Lumbar hernia- A case report

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Abstract

Lumbar hernia is uncommon type of abdominal hernia, only rare cases reported in the literature. It is commonly misdiagnosed as lipoma, fibroma or muscle strain. It usually affects 30 to 60 years of age in the adult group with a male predominance, although it can occur at almost any age. It stated in the literature to be more common on the left side and in the inferior lumbar triangle of petit. In our case report we discus case of Libyan male of 21 years old, presented with right inferior lumbar hernia. No specific abdominal pain, he complained from right flank swelling The diagnosis was clinically and confirmed intra-operatively and the hernia was repaired using synthetic mesh. Six months Follow up after the operation shows no recurrence. It was a case of primary spontaneous lumbar hernia in the inferior lumbar triangle. Clinical findings were correlated to reach the diagnosis. We also highlight the types, the process of diagnosis and the surgical repair of lumbar hernias. Because of high risks of incarceration in lumbar hernias demand a relatively fast elective repair. The use of a mesh is recommended, and the surgical approach should be tailored to individual patient characteristics and risk factors.

Key words

Lumbar Hernia, posterior abdominal hernia, lipoma, fibroma, synthetic mesh, polypropylene mesh.

Introduction:

Lumbar hernias are a rare form of posterior abdominal hernia, in which the diagnosis can easily missed.so clinical suspicion is necessary for diagnosis.It is an extremely rare case with only 300 cases reported in history [1].

Lumbar hernias occur through defects in the lumbar muscles or the posterior fascia, below the 12th rib and above the iliac crest. Two types are described, according to the anatomical location of the hernial neck:

1.Superior lumbar hernia (Grynfeltt-Lesshaft hernia) : Occurs through the superior lumbar triangle ,more common than inferior lumbar hernias.

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2. Inferior lumbar hernia (Petit hernia): Occurs through the inferior lumbar triangle[2].

Etiology

There are three broad etiologies for lumbar hernias:

1. Congenital hernias (20%): Discovered in infancy and are due to defects in the musculoskeletal system, may be associated with other malformations.

2. Primary acquired lumbar hernias (55%): Spontaneous, without a causal factor such as surgery, infection, or trauma. risk factors include age, extremes of body habitus, quick weight loss, chronic disease, muscular atrophy, chronic bronchitis, wound infection, postoperative sepsis, and strenuous physical activity.

3.Secondary acquired lumbar hernias (25%): May be caused by blunt, penetrating, or crushing trauma; fractures of the iliac crest; surgical lesions; hepatic abscesses; infections in pelvic bones, ribs, or lumbodorsal fascia; or infected retroperitoneal hematomas[2].

Contents

Lumbar hernias may contain a number of intra- or retro-peritoneal structures including:

Stomach, small or large bowel, mesentery, momentum, ovary, spleen or kidney[2].

Case report

A Libyan male of 21 years old .He had a right palpable lumbar mass long time ago which increased in size, no specific pain detected. No history of previous surgeries. No history of chronic diseases. After a careful physical examination, there was a single oval swelling in the right lumbar region of 9x6cm in maximum measurement which has expansible impulse on coughing. It is reducible but not tender during physical examination [Figure 1].

The left side of lumbar region and the other hernia orifices were normal.The abdominal muscle tone was good.

During open surgical dissection under general anesthesia revealed a large hernia sac, which contained retroperitoneal fat, protruding through 3-4cm defect in the inferior lumbar triangle (Figure 2), in which inferior lumbar hernia was confirmed. The defect was repaired with using polypropylene mesh [Figure 3].

He was discharged on the same day and his postoperative course was uneventful. No recurrence after six months follow-up.

Figure 1-lumbar hernia during physical examination.

