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Beyond The Surface: Morgagni Hernia Masquerading As Pneumonia

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Abstract:
Morgagni hernias are a rare form of congenital diaphragmatic hernias that account for 2-3 % of all types of diaphragmatic hernias [1]. The herniation occurs through a defect in the Morgagni foramen, situated in the anterior part of the diaphragm [2]. The contents of the abdomen herniate through this foramen. Usually, Morgagni hernia occurs very early in life, either a few hours after birth or during the antenatal period [3]. Diagnosis of this condition is rare in the case of adults. We report a case of a 55-year-old female with a 6-month history of chronic recurrent cough and dyspnoea who has been treated with multiple courses of antibiotics for pneumonia but was later diagnosed with Morgagni hernia and treated accordingly.

Keywords: *Morgagni hernia, Diaphragmatic hernia, Adult onset diaphragmatic hernia. Congenital diaphragmatic hernia.*

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I. Introduction:

The Morgagni hernia was first described by Morgagni in 1769 the defect is found in an anterior and retrosternal location [2]. They are the least common type of congenital diaphragmatic hernias accounting for 2-3 % of all cases [1]. The usual presentation is seen in the first few hours of life or during the antenatal period [3]. When it presents in adults, it is mostly asymptomatic or found incidentally. It is very rare to see an adult with Morgagni hernia presenting with symptoms [4]. They mostly present with non-specific complaints making it difficult to arrive at a diagnosis. Abdominal pain is the most common presentation. In a few cases, they present with respiratory complaints such as cough, chest pain, and dyspnoea which may often lead to misdiagnosing as pneumonia. Here, we present a case of a 55-year-old female with a history of recurrent cough and progressive dyspnoea for 6 months being treated as pneumonia and later diagnosed as Morgagni hernia.

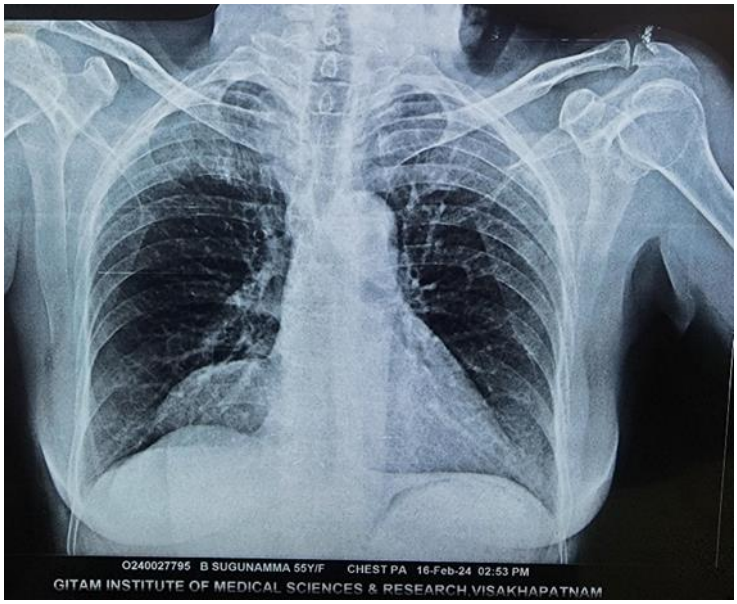
II. Case Report:

A 55-year-old female, homemaker by occupation, and resident of Visakhapatnam, presented to the outpatient department of Respiratory Medicine in GITAM INSTITUTE OF MEDICAL SCIENCES AND RESEARCH, Visakhapatnam on the 21st of February, 2024 with complaints of productive cough, difficulty in breathing, and heartburn for 10 days. The patient was alright 10 days ago. Later she developed a cough with expectoration which was whitish, mucoid, scanty, and not associated with any hemoptysis; Dyspnoea Grade 2 Mmrc, which was progressive and not associated with any orthopnoea; Epigastric pain, which was described as localized, dull aching, and non-radiating type of pain. The patient has been having similar complaints in the past 6 months of which dyspnoea has progressed from Grade 1 mMRC to Grade 2 Mmrc. The patient has a history of Pulmonary Tuberculosis 2 years ago, for which she was treated adequately with Anti-tubercular therapy for 6 months. She is a known case of Hepatitis B infection(HBsAg positive). She has no other co-morbidities. The patient denied smoking and other acquired habits.

