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Complicated Type IV Hiatal Hernia Mimicking Acute Coronary Syndrome: A Case Report

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Abstract | **Case Report**

Hiatal hernia is a common condition that may present with a wide range of clinical manifestations, from typical gastroesophageal reflux symptoms to atypical presentations. Diagnostic evaluation relies on complementary imaging modalities, including upper gastrointestinal endoscopy and computed tomography, which are particularly useful for identifying complications such as gastric volvulus or perforation. Management depends on symptom severity and hernia type, ranging from conservative treatment with lifestyle modifications and proton pump inhibitors to surgical repair in complicated or advanced cases. We report a case of a type IV hiatal hernia presenting primarily with chest pain, initially suggestive of a cardiac etiology. Further investigations allowed for the correct diagnosis, highlighting an uncommon clinical presentation. This case emphasizes the importance of considering hiatal hernia in the differential diagnosis of chest pain after exclusion of cardiac causes. Early recognition and appropriate management are essential to prevent complications and improve patient outcomes.

Keywords: Hiatal hernia; non-cardiac chest pain; fundoplication; Diagnostic challenge.

INTRODUCTION

Hiatal hernia is defined as the herniation of the stomach, and occasionally other abdominal viscera, through the esophageal hiatus of the diaphragm into the thoracic cavity. It is a relatively common condition, particularly in adults, and is most frequently associated with gastroesophageal reflux disease, leading to typical symptoms such as heartburn and regurgitation. However, its clinical presentation can be highly variable, ranging from asymptomatic cases to severe complications depending on the type and extent of herniation.

Although gastrointestinal symptoms are predominant, atypical presentations may occur. Among these, chest pain is an uncommon but clinically significant manifestation, as it can closely mimic acute cardiac conditions and lead to diagnostic uncertainty. This overlap often requires thorough evaluation to exclude life-threatening causes before considering gastrointestinal etiologies.

In this report, we describe a case of hiatal hernia revealed by chest pain, emphasizing the importance of including this diagnosis in the differential diagnosis of non-specific thoracic symptoms, particularly when initial cardiac investigations are inconclusive.

CASE PRESENTATION

A 63-year-old woman with a history of hypertension on medical treatment presented to the emergency department with acute chest pain associated with vomiting.

On admission, the patient was placed under continuous monitoring. Electrocardiography showed sinus tachycardia. Cardiac biomarkers were significantly elevated, with NT-proBNP at 2525 pg/mL and troponin at 475.40 ng/L.

Others laboratory investigations revealed leukocytosis (13,800/mm), hemoglobin of 16.1 g/dL, and platelet count of 287,000/mm. Renal function tests showed elevated urea (1.99 g/L) and creatinine (58.90 mg/L). Lipase was increased to 549 IU/L, while liver enzymes were within normal limits (AST/ALT: 21/14 IU/L). Coagulation parameters were within normal range (PT: 88.4%, aPTT: 25 seconds). Inflammatory markers

were mildly elevated (CRP:4.41 mg/L, procalcitonin: 0.39 ng/mL).

Transthoracic echocardiography revealed segmental wall motion abnormalities with a left ventricular ejection fraction of 50%.

In view of the equivocal cardiac presentation, a thoracoabdominal CT scan was performed, revealing a large sliding hiatal hernia with herniation of the antropyloric region, omentum, and a portion of the colon into the thoracic cavity.

There was associated oesogastric stasis and gastric pneumatosis. The hernia exerted a significant mass effect on the anterior aspect of the heart and bilateral lung parenchyma. In addition, extensive portal venous gas was observed, involving the intrahepatic branches, mesenteric veins, perigastric veins, and the splenic vein.

