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Spontaneous Left-Sided Diaphragmatic Hernia Masquerading as Chronic Dyspepsia in a 60-Year-Old Woman: A Case Report

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Abstract

We report a spontaneous left diaphragmatic hernia in an older woman that was mistaken first for dyspepsia and then for diaphragmatic eventration. A 60-year-old woman presented with a three-day history of worsening postprandial vomiting on top of two years of recurrent epigastric pain radiating to the left back, early satiety, and significant weight loss (7 kg over two months). She had been diagnosed with dyspepsia and, during an earlier admission, with left diaphragmatic eventration on non-contrast computed tomography (CT). On examination, breath sounds were decreased, and percussion was dull over the left fourth intercostal space, where bowel sounds (borborygmi) were also audible, suggesting bowel in the chest. Contrast-enhanced thoracic CT then showed a diaphragmatic hernia with part of the stomach protruding into the left hemithorax. She underwent a combined laparoscopic-thoracotomy repair. Surgery found a true defect in the central part of the left hemidiaphragm containing stomach and omentum with grade IV adhesions, which excluded eventration. Recovery was complicated by mild grade I subcutaneous emphysema, managed conservatively, and she was discharged on postoperative day 5. The dense adhesions called for a combined transabdominal-transthoracic approach, and prompt recognition with individualized multidisciplinary planning contributed to a favorable outcome. Diaphragmatic hernia should be considered in older patients with recurrent, atypical gastrointestinal or respiratory symptoms, particularly when earlier imaging points to eventration.

Categories: General Surgery, Cardiac/Thoracic/Vascular Surgery
Keywords: diaphragmatic eventration, diaphragmatic hernia, dyspepsia, elderly, gastric herniation

Introduction

Diaphragmatic hernia refers to the displacement of abdominal viscera into the thoracic cavity through a diaphragmatic defect, which may be congenital or acquired secondary to trauma or degeneration [1]. It is uncommon in adults, with a reported incidence of 0.41-6% in imaging and autopsy series [1], yet it carries substantial morbidity when complicated by incarceration, volvulus, or strangulation of the herniated viscera [1,2]. Many adult cases are found incidentally, and symptoms are absent in a minority of patients; for example, 10-30% of adults with Morgagni hernia are asymptomatic [1].

Clinical presentation in adults is highly variable and often nonspecific, which complicates early diagnosis [1]. Symptomatic patients may present with respiratory complaints such as postprandial dyspnea, or digestive symptoms such as epigastric pain, nausea, vomiting, early satiety, or gastric outlet obstruction, which frequently mimic dyspepsia or gastroesophageal reflux disease [1,3,4], and reported diagnostic sensitivity for this condition, particularly on cross-sectional imaging, can vary widely [3]. A related and equally common diagnostic challenge is distinguishing a true hernia from diaphragmatic eventration, an abnormal elevation of an intact but attenuated hemidiaphragm without a true anatomical defect [5,6]; both conditions can produce similar radiological findings, and definitive differentiation sometimes requires intraoperative confirmation [7,8]. Older adults may be especially vulnerable to diagnostic delay in either scenario, given diminished cardiopulmonary reserve, comorbidities, and diaphragmatic tissue weakened by the aging process [2,9].

Surgical repair remains the only definitive treatment for diaphragmatic hernia, whether symptomatic or not, given the persistent risk of incarceration, volvulus, and strangulation [1,10]. Approach selection (transabdominal, transthoracic, or combined thoracoabdominal) should be individualized according to defect location, the herniated viscera, and anticipated adhesions, since diagnostic accuracy and timely, tailored perioperative planning are key determinants of prognosis [1,2,11].

We report the case of a 60-year-old woman with a left-sided diaphragmatic hernia who was initially diagnosed with dyspepsia and, on subsequent imaging, with diaphragmatic eventration, before a true hernia was confirmed intraoperatively. What makes this case instructive is that a spontaneous hernia in the central part of the left hemidiaphragm was attributed to dyspepsia for two years, was read as eventration on the first

computed tomography (CT), and was recognized only after a bedside finding: bowel sounds over the left chest. This report describes her clinical course, diagnostic process, and surgical management, and underscores the importance of maintaining a high index of suspicion for diaphragmatic hernia in older patients with atypical cardiopulmonary or digestive complaints.

Case Presentation

A 60-year-old obese woman (body mass index 31.6 kg/m^2) presented to the emergency department with three days of worsening vomiting on a two-year background of recurrent epigastric pain.

