

REVIEW ARTICLE

HERNIA IN UNDESCENDED TESTIS MIMICKING AS SPIGELIAN HERNIA: STUDY OF TWO CASES WITH REVIEW OF LITERATURE

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ABSTRACT: Occurrence of Spigelian Hernia is rare accounting for 0.12% of all ventral hernias¹. It is most commonly reported in adults while pediatric cases are rare. Though the association of Spigelian-Cryptorchidism syndrome has been comprehensively reported in pediatric patients, the same has not been detailed so far for the adult patient population. We herein discuss two cases of Spigelian hernia, both adults in whom intra-operative exploration revealed associated ipsilateral undescended testis. Not only is the pre-operative diagnosis seldom if ever, the imaging studies may not be successful in differentiating the type of hernia^{2,3}. Even in the present cases radiological studies were inconclusive and definitive diagnosis was only attained intra-operatively.

KEY WORDS: Undescended testis, Spigelian hernia, deep inguinal ring.

CASES PRESENTATIONS:

CASE ONE: A 62 years old male patient presented to the Outpatient department with the complaint of a large swelling over the right lower abdomen present for around 30 years. His bowel habits were normal and there were no urinary complaints. The patient did not have history of trauma. The patient was a chronic smoker for approximately forty years.

Clinical examination revealed a huge lump of about 26X20 cm, occupying the Right Iliac fossa and Right Lumbar region and encroaching Umbilical and Hypogastric region [Image-1]. The lump was oval shaped, soft and partially reducible with gurgling sound. Cough impulse was also present. Percussion note were resonant and bowel sounds were present over the lump on auscultation. Genital examination revealed absence of Testis and cord structures on the right side. Per rectal examination revealed mild prostatomegaly. A clinical impression of spigelian hernia was made and USG of abdomen was advised. USG report suggested the probability of Spigelian hernia. CECT [Image-4] was also undertaken and the findings were in accordance with the USG result.

Operative intervention was thus planned. Intra-operatively it was found to be interparietal inguinal hernia. Careful exploration revealed the hernia sac coming out of very widely dilated DIR of about 4 cm diameter and extending forward superiorly and laterally as well as medially and downwards [Image-2,3]. Testis was intraabdominal and atrophic while the External inguinal ring was almost completely obstructed. The external oblique muscle and the aponeurosis were extremely thin [Image-2] and the hernial sac was lying in between external and internal oblique muscles. A long segment of small gut with the mesentery was found within the sac. Inferior epigastric vessels were identified just medial to the neck of the sac. A formal herniotomy, right orchidectomy and strengthening of the floor was subsequently done by preperitoneal placement of prolene mesh. Post operative recovery was uneventful and patient was discharged on the second postoperative day. He remained symptom free at follow up of six months.

REVIEW ARTICLE

CASE TWO: A 73 yr old patient presented with the complaints of swelling left inguinal region for the last 25 years. Physical examination revealed presence of a large hernia which paradoxically was localized in the upward and lateral direction [Image-5]. There was also absence of testis on the left side along with Phimosis. Per Rectal examination showed prostatomegaly.

Patient was subsequently taken up for surgical repair. Intraoperatively a left inguinal hernia with the sac in the subcutaneous plane was found. Within the sac, loops of intestine were visible along with peristalsis. The left testis was rudimentary and was found lying loosely attached to wall of the sac. There was no difficulty in separating the sac from the skin or the testis. Sac was returned to abdominal cavity, orchidectomy was done and hernioplasty was done using prolene mesh. Circumcision was also done.

Post operative period was uneventful and patient was discharged on second postoperative day. He is doing well in follow up at two months.

REVIEW OF LITERATURE: The real reason of occurrence of hernia is a patent processus vaginalis and a variable gubernaculum testis with its main insertion into the bottom of future testis, though there may be other insertions. If the scrotal tail is maldeveloped, the hernia may course up to the inguinal canal and thereafter may take an entirely different course then going into scrotum. Also, if there is resistance to the descent of the sac, it may progress further in different direction and plane and may become interparietal (as in our first case or even subcutaneous (second case). Although the exact mechanism of this co-existence of Spigelian hernia and ipsilateral undescended testis remains elusive, several studies have postulated about the underlying events giving rise to this association. According to a study⁴ the ectopic testis drags down a processus vaginalis which subsequently opens up with increased intra-abdominal pressure thus producing a Spigelian hernia. On the other hand, Rushfeldt et al⁵ cited four congenital ipsilateral elements in causation of this association: a defect in the Spigelian fascia, a hernia sac containing testis, absence of gubernaculum and absence of inguinal canal. While the testis was found lying outside the sac⁴ like in our case, it was within the sac in other series⁵. In Macready's⁶ series of 129 cases in males, congenital displacements of the testis were present in 67.1% of the cases. While in another series⁷ of interstitial hernia in males, abnormally placed testis were present in 51.3% cases. That an ectopic testis is not the only etiological factor present, however is evidenced by the occurrence of interstitial hernia in males with normally descended testis⁸.