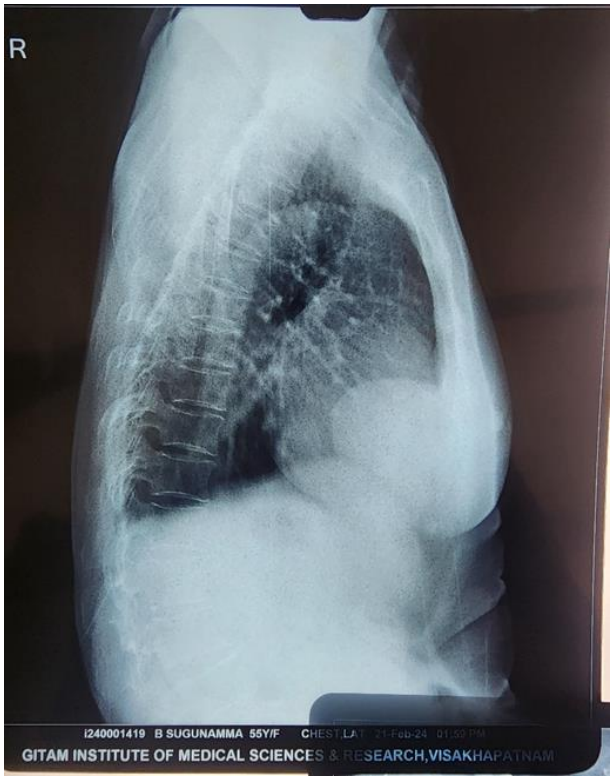
III. Clinical Findings:

On examination, Vitals were stable, blood pressure was 110/80 mm of mercury, pulse rate was 84 beats per minute; respiratory rate was 18 per minute; O_2 saturation was 97 % on room air, and the oral temperature was 98.4 degrees Fahrenheit. Upon examination of the respiratory system, auscultation revealed diminished breath sounds in the right mammary area. The abdomen was scaphoid without any palpable mass or tenderness.

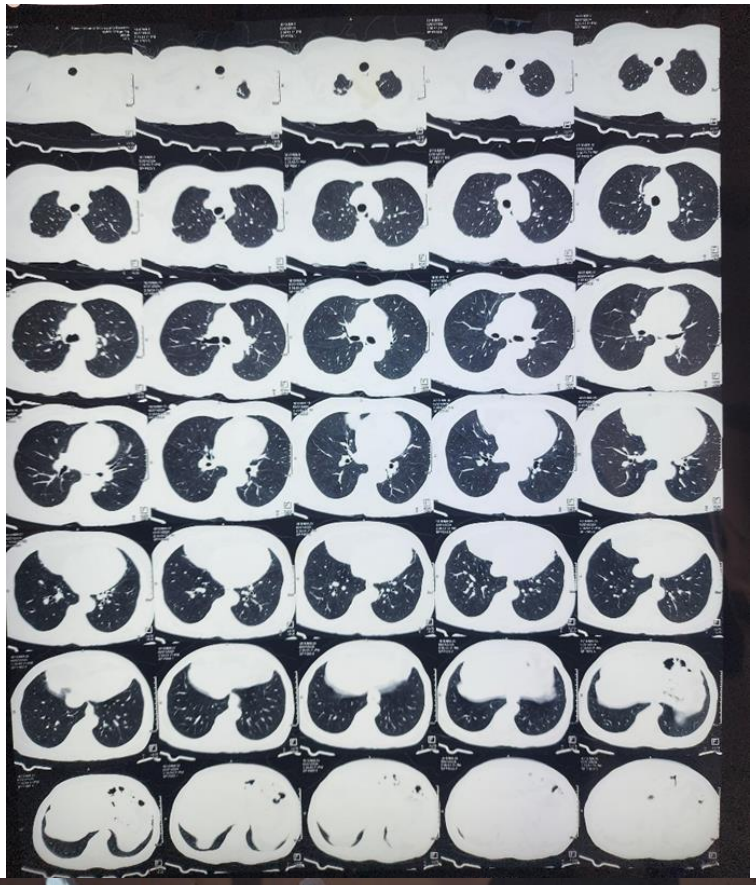
Diagnostic Assessment: Complete blood counts showed a total WBC count of 5400 cumm and hemoglobin of 10.7 gms%. Rest all parameters were within normal range. The echocardiogram showed no abnormality. Chest X-ray posterior-anterior view showed a non-homogenous opacity in the right lower zone with a slightly elevated diaphragm. The chest x-ray also revealed old TB changes with fibrotic bands in bilateral upper zones. Later a High-resolution computed tomography (HRCT) was advised which revealed herniation of omental fat antero-medially through diaphragm defect size -2.5 cm abutting the right heart border and superior surface of the liver with obliteration of the right cardio-phrenic angle – MORGAGNI TYPE OF DIAPHRAGMATIC HERNIA.