Relevant medical history

Four years earlier, abdominal ultrasonography had shown fatty liver and cholelithiasis. She had no history of asthma, chronic obstructive pulmonary disease (COPD), hypertension, diabetes mellitus, or cardiac disease, and no family history of these conditions or of similar complaints. She denied any blunt or penetrating abdominal trauma or prior abdominal or thoracic surgery. She was nulligravid and nulliparous, and reported chronic constipation with straining at stool but no hematochezia. For about 40 days she had had a severe, recurrent cough without hemoptysis, fever, or night sweats; she had not sought medical evaluation for it, its cause was not established, and she had self-medicated with over-the-counter remedies. Her medications on presentation included paracetamol 500 mg three times daily and pantoprazole 40 mg twice daily. Her acid-suppressive drugs had been taken one after another, not together: she first took an antacid, changed to omeprazole 20 mg twice daily when this was not enough, and was given pantoprazole after a hospital admission. Before her June 2026 admission for dyspepsia, she had never had upper gastrointestinal endoscopy or chest imaging.

History of present illness

Her symptoms began about two years earlier as recurrent epigastric pain radiating to the left back. Approximately four months before the current admission, she attended the same emergency department with epigastric pain and was diagnosed clinically with dyspepsia; an electrocardiogram (ECG) was unremarkable, no endoscopy or chest imaging was done, and she declined admission. Approximately three weeks before the current admission, she was admitted with epigastric pain, nausea, and vomiting, with tenderness in the left upper quadrant (LUQ) on examination. Non-contrast abdominal CT the following day suggested left diaphragmatic eventration (detailed under Investigations), and she was discharged two days later for outpatient surgical follow-up.

At a surgical clinic visit five days after that discharge, her symptoms had partially improved, but bloating and tightness in the LUQ persisted; an antacid, omeprazole, metoclopramide, and etoricoxib (Coxiron) were started, and she was referred to the cardiothoracic and vascular surgery (CTVS) service. Contrast-enhanced CT of the thorax the following day raised suspicion for a true diaphragmatic hernia (detailed under Investigations), and elective surgery was planned for about three weeks later. Approximately one week before the current admission, she was readmitted for five days with the same complaints, was treated, and improved before discharge.

At the current presentation, she reported about 10 episodes of watery vomiting over three days, occurring immediately after every meal or drink and accompanied by nausea, early satiety, and dyspnea that eased once she had vomited. The epigastric pain radiating to the left back had intensified over the preceding three months and worsened further in the three days before admission. She described a sour taste in her mouth without frank heartburn. She had lost 7 kg (from 85 kg to 78 kg, about 8% of body weight) over two months, which we regard as significant weight loss. She denied crushing or stabbing chest pain, fever, coryza, jaundice, and bloody or tarry stools, though she had not had a bowel movement in the week before admission. Urination was unremarkable.

Physical examination

On admission, the patient appeared moderately ill but was alert and cooperative (Glasgow Coma Scale (GCS) E4V5M6), with a pain score of 5-7 out of 10 on the visual analog scale (VAS). Vital signs were as follows: blood pressure 115/70 mmHg, heart rate 90 beats/minute, respiratory rate 20 breaths/minute, oxygen saturation 97% on room air, and temperature 36.7°C. Head, eye, nose, mouth, and neck examinations were unremarkable, without pallor, icterus, or lymphadenopathy.

Pulmonary examination revealed asymmetric chest wall movement with reduced excursion on the left, without scars or evidence of trauma. Vocal fremitus was decreased over the left hemithorax. Percussion was resonant on the right but dull at the level of the left fourth intercostal space (ICS). Auscultation revealed vesicular breath sounds on the right that were diminished at the left fourth ICS, with audible bowel sounds (borborygmi) heard over the left fourth ICS and inferiorly; wheezes, rhonchi, and crackles were absent. Cardiac examination was unremarkable, with regular heart sounds and no murmurs or gallops.

Abdominal examination revealed visible fullness in the LUQ, without discoloration or visible distended

bowel loops. Bowel sounds were reduced in frequency (5/minute) without a metallic quality. The LUQ was firm on palpation but non-tender, without guarding, and the liver and spleen were not palpable. Percussion over the LUQ was dull. The extremities were warm and well-perfused, without edema or cyanosis.

Investigations

Serial laboratory investigations over the course of her illness (Table *1*) showed a progressive rise in urea and creatinine with a corresponding decline in estimated glomerular filtration rate (eGFR), reaching a nadir of 59.9 mL/min/1.73 m² on the day of admission, together with elevated transaminases (aspartate aminotransferase (AST) 72 U/L, alanine aminotransferase (ALT) 114 U/L). A 12-lead ECG on the day of admission showed normal sinus rhythm at 77 beats/minute with a normal axis.

