

## Traumatic Bilateral Lumbar Hernia: Delayed Presentation With Incarceration.

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**Abstract:** Although blunt trauma abdomen is common, traumatic lumbar hernia is a rare entity. Acute traumatic lumbar hernia can be easily overlooked initially as it is associated with other serious injuries that demands urgent attention. Delay in diagnosis and treatment of these hernias may result in increased morbidity and complications. We describe a case of motor vehicle collision; the initial evaluation of abdomen of the victim suggested no injury. Later she developed bilateral lumbar hernia and presented to us with incarceration of one hernial sac. Patient got relieved from obstruction during initial conservative treatment. Elective repair of both lumbar hernias was done by open extraperitoneal retromuscular sublay approach using polypropylene mesh.

**Keywords:** traumatic lumbar hernia; bilateral lumbar hernia; incarcerated hernia.

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### I. Introduction

Traumatic lumbar hernia is defined as herniation of intraperitoneal or extraperitoneal contents through abdominal wall of lumbar area, after blunt trauma abdomen. It may develop acutely or later. About 100 cases traumatic lumbar hernia have been reported till date, of which only 7 are bilateral[1]. We report a case of bilateral traumatic lumbar hernia presenting with incarceration in one sac.

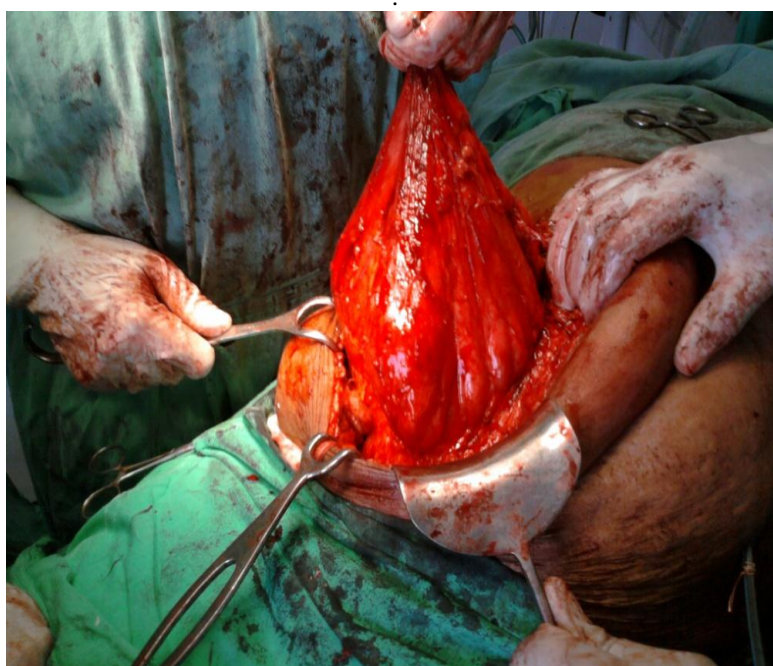
### II. Case Report

A 55 year old woman presented to the emergency with a painful left flank swelling and a painless right flank swelling associated with non bilious vomiting for 1 day. Ten months back, she had encountered a motor vehicle collision while seated in the front wearing seat belt, and had subsequently underwent surgical internal fixation for fracture shaft of right femur. Records showed normal abdominal examination and sonography at that time. Two months after discharge she had noticed a swelling over right flank, followed by another swelling over left upper flank. Both swellings gradually increased in size and were asymptomatic till now. On examination, she was short statured (height=143cm) with abdominal obesity. There was an irreducible swelling over left lumbar region below costal margin and another partially reducible swelling over right lumbar region with a palpable defect. Erect X-ray abdomen showed a single large air-fluid level below left dome of diaphragm. Abdominal CT revealed a defect in left lateral abdominal wall, with partial herniation of stomach with omentum, and another large defect in right lumbar region with herniation of small intestinal loops. The patient was successfully managed conservatively for incarcerated hernia, with intravenous fluids and nasogastric aspiration. After about 1500 ml non bilious aspirate in over 2 hours, the incarcerated hernia became reducible and painless.

Elective open mesh repair for bilateral lumbar hernia was planned. The patient was placed in supine position with elevation of left flank. An oblique incision over the hernia revealed an 8 X 6 cm muscular defect. Hernial sac was opened and its contents, stomach and omentum, reduced. Peritoneum was closed. A polypropylene mesh was placed extraperitoneally, in the retromuscular plane, extending atleast 4cm beyond the defect, and fixed with interrupted polypropylene 2-0 at its margins (Figure 1). Skin was sutured over a suction drain. Then the patient was put in left lateral position. A transverse incision in the right lumbar region revealed a 12 X 9 cm defect. Hernial sac was opened and its contents reduced (Figure 2). Like the left side, the peritoneum was closed, a polypropylene mesh placed in extraperitoneal retromuscular fashion and skin sutured over a suction drain.



**Figure 1.** Intraoperative photograph. A - Extraperitoneal mesh placed after closing the left lumbar hernial sac, B – Diffuse right lumbar hernia



**Figure 2.** Intraoperative photograph. Right lumbar hernial sac.

Post-operatively, the patient developed respiratory distress needing ICU monitoring and oxygen support by mask on days 0 and 1. Thereafter her recovery was uneventful. Suction drains were removed on post op day 5 and she was discharged. At 9 months follow up there is no recurrence.

### **III. Discussion**

The defects in traumatic lumbar hernia often correspond to triangles of anatomic weakness in lumbar region. The Superior triangle of Grynfeltt is inverted, with twelfth rib as its base, bounded medially by sacrospinalis, laterally by internal oblique. The Inferior triangle of Petit is upright, bounded by latissimus dorsi medially, posterior margin of external oblique laterally and iliac crest as base. During blunt trauma (with rapid deceleration), the seat belt produces tangential shearing with acute increase in intraabdominal pressure. This, sometimes, causes avulsion of muscle or disruption of musculofascial

structure resulting in large defects which extend beyond both lumbar triangles[1,2](like in our case). Traumatic hernias occur frequently near inferior triangle probably due to greater shearing force at the junction of lap and shoulder belts. Hernial contents may include colon, small bowel, omentum, stomach, spleen, kidney, extraperitoneal fat etc[3].Diagnosis is difficult in the acute setting. There may be ecchymosis, tenderness, haematoma or a reducible mass at flank. It is easily overlooked, as the massive blunt force causing hernia usually causes other serious injuries that demand urgent attention. Sometimes the force causes weakness of musculofascial wall, leading to delayed development of hernia(as in our case). Incarceration occurs in only 25% cases due to the wide neck. Strangulation occurs in about 10% cases[3]. Abdominal contrast CT is the diagnostic investigation of choice. It accurately shows the anatomy of disrupted musculature, the herniated viscera, other intraabdominal injuries and differentiates hernia from haematoma[4]. Acute traumatic hernias, with other intraabdominal injuries warranting an emergency laparotomy, may be repaired in the same sitting with absorbable mesh [2,5]. If there is bowel perforation or extensive devitalization of parietal wall or hemodynamic instability, elective delayed repair is recommended [5]. Acute traumatic hernias without any other injuries are repaired electively. In elective repair, placing a prosthetic mesh in extraperitoneal retromuscular sublay fashion, with adequate overlapping (4-5 cm) beyond margins of the defect, is preferred over onlay or inlay placement[6]. Small defects can be repaired laparoscopically with less postoperative pain and early recovery[7]. In case of recurrence with laparoscopic repair or large defect, open repair is recommended[8].

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