

## Case Report

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# A rare case of herniation of liver through incision of cabg: A case report and review of literature

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### ABSTRACT

Herniation of liver through an incision of previous surgery is a very rare phenomena. Here we present a case of herniation of part of left lobe of liver through a defect in the anterior abdominal wall due to previous coronary artery bypass surgery (CABG) surgery. Up till now only two cases have been reported for liver herniation through scar of previous of CABG surgery and this would be the third case as per our knowledge.

**Keywords:** Incisional hernia, liver herniation, coronary artery bypass surgery (CABG)

### INTRODUCTION

Herniation of liver through anterior abdominal wall is rare condition, usually associated with previous major upper abdominal surgeries. Because of its rarity it poses both diagnostic and therapeutic difficulty. There have been only two previous cases where the liver has herniated through incision of previous CABG surgery which has been managed conservatively. Here we are presenting a case of herniation of liver through incision of previous CABG surgery which was also managed conservatively as patient was asymptomatic and follows up on regular basis every 3 month in last 6 months.

### CASE PRESENTATION

A 66 year old female came in outpatient department with chief complaint of swelling in epigastric region since 2 and half year but patient did not complain of any pain in the swelling. Patient was previously operated for CABG three years back, 6 month later of surgery patient developed swelling 6x6 cm protruding from the scar in the epigastric region. On examination per abdomen findings were: palpable left liver lobe felt at the site of incision in epigastric region. Ultrasonography and CT

scan of abdomen and pelvis showed anterior abdominal wall defect of 7.5x6 cm with left lobe of liver herniating through the defect figure 1 and figure 2.



Figure 1: Usg finding of Liver herniation.

### DISCUSSION

Herniation of liver is very rare with most cases occurring as congenital diaphragmatic hernias<sup>1</sup> or after the blunt trauma resulting with diaphragmatic rupture.<sup>2</sup> Adeonigbagbe and colleagues reported a case in which the herniation of a liver segment through the rectus muscle presented as persistent abdominal pain.<sup>3</sup> Shanbhogue and Fasih reported the case of a 48- year-old

woman with a three-week history of discomfort and swelling in the epigastrium. Two years earlier, the patient had coronary artery bypass surgery that was further complicated by post-surgical sternal dehiscence. She had a lump on the epigastrium with minimal tenderness. A CT scan showed herniation of a left hepatic lobe segment through a midline defect in the anterior abdominal wall. Since her symptoms were minor, she was not operated on.<sup>4</sup> Warbrick-Smith and colleagues reported a case of a 81-year-old man presented with acute right upper quadrant abdominal pain. He had undergone coronary artery bypass grafting via a median sternotomy 7 14; years previously. Examination revealed gallbladder tenderness and a non-tender incisional epigastric hernia. Cholecystitis was confirmed on ultrasound. A CT scan revealed a knuckle of liver (segment II/III) herniating through an upper midline anterior abdominal wall incisional defect. Patient was treated conservatively.<sup>5</sup>



**Figure 2: CT scan findings of liver herniation.**

Sheer and Runyon reported the case of a 45- year- old woman who had a laparotomy for trauma 33 years earlier and an orthotopic liver transplantation two years earlier. She presented with confusion and progressive upper abdominal pain and swelling for the previous three months. A CT scan showed hepatomegaly and a fatty-infiltrated liver protruding through an incisional wall defect. She was admitted to the intensive care unit and died of Pseudomonas sepsis.<sup>6</sup> Abci and colleagues reported the case of a 73-year- old woman who had a cholecystectomy through a right subcostal incision six years earlier and a laparotomy for intestinal obstruction four years earlier. The patient had a six- month evolution of right upper quadrant abdominal pain, nausea, and dyspnea. A physical examination revealed a right  $3 \times 3$  cm zone of induration at the sub- costal surgical scar but no rebound tenderness. On a CT scan, an incarcerated incisional hernia associated with the medial segment of the left hepatic lobe was identified. Owing to cardiac and pulmonary disease in the absence of peritonitis, the patient was managed non-surgically.<sup>7</sup> Nuno-Guzman and colleagues reported a case of 70-year-old woman presented with a one-week history