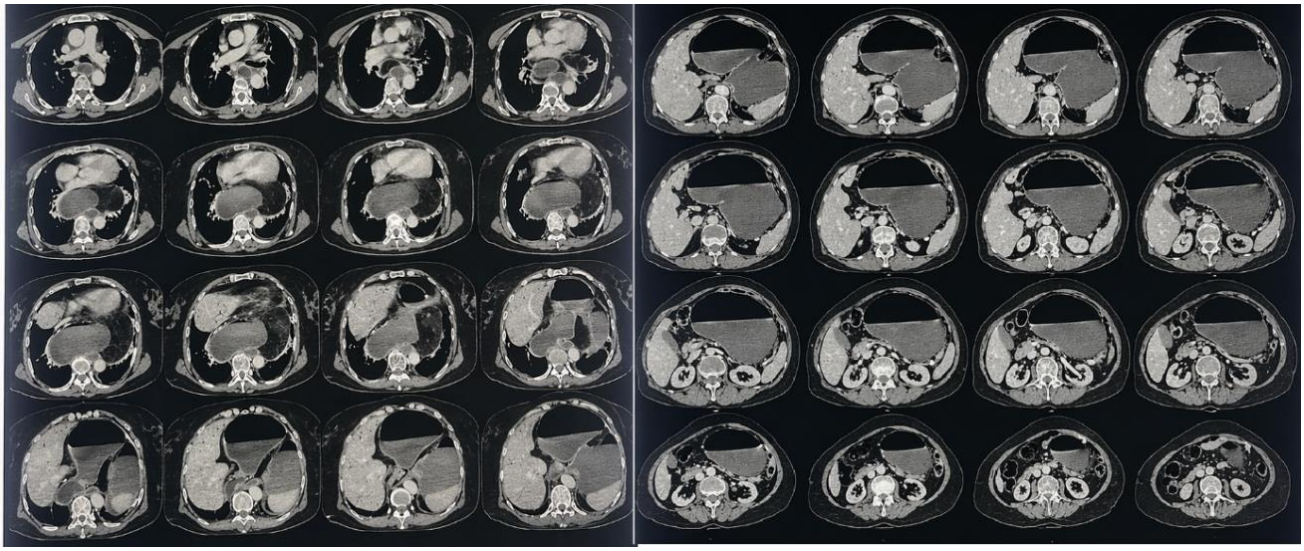

Figure 1: CT scan showing a hiatal hernia with signs of ischemic distress

Given the severity of the clinical and radiological findings, the patient underwent emergency surgery via laparotomy. Intraoperative exploration revealed a large hiatal hernia containing the stomach, colon, and greater omentum. Careful reduction of the herniated but viable contents was performed. The hiatal defect measured approximately 10 cm in its greatest dimension and was repaired using figure-of-eight sutures with 2 silk. An anti-reflux procedure was completed with a Nissen fundoplication. A transhiatal thoracic Redon drain was placed.

