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Case Report: Post - Traumatic Lumbar Hernia

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Abstract: ***Traumatic lumbar hernias are very rare. Here, we present a case of secondary Post Traumatic lumbar hernia. Most traumatic lumbar hernias are caused by blunt trauma. Trauma that causes abdominal wall disruption also may cause intraabdominal organ injury. Abdominal CT is useful in the diagnosis and allows for diagnosis of coexisting organ injury.***

Keywords: Trauma, Lumbar hernia

1. Introduction

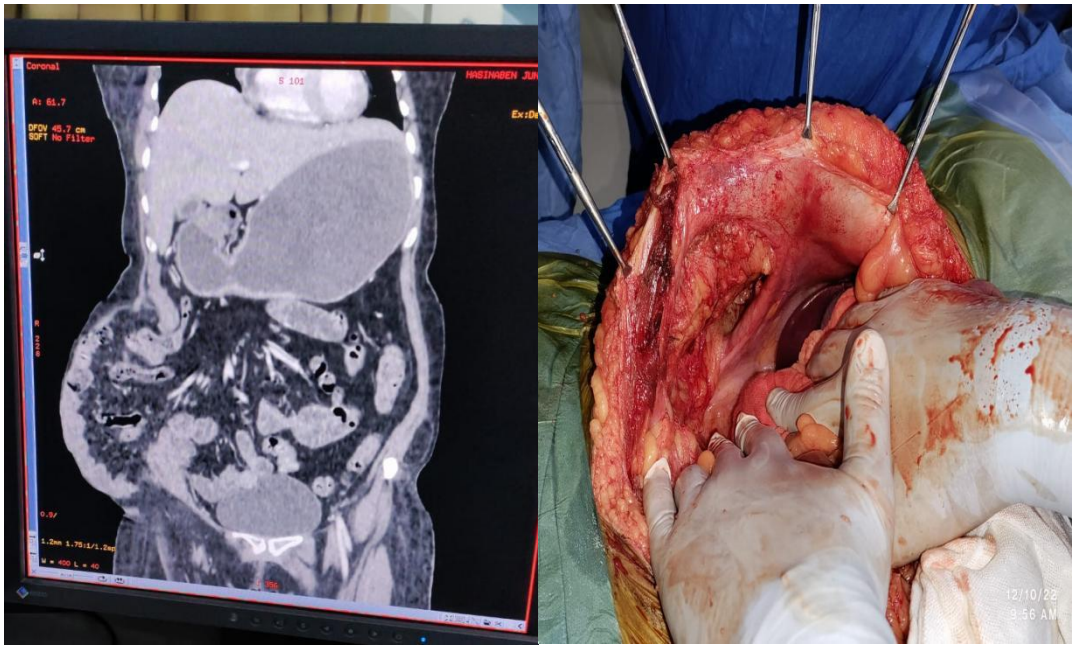
Lumbar hernias are located in the thoracolumbar region and are classified as either congenital or acquired. Most of these hernias are the acquired form, and are categorized in two groups: spontaneous (primary) hernias, and postoperative incisional or traumatic (secondary) hernias. Secondary lumbar hernias frequently develop at surgical incision sites. 1 Traumatic lumbar hernias are very rare; the literature contains roughly 40 cases only. This paper details a case of secondary lumbar hernia that occurred after blunt Injury to abdominal wall due to fall down from height and was treated surgically.

2. Case Report

A 45 Years old female patient brought to civil hospital Rajkot on 1st september 2022 after fall from approx 20 feet height. Patient was vitally stable and cect (abdomen+pelvis) was done suggestive of post traumatic ventral hernia of size 135mm (cc) * 71mm (tr) in rif with herniation of small bowel loops and caecum through defet and 130mm (cc) * 58mm (ap) in Left Iliac Fossa with herniation of small bowel loops through defect with mild dilatation of bowel loops approx.26mm noted with right adrenal hematoma. Patient was treated conservatively with regular follow up weekly and patient planned for operation after 3 months of blunt trauma. After 3 Months On admission, his vital signs were normal (blood pressure 130/80 mmHg, heart rate 84 bpm), and laboratory tests revealed Hb 12.7 g/dL and white blood cell count 8100/mm3. On physical examination, the patient's bilateral flank area swelling was present. Nothing abnormal was detected on palpation of the abdomen.

