

# Post-surgical Hepatic Herniation: An Exceptionally Rare Occurrence

Muhammad Ahmad Mukhtar <sup>1, 2</sup>, Aeimen Khalid <sup>3, 4</sup>, Amna Mukhtar <sup>5</sup>, Rubina Mukhtar <sup>6</sup>

Review began 04/28/2025

Review ended 05/14/2025

Published 05/18/2025

© Copyright 2025

Mukhtar et al. This is an open access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0., which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

DOI: 10.7759/cureus.84364

1. General Medicine, York District Hospital, York, GBR 2. Radiology, Nishtar Medical University, Multan, PAK 3. General Medicine, Peterborough City Hospital, Peterborough, GBR 4. General Medicine, Nishtar Hospital, Multan, PAK 5. Internal Medicine, University of Debrecen, Debrecen, HUN 6. Radiology, Minar Cancer Hospital, Nishtar Medical University, Multan, PAK

**Corresponding author:** Muhammad Ahmad Mukhtar, mahmadmukhtar17@gmail.com

---

## Abstract

Post-surgical hepatic herniation through an abdominal incision is an uncommon occurrence, particularly without predisposing factors such as trauma, multiple prior surgeries, or increased intra-abdominal pressure. Complications, such as hepatic Encephalopathy and Budd-Chiari syndrome, are associated with this entity; when they occur, they can cause significant distress. This report describes a 59-year-old female with a history of breast cancer and prior cholecystectomy, in whom a routine CT scan incidentally revealed liver herniation through a surgical scar. She was asymptomatic with normal liver function, and conservative management with regular follow-ups was chosen. CT imaging remains the gold standard for diagnosis. Surgical intervention is reserved for symptomatic or complicated cases. Given the rarity of hepatic herniation, further studies are needed to assess long-term outcomes and establish standardized treatment guidelines. This case underscores the importance of routine imaging in oncology follow-ups.

---

**Categories:** Radiology, Gastroenterology

**Keywords:** abdominal hernia, breast carcinoma, conservative management, hepatic herniation, incisional hernia, post surgical hernia

## Introduction

An abdominal or pelvic hernia occurs when an organ or tissue protrudes through a weakness or defect in the abdominal wall. When this happens at the site of a previous surgical incision, it is classified as an incisional hernia. Abdominal types of hernias are not uncommon, with the bowel being the most frequently herniated organ. Liver herniation through an abdominal wall defect is exceptionally rare. As far as we know, this represents just the seventh documented case of hepatic herniation through the anterior abdominal wall in medical literature [1-3].

The majority of reported liver herniation cases are linked to congenital diaphragmatic hernias or those resulting from chest trauma. It is worth mentioning that liver herniation through a diaphragmatic defect is a separate condition, predominantly seen in pediatric patients, and is not the center of attention here [4]. Reports of liver herniation through the anterior abdominal wall post-surgery are rare, with only five previous cases recorded. Among these, one was managed surgically, while the others were treated conservatively [3,5].

## Case Presentation

A 59-year-old female patient underwent a computed tomography (CT) scan as part of a routine follow-up for the evaluation of potential liver metastasis. She had been diagnosed with stage II carcinoma of the breast without evidence of metastasis at the time of initial diagnosis. Her treatment included neoadjuvant chemotherapy followed by lumpectomy. Additionally, she had a history of cholecystectomy performed two years prior.

The patient had no history of predisposing factors for hernia, such as chronic cough, obesity, or previous incisional hernias. She had a normal body habitus with a height of 5 feet 4 inches and a weight of 68 kg. Routine laboratory investigations, including complete blood count (CBC), liver function tests (LFTs) such as serum bilirubin and liver enzymes, and renal function tests (RFTs), were within normal limits (Table 1). A chest x-ray was unremarkable (Figure 1).

