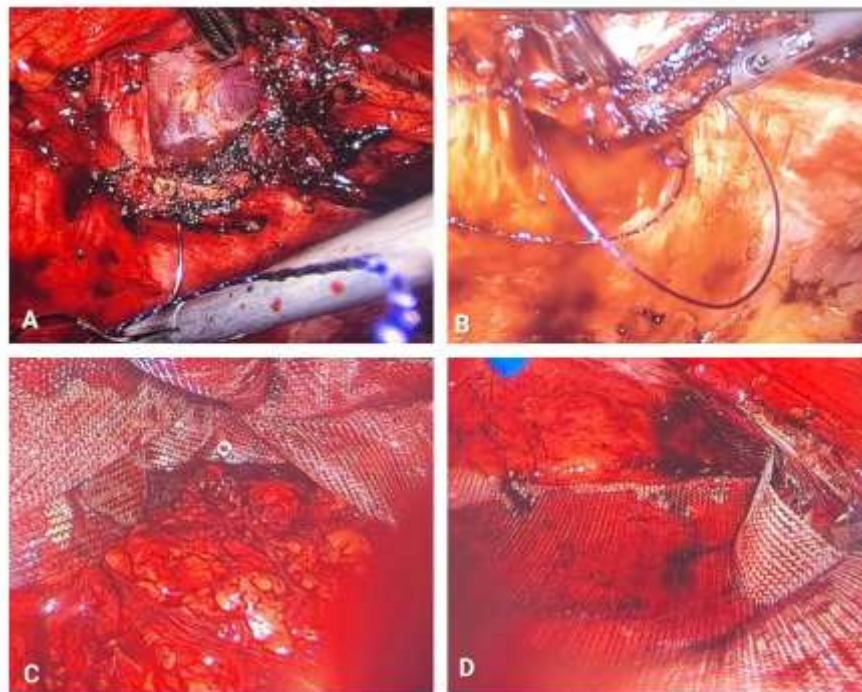


Fig. 3: (A) Spigelian hernia defect (B) Closure of the Spigelian hernial defect (C) Mesh of 10x15cm places over the recurrent left inguinal hernia after reducing bladder as content (D) Mesh of 13x14cms placed over the Spigelian defect

Haemostasis achieved. Pneumoperitoneum reversed and Ports removed under vision. Fascia closed with 2-0 vicryl. Skin closed with 3-0 ethilon. Sterile dressing done. Scrotal bandage applied.

The patient was extubated on the same day. The postoperative period was uneventful. There was no evidence of abdominal compartment syndrome following abdominal wall closure. The patient remained comfortable postoperatively and was discharged on postoperative day 5.

DISCUSSION

Spigelian hernia is a rare ventral abdominal wall hernia occurring through a defect in the Spigelian aponeurosis along the semilunar line. It accounts for approximately 1–2% of all ventral hernias and most commonly occurs below the arcuate line within the Spigelian hernia belt, where the posterior rectus sheath is deficient. Because the hernia sac usually lies beneath the intact external oblique aponeurosis, clinical diagnosis is often difficult, leading to delayed presentation.[1–4]. Risk factors include advanced age, obesity, chronic cough, constipation, previous abdominal surgery, pregnancy, and other conditions associated with chronically increased intra-abdominal pressure. Patients commonly present with localized pain or a lateral abdominal wall swelling, although in smaller hernias physical examination may be inconclusive due to the interparietal location of the hernia [3,4].

Unlike other ventral hernias, Spigelian hernias have a relatively high risk of incarceration and strangulation because of their narrow fascial neck. Therefore, surgical repair is recommended once the diagnosis is established, even in asymptomatic patients.

Contrast-enhanced computed tomography (CT) is the investigation of choice as it accurately identifies the fascial defect, delineates the hernia contents, and assists in operative planning. In our patient, CT demonstrated a right Spigelian hernia of size 2.5cm with a recurrent left inguinal hernia of 3cm defect, with these findings patient was planned for definitive surgical management.

The present case was further complicated by a recurrent left sliding inguinal hernia containing more than two-thirds of the urinary bladder. Sliding hernias involving the urinary bladder are uncommon and are more frequently encountered in elderly men. Previous surgery for the left inguinal hernia twice in the past further increased the technical complexity of the repair. Careful preoperative CT evaluation was therefore essential in identifying the contents of both hernias and planning the operative approach.

Laparoscopic repair offers several advantages in Spigelian hernia, including improved visualization of the defect, identification of additional occult hernias and the ability to achieve adequate mesh overlap. The eTEP approach additionally permits placement of the mesh in the retromuscular plane. In the present case, the right Spigelian defect was initially difficult to visualize because of its lateral location. An unilateral transversus abdominis release allowed extension

of the retromuscular working space and adequate exposure of the Spigelian defect. The hernial sac was reduced, the defect closed with barbed sutures and a 12 × 14 cm polypropylene mesh was placed with adequate coverage. The recurrent left inguinal hernia was approached through the same extraperitoneal dissection.

CONCLUSION

Spigelian hernia is a rare abdominal wall hernia that can present as a large and complex defect, particularly in elderly patients. The coexistence of a large Spigelian hernia with a recurrent sliding inguinal hernia containing a substantial portion of the urinary bladder presents significant technical challenges. eTEP with selective unilateral TAR provides excellent extraperitoneal visualization, facilitates reduction of hernial contents and permits adequate mesh coverage of complex defects. Careful preoperative CT assessment and attention to abdominal compartment physiology are essential when reducing long-standing large hernias. eTEP technique provides a platform to address both the defects at the end time. And so, This case demonstrates that eTEP repair can be safely used for simultaneous management of complex Spigelian and recurrent inguinal hernias.

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