Date	Urea (mg/dL)	Creatinine (mg/dL)	eGFR (mL/min/1.73 m²)	AST (U/L)	ALT (U/L)
3 weeks prior	19 (N)	0.79 (N)	81.6 (N)	25 (N)	22 (N)
1 week prior	30 (H)	0.99 (N)	71.6 (N)	19 (N)	14 (L)
Admission	37 (H)	1.02 (H)	59.9 (L)	72 (H)	114 (H)

TABLE 1: Trend in renal and hepatic function during the diagnostic and preoperative period

N: normal; H: above normal reference range; L: below normal reference range; eGFR: estimated glomerular filtration rate; AST: aspartate aminotransferase; ALT: alanine aminotransferase.

Non-contrast abdominal CT performed approximately three weeks prior to admission demonstrated hepatolithiasis, left diaphragmatic eventration, and elevation of the gastric fundus, without evidence of gallstones (Figure *1*). Contrast-enhanced CT of the thorax performed approximately two weeks prior to admission subsequently revealed a diaphragmatic hernia with partial protrusion of the stomach, perigastric fat, and its associated vasculature into the left hemithorax, accompanied by thickening of the gastric body, adjacent left lower lobe atelectasis, a calcified lesion in hepatic segment IVb (probable hepatolithiasis), and cervicothoracic spondylosis (Figure *2*). A chest radiograph obtained during her diagnostic workup showed left lower lobe atelectasis and cardiomegaly (Figure *3*).



FIGURE 1: Non-contrast abdominal CT, coronal view

CT of 19 June 2026 showing elevation of the left hemidiaphragm with a superiorly displaced gastric fundus and hepatolithiasis, initially interpreted as left diaphragmatic eventration. The arrow marks the elevated gastric fundus.

CT, computed tomography.

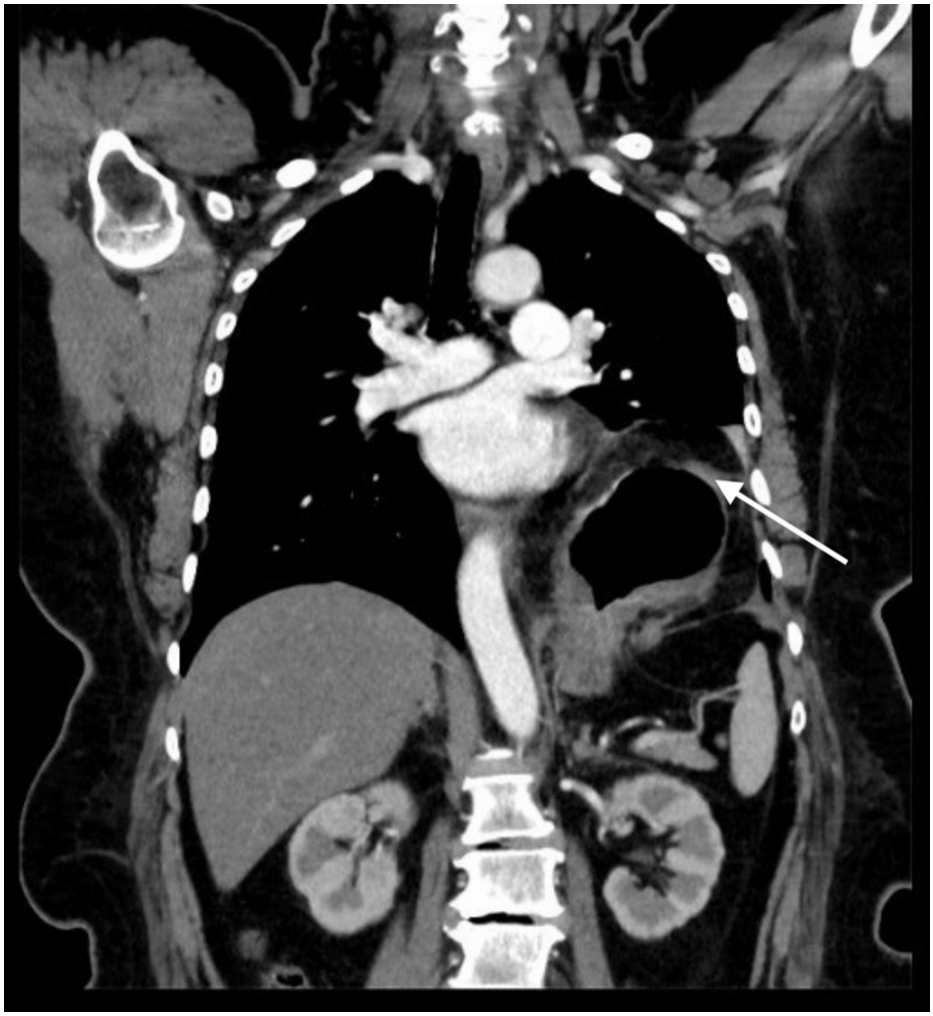


FIGURE 2: Contrast-enhanced thoracic CT, coronal view

CT of 26 June 2026 showing partial protrusion of the stomach, perigastric fat, and associated vasculature through a left diaphragmatic defect into the left hemithorax, with thickening of the gastric body and adjacent atelectasis. The arrow marks the herniated stomach.