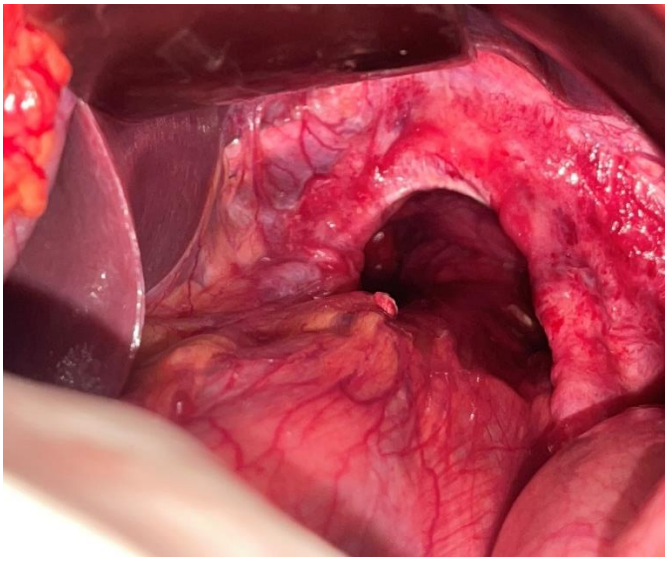

Figure 2: Intraoperative image showing a 10 cm hiatal defect

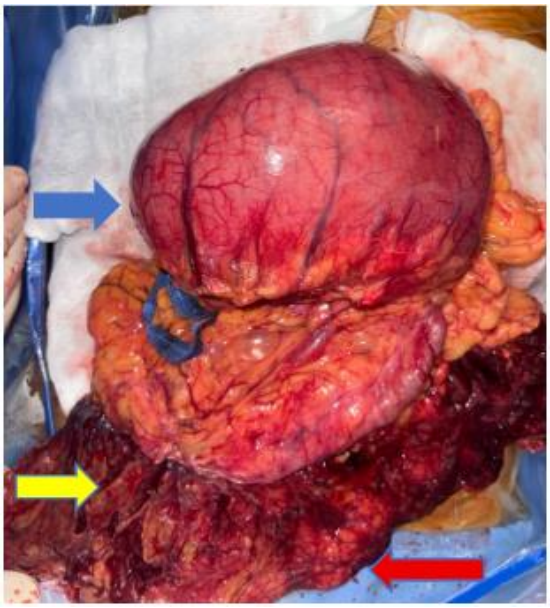

Figure 3: Image showing the hernia contents (the stomach "blue" and transverse colon "yellow" with the greater omentum "red"), which were viable

Postoperatively, the patient required transient hemodynamic support with norepinephrine.

The postoperative course was marked by improvement in both respiratory and cardiac status. The patient was weaned off noradrenaline after 12 hours, with good hemodynamic and respiratory stability.

Oral feeding was resumed on postoperative day 2 without incident. As the drain yielded only a few of serous fluid, it was removed on postoperative day 3. The patient was subsequently discharged on postoperative day 5.

DISCUSSION

Hiatal hernia represents a spectrum of anatomical abnormalities characterized by the herniation of abdominal contents through the esophageal hiatus into the mediastinum. Various terms such as paraoesophageal hernia (PEH), sliding hiatal hernia (SHH), giant hiatal hernia (GHH), intrathoracic stomach (ITS), or upside-down stomach (UDS) are often used interchangeably to describe different presentations within this spectrum [1]. Based on anatomical features, hiatal hernias are classified into four types (I–IV). Type I, or sliding hiatal hernia, is the most common form, accounting for nearly 90% of cases, whereas types II–IV are less frequent but associated with a higher risk of complications [2].

The development of hiatal hernia is multifactorial, involving increased intra-abdominal pressure and progressive weakening or widening of the esophageal hiatus. Age-related degeneration of the phrenoesophageal membrane, with loss of elasticity, plays a key role in the increased prevalence observed in older populations [3]. Gastroesophageal reflux disease is frequently associated with hiatal hernia, and its incidence rises with advancing age [4].

Clinical presentation is highly variable. While typical symptoms include heartburn and regurgitation, atypical manifestations may occur. Chest pain, although uncommon, is a clinically significant presentation as it may closely mimic acute coronary syndrome, leading to diagnostic uncertainty. Esophageal disorders, including hiatal hernia and reflux disease, account for a substantial proportion of noncardiac chest pain cases, often resulting in extensive cardiac evaluation before a gastrointestinal etiology is identified [5,6].

The mechanisms underlying chest pain in hiatal hernia are complex and multifactorial. Displacement of the gastroesophageal junction alters the function of the lower esophageal sphincter, promoting acid reflux and mucosal irritation. In addition, esophageal hypersensitivity, motility disorders, and mechanical factors such as gastric distension or mediastinal compression—particularly in large or advanced hernias—may contribute to symptom generation [5,7].

Early diagnosis is essential to improve patient outcomes. Several diagnostic modalities are available, including barium swallow, computed tomography, and upper gastrointestinal endoscopy. Endoscopy allows direct visualization and grading of sliding hernias, although large or complex hernias may occasionally be missed [8]. High-resolution manometry has demonstrated high sensitivity and specificity in detecting hiatal hernias and assessing associated motility disorders [9]. Computed tomography is particularly useful in identifying complications such as gastric volvulus or perforation [10]. In clinical practice, these modalities are often complementary, especially in the preoperative setting [11].