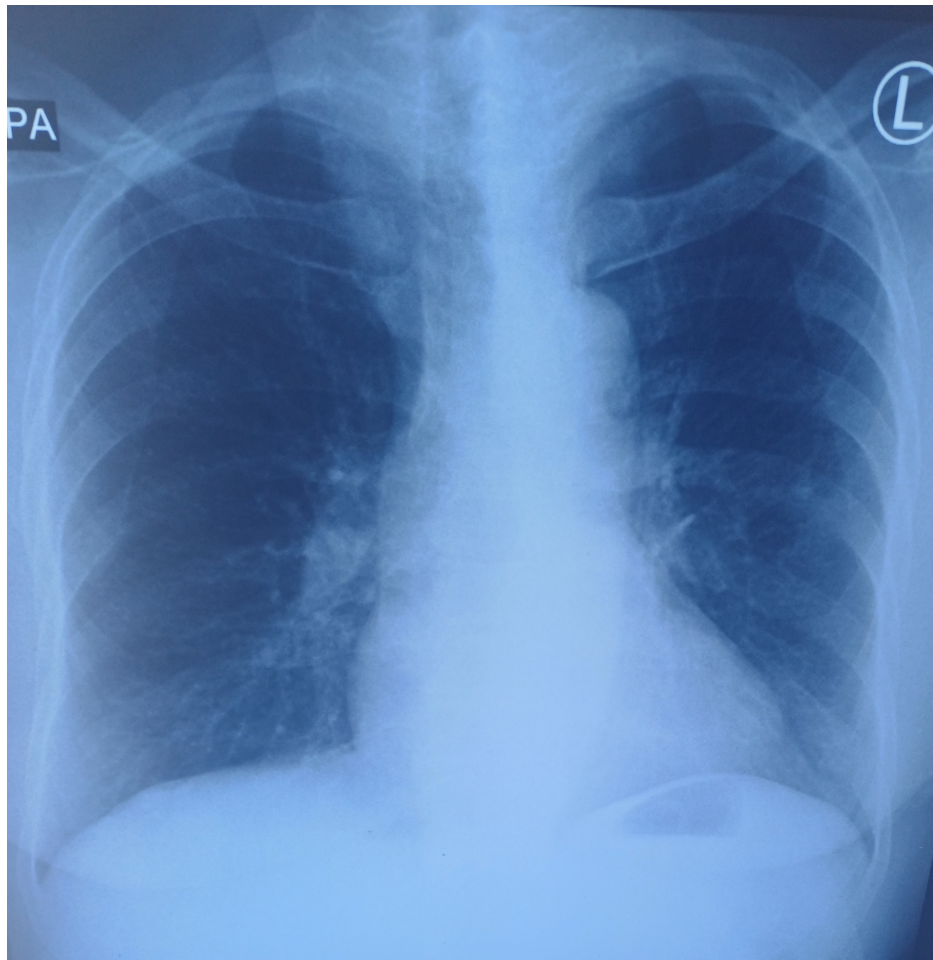
### How to cite this article

Mukhtar M, Khalid A, Mukhtar A, et al. (May 18, 2025) Post-surgical Hepatic Herniation: An Exceptionally Rare Occurrence. Cureus 17(5): e84364. DOI 10.7759/cureus.84364

Sr. no	Test	Report	Normal values	
1.	CBC	Hb	13	11.5-16.5 g/dL
		TLC	5,600	4,000-11,000/ $\mu$ L
		Platelet count	280	100-400 $\times$ 10 <sup>3</sup> / $\mu$ L
		Neutrophils	64	28-78%
		Lymphocytes	28.4	17-57%
		Monocytes	06	<10%
		Basophils	0.7	<2%
		Eosinophils	0.9	<10%
2.	LFTs	Serum bilirubin	0.6	0.2 -1.0 mg/dL
		Alkaline phosphatase	135	<240 U/L
		SGOT	23	<31 U/L
		SGPT	21	<34 U/L
3.	RFTs	Blood urea	29	10-15mg/dL
		Serum creatinine	1.14	0.7-1.2 mg/dL