CT, computed tomography.

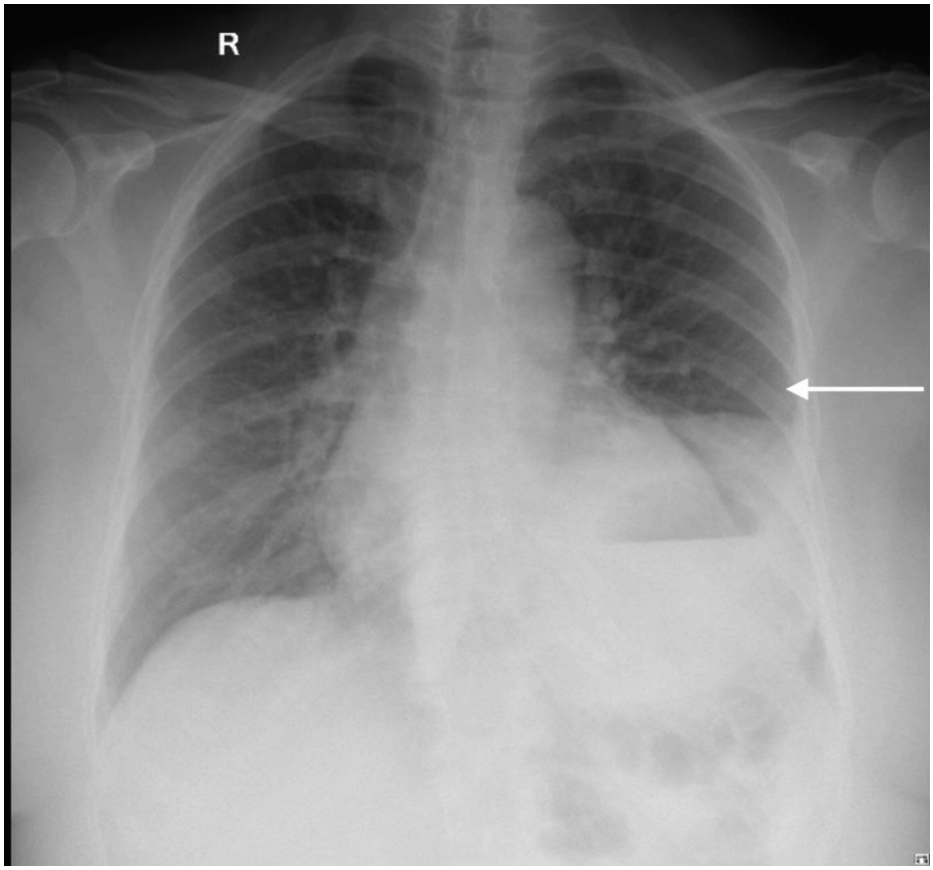


FIGURE 3: Chest radiograph showing left lower lobe atelectasis and cardiomegaly

The arrow marks the left lower zone opacity.

Diagnosis

Based on the history, physical examination, and imaging findings, a working diagnosis of left diaphragmatic hernia was made, together with acute kidney injury of pre-renal origin attributed to dehydration, hepatolithiasis, and left-sided pulmonary atelectasis secondary to extrinsic compression.

Operative management

After five days of preoperative optimization in hospital, including nasogastric decompression, correction of electrolyte and volume status, and multidisciplinary evaluation by internal medicine (for hepatolithiasis and renal dysfunction), cardiology (transthoracic echocardiography showed a normal study with an ejection fraction of 70%; American Society of Anesthesiologists (ASA) physical status II), nutrition, and anesthesiology, the patient underwent surgery on 16 July 2026.

Under general anesthesia with one-lung ventilation via a double-lumen endotracheal tube, a combined laparoscopic and open transthoracic (thoracotomy) approach was performed. Laparoscopy confirmed a true diaphragmatic defect in the central part of the left hemidiaphragm, through which the stomach and omentum had herniated into the thoracic cavity, with dense (grade IV) adhesions between the omentum, stomach, and diaphragm (Figure *4*). Given the severity of these adhesions, a left thoracotomy was performed to allow safe dissection of the herniated viscera from the mediastinal, pleural, and pulmonary structures under direct visualization (Figure *5*). The stomach and omentum were carefully reduced into the abdominal cavity, and the diaphragmatic defect was repaired primarily using interrupted non-absorbable sutures. A chest tube was placed in the left hemithorax prior to closure, and no intraoperative complications occurred. The final intraoperative diagnosis was left diaphragmatic hernia containing stomach and omentum, confirming a true anatomical defect and excluding diaphragmatic eventration.

