



LEFT HEPATIC LOBE HERNIATION THROUGH VENTRAL INCISIONAL HERNIA – A RARE CASE REPORT

General Surgery

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ABSTRACT

INTRODUCTION: Incisional hernias are abnormal peritoneal outward pouch-like protrusions that develop due to defects that arise as a result of the disruption of the fascia's continuity after abdominal surgery. Subcutaneous herniation of the left lobe of the liver passing through the abdominal wall is a very rare condition.

CASE REPORT: A 49-year-old male patient presented with complaints of swelling in the midline of abdomen since 1-year duration. The swelling had increased to its present size over the past 1 year. Swelling is not associated with pain, vomitings or fever. Swelling appeared after 1 month of laparotomy surgery done for hollow viscus perforation 13 months back. During transabdominal ultrasound (US) and Computed tomography (CT) scan revealed a fascial defect in midline abdominal wall with protrusion of the left hepatic lobe and an intestinal segment.

CONCLUSION: In this case report, we presented a rare case of the subcutaneous protrusion of the left liver lobe's medial segment through the fascial defect in the incisional hernia. We suggest that when performing operations on incisional hernias it should be kept in mind that the left liver lobe may be under the skin and therefore one should be careful not to damage it.

KEYWORDS

Ventral Incisional Hernia, Liver Lobe, abdominal Wall.

INTRODUCTION

Incisional hernias are abnormal peritoneal outward pouch-like protrusions that develop due to defects that arise as a result of the disruption of the fascia's continuity after abdominal surgery. Incisional hernias are one of the common problems seen after the abdominal surgery with incidence rates ranging from 2 to 11% according to different sources⁽¹⁾. Abdominal surgery related incisional hernias leads to significant job loss and morbidity, as well as negatively affecting quality of life. Therefore, due to high prevalence and morbidity, incisional hernias continue to be one of the most important complications of abdominal surgery. Subcutaneous herniation of the left lobe of the liver passing through the abdominal wall is a very rare condition⁽²⁾. Herniation of the liver is uncommon. This entity has been described in patients with omphalocele, congenital diaphragmatic hernia, and blunt trauma diaphragmatic rupture⁽³⁾. In this case report, we present a case of incarcerated incisional hernia that involves the left liver lobe. The aim of this study is to show that hernia sac may contain solid organs.

CASE REPORT

A 49-year-old male patient presented with complaints of swelling in the midline of abdomen since 1-year duration. The swelling had increased to its present size over the past 1 year. Swelling is not associated with pain, vomitings or fever. Swelling appeared after 1 month of laparotomy surgery done for hollow viscus perforation 13 months back. smoker and alcoholic.

On examination, he had a swelling of size 18cm×8cm in midline extending from epigastric region to just below the umbilicus with thin and lax skin, showing cough impulse and spontaneously reduced on lying down, part of the bowel loops and omentum are palpable.



Figure 1: Preoperative view.

Laboratory tests revealed a total bilirubin value of 1.1 mg/dL (reference value of 0.2 to 1.3), direct bilirubin of 0.2 mg/dL (reference value of 0.1 to 0.5), alkaline phosphatase of 52 U/L (reference value of 40 to 150), gamma-glutamyl transferase of 20 U/L (reference value of 9 to 64), alanine aminotransferase of 30 U/L (reference value of 0 to 50), and aspartate aminotransferase of 32 U/L (reference value of 0 to 40). During transabdominal ultrasound (US) and Computed tomography (CT) scan revealed a fascial defect in midline abdominal wall with protrusion of the left hepatic lobe and an intestinal segment (Figure 2).



Figure 2: Protrusion of the left hepatic lobe (arrow heads) through the abdominal wall defect (arrow) on axial view of CT.

SURGICAL TECHNIQUE

The abdomen was entered through an old incision site. Part of the ileal loops and left hepatic lobe were adhered to subcutaneous tissue, which were meticulously cleared. The tissue under the skin was detached and the edges of the fascia were exposed. Posterior component separation with retro-rectus meshplasty (30×30cm Prolene mesh) done. The hemovac drain was placed on the mesh and subcutaneous tissue and skin tissue were appropriately closed.



Figure 3: Arrow indicates left hepatic lobe adhered to the subcutaneous tissue

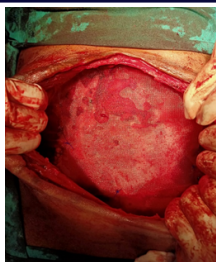


Figure 4: Prolene mesh of size 30x30cms placed in retro-rectus plane.

DISCUSSION

Herniation of the liver or its parts through the abdominal wall is a rare phenomenon that was first described by Adeonigbagbe et al. in the year 2000⁽³⁾. Since then, there have been few cases reported in the medical literature. Epidemiological data are not available on hepatic herniation through the abdominal wall due to its rarity. Reported cases have occurred in association with abdominal incisional hernias, non-alcoholic steatohepatitis, coronary artery bypass grafting (CABG), or direct trauma to the abdomen⁽⁴⁻⁵⁾.

Risk factors associated with the development of hepatic herniation through the abdominal wall include obesity, old age, poor nutrition, increased intra-abdominal pressure, smoking, weak abdominal wall, and postsurgical site infection⁽⁶⁾. Etiological factors in the development of incisional hernias can be classified into controllable and uncontrollable.

Controllable etiologic factors include: obesity, shape of incision, suture material used and wound infection. On the other hand, uncontrollable etiologic factors include: the patient's age, general body weakness and other chronic diseases. In addition, intrinsic weaknesses of the abdominal wall and increases in intra-abdominal pressure predispose patients to develop ventral hernias and subsequently, herniation of the liver. Another theory postulated by Echo et al, suggests that congenital absence of the left or right triangular ligaments of the liver are possible risk factors. These structures are responsible for fixing the liver to the retroperitoneum and their absence in theory can result in anterior herniation of segments of the liver when coupled with the aforementioned risk factors⁽⁷⁾.

Presenting symptoms of abdominal hepatic herniation include abdominal pain, nausea, vomiting, jaundice, dyspnea, confusion, and epigastric swelling⁽⁸⁾. It is often found incidentally on imaging of the abdomen. Clinical consequences of hepatic herniation can be severe and may vary based on which lobe of the liver is herniated. Herniation of the left hepatic lobe has been associated with incarceration of the liver within the hernial sac that can lead to hepatic encephalopathy and liver failure. In one reported case, the afflicted patient presented with increased hepatic transaminases, which manifested as flapping tremors and hepatic encephalopathy⁽⁹⁾.

Hepatic hernias should be suspected when a patient presents with epigastric bulging, but adequate diagnosis requires imaging studies such as CT scan. In our patient, CT scan was sufficient in demonstrating hepatic herniation through a previous abdominal incisional hernia. Once diagnosed, treatment of hepatic hernias can be a challenge. Currently there are no guidelines that dictate treatment and most cases can be managed conservatively. If any of the aforementioned complications occur, surgical correction should be pursued given the favorable outcomes⁽¹⁰⁾.

CONCLUSION

In this case report, we presented a rare case of the subcutaneous protrusion of the left liver lobe's medial segment through the fascial defect in the incisional hernia. In conclusion, hepatic herniation through the abdominal wall is a rare phenomenon that has been seldom reported in the literature. We suggest that when performing operations on incisional hernias it should be kept in mind that the left liver lobe may be under the skin and therefore one should be careful not to damage it.

CONFLICT OF INTEREST

There is no conflict of interest.

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