J. Dhaka National Med. Coll. Hos. 2023; 29 (02): 54-57

Case report

A case report of obstructed spigelian hernia

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Abstract:

Abdominal wall hernias through the arcuate line termed spigelian hernias are rare. they constitute approximately 1% (range 0.1-2%) of all hernia. Developing via the spigelian fascia, thus called lateral, these types of hernia tend to go undetected and peak at about 50-60 years old. We present a case report of 63 years old Muslim female presented with history of gradually increasing lump and vague abdominal pain at right lower abdomen for past 6 months. On examination we found that a soft ill-defined swelling was palpable in the right illiac fossa slightly above and lateral to the deep inguinal ring without expansile cough impulse. CT scan in prone position was done and it finally revealed the defect adjacent to the semilunar line and at the lateral edge of the rectus muscle. There was a 3 cm defect lateral and superior to the deep ring under the external oblique aponeurosis and defect was sutured with 2-0 poly propylene by interrupted sutures. A 15 x 15 cm poly propylene mesh was placed over the defect under external oblique aponeurosis.

Keywords: Obstruction, Spigelian Hernia.

Introduction:

Protrusion of viscus or a part of viscus through its containing cavity is known as hernia. Spigelian hernia is one of the rare abdominal hernia 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 tubercle at the lateral edge of the rectus muscle inferiorly. Spigelian hernia is named after Adrian Van der Spighel who described semilunar like (lineaspigeli) in 1645.[1] Spigelian hernia located between the muscular layers of the abdominal wall and can be easily overlooked because of obesity. They are difficult to diagnose because of their location and lack of specific symptoms.[2] The diagnosis has been considerably aided by the introduction of ultrasonography and Computed Tomography.[3] Spigelian hernia constitute about 0.12 to 0.2 % of all abdominal hernias usually found between 50 and 60 years, affecting both sides and both sexes equally.[4] Spigelian hernia occurs anywhere on the spigelian fascia, but it is reported that more than 90% of these hernias are located in the "Spigelian belt", which is a transverse 6-cm-wide zone in the lower abdominal wall (Fig. 1).[5]

Once diagnosed, spigelian hernia require operative repair due to risk of strangulation. Elective repair of uncomplicated spigelian hernia can be performed both laparoscopically and by an open technique, with the former reported to be associated with a lower morbidity and shorter hospital stay.[6] The cause of spigelian hernia is generally thought to be multifactorial, involving both congenital and acquired factors. However, some reports suggest that up to 50% of spigelian hernia occur in patients with history of prior abdominal surgery

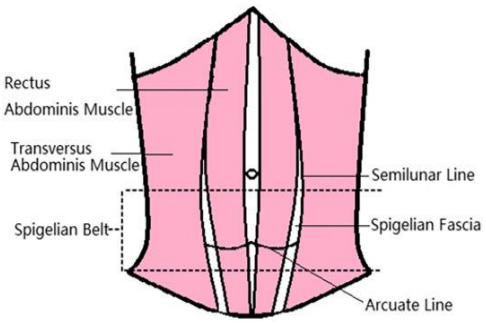

Fig-1: Figure showed the location of spigelian fascia and "Spigelian belt".

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Received: 15.05.2023 **Accepted:** 19.06.2023

Obstructed spigelian hernia are extremely unusual and difficult to diagnose because of non-specific symptoms and sign with very few reports in the literature. Here we document the case of an obstructed spigelian hernia in an elderly lady.

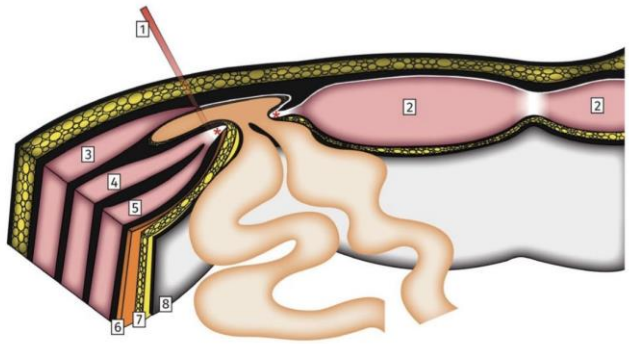

Fig. 2 Spigelian Hernia surgical anatomy. Drawing depicting a left-sided Spigelian hernia, axial view. Note the Spigelian hernia penetrating the Spigelian fascia (red asterisks) with an intact External oblique aponeurosis. (1) Semilunar line, (2) Rectus abdominis muscle, (3) External oblique muscle with aponeurosis, (4) Internal oblique muscle, (5) Transverse abdominal muscle, (6) Fascia transversalis, (7) Pre-peritoneal fat, (8) Peritoneum

Case report:

A sixty three years old Muslim female, born in Kotowali, Dhaka presented to the outpatient department with complaints of gradually increasing lump and vague abdominal pain at right lower abdomen for past 6 months without any features of intestinal obstruction like severe abdominal pain, vomiting and constipation. She was a known case of hypertension for 8 years and known diabetic for the past 7 years and diagnosed as hypothyroid 5 years ago. She underwent total abdominal hysterectomy about 10 years ago with uneventful post operative period. but there was no history of trauma to abdomen. She did not have any other chronic medical illness or any known allergy to medications or food.