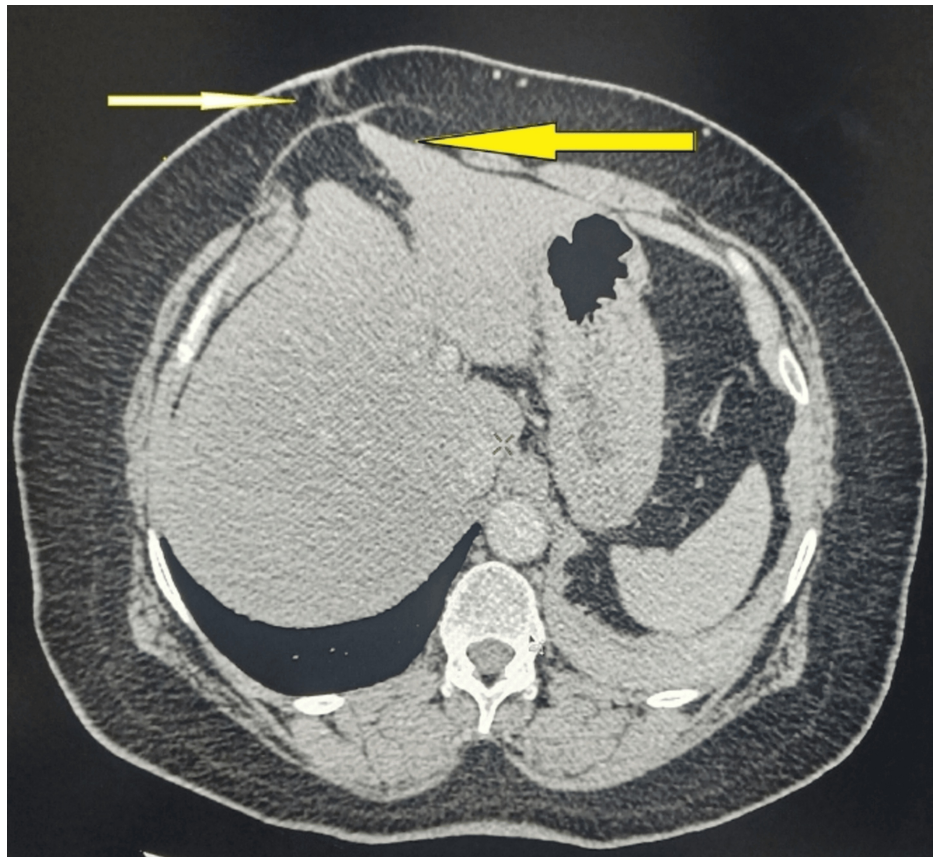
**TABLE 1: Laboratory results**

CBC: complete blood count, LFT: liver function test, RFT: renal function test, TLC: total leukocyte count, SGOT: serum glutamic oxaloacetic transaminase, SGPT: serum glutamate pyruvate transaminase



**FIGURE 1: Normal chest radiograph**

The CT scan incidentally revealed hepatic herniation at the junction of the right and left lobes through a surgical scar in the anterior abdominal wall (Figures 2, 3). The patient remained asymptomatic, with no complaints of pain or discomfort. Given the absence of clinical symptoms and normal liver function, no active surgical intervention was deemed necessary. The patient was placed on conservative management with regular follow-ups at six-month intervals, including clinical evaluation and LFT monitoring, to ensure stability and absence of complications.



**FIGURE 2: Axial section of CT scan abdomen showing surgical scar with hernial sac in it (white arrow), and herniation of liver at junction of right and left lobe in hernial sac through surgical scar (yellow arrow)**



**FIGURE 3: Sagittal section of CT scan abdomen showing hernial sac through surgical scar (white arrow) and herniation of liver into the hernial sac (yellow arrow)**

In this case, the herniation was incidentally detected during imaging, underscoring the importance of routine surveillance in oncology patients.

## Discussion

Liver herniation through the abdominal wall is a rare occurrence, first documented by Adeonigbagbe et al. in 2000 [6]. Since then, only a few cases have been recorded in medical literature. In comparison, isolated hernias without other physical abnormalities are far more common, with an annual incidence ranging from 2% to 20% [7]. However, liver herniation is an uncommon entity [3,8]. Due to the rarity of hepatic herniation, no specific epidemiologic data exist. However, reported cases have been associated with abdominal incisional hernias, nonalcoholic steatohepatitis, coronary artery bypass grafting (CABG), and direct abdominal trauma [9].