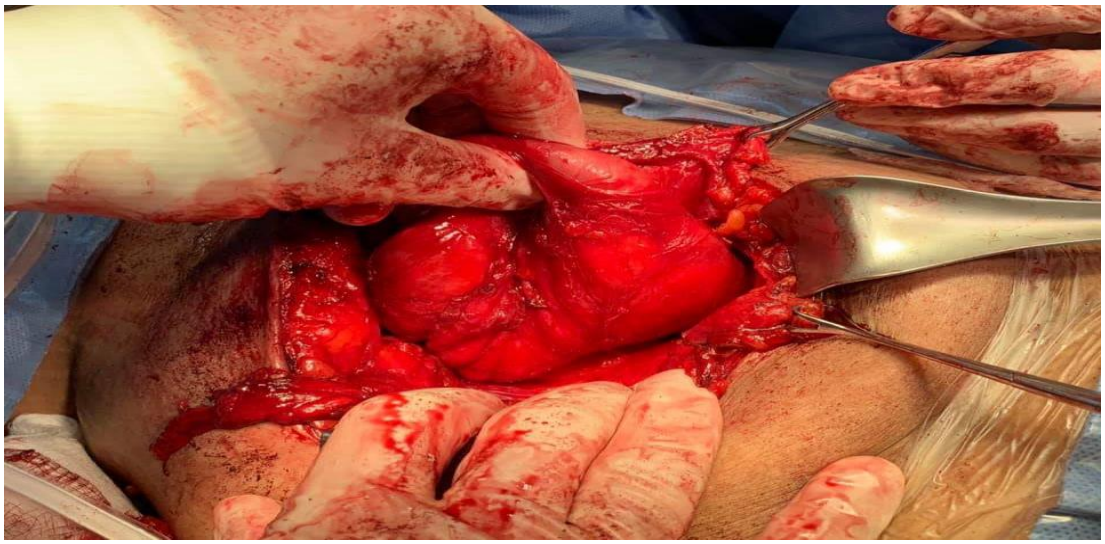

Figure 2- lumbar Hernia through a parietal defect.

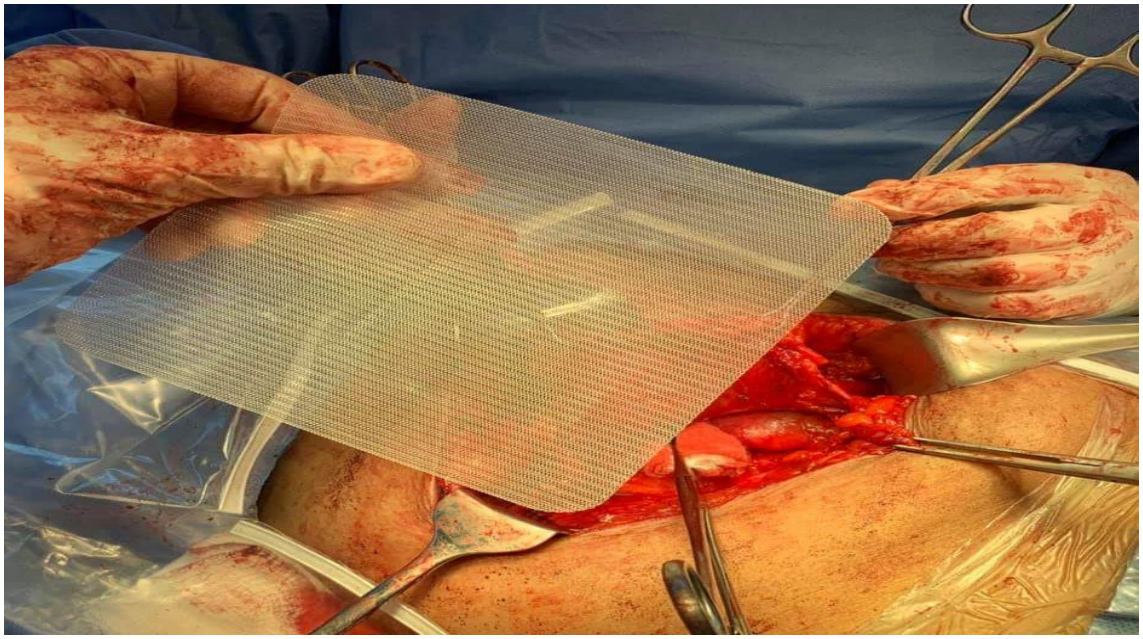

Figure 3- using a polypropylene mesh.

Discussion

Lumbar hernia is a form of flank hernia. Flank hernia is defined as any hernia from the anterior axillary line to spine and from costal margin to ischial tuberosity.

It is of two types: superior lumbar hernia and inferior lumbar hernia according to the anatomical location of the defect, that is, either through the superior or the inferior lumbar triangle [3].