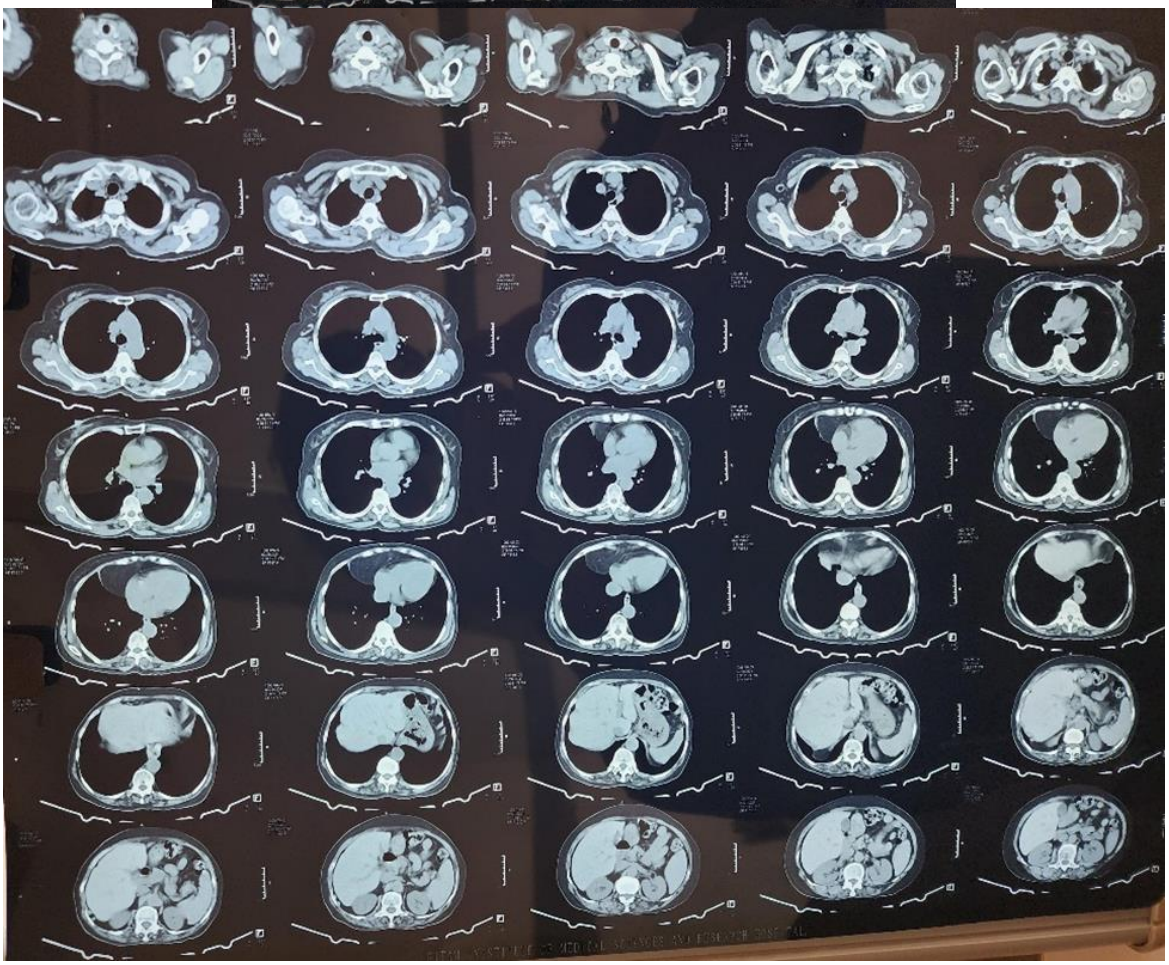


Chest X-ray posterior-anterior view showed a non-homogenous opacity in the right lower zone with a slightly elevated diaphragm. The chest x-ray also revealed old Tuberculosis changes with fibrotic bands in bilateral upper zones.

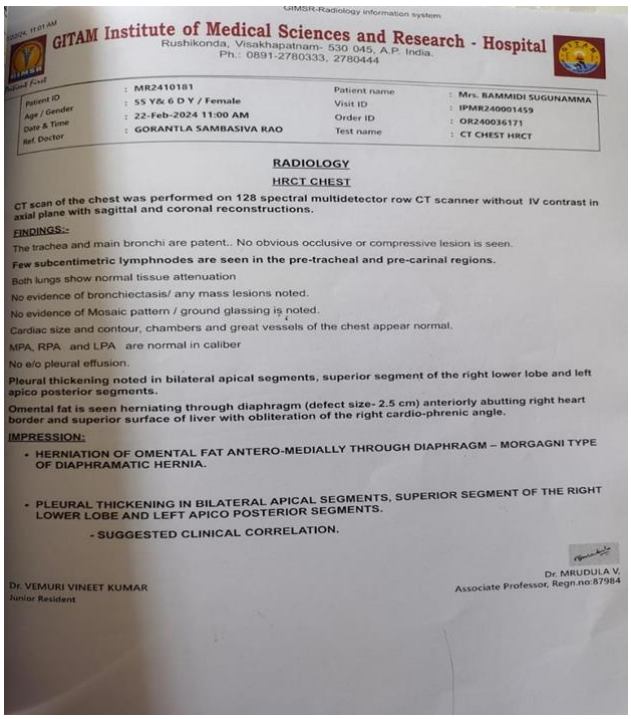


Chest x-ray of right lateral view revealed opacity in the right lower zone.





High-resolution computed tomography (HRCT) revealed herniation of omental fat antero-medially through the diaphragm (defect size -2.5 cm) abutting the right heart border and superior surface of the liver with obliteration of the right cardio-phrenic angle – MORGAGNI TYPE OF DIAPHRAGMATIC HERNIA.



GIMSR-Radiology Information system

GITAM Institute of Medical Sciences and Research - Hospital
Rushikonda, Visakhapatnam- 530 045, A.P. India.
Ph.: 0891-2780333, 2780444

Patient ID	: MR2410181	Patient name	: Mrs. BAMMIDI SUGUNAMMA
Age / Gender	: 55 Y& 6 D Y / Female	Visit ID	: IPMR240001459
Date & Time	: 22-Feb-2024 11:00 AM	Order ID	: OR240036171
Ref. Doctor	: GORANTLA SAMBASIVA RAO	Test name	: CT CHEST HRCT

RADIOLOGY

HRCT CHEST

CT scan of the chest was performed on 128 spectral multidetector row CT scanner without IV contrast in axial plane with sagittal and coronal reconstructions.

FINDINGS:-

The trachea and main bronchi are patent.. No obvious occlusive or compressive lesion is seen.

Few subcentimetric lymphnodes are seen in the pre-tracheal and pre-carinal regions.

Both lungs show normal tissue attenuation

No evidence of bronchiectasis/ any mass lesions noted.

No evidence of Mosaic pattern / ground glassing is noted.

Cardiac size and contour, chambers and great vessels of the chest appear normal.

