

Case Report:

Morgagni's hernia in a woman with bronchial asthma

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ABSTRACT

A 59-year-old, other wise asymptomatic lady known to have bronchial asthma was found to have an anterior mediastinal mass on a chest radiograph incidentally obtained as a part of pre-operative work-up for cataract surgery. Computed tomography of the chest confirmed the diagnosis of Morgagni's hernia.

Key words: Morgagni hernia, Mediastinal mass, Bronchial asthma

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INTRODUCTION

Foramen of Morgani (sternocostal hiatus) is a triangular space located between the muscular fibres of the xiphisternum and the costal margin fibres that insert on central tendon of hemidiaphragm. This potential space of hernia lies just posterolateral to the sternum at the level of seventh rib on either side of the xiphoid process. Herniation through right sternocostal hiatus is called Morgagni's hernia (MH) and herniation through left sternocostal hiatus is called as Larrey's hernia.¹ MH is the least common form of congenital diaphragmatic hernia and majority of cases in adults are detected incidentally on chest radiographs taken for other indications.² The exact pathophysiology of MH is unclear but it is postulated that the small foramen of Morgagni is enlarged with prolonged or sudden increase in intra-abdominal pressure allowing abdominal organs into thoracic cavity.³ Respiratory disease as a predisposing factor of MH in adults is infrequent.⁴ We report MH as an incidental finding in a middle aged woman with bronchial asthma during preoperative screening for cataract surgery.

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CASE REPORT

A 59-year-old otherwise asymptomatic woman was detected to have on abnormal chest radiograph while being worked up for pre-operative evaluation for cataract surgery and was referred to us for evaluation. There was no history of trauma. Medical history revealed bronchial asthma for the past 30 years with periodic acute exacerbations during rainy seasons. Patient had been using inhaled drugs regularly for the last 10 years only. Patient's obstetric history showed normal vaginal delivery 38 years ago. On physical examination, her body mass index (BMI) was 19.2 kg/m². Except for the presence of cataract, physical examination was normal. Laboratory investigations revealed haemoglobin of 10.8 g/dL, total leukocyte count 9,200/mm³ with a differential of 60% polymorphs, 28% lymphocytes and 10% eosinophils. Blood biochemistry was normal. Postero-anterior chest radiograph showed a right paracardiac opacity (Figure 1) and right lateral chest radiograph (Figure 2) showed the opacity in the peridiaphragmatic area of anterior mediastinum. Cardiac evaluation was normal.

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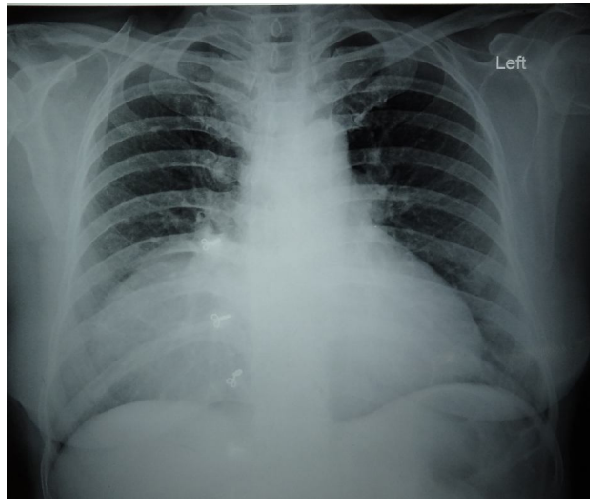


Figure 1: Chest radiograph (postero-anterior view) showing right paracardiac opacity

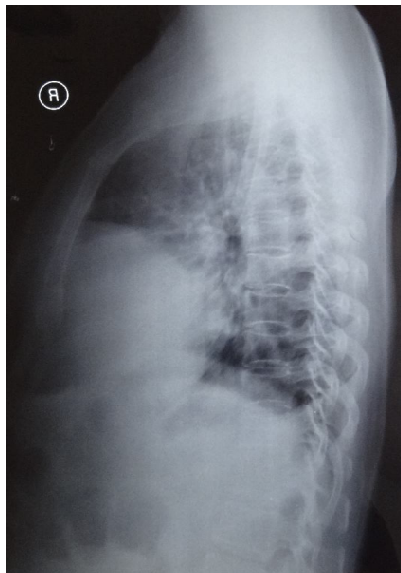


Figure 2: Chest radiograph (right lateral view) showing anterior mediastinal mass