Management depends on symptom severity and hernia type. In uncomplicated cases, treatment focuses on symptom control through lifestyle modifications and proton pump inhibitor therapy, as recommended by current guidelines [12]. Surgical repair is indicated in patients with large hernias, persistent or recurrent symptoms, or complications such as incarceration or strangulation [11,13]. Advanced hernias (types II–IV) require closer monitoring due to their higher risk profile. Although surgery may be associated with recurrence and perioperative risks, the development of laparoscopic techniques has significantly improved safety and outcomes [14]. Fundoplication remains the most commonly performed adjunct procedure to control reflux symptoms, and preoperative manometry is useful in guiding surgical planning [13,14].

In our case, the patient presented primarily with chest pain, initially raising concern for an acute cardiac condition. However, further investigations revealed a type IV hiatal hernia, illustrating an uncommon but important clinical scenario. Isolated chest pain as the main presenting symptom is rare and may lead to delayed or missed diagnosis. This case highlights the importance of considering hiatal hernia in the differential diagnosis of chest pain, particularly after exclusion of cardiac causes. Early recognition is crucial to avoid unnecessary investigations and to ensure appropriate and timely management.

Conclusion

Hiatal hernia can present with atypical symptoms, including isolated chest pain, which may mimic cardiac conditions and lead to diagnostic challenges. This case underscores the importance of a thorough diagnostic approach and the use of complementary imaging modalities to establish an accurate diagnosis.

Clinicians should consider hiatal hernia in the differential diagnosis of chest pain once cardiac causes have been excluded. Early identification allows for appropriate management, reduces unnecessary investigations, and helps prevent potentially serious complications.

References

1. Best Practice. *Hiatal hernia: symptoms, diagnosis and treatment*. BMJ Best Practice; updated 28 Jan 2025.
2. Dunn D, *et al.,* Hiatal Hernia. In: StatPearls. Treasure Island (FL): StatPearls Publishing; 2023.
3. Shao JM, Elhage SA, *et al.,* The management of hiatal hernia: an update. *Ann Laparosc Endosc Surg.* 2019 ;4 :94.
4. Katz PO, Gerson LB, Vela MF. Guidelines for the diagnosis and management of gastroesophageal reflux disease. *Am J Gastroenterol.* 2013 ;108(3) :308–328.
5. Fass R, Achem SR. Noncardiac chest pain: epidemiology, natural course and pathogenesis. *J Neurogastroenterol Motil.* 2011 ;17(2):110–123.
6. Achem SR, DeVault KR. Diagnosis and treatment of noncardiac chest pain. *Am J Gastroenterol.* 2003 ;98(4):746–757.
7. Medical News Today. *Hiatal hernia and chest pain: treatment and when to seek help*. Feb 22, 2023.
8. Roman S, Kahrilas PJ. The diagnosis and management of hiatus hernia. *BMJ.* 2014; 349: g6154.
9. Pandolfino JE, *et al.,* High-resolution manometry in the evaluation of esophageal disorders. *Gastroenterology.*2009 ;137(2):453–462.
10. Jafferji M, *et al.,* Imaging of hiatal hernias and their complications. *Radiographics.* 2015 ;35(2):424–437.
11. Stylopoulos N, Rattner DW. The history of hiatal hernia surgery. *Ann Surg.* 2005 ;241(1):185–193.
12. Katz PO, *et al.,* ACG clinical guideline for GERD. *Am J Gastroenterol.* 2013 ;108(3):308–328.
13. Spechler SJ. Clinical manifestations and diagnosis of hiatal hernia. *UpToDate.*
14. Oelschlager BK, *et al.,* Laparoscopic paraesophageal hernia repair. *Ann Surg.* 2012 ;256(4):663–676.