Lower and Hicken⁸ reported in their series, that the interparietal hernias among all inguinal hernias should be as frequent as 0.01-1.6%. Three subtypes of interparietal hernia have been described viz. Pre-peritoneal (between peritoneum and transversalis fascia), interstitial (between transversalis fascia and transverse, internal oblique or external oblique muscles), and superficial (between external oblique and skin or within aponeurosis of the inguinal region. In our first case it was the interstitial variety, which is most common of the three subtypes as reported⁸. The other case was subcutaneous in type which comprises 20%.

The case of Spigelian hernia which was not encountered in our study is different. It is a protrusion of preperitoneal fat, peritoneal sac, or organs due to a congenital/acquired defect in the linea semilunaris^{9,10}. The line of transition between muscle fibres and the aponeurosis of the transversus abdominis muscle and the lateral border of the rectus sheath defines the semilunar, or

REVIEW ARTICLE

spigelian, zone. A lateral ventral hernia may occur anywhere through the semilunar zone from above the level of the umbilicus to the pubic symphysis¹¹.

The widest portion of the spigelian fascia is the area where the semilunar line intersects the arcuate line of Douglas (the linea semicircularis). It is in this region, between the umbilicus and the arcuate line, where more than 90% of spigelian hernias are found. The rearrangement of muscle and fascial fibres at the intersection of the arcuate and semilunar lines is thought to cause an area of functional weakness that is predisposed to hernia formation. CT and ultrasound have been used as a radiological adjunct for diagnosis in doubtful cases^{12, 13, 14, 15}.

As evident from the present series accurate preoperative differentiation among three conditions can at times become very challenging even with the help from imaging modalities especially in the setting of a very large swelling and widely dilated deep ring.

Undescended testis with obstructed external ring may be considered as an important etiological factor in our case. Though interparietal hernias have been reported by many authors a combination of poorly developed hemiscrotum⁶, completely obstructed external inguinal ring with undescended testis along with giant interparietal hernia is a very rare event as only two cases have been reported in last 100 years.

CONCLUSION: A combination of large lower abdominal lump with undescended testis and poorly developed hemiscrotum is a very rare event. Clinical diagnosis is very challenging and diagnostic dilemma persists even with the help of USG and CT scan, as a confident preoperative diagnosis may change drastically intraoperatively. Hence great caution needs to be exercised towards management of patients with such kind of presentation.

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REVIEW ARTICLE

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IMAGE-1: Clinical photograph of CASE-1



IMAGE-2: Intra-operative thinned out External Oblique Aponeurosis

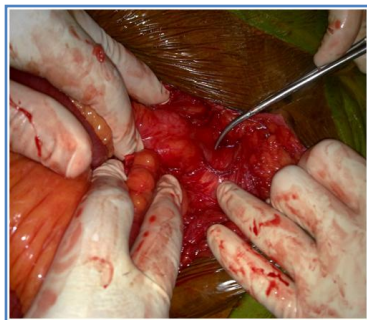


IMAGE-3: Inferior Epigastric Vessels lying Medial to the hernia sac



IMAGE-4: CT SCAN of CASE TWO

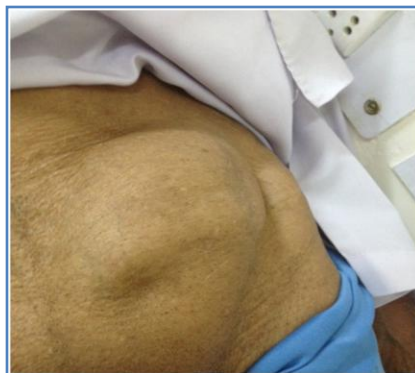


IMAGE-5: Clinical photograph of CASE-2

REVIEW ARTICLE

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