Traumatic lumbar hernia: Report of a case

Nurkan Torer*, Sedat Yildirim, Akin Tarim, Tamer Colakoglu, Gokhan Moray

Baskent University Faculty of Medicine, Department of General Surgery, Ankara, Turkey

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Abstract  Traumatic lumbar hernias are very rare. Here, we present a case of secondary lumbar hernia. A 44-year-old man sustained a crushing injury. On admission, ecchymotic, fluctuating swelling was present on his left flank with normal vital signs. Subcutaneous intestinal segments were revealed at his left flank on abdominal CT. Emergency laparotomy revealed a 10-cm defect on the left postero-lateral abdominal wall. The splenic flexure was herniated through the defect. Herniated segments was reduced, the defect was repaired with a polypropylene mesh graft. There was also a serosal tear and an ischemic area 3 mm wide on the splenic flexure and was repaired primarily. The patient had an uneventful recovery. 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. Emergency laparotomy should be performed to repair possible coexisting injuries.

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 the left flank and was treated surgically.

Case report

A 44-year-old man was referred to our center from a secondary care hospital 2 h after he had sustained a blunt injury to his left flank. An accident had occurred in which the patient’s body was compressed between a truck and a wall. On admission, his vital signs were normal (blood pressure 130/80 mmHg, heart rate 84 bpm), and laboratory tests revealed white blood cell count 9500/mm3 and hemoglobin level 14.5 g/dL. On physical examination, the patient’s left flank area was swollen and ecchymotic, and ballottement of this region indicated a fluid collection. Nothing abnormal was detected on palpation of the abdomen.

Abdominal computed tomography (CT) had been performed prior to arrival at our hospital, and the findings had been interpreted as a hematoma of the left flank. A second assessment of this same scan revealed subcutaneous...
intestinal segments in the left flank region (Figs. 1 and 2). An emergency laparotomy was performed and an abdominal wall defect measuring approximately 10 × 10 cm was found. The defect was located near the inferior pole of the spleen between the 10th and 11th ribs, which were both fractured. The transverse colon and the splenic flexure of the colon were herniated through the defect. There was a serosal tear and a 3-mm ischemic area in the splenic flexure. The damage to the flexure was oversewn primarily. Then the herniated bowel was reduced and the wall defect was repaired with a polypropylene mesh graft. The patient had an uneventful recovery and was discharged on the 7th postoperative day.

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 muscles of the abdominal wall. 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. Traumatic hernias are often overlooked because most are asymptomatic and the physician may be focused on other more serious injuries.

The most common clinical features of traumatic lumbar hernias are a zone of ecchymotic swelling and skin bruising, an appearance characterized as "seat belt syndrome." The appearance mimics that of flank hematoma, which was the initial diagnosis in our case. Since 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. Intestinal segments may be misdiagnosed as hematoma on CT, as occurred in our case.

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. Our patient had a tear in the serosa of the splenic flexure, and this was thought to have been caused by a fractured rib. 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.

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 immediately over the hernia to avoid unnecessary abdominal dissection.

In 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 the individual’s condition is stable, late hernia repair is appropriate.

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References