MPA, RPA and LPA are normal in caliber

No e/o pleural effusion.

Pleural thickening noted in bilateral apical segments, superior segment of the right lower lobe and left apico posterior segments.

Omental fat is seen herniating through diaphragm (defect size- 2.5 cm) anteriorly abutting right heart border and superior surface of liver with obliteration of the right cardio-phrenic angle.

IMPRESSION:

- **HERNIATION OF OMENTAL FAT ANTERO-MEDIALLY THROUGH DIAPHRAGM – MORGAGNI TYPE OF DIAPHRAMATIC HERNIA.**
- **PLEURAL THICKENING IN BILATERAL APICAL SEGMENTS, SUPERIOR SEGMENT OF THE RIGHT LOWER LOBE AND LEFT APICO POSTERIOR SEGMENTS.**

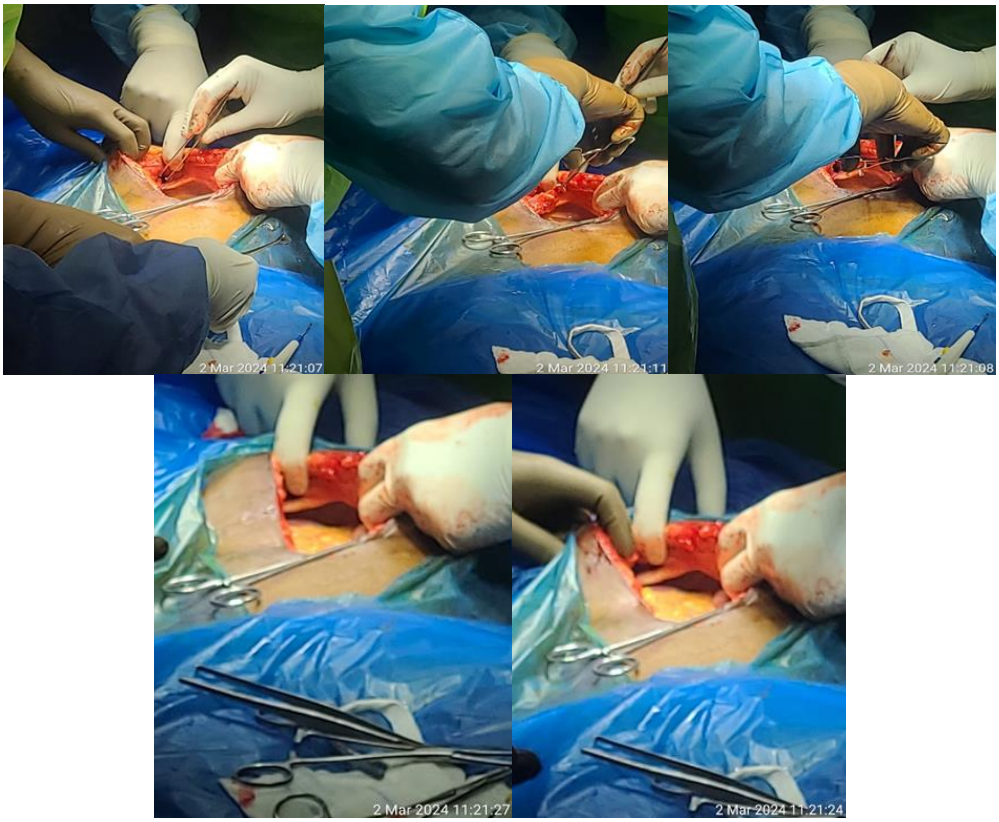
- SUGGESTED CLINICAL CORRELATION.