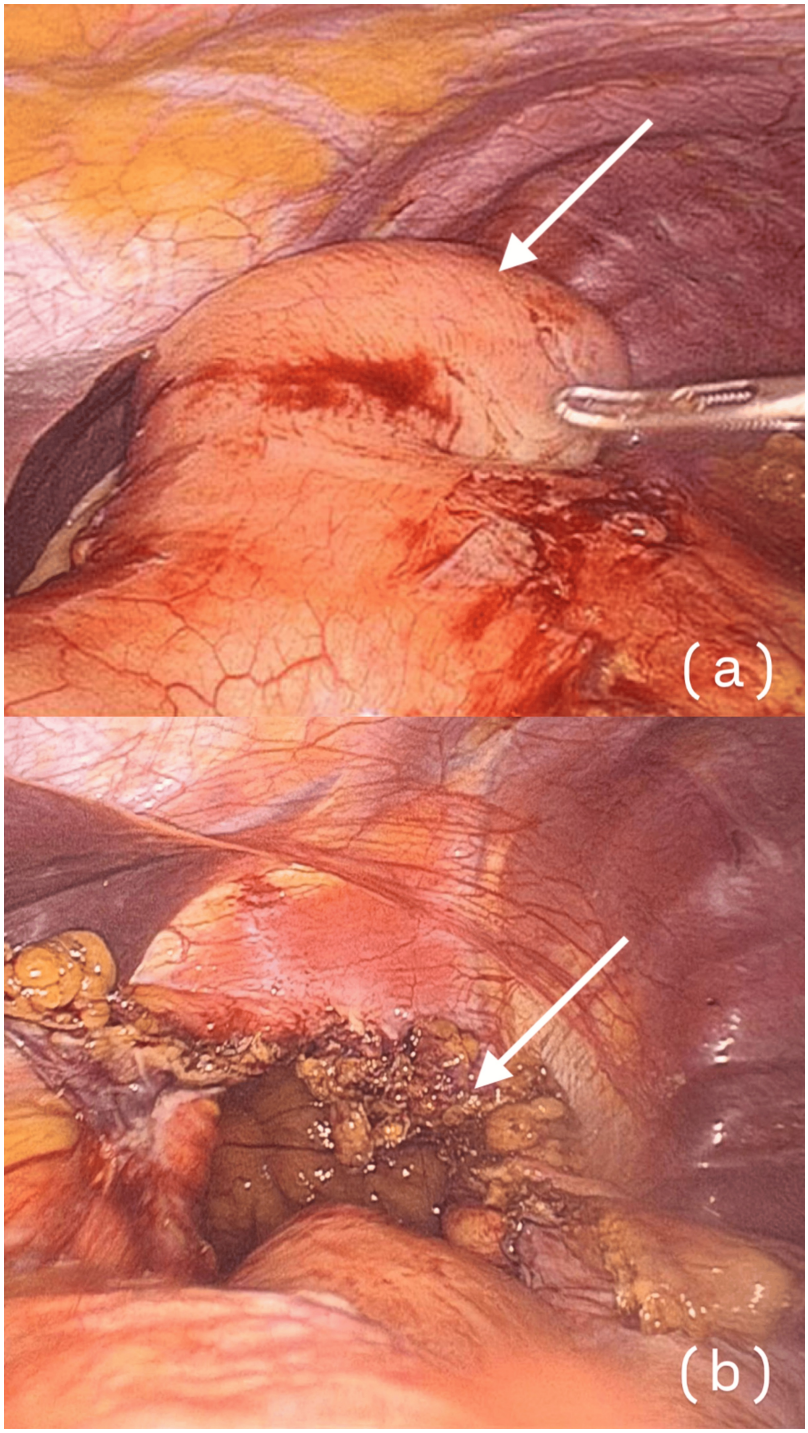


FIGURE 4: Laparoscopic views

(a) Herniated gastric wall traversing the diaphragmatic defect. (b) Dense grade IV adhesions between the omentum, stomach, and diaphragm. Arrows mark the findings described.