Several risk factors contribute to the development of hepatic herniation through the abdominal wall. These include obesity, advanced age, poor nutritional status, increased intra-abdominal pressure, smoking, weakened abdominal muscles, and post-surgical site infections [9]. Additionally, anatomic variations, such as the congenital absence of the left or right triangular ligaments, have been proposed as potential risk factors. These ligaments anchor the liver to the retroperitoneum, and their absence, in combination with the aforementioned risk factors, may facilitate anterior hepatic herniation [10]. Our patient had a history of prior abdominal surgery and breast carcinoma treatment but lacked other common risk factors.

## Clinical presentation and complications

Patients with hepatic herniation may present with a range of symptoms, including abdominal pain, nausea, vomiting, jaundice, dyspnea, confusion, and epigastric swelling [11]. However, many cases, including ours, are diagnosed incidentally through imaging. The clinical implications of hepatic herniation vary depending on the lobe involved.

Left hepatic lobe herniation has been associated with incarceration of the liver within the hernial sac, which can lead to hepatic encephalopathy and liver failure. In one documented case, a patient exhibited elevated hepatic transaminases, flapping tremors, and encephalopathy [12].

Right hepatic lobe herniation has been linked to Budd-Chiari syndrome. One reported case involved a 75-year-old woman who developed secondary Budd-Chiari syndrome decades after a partial nephrectomy. Despite being asymptomatic, imaging confirmed the diagnosis [11,13]. Given the potential morbidity and mortality, clinicians should be vigilant in recognizing this complication.

## Diagnosis and management

Hepatic herniation should be suspected in patients presenting with epigastric bulging, but definitive diagnosis requires imaging. CT scanning is the preferred modality for confirming hepatic herniation and evaluating associated complications [3]. In our case, CT imaging performed during a follow-up for liver metastases incidentally revealed the herniation. Ultrasonography in experienced hands might detect it, but due to a lack of accuracy, it is not the modality of choice.

The optimal management of hepatic herniation remains uncertain, as no established treatment guidelines exist. In most cases, conservative management is preferred, particularly for asymptomatic patients. However, surgical intervention is warranted when complications arise. It is important to note that patients with cirrhosis face increased risks of morbidity and mortality following surgical repair of abdominal hernias [3].

Hepatic herniation through the abdominal wall remains exceptionally rare [3]. The majority of reported cases involve congenital diaphragmatic hernias or diaphragmatic rupture following trauma [3]. Acquired liver herniation through the abdominal wall has been documented in only seven adult patients: one without prior surgery, two following sternotomy, and four after abdominal surgery [5,6,14]. To our knowledge, this case represents the seventh report of liver herniation through an abdominal wall defect post-surgery in the English-language literature.

Although conservative treatment is the first-line approach in asymptomatic cases, surgical intervention should be considered for patients with severe symptoms or complications. Given the rarity of this condition, it is difficult to identify definitive predisposing risk factors.

## Conclusions

Hepatic herniation through the abdominal wall is a very uncommon condition with limited documentation in medical literature. Potential complications, including hepatic incarceration and Budd-Chiari syndrome, highlight the importance of early identification through imaging, particularly CT scans. Our case highlights the rare occurrence of hepatic herniation through a surgical scar in an asymptomatic patient. Given the asymptomatic nature of the condition, a conservative approach with regular monitoring was adopted rather than surgical intervention, which is reserved for associated complications. Further studies are needed to evaluate the long-term outcomes of such incidental findings and to develop standardized management protocols for similar cases.

## Additional Information

### Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

**Concept and design:** Muhammad Ahmad Mukhtar, Aeimen Khalid, Amna Mukhtar, Rubina Mukhtar

**Acquisition, analysis, or interpretation of data:** Muhammad Ahmad Mukhtar, Aeimen Khalid, Amna Mukhtar, Rubina Mukhtar

**Drafting of the manuscript:** Muhammad Ahmad Mukhtar, Aeimen Khalid, Amna Mukhtar, Rubina Mukhtar

**Critical review of the manuscript for important intellectual content:** Muhammad Ahmad Mukhtar, Aeimen Khalid, Amna Mukhtar, Rubina Mukhtar

**Supervision:** Rubina Mukhtar

## Disclosures

**Human subjects:** Consent for treatment and open access publication was obtained or waived by all participants in this study. Ethical Committee of Minar Cancer Hospital, Nishtar Medical University, Multan issued approval M-3(13)2018. **Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

