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RESEARCH ARTICLE

The Unusual Hernias in Surgery Anatomical and Surgical Perspectives

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Abstract

Hernias in general are a common surgical entity. In contrast to common types of hernias like Inguinal or Femoral Hernias other Hernias are not that common and present atypically as diagnostic dilemmas. The article presents both Anatomic and Surgical Perspectives of some rarer types of hernias.

In general hernias are most commonly predisposed by risk factors . Risk factors are : Suture material Absorbable (catgut) suture carries higher risk , Method of suturing: Interrupted suture Drainage :Drainage directly from wound , Incision (in order of risk) : Median > Paramedian >Transverse. Etiology of operation : Operation on pancreas or for obstruction Other Precipitating Factors are: Uremia, Sepsis, Liver failure, Malnutrition, Diabetes, Corticosteroid therapy, Anemia.

Epigastric Hernia

Linea alba is a midline raphe connecting the abdominal muscles and their aponeurosis of right side with the left side . The external abdominal oblique muscle is the largest and thickest of the flat abdominal muscles and The muscle gives way to a flat, strong aponeurosis at about the midclavicular line, and it inserts medially into the linea alba. The internal abdominal oblique muscle fibers course opposite the direction of those of the external oblique and also gives way to a flat aponeurosis medially, which splits to enclose the rectus muscle. The aponeurosis reunites medial to the rectus and inserts into the linea alba. The transversus abdominis muscle also gives way to a flat aponeurosis that inserts into the linea alba. The rectus abdominis muscles are held close together near the anterior midline by the linea alba. The linea alba narrows considerably below the umbilicus so that the medial edge of one rectus muscle may actually overlap the other.

Hernias of the linea alba occur more commonly above the umbilicus than below. These hernias are usually small and can be difficult to diagnose especially in the obese patients. Mostly the Patients complain of a painful, pulling sensation at the midline upon reclining. These hernias can usually be repaired with simple suture closure. The surgeon should be aware that these hernias are frequently multiple, and adequate exposure at the linea alba adjacent to the hernia may reveal additional occult hernias.

Richter's Hernia:

For a hernia to be considered a Richter hernia, the antimesenteric border of the intestine must protrude into the hernia sac, but never to the point of involvement of the entire circumference of the intestine. **1** The symptoms and clinical course vary widely, depending on the degree of obstruction related to the amount of bowel circumference involved. Strangulation can occur, presenting with a painful mass, nausea, vomiting, and abdominal distention. Conversely, a small, asymptomatic Richter hernia may remain unrecognized until the time of operation. A Richter hernia can occur within any type of abdominal wall hernia, but the most common location is at the site of a femoral hernia.

Richter's hernias have received increased attention with the dramatic increase in the use of the laparoscope. Anecdotal reports have appeared describing Richter's hernias at trocar incisional hernias. **2**

Repair of a Richter hernia is based on the location of the hernia. Critical to the repair of a Richter hernia is an adequate evaluation of the intestine for viability. In some situations, it is impossible to adequately assess or treat the compromised bowel through the incision for hernia repair. In these cases, an additional midline incision may be indicated to perform an adequate exploratory laparotomy. Diagnostic laparoscopy can be used as an alternative to exploratory laparotomy to evaluate the intestine.

Littre's Hernia: The presence of a Meckel diverticulum as the sole component of the hernia sac defines a Littre hernia. This rare entity can be extremely difficult to diagnose due to the frequent lack of obstructive symptoms. Strangulation of the Meckel diverticulum can occur, resulting in abscess or fistulization as the presenting complaint. Surgical management includes repair of the hernia with or without resection of the Meckel diverticulum. A symptomatic or strangulated Meckel diverticulum should be resected. The elective resection of an asymptomatic Meckel diverticulum should be based on the patient's age and overall clinical condition.

Spigelian Hernia: A hernia through the fascia along the lateral edge of the rectus muscle at the space between the semilunar line and the lateral edge of the rectus muscle is a spigelian hernia. Most commonly, spigelian hernias occur inferior to the semicircular line of Douglas. The lack of posterior rectus fascia below the line of Douglas contributes to inherent weakness in this area. Many patients presenting with spigelian hernias are obese, and preoperative diagnosis is correct in only 50% of patients. **3** Spigelian hernias may be found incidentally by ultrasonography or computed tomography (CT).

Spigelian hernias are usually successfully repaired at the initial operation. Approximation of the tissues adjacent to the defect with interrupted sutures is adequate in most patients. However, if the defect is large or the tissues attenuated, prosthetic mesh reinforcement may be indicated.

Obturator Hernia

The obturator canal is covered by a membrane pierced by the obturator nerve and vessels. Weakening of the obturator membrane and enlargement of the canal may result in the formation of a hernia sac, which can lead to intestinal incarceration and obstruction. The obturator canal, which is 2 to 3 cm. long, may contain a fat pad, considered by many surgeons to be pathologic. The patient may present with evidence of compression of the obturator nerve, resulting in pain in the medial aspect of the thigh. This was described by John Howship **4** in 1840 and independently by Moritz Heinrich Romberg **5** in 1848.

Surgical repair of obturator hernias has been performed through various approaches. The abdominal approach, open or laparoscopic, is preferred when compromised bowel is suspected. The retropubic (preperitoneal) approach is preferred by many surgeons when there are no signs of obstruction or intestinal involvement. The obturator, inguinal, and combination approaches have been described. Regardless of the approach, reduction of the contents and inversion of the hernia sac are the initial steps in the surgical treatment of obturator hernias. Gentle manipulation of the obturator nerve with a blunt nerve hook may facilitate reduction of the fat pad from the canal into the pelvis. The fat pad can then be dissected free from the canal, thus relieving the pressure on the obturator nerve. The dilated obturator foramen is repaired with interrupted sutures.

Lumbar (Dorsal) Hernia: Lumbar or dorsal hernias can occur in the lumbar region through the posterior abdominal wall. Grynfeltt's hernia appears through the superior lumbar triangle, whereas Petit's hernia occurs through the inferior lumbar triangle. Diffuse lumbar hernias, a third type, are most often iatrogenic. Most diffuse lumbar hernias occur following flank incisions for kidney operations.

Lumbar hernias usually enlarge in size and become progressively and cosmetically troublesome. Simple suture repair of small hernias is feasible. With larger hernias, reconstruction is challenging. Overlapping and imbricating suture repairs are possible in some patients. However, patients with large hernias or those presenting with extremely attenuated tissues may require mesh reinforcement, pedicle flaps, or free flaps.

Sciatic Hernia: The greater sciatic foramen can be the size of hernia formation. These extremely unusual hernias are difficult to diagnose, and the patient may be symptom free until intestinal obstruction occurs. Other patients present with a mass in the gluteal or infragluteal area, which causes discomfort when standing. Sciatic nerve pain is rarely

caused by pressure from a sciatic hernia. These hernias can be surgically repaired transabdominally or through a transgluteal approach.

Perineal Hernia:

Perineal hernias caused by congenital or acquired defects are very uncommon. These hernias may occur following abdominoperineal resection, prostatectomy, or removal of the pelvic organs. A myocutaneous flap or mesh reinforcement is frequently required to repair a perineal hernia.

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