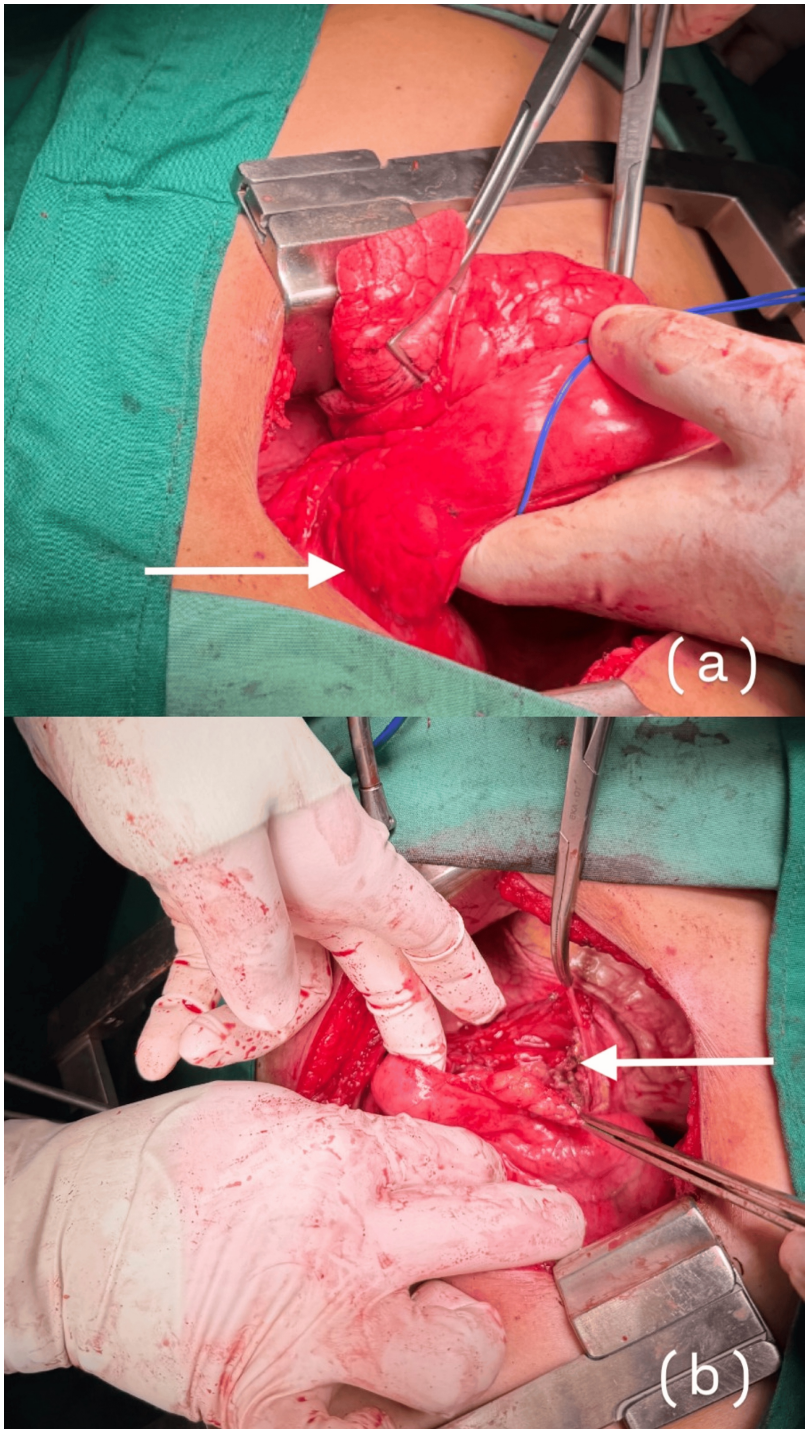


FIGURE 5: Intraoperative thoracotomy views

(a) Dense adhesions between the omentum and adjacent structures within the left hemithorax. (b) Mobilization of the herniated stomach after reduction. Arrows mark the findings described.

Postoperative course and outcome

Postoperatively, the patient was managed with a left axillary chest tube, a nasogastric tube for decompression and staged enteral feeding, prophylactic antibiotics (ceftriaxone), analgesia, and prokinetic/antiemetic agents. She developed mild (grade I) subcutaneous emphysema after thoracotomy, which was managed conservatively with close monitoring and did not require additional invasive intervention. Multidisciplinary postoperative care involved general surgery and cardiothoracic-vascular surgery (for chest tube management), internal medicine (for monitoring of hepatic function in the context of hepatolithiasis), and medical rehabilitation for functional recovery.

Oral intake and enteral nutrition were gradually resumed; the chest tube and urinary catheter were removed as the patient's respiratory and fluid status stabilized, and she was mobilized progressively. By postoperative day 5, she was tolerating a full oral diet, ambulating independently, and had adequate pain control, with resolution of the LUQ fullness, improvement of the epigastric pain radiating to the back, and a soft, non-tender abdomen. Her total hospital stay was 10 days, five before and five after surgery. She was discharged home in stable condition with outpatient follow-up arranged with internal medicine (for repeat liver enzyme testing at one week) and the surgical service, and was prescribed oral analgesics, a proton pump inhibitor, a prokinetic agent, and a short course of oral antibiotics.