## References

1. Shukla A, Ahmed S: Abdominal incisional hernia: retrospective study. *Int J Res Med Sci.* 2018, 6:2990-4. [10.18203/2320-6012.ijrms20183631](https://doi.org/10.18203/2320-6012.ijrms20183631)
2. Jadhav A, El Ouazzani LC, Hafoud S, et al.: Incarcerated primary anterior liver hernia: a case report. *Radiol Case Rep.* 2022, 17:2067-70. [10.1016/j.radcr.2022.03.051](https://doi.org/10.1016/j.radcr.2022.03.051)
3. Then EO, John F, Ofosu A, Gaduputi V: Anterior hepatic herniation: an unusual presentation of abdominal incisional hernia. *Cureus.* 2019, 11:e4066. [10.7759/cureus.4066](https://doi.org/10.7759/cureus.4066)
4. Stressig R, Fimmers R, Eising K, Gembruch U, Kohl T: Intrathoracic herniation of the liver ('liver-up') is associated with predominant left heart hypoplasia in human fetuses with left diaphragmatic hernia. *Ultrasound Obstet Gynecol.* 2011, 37:272-6. [10.1002/uog.7747](https://doi.org/10.1002/uog.7747)
5. Tekin F, Arslan A, Gunsar F: Herniation of the liver: an extremely rare entity. *J Coll Physicians Surg Pak.* 2014, 24 Suppl 3:S186-7.
6. Adeonigbagbe O, Ali K, Bradnock H: Herniation of the liver through the rectus muscle presenting as persistent abdominal pain. *Am J Gastroenterol.* 2000, 95:1841-2. [10.1111/j.1572-0241.2000.02151.x](https://doi.org/10.1111/j.1572-0241.2000.02151.x)
7. Le Huu Nho R, Mege D, Ouaiissi M, Sielezneck I, Sastre B: Incidence and prevention of ventral incisional hernia. *J Visc Surg.* 2012, 149:e3-14. [10.1016/j.jviscsurg.2012.05.004](https://doi.org/10.1016/j.jviscsurg.2012.05.004)
8. Nuño-Guzmán CM, Arróniz-Jáuregui J, Espejo I, Valle-González J, Butus H, Molina-Romo A, Orranti-Ortega RI: Left hepatic lobe herniation through an incisional anterior abdominal wall hernia and right adrenal myelolipoma: a case report and review of the literature. *J Med Case Rep.* 2012, 6:4. [10.1186/1752-1947-6-4](https://doi.org/10.1186/1752-1947-6-4)
9. Kanakarathne SD, Asokan G, Liyanage C: Unusual case of ventral liver herniation. *ANZ J Surg.* 2017, 87:950-1. [10.1111/ans.14082](https://doi.org/10.1111/ans.14082)
10. Echo A, McKnight AJ, Bullocks JM: Ventral herniation of the left hepatic lobe after sternal reconstruction with a rectus abdominis muscle flap. *Am Surgeon.* 2011, 77:e96-7. [10.1177/000313481107700601](https://doi.org/10.1177/000313481107700601)
11. Al Ani AH, Al Badra MYR, Al Kaisy S, et al.: Left hepatic lobe herniating through sternotomy incision. *Clin Surg.* 2017, 2:1686.
12. Eken H, Isik A, Buyukakincak S, Yilmaz I, Firat D, Cimen O: Incarceration of the hepatic lobe in incisional hernia: a case report. *Ann Med Surg (Lond).* 2015, 4:208-10. [10.1016/j.amsu.2015.05.009](https://doi.org/10.1016/j.amsu.2015.05.009)
13. Saujani S, Rahman S, Fox B: Budd-Chiari syndrome due to right hepatic lobe herniation: CT image findings of two rare clinical conditions. *BJR Case Rep.* 2017, 3:20160133. [10.1259/bjrcr.20160133](https://doi.org/10.1259/bjrcr.20160133)
14. Warbrick-Smith J, Chana P, Hewes J: Herniation of the liver via an incisional abdominal wall defect. *BMJ Case Rep.* 2012, 2012:bcr2012007355. [10.1136/bcr-2012-007355](https://doi.org/10.1136/bcr-2012-007355)