of right upper quadrant abdominal pain, nausea, vomiting, and jaundice. Her medical history included an open cholecystectomy from 20 years earlier and excessive weight. She presented with jaundice, abdominal distension with a midline surgical scar, right upper quadrant tenderness, and a large midline abdominal wall defect with dullness on percussion and protrusion of a large, tender, and firm mass. The results of laboratory tests were suggestive of cholestasis. Ultrasound revealed choledocholithiasis. A computed tomography scan showed a protrusion of the left hepatic lobe through the anterior abdominal wall defect and a well-defined, soft tissue density lesion in the right adrenal topography. An endoscopic common bile duct stone extraction was unsuccessful. Patient was treated surgically.<sup>8</sup> Fatih Tekin and colleagues reported a case of 75 years old female who was complaining of right upper quadrant abdominal pain. She had a history of cystectomy, cholecystectomy and choledochotomy operations for liver hydatid cyst 5 years ago. In addition, multiple endoscopic retrograde cholangiopancreatography sessions had been performed for recurrent biliary duct stones in the last 4 years. Radiological investigations revealed the presence of cirrhosis and the herniation of the left liver lobe through the abdominal incisional hernia defect. Secondary sclerosing cholangitis as a result of the previous operations was suggested to be the probable etiology for cirrhosis. The cirrhotic patient with an advanced age was found to be high risk for surgery. In addition, her symptoms were minimal. Thus, she was managed conservatively.<sup>9</sup>

Salemis and colleagues<sup>10</sup> reported the case of a 58-year-old woman who had a right nephrectomy via a retroperitoneal approach through a flank incision, after which she developed a right incisional lumbar hernia. Once the hernia was repaired, she presented with a recurrent hernia, which became incarcerated. On magnetic resonance (MR), a right liver lobe segment was observed. Losanoff and colleagues reported the case of a recurrent intercostal herniation of the liver.<sup>11</sup> Sabbagh-Briffaut and colleagues report an entity known as exclusive hepatomegaly, in which the liver is part of the omphalocele content, has been described in the neonatal period.<sup>12</sup> Laaksonen E and colleagues report a case of right-sided Bochdalek hernia in an adult.<sup>13</sup> Bairagi A and colleagues report a case of Blunt rupture of the right hemidiaphragm with herniation of the right colon and right lobe of the liver.<sup>14</sup> Sheer TA, Runyon BA report a case of recurrent massive steatosis with liver herniation following transplantation. Liver Transplantation.<sup>15</sup> Rodríguez reported a case of hepatic evisceration after cholecystectomy in a super obese patient.<sup>16</sup> Usually the herniation of liver through anterior abdominal wall is non-acute<sup>6</sup> but in our case patient presented with acute symptoms of incarceration. All the case reports of liver herniation shows history of previous major upper abdominal surgeries as in our case. This article highlights the significance of possibility of liver herniation in upper abdominal surgeries and its associated morbidity and its management options.

| Year<br>(reference)    | Age (sex) | Complaint   | Surgery                           | Duration<br>(year) | Herniating<br>lobe of liver           | Therapy      |
|------------------------|-----------|---|-----------------------------------|--------------------|---------------------------------------|--------------|
| 2000 (3)               | 56 (f)    | Right upper quadrant pain of 6 months duration            | No                                | -                  | Left lobe (through the rectus muscle) | conservative |
| 2009 (4)               | 48 (m)    | Discomfort and swelling in the epigastrium during 3 weeks | Coroner artery bypass surgery     | 2                  | Left lobe                             | conservative |
| 2012 (5)               | 81 (m)    | Acute right upper quadrant abdominal pain                 | Coroner artery bypass surgery     | 7                  | Left lobe                             | conservative |
| 2004 (6)               | 45 (f)    | Upper abdominal pain of 3 months duration                 | Liver transplantation             | 2                  | Left lobe                             | conservative |
| 2005 (7)               | 73 (f)    | Right upper quadrant pain of 6 months duration            | (1) Cholecystectomy<br>(2) Ileus* | 6<br>4             | Left lobe                             | Conservative |
| 2012 (8)               | 70(f)     | Right upper quadrant pain of 1 week duration              | Cholecystectomy                   | 20                 | Left lobe                             | Surgery      |
| 2014 (9)               | 75 (f)    | Right upper quadrant pain of 4 months duration            | (1) CC<br>(2) Cystectomy          | 5<br>5             | Left lobe                             | Conservative |
| 2015<br>(present case) |           | Epigastric pain of 1 year duration                        | Coronary artery bypass surgery    | 3                  | Left lobe                             | Conservative |

## CONCLUSIONS

Liver herniation through an anterior abdominal wall incisional hernia post CABG in this report represents, to the best of our knowledge, the third such case reported.

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