Discussion

Diaphragmatic hernia is defined as herniation of abdominal viscera into the thoracic cavity through a diaphragmatic defect, which may be congenital or acquired [1,10]. In adults, most acquired cases are attributed to trauma; however, spontaneous (non-traumatic) diaphragmatic hernia can also occur when a chronic rise in intra-abdominal pressure, from causes such as chronic cough, straining at stool, obesity, pregnancy, or repeated Valsalva-type maneuvers, exceeds the tensile strength of a diaphragm already weakened by age-related degeneration or a congenitally deficient area [1,12,13]. Our patient's chronic severe cough of approximately 40 days' duration, habitual straining from constipation, and obesity are all consistent with this spontaneous mechanism, in the absence of any identifiable traumatic or iatrogenic cause. The defect lay in the central part of the left hemidiaphragm, not at the posterolateral or anterior sites typical of Bochdalek and Morgagni hernias, so a congenitally weak area cannot be excluded, although the history points to a pressure-related, acquired mechanism.

The clinical presentation in this patient closely mirrored the classically described pattern in the literature. As summarized in a review by Predescu and colleagues, three characteristic symptom patterns have been described in adult diaphragmatic hernia: postprandial respiratory symptoms, worsening of symptoms in the recumbent position, and precipitation of symptoms by physical activity [1]. Our patient exhibited the first of these patterns precisely: dyspnea that worsened after meals, accompanied by nausea and vomiting, and that improved once she vomited. This is consistent with the mechanism by which a distended, herniated stomach compresses the ipsilateral lung during the postprandial period and decompresses once emptied. Her chronic, recurrent epigastric pain, early satiety, and progressive weight loss further reflect a chronic obstructive process caused by gastric compression at the hernia ring, a pattern that, together with her prior misdiagnosis of dyspepsia, illustrates the diagnostic ambiguity that these nonspecific digestive symptoms can create; even cross-sectional imaging is imperfect, as the reported sensitivity of CT scanning for diaphragmatic hernia ranges from only 33% to 83% [3].

Beyond its respiratory and obstructive manifestations, diaphragmatic hernia has repeatedly been documented as a mimicker of primary upper gastrointestinal disease. Yang et al. described a young adult with several days of epigastric discomfort and vomiting in whom diaphragmatic hernia was only suspected after an incidental chest radiograph revealed an air-fluid level within the thoracic cavity, illustrating how a seemingly ordinary dyspeptic presentation can obscure a substantial diaphragmatic defect [3]. Similarly, Jangpangi and colleagues reported an adult patient initially worked up for hydropneumothorax before diaphragmatic hernia was ultimately identified, underscoring the condition's tendency to masquerade as other common thoracic or gastrointestinal diagnoses [13]. Consistent with these reports, our patient's recurrent epigastric pain, early satiety, and postprandial vomiting were repeatedly attributed to dyspepsia over a two-year period, delaying recognition of the underlying diaphragmatic defect until physical examination revealed the near-pathognomonic finding of intrathoracic bowel sounds. This recurring pattern across the literature reinforces that dyspepsia-like symptoms accompanied by unexplained respiratory or auscultatory findings should prompt early cross-sectional imaging rather than prolonged empirical acid-suppressive therapy [1,3].

On examination, the finding of audible bowel sounds (borborygmi) over the left lower chest was the single most suggestive physical sign and is considered nearly pathognomonic, as it indicates the presence of gastrointestinal viscera within the thoracic cavity [14]. Diminished breath sounds over the same region are consistent with compression of the ipsilateral lung by the herniated contents [9,15]. The absence of peritoneal signs on abdominal examination was reassuring against strangulation, which typically manifests with tenderness, guarding, and systemic signs of sepsis [12,16].

A central diagnostic challenge in this case, as in the literature more broadly, was distinguishing true diaphragmatic hernia from diaphragmatic eventration, a condition of abnormal elevation of an intact but attenuated hemidiaphragm due to phrenic nerve dysfunction or congenital muscular deficiency, without a true anatomical defect [5,6]. Both entities can produce similar radiological appearances of an elevated diaphragmatic contour with possible mediastinal shift, and reliable differentiation frequently requires intraoperative confirmation [7,8]. In our patient, the initial non-contrast CT was interpreted as showing eventration, and it was only on subsequent contrast-enhanced CT, which delineated visceral protrusion together with perigastric fat and vessels crossing through a discrete diaphragmatic defect, that a true hernia became radiologically more likely. The distinction was ultimately confirmed intraoperatively by direct visualization of a true hernia ring through which the stomach and omentum had passed, together with dense (grade IV) adhesions between these structures, a finding not expected in simple eventration, in which

the diaphragmatic muscle remains thinned but continuous, without a discrete defect [6,7,17]. This sequence, with eventration suggested on the first CT and a hernia on the second, reflects the genuine radiological overlap between the two conditions.

