

Traumatic Lumbar Hernia

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Abstract

Lumbar hernias are a rare type of abdominal wall hernia with fewer than 300 cases reported in the literature over the last 300 years. The aetiology is overwhelmingly due to blunt abdominal trauma such as a motor vehicle collision. It may also arise due to surgery or infection. Surgery remains the mainstay of treatment however the method of repair remains controversial and often provides a challenge for the surgeon. Laparoscopic vs. open repair as well as the type of mesh used (absorbable vs. non absorbable vs. biosynthetic) has not been well elucidated in the current literature.

Keywords: Lumbar hernia; Laparoscopic mesh repair; Traumatic lumbar hernia

Introduction

Lumbar hernias are an uncommon form of ventral abdominal wall hernias, accounting for less than 1.5% of all abdominal hernias, with fewer than 300 cases reported over the past 300 years. About 25% of all lumbar hernias have a traumatic etiology [1]. This may be post-surgical or following blunt injuries associated with intra-abdominal injuries. Their management often constitutes a surgical challenge.

Case Report

A 55 year old woman presented with right flank pain. There was a history of a motor vehicle collision, seven years previously.

The pain had been increasing over the past month. Clinical examination revealed a swelling in the right flank that was reducible in the supine position. The rest of the abdominal examination was normal.

The swelling had been present for a few years but was now increasing in size. There was no neurological deficit. She did not seek medical attention previously. Her medical history was relevant for bursitis of the right hip joint.

She also smoked a pack of cigarettes a day. Her Computerised Tomography (CT) scan findings showed a traumatic lumbar hernia on the right (Figures 1-4). The risks and alternatives were discussed with the patient and she signed an informed consent for a laparoscopic lumbar hernia repair. Her surgery was uneventful and she made a complete recovery.

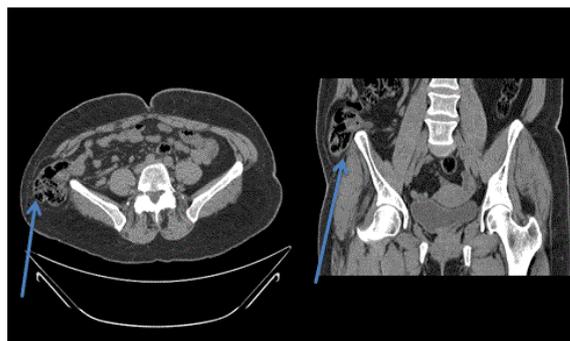


Figure 1A and 1B: CT scan axial and coronal view showing the lumbar hernia (blue arrows).

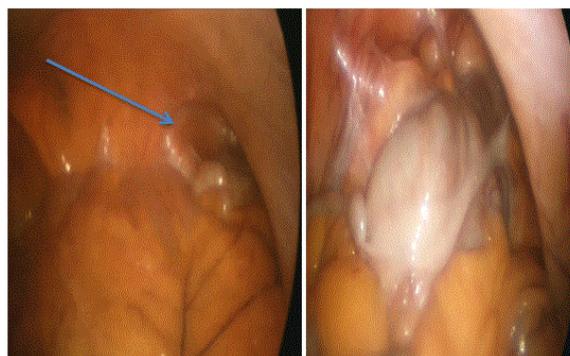


Figure 2A and 2B: Intraoperative lumbar hernia (blue arrow) and right colon content of the traumatic lumbar hernia.

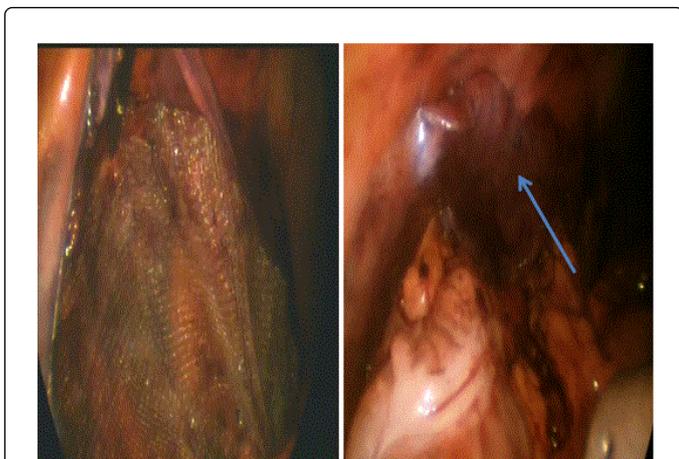


Figure 3A and 3B: Mesh fixation and re-peritonealisation (blue arrow) during laparoscopic repair.