Abdominal computed tomography (CT) had been performed again. Suggestive same findings as previous one with normal abdominal bowel loops. An laparotomy was performed and an abdominal wall defect measuring approximately 10 × 10 cm was found. The defect was located near the transverse colon and the splenic flexure of the colon were herniated through the defect. Bilateral Posterior component separation with Transverse Abdominis Muscle Release was done. The patient had an uneventful recovery and was discharged on the 7th postoperative day.

PREOPERATIVE PICTURES B/L LUMBAR HERNIA



CECT (ABDO=PELVIS SHOWING GAP DEFECT) INTRAOP PICTURE OF GAP DEFECT

3. Discussion

Most traumatic lumbar hernias are caused by blunt trauma, usually seat belt or handlebar injuries. Blunt trauma causes a sudden rise in intraabdominal pressure, which can rupture the abdominal wall muscles

Traumatic hernias generally occur in areas that are anatomically weak, particularly the inguinal and lumbar regions.
Acute traumatic hernias are, in fact, not true hernias because they have no peritoneal sac and their edges are not limited to the predefined anatomical landmarks.

CT has become more widely used for evaluating trauma cases, traumatic hernias have been diagnosed more frequently.

In patients with this type of hernia, abdominal CT demonstrates a wall defect, the anatomy of the torn muscular layers, and the hernia contents. However, in a patient who has sustained blunt trauma, it is more common to find a retroperitoneal hematoma than a traumatic hernia.

Hematoma should always be considered in the differential diagnosis for cases of suspected traumatic hernia. Traumatic lumbar hernias are most often associated with organ injury, mesenteric tears, strangulation of herniated intestinal segments, and fractures of the lumbar spine and pelvis.

Abdominal CT is also useful for diagnosing coexisting organ damage. Many of the reported cases of traumatic lumbar hernia have featured jejunal perforation, ileal perforation, ischemia of affected colonic segments, or rupture of the ureteropelvic junction.

Several suggested definitions and diagnostic criteria have been proposed by different authors to characterize TAWH [5]. These differing criteria were either complex or non - conclusive. To this end, and with the widespread use of computed tomography (CT) in the initial assessment of trauma patients, a simpler, CT - based grading system has been developed to define different degrees of abdominal wall disruption (Table 1)

Abdominal wall (AW) injury grade	Definition
I	Subcutaneous tissue contusion
II	AW muscle haematoma
III	Single AW muscle disruption
IV	Complete AW muscle disruption
V	Complete AW muscle disruption with herniation of abdominal contents
VI	Complete AW disruption with evisceration

According to this grading system, the patient's injury presented in this report would be classified as abdominal wall injury grade V.

The treatment for traumatic lumbar hernia varies according to the patient's condition. In an emergency setting, a transperitoneal midline incision should be made to rule out any other intraabdominal injuries.

If possible, hernia can be repaired primarily. If the tissue defect is enlarged after debridement, or it is impossible to approximate the edges of the defect for any other reason, then prosthetic or autogene mesh repair should be considered.

Laparoscopic exploration and repair may be discussed as an alternative method in appropriate cases. If a patient with traumatic lumbar hernia exhibits no signs of peritonitis and there is no risk of hernia strangulation and no certain intraabdominal injury, then it may not be necessary to repair the defect immediately. In this situation, or in cases where a traumatic lumbar hernia is detected several days or even months after the trauma, the surgical incision can be made over the hernia to avoid unnecessary abdominal dissection.

4. Conclusion

Blunt trauma that causes hernia is a serious injury.

The energy transfer that occurs in hernia formation is so great that the likelihood of intraabdominal injury is high.

Hernia formation therefore is a surrogate sign of serious intraabdominal injury.

Any patient who is diagnosed with traumatic hernia should be evaluated for associated intraabdominal damage. If such damage is detected, the patient should be managed with emergency surgery. However, if patient's condition is stable, late hernia repair is appropriate.

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