The principal treatment for symptomatic and asymptomatic diaphragmatic hernia alike is surgical repair, given the persistent risk of incarceration, volvulus, and strangulation [1,10]. Approach selection (transabdominal, typically laparoscopic; transthoracic; or combined thoracoabdominal) should be individualized according to defect location, the herniated viscera, and anticipated adhesions [1,11]. A laparoscopic-first approach affords excellent visualization of the abdominal cavity and facilitates reduction of herniated contents, whereas a thoracic approach provides superior exposure for dissecting the hernia sac from the mediastinum, pleura, and lung [1,10]. In our patient, the combined approach was justified intraoperatively by the discovery of dense (grade IV) adhesions between the omentum, stomach, and diaphragm, which required the enhanced exposure of both cavities to permit safe, complete reduction without iatrogenic visceral injury. This combined approach has similarly been reported to be advantageous in massive or anatomically complex diaphragmatic hernias [11].

Postoperative management in older patients with diaphragmatic hernia should follow a comprehensive, multidisciplinary approach encompassing airway management, staged respiratory support, early monitoring of gastrointestinal function, and progressive pulmonary rehabilitation [14]. Our patient's mild grade I subcutaneous emphysema, a recognized and generally self-limited complication after thoracotomy, was successfully managed conservatively without further invasive intervention [2,14]. Her multidisciplinary care pathway, involving general surgery, cardiothoracic-vascular surgery, internal medicine, and rehabilitation medicine, is consistent with recommendations for perioperative management of older patients with this condition [14].

Prognostically, older age is consistently identified as an adverse factor in diaphragmatic hernia outcomes. In a systematic review of acute paraesophageal hernia with gastric volvulus, the weighted 30-day mortality was 5.7%, with a recurrence rate of 22.2% and a readmission rate of 11.0% over a mean follow-up of 15.7 months; octogenarian patients had significantly higher rates of emergency surgery, longer hospital stay, and higher in-hospital mortality than younger patients [2]. Conversely, timely diagnosis and comprehensive perioperative management, as achieved in our patient, are associated with excellent longer-term outcomes even in anatomically complex cases [14,18]. In older patients with atypical, recurrent cardiopulmonary or digestive symptoms, this pattern argues for keeping diaphragmatic hernia on the differential even after an initial diagnosis of eventration, since only individualized diagnostic and surgical planning can mitigate the risk of delayed recognition and its associated complications.

Spontaneous diaphragmatic hernia is not new. The value of this case lies in how several familiar problems combined. First, two years of recurrent epigastric pain were treated as dyspepsia, with three acid-suppressive drugs used one after another (an antacid, omeprazole, then pantoprazole), and without endoscopy or chest imaging. Second, the first CT was read as eventration, which may have delayed the diagnosis of hernia. Third, one bedside finding, bowel sounds over the left chest, pointed to the diagnosis before surgery. Fourth, dense grade IV adhesions made a combined abdominal and thoracic approach necessary. Fifth, acute kidney injury and raised liver enzymes complicated preoperative planning. Together, these points argue for a chest examination and early contrast CT in older patients whose dyspepsia does not follow the usual course.

Limitations

The main limitations are the single-patient design, short follow-up, and some unanswered clinical questions. Follow-up covers only the 10-day hospital stay, so we cannot comment on recurrence or later recovery. The cause of the 40-day cough was never established, and we cannot say how much it contributed to the hernia. The initial non-contrast CT was read as eventration and the later contrast CT as hernia, and we cannot say whether the difference was due to the technique or to the reader. For clinicians, the practical points are to listen over the chest in patients with postprandial vomiting or dyspnea, to obtain chest imaging early when dyspepsia does not follow the usual course, and to reconsider hernia when a CT reading of eventration does not match the symptoms.

Conclusions

Spontaneous diaphragmatic hernia can masquerade as chronic dyspepsia in older adults. In an older patient with postprandial vomiting or dyspnea and bowel sounds over the chest, early contrast-enhanced chest CT is warranted rather than prolonged empirical acid suppression. When CT suggests eventration but the symptoms do not fit, hernia should be reconsidered, because surgical exploration may be needed to confirm a true defect.

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.

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Disclosures

Human subjects: Informed consent for treatment and open access publication was obtained or waived by all participants in this study. **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.

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