The superior lumbar triangle of Grynfeltt-lesshaft is bounded anteriorly by the latissimusdorsi muscle, posteriorly by the quadrates lumborum and erector spinae muscles and superiorly by the 12th rib and serratus posterior inferior muscle [3].

The inferior lumbar triangle of petit is bounded anteriorly by the external oblique muscle, posteriorly by the latissimusdorsi muscle and inferiorly by the iliac crest [4].

Lumbar hernias are classified as congenital, generally associated with other malformations, or acquired, manifesting in adults spontaneously or secondary to trauma or surgical incision [5].

A lumbar hernia is difficult to diagnose as the patient is either asymptomatic or presents with non-specific symptoms. Clinical feature of a lumbar hernia is usually dull aching pain over an increasing size of lumbar mass. The lumbar mass becomes more prominent on straining and coughing and reduces in size in prone position. Expansile cough impulse is positive in a minority of patients. Diagnosis of these hernias may be missed as these are very rare cases [3].

Symptoms frequently consist of only lower back pain. Small hernias may be asymptomatic except for a palpable mass [6].

Just like other abdominal wall hernias, the most common clinical presentation is a palpable, usually reducible mass, which increases in size when abdominal pressure rises. The mass may disappear when the patient assumes a supine position. Symptoms may be back pain or lumbago along the area of the distribution of the sciatic nerve, possibly accompanied by unspecific abdominal discomfort and fatigue. One in ten patients with lumbar hernia present with acute complications, such as bowel obstruction or urinary obstruction, requiring emergency intervention [7].

Lumbar hernias have to be differentiated from lipomas, haematomas, fibromas, abscesses and kidney tumours. Lipomas are usually soft mobile masses which are not attached to the muscle layer. Fibromas are firm masses attached to fascia or muscle. Haematomas present with a history of trauma and local ecchymosis. Abscesses present with pain, oedema, cellulitis, fever and leucocytosis. Kidney tumours are non-painful, firm to hard in consistency, dull on percussion and may be associated with haematuria. None of these differential diagnoses

increase in size on straining or decrease in size in prone position. Expansile cough impulse is absent in all of them unlike a lumbar hernia [3].

Predisposing factors for primary acquired hernias are similar to those of other hernias and related to an elevated intra-abdominal pressure such as pregnancy, obesity, ascites, or chronic bronchitis, and weakness of the posterior abdominal wall caused by aging, muscle atrophy, and chronic debilitating disease. Extreme thinness and intense slimming may also predispose for the development of hernias [8].

CT scan or MRI may be performed to confirm the diagnosis. Both can show the defect in the musculofascial layer, the content of the hernia and help us to plan the repair. They can also rule out the other differential diagnoses of lumbar hernia [9].

These hernias should not be managed conservatively without surgery for two reasons. First, around 25%of these hernias are prone to incarceration and 10% to strangulation which may present with features of acute abdomen and need emergency surgery [10].

Many surgical options have been reported for repairing this hernia through primary closure of the defect or through use of aponeurotic or prosthetic materials. The Dowd technique is the technique most often used. The authors describe a patient with posttraumatic inferior triangle lumbar hernia who underwent laparoscopy and laparotomy. Both procedures failed. Finally, a novel lumbotomic surgical approach was used, involving the Dowd technique and prosthetic mesh [11].

Conclusions

Surgical treatment is either open or laparoscopic with equivalent success. Lumbar hernia requires relatively fast elective repair by a surgeon with experience in the field of hernia surgery because increase the risks for incarceration in lumbar hernias compared to the other hernias.

Fixing an inferior lumbar hernia is a complicated surgery. There are so many muscles and vital organs to work around and trying to establish a foundation for muscle-on-muscle tears is challenging

Laparoscopic pre-peritoneal repair with a mesh is recommended in lumbar hernia less than 5 cm, but the surgical approach in hernia more than 5 cm should be considered to individual patient characteristics and risk factors.

The good news about laparoscopic procedures is the recovery time is significantly shorter than larger incision surgeries (open heart, for example). Pain is also minimized with the tiny lacerations.

Many surgeons will recommend a regimen of four to six weeks of non-surgical tactics before deciding to go into the operating room. If pain cannot be effectively managed with other options, then surgery can be scheduled. Conservative treatments can continue post-surgery to

aid in recovery and forward-thinking pain management. A focus should be given to prevention, as well, to minimize the risk of re-injury.

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