On examination, a soft ill-defined swelling was palpable in the right illiac fossa slightly above and lateral to the deep inguinal ring without expansile cough impulse. No impulse on cough could be appreciated at the deep ring. Swelling was approximately 4cm x 4cm in size, smooth overlying surface, no skin color change, slight tenderness present on palpation but no rebound tenderness. Swelling was irreducible. There were no significant general examination findings. Ultrasonography was done and it revealed bowel loops through muscle gap. however due to its atypical location and diagnostic dilemma we investigated the patient with contrast enhanced CT scan. Initially conventional CT scan abdomen and pelvis is supine position was done. CT revealed a large right lower anterior parietal wall lipoma, where the hernia could not be appreciated, however we repeated the CT scan in prone position [Fig. 3] and it finally revealed the defect adjacent to the semilunar line and at the lateral edge of the rectus muscle. Other relevant investigations showed CBC – normal, RBS – 5.3 mmol/l, S. Creatinine – 0.9 mg/dl, SGPT – 30 u/l, Na – 142 meq/l, K – 3.7 meq/l, Chloride – 103 meq/l, Thyroid function test – normal, HBsAg – Negative, X-ray chest P/A view – normal, Urine R/E – normal. ECG within normal limit and Echocardiography also normal.

Preoperative preparation was done and the patient underwent exploration of lump by a transverse skin incision under spinal anesthesia. There was a 3 cm defect lateral and superior to the deep ring under the external oblique aponeurosis. The muscular defect contains omental fat, covered by a sac. Content was reduced into abdominal cavity; sac was excised and defect was sutured with 2-0 poly propylene by interrupted sutures. A 15 x 15 cm poly propylene mesh was placed over the defect below external oblique aponeurosis. after securing all bleeding point, abdominal cavity was closed in layers. Patient was discharged on 4th postoperative day without any complications. Patient was advised to avoid strenuous activity. Patient came on 7th post operative day and we found superficial surgical site infection. After 10 days of dressing, infection was under control and we gave secondary suture by 2-0 polypropylene (vertical mattress). After 14 days of secondary suture, stitches were removed as the wound was healthy.

Fig. 3: CT scan showing the defect.

Discussion:

Spigelian hernias occur secondary to a defect in the transversus abdominis muscle and rectus sheath aponeurosis, which allows abdominal contents to protrude through the linea semilunaris (less commonly known as the Spigelian line or belt), mostly occur just below the umbilicus where the aponeurosis is widest and weakest. Spigelian hernia contents most often includes small intestine, but can also include cecum, appendix, sigmoid colon or omentum.[3, 8] The clinical diagnosis of spigelian hernia is challenging since the symptoms can be variable and non-specific. Pain is the most common symptom and is usually more localized to that side of the abdomen.[3]. Ultrasound is recommended as first line imaging investigation, and CT scanning should be added in challenging cases.[9] Other studies show that the CT scanning is better than ultrasound, because ultrasound is dependent by the operator.[10] Still, it is reported that only 50% of cases are correctly diagnosed preoperatively.[2] Spigelian hernia occurs in two variants - acute and chronic incidental. In first type patient presents as acute abdomen, require urgent investigation and surgical treatment. In second type it is diagnosed incidentally while investigating recurrent and vague abdominal pain as in our case. Pre-operative clinical diagnosis is possible in patients with palpable mass along the spigelian aponeurosis, however, this may be difficult in those presenting with non-specific abdominal pain and have no visible or palpable mass due to reduction of hernia sac content or presence of intramural or inter parietal hernia.[11] The most common diseases that mimic spigelian hernia include rectus sheath hematoma, abdominal wall abscess and seroma, lipoma, peritoneal tumor, implants and pseudocyst at the end of the ventriculoperitoneal shunts.[2] Spigelian hernia is dangerous and the risk of incarceration is higher than other hernias because the defect can be small. It is reported that the risk of incarceration is up to 21% and thus patients should be offered prompt surgical repair.[12] Surgical procedures are generally classified as open and laparoscopic procedures. The laparoscopic approach should be applied in uncomplicated cases.[13] If the defect is extensive (usually more than 5 cm), open surgery should be performed.[14] Repairing the defect of spigelian hernia contains fascial closure or fascial suturing reinforced with synthetic mesh in the cases of large defects.[15,16] Small hernia defects could be repaired by laparoscopic herniorrhaphy alone.[17] Now a days, there is a positive trend of dealing with these types of hernia with a minimally invasive method. It has been suggested that the choice method of surgery, whether open or laparoscopic, should rely on the experience of a surgeon and the stage of illness.[14]

Conclusion:

A mass and pain in the right lower abdominal wall, spigelian hernia can be one of the differential diagnosis. Though spigelian hernia is rare, it can be missed hence a high index of suspicion is required for accurate diagnosis. The risk of strangulation of spigelian hernia is higher than other hernias due to narrow gap. Clinical diagnosis is challenging and CT scan is the diagnostic tool of choice. Surgical repair is the definitive treatment and involves primary or mesh repair of the defect as appropriate

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