Discussion

Lumbar hernia is a rare type of abdominal hernia due to a defect in the posterolateral abdominal wall through which either intraperitoneal or extraperitoneal contents protrude. While the first descriptions of lumbar hernias date to the middle of the 17th century, current medical literature describes approximately 300 cases [2]. The two most common anatomical locations of lumbar hernias are the superior and inferior lumbar triangles, whose boundaries have been well described. The superior triangle, which was first described by Joseph Grynfeldt in 1866, is bordered superiorly by the inferior edge of the 12th rib and the serratus posterior inferior muscle, laterally by the internal oblique, and medially by the quadratus lumborum. In 1783 Jean Louis Petit described the inferior lumbar region as bound by the latissimus dorsi, the free margin of the external oblique, and the superior edge of the iliac crest. The floor of the triangle is composed of lumbodorsal fascia and the transversalis abdominus muscle aponeurosis [3] (Figure 4).

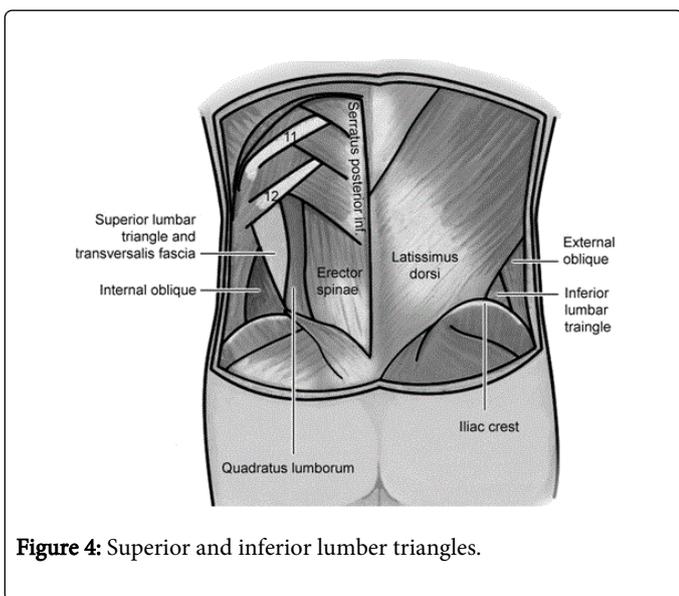


Figure 4: Superior and inferior lumbar triangles.

The aetiology of lumbar hernia can be divided into primary and secondary. Primary lumbar hernias comprise 20% and include spontaneous hernias and the lumbocosto vertebral syndrome, in which a congenital hernia is associated with rib and vertebral anomalies. Secondary lumbar hernias account for 80% and are associated with trauma, surgery, and infection [4]. The most common etiology for lumbar hernias is blunt abdominal trauma associated with crush injuries or restrained victims of motor vehicle collisions. Burt et al. reviewed 66 cases of lumbar hernias secondary to blunt trauma [5]. They reported 70% of traumatic hernias occurred in the inferior lumbar triangle, 71% were associated with a motor vehicle collision, and 70% of these patients were restrained in the vehicle. 61% had associated intra-abdominal injuries. Burt et al. reported that contents of the lumbar hernia have included fat (42%), colon (41%), and small bowel (32%). On initial presentation 5% were incarcerated. Timing and type of repair had been affected by other associated injuries such as bowel perforation or delay in diagnosis.

The first transabdominal laparoscopic approach was introduced by Burick and Parascandola [6]. The balloon dissector was used in 1999 for a total extraperitoneal approach by Woodward et al. [7] Moreno-Egea et al. has shown statistically significant lower morbidity rates, shorter length of hospital stay, reduced analgesic requirement and an earlier return to normal activity in the laparoscopic repair group [8]. Synthetic mesh for hernia repair has the complications of infection, bowel obstruction and fistula formation. Recently the use of biosynthetic mesh made of human acellular dermis has been used with good results especially in contaminated wounds [9].

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