Dr. VEMURI VINEET KUMAR
Junior Resident

Dr. MRUDULA V.
Associate Professor, Regn.no:87984

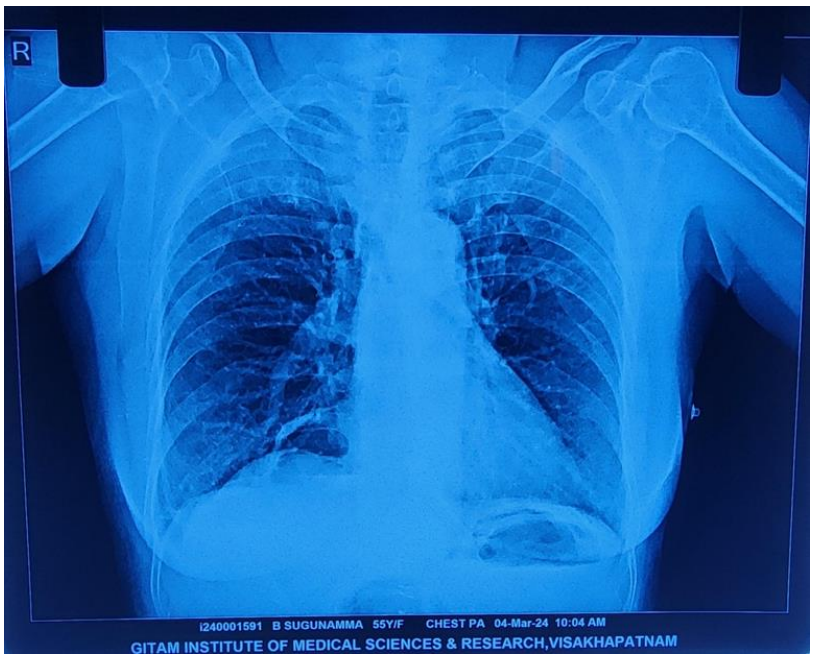
Therapeutic Intervention:

In our case, the patient was promptly referred to the General surgeon for further evaluation and repair of the defect. The patient underwent open diaphragmatic repair through a transabdominal approach and mesh placement with no post-operative complications. After a hospital stay of 7 days, the patient was discharged home.



Follow-Up And Outcome:

The patient was followed up with monthly intervals for 6 months, as reported she had huge relief of symptoms and has returned to her daily activities.



Follow-up chest x-ray showing normal pulmonary vasculature

IV. Discussion:

Morgagni hernias are rare and pose a significant diagnostic challenge, particularly in adult populations where they may present with non-specific respiratory symptoms. As illustrated in our case, a 55-year-old female with chronic cough and dyspnea was initially misdiagnosed and treated for pneumonia, highlighting the need for heightened clinical awareness regarding this condition. The symptoms often mimic known pulmonary conditions, which can lead to delayed diagnosis and treatment.

Historically, the presentation of Morgagni hernias has been primarily in infants, with adult cases being rare and often asymptomatic. Surgical treatment of hernia of the foramen of Morgagni is essential to prevent complications such as bowel obstruction and strangulation. In our case, the use of high-resolution CT was pivotal in confirming the diagnosis after initial imaging suggested a pulmonary issue.

Surgical repair is crucial for managing Morgagni hernias, with both open and laparoscopic techniques being viable options. In our case, an open approach to diaphragmatic repair is done through the trans-abdominal route.

The rarity of this condition necessitates a broad differential diagnosis and a thorough evaluation of patients presenting with respiratory symptoms. Increased awareness among clinicians can facilitate timely diagnosis and appropriate surgical intervention, ultimately improving patient outcomes. The insights from existing literature provide a solid foundation for understanding the implications of Morgagni hernias, their surgical management, and the importance of postoperative care.

V. Conclusion:

Morgagni hernias, while rare in adults, can present significant diagnostic challenges due to their nonspecific symptoms, often mimicking common respiratory conditions. This case underscores the importance of maintaining a high index of suspicion for Morgagni hernia in patients presenting with chronic respiratory complaints, especially with worsening symptoms despite adequate treatment.

Timely surgical intervention remains the cornerstone of management, Comprehensive postoperative care, including early mobilization and regular follow-up imaging, is essential for optimizing recovery and ensuring the integrity of the surgical repair.

In summary, increased awareness and thorough evaluation are vital for the successful diagnosis and management of Morgagni hernia in adults, ultimately leading to improved patient outcomes. This case serves as a reminder of the complexities involved in managing congenital anomalies in adult populations and the necessity for a multidisciplinary approach to care.

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