

Herniation of the Liver: An Extremely Rare Entity

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ABSTRACT

We hereby present the case of a 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. Herniation of the liver is very rare. It is quite difficult to speculate any predisposing risk factors for liver herniation because of the rarity of this condition.

Key Words: *Herniation. Incisional hernia. Liver.*

INTRODUCTION

Herniation of the liver is a rare phenomenon. Most of the case reports have been associated with congenital diaphragmatic hernias or diaphragmatic hernias that develop after a chest trauma.^{1,2} There have been only three previous cases where the liver has herniated through the anterior abdominal wall after an abdominal surgery. One of those 3 cases was treated surgically, whereas the remaining 2 cases were managed conservatively.

In this report, a cirrhotic patient with liver herniation through the abdominal wall defect, after an abdominal surgery, is presented with a brief review of the literature.

CASE REPORT

A 75 years old diabetic and hypertensive patient complaining of right upper quadrant abdominal pain for 4 months was admitted to our department. She was diagnosed to have liver hydatid cyst and had undergone a cystectomy operation 5 years ago. At the same year, additional cholecystectomy and choledochotomy operation had been performed because of acute cholecystitis and cholangitis due to biliary stones. Multiple endoscopic retrograde cholangiopancreatography sessions had been performed for recurrent biliary tract stones in the last 4 years. She had been going well without wound infections or other post-operative complications.

Physical examination revealed minimal right upper quadrant tenderness on palpation and minimal abdominal distension. She had an incision scar at epigastrium with an incisional epigastric hernia including a rough mass which was non-tender. Laboratory tests revealed an alkaline phosphatase of 459 U/L (normal: 35 - 104), gamma-glutamyl transferase of 401 U/L (normal: 0 - 38), with normal levels of alanine aminotransferase, alanine aminotransferase, albumin, total bilirubin and normal prothrombin time. Transabdominal ultrasonography revealed atrophy of the right liver lobe, enlarged left lobe due to the compensation mechanisms and a herniation of the left liver lobe through the abdominal incisional hernia defect. Abdominal computed tomography scan confirmed atrophic right liver lobe, hypertrophic left lobe and a midline abdominal wall hernia defect with protrusion of the left liver lobe (Figure 1). Marked lobulations were fixed on the surface of liver suggesting liver cirrhosis. There was also portal vein thrombosis and splenomegaly. No ascites was

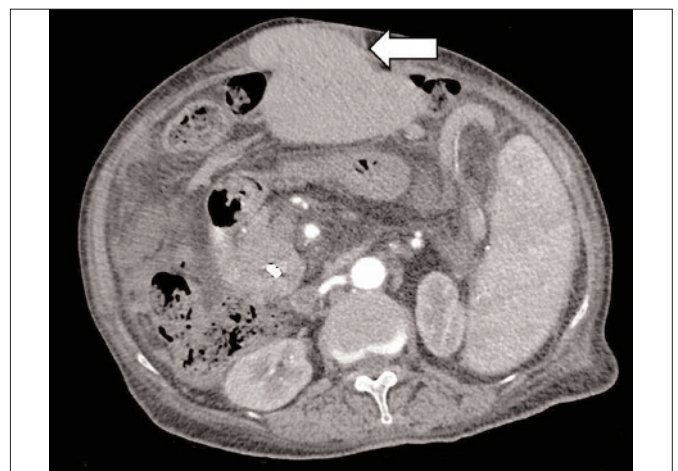


Figure 1: Abdominal computer tomography showing the herniation of the left liver lobe through an abdominal wall defect (arrow).

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Received: March 12, 2014; Accepted: June 06, 2014.

Table I: Summary of the patients with acquired liver herniation through the abdominal wall defect.

Year (reference)	Age (sex)	Complaint	Surgery	Duration (years)	Herniating lobe of the 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 (2) Ileus*	6 4	Left lobe	Conservative
2012 (8)	70 (F)	Right upper quadrant pain of 1 week duration	Cholecystectomy	20	Left lobe	Surgery
Present case	75 (F)	Right upper quadrant pain of 4 months duration	(1) CC (2) Cystectomy	5 5	Left lobe	Conservative

F: Female; M: Male; *: Etiology of the ileus was not reported; CC: Cholecystectomy and choledochotomy.

found. She was diagnosed to have a compensated liver cirrhosis. Secondary sclerosing cholangitis as a result of the previous operations was suggested to be the probable etiology for cirrhosis. Viral hepatitis (including hepatitis A, B, C, EBV, CMV, HIV), Wilson's disease, and autoimmune hepatitis have been excluded. The cirrhotic patient with an advanced age was found to be highly risky for surgical treatment. In addition, her symptoms were minimal. Thus, she was managed conservatively.

DISCUSSION

Herniation of liver is very rare with most cases occurring as congenital diaphragmatic hernias¹ or after the blunt trauma resulting with diaphragmatic rupture.² On the other hand, liver herniation via the abdominal wall defect is an extremely rare entity. In adult population, there are only 6 reported patients with acquired liver herniation through the abdominal wall defect; in one surgically virgin patient,³ in 2 patients after sternotomy,^{4,5} and in 3 patients after the abdominal surgery.⁶⁻⁸

To the authors' knowledge, present case is the 4th patient in the English literature diagnosed as liver herniation through the abdominal wall defect after an abdominal surgery. Characteristics of these patients are summarized in Table I.

Conservative therapy should be considered first in these rare patients, however, the surgical therapy may be an option for patients with more severe complaints. Finally, the authors suggest that it is quite difficult to speculate

any predisposing risk factors for liver herniation because of the rarity of this condition.

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