Computed tomography (CT) of chest (Figure 3) demonstrated right sided MH containing omental fat. Patient was advised to undergo surgery. In the absence of any symptom, patient was reluctant to undergo surgery and remained well during the follow up period of 16 months.

DISCUSSION

MH is mostly right-sided and the most common hernial content is omentum followed by colon and small intestine.⁵ But in case of left sided Morgagni-Larrey's hernia, stomach was the most frequent hernia content and omentum was detected in only 20% cases.⁶ Only 50% cases

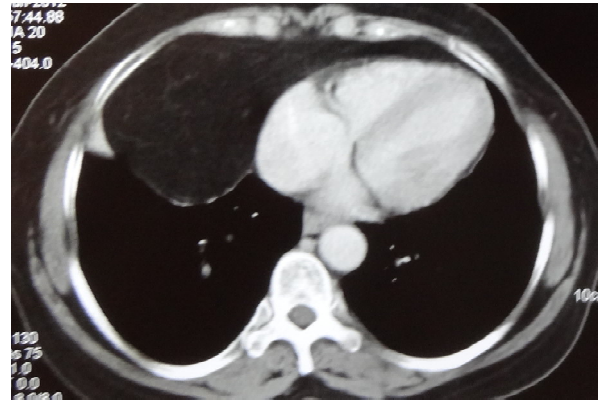


Figure 3: CT chest showing Morgagni's hernia containing omentum

of MH have predisposing factors like obesity, multiparity, chronic cough, chronic constipation.⁷ A persistent and progressive respiratory disease like chronic obstructive pulmonary disease (COPD) may predispose MH.⁸ In our patient, poorly controlled bronchial asthma might have predisposed to development of MH. Majority cases of MH are diagnosed late because patients are either asymptomatic or present with nonspecific gastrointestinal or respiratory symptoms.⁹ Clinical manifestations of MH are variable and depend upon the hernial contents or their complications. Gastrointestinal symptoms include abdominal pain, postprandial distension, diarrhoea, constipation and vomiting. Respiratory symptoms include cough, retrosternal pain, recurrent respiratory infections and acute respiratory distress. The chest radiograph features of MH are those of its contents and include gas filled bowel loops, air-fluid levels, an area of lucency or soft tissue mass in the chest. The differential diagnosis of right paracardiac opacity on chest radiograph include Bochdalek hernia, right middle lobe collapse, neurolipoma, consolidation, lung sequestration, pericardial fat pad, lymphoma, thymic tumours.¹⁰ An opaque paracardiac shadow will appear in the chest radiograph if MH contains omentum or part of liver alone. Herniation of bowel loops can be seen through lateral chest radiograph and confirmed by barium enema. Additional diagnostic tool like

CT of the chest is required if the MH contains omentum or liver alone. CT is the most sensitive diagnostic method of MH and may demonstrate the extent, contents as well as its anatomic location.¹¹ Fatty lesion like omental mass in the right cardiophrenic angle through CT scan has to be differentiated from prominent epicardial fat pad, lipoma, liposarcoma and thymolipoma and this is possible if linear soft tissue opacities which represent omental vessels are visible within the fatty lesion.¹² This CT finding helped us to diagnose hernia content as omentum. Magnetic resonance imaging (MRI) is a non-invasive technique that can diagnose fatty lesions within MH well¹³ but this technique is rarely done now in view of its high cost, time consuming nature and requirement of skilled personell. Surgery is recommended in all cases of MH to avoid life threatening complications in future. If MH contains omentum alone, surgery is advised if the symptoms are recurrent and troublesome.¹⁴ Our patient has been under regular follow-up as she was not ready to undergo surgery citing no problem with her MH.

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