

Hernia of Morgagni in Adults: Atypical Presentations

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Abstract

Background: Foramen of Morgagni hernias is rare diaphragmatic hernias, usually occurring on the right side and located in the anterior mediastinum because of the retrosternal location of the foramen of Morgagni. Adult patients diagnosed with a foramen of Morgagni hernia are usually asymptomatic. Although most remain asymptomatic, some patients develop symptoms of dyspnea, cough, sternal pain, and bowel obstruction depending on the extent of the hernia. The hernia usually contains omentum, bowel (colon), and sometimes liver.

Materials and Methods: We present three adult patients one presenting with dyspnea, the second presenting with acute intestinal obstruction, and the third patient was diagnosed to have the hernia on routine investigations.

Conclusion: Clinical awareness of atypical presentations and diagnostic difficulties might help in prompt diagnosis and early surgical treatment of this otherwise potentially fatal disease.

Key words: Atypical presentation, Hernia of Morgagni, Prompt surgery

INTRODUCTION

Hernia of Morgagni results from a defect in anterior diaphragm.^[1] It is a rare variety of diaphragmatic hernia and less frequently seen when compared to Bochdalek hernia which occurs because of posterior defect in the diaphragm.^[2] Usually, abdominal contents herniate into the thoracic cavity, stomach, and intestine being the common contents. This hernia is mostly asymptomatic^[3] and is usually detected incidentally on routine evaluation with chest X-ray done for other reasons. However, a smaller subset of patients present with symptomatic hernia. The symptoms in such patients are those of intestinal obstruction and consequent bowel ischemia or dyspnea. A high index of suspicion is required to diagnose such hernia whenever patients present with such symptoms.^[4] A missed diagnosis would lead to significant morbidity and

considerable mortality. The diagnosis is usually confirmed by a lateral chest radiograph, barium studies, or computed tomography of the chest with contrast.

The hernia of Morgagni can be approached through abdomen or thorax and can be done using laparoscopy also.^[5] The mesh repair is indicated whenever defect is large.

MATERIALS AND METHODS

In our hospital, we retrospectively studied three cases of hernia of Morgagni their presentations and outcome of treatment. A 44-year-old female patient with a history of respiratory difficulty and epigastric pain was referred to the department of surgery. Respiratory sounds were found to be diminished at the right basal region on auscultation. Posteroanterior chest X-ray, a homogeneous increase in opacity at the right paracardiac area was observed. This opacity was located anteriorly on lateral chest X-ray. Computerized tomography revealed bowel loops (transverse colon) in the right paracardiac area. Elective surgical repair of Morgagni hernia through transabdominal route under general anesthesia was planned. Abdomen was opened by upper midline vertical incision and on opening,

Access this article online



www.ijss-sn.com

Month of Submission : 04-2018

Month of Peer Review : 05-2018

Month of Acceptance : 06-2018

Month of Publishing : 06-2018

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the abdomen transverse colon and omentum were seen entering the diaphragmatic defect on the right side in the retrosternal area. After reducing the contents (colon and omentum) back to abdomen an oval defect of size 4 cm × 3 cm was found in the anterior part of diaphragm on the right side in the retrosternal area (space of Morgagni or space of Larrey) [Figures 1 and 2]. The hernia defect was repaired by non-absorbable suture (No 1 prolene) in interrupted fashion. The patient had uneventful post-operative period and was discharged after 6 days.

The second patient was an 86-year-old elderly lady who presented with features of intestinal obstruction of 2 days duration Figure 3. Chest X-ray revealed bowel loop with air-fluid level in the right lower chest. Computed tomography abdomen was suggestive of bowel loops (transverse colon) herniating through the diaphragm. As trial of conservative management failed, she was taken up for surgery. Laparotomy, reduction of hernia contents (transverse colon and omentum) and closure of the diaphragmatic defect with mesh was done. The lady was on ventilator support for 24 h which was gradually weaned off. Unfortunately, she developed pulmonary pneumonia and expired due to respiratory complications on post-operative day 14 after making a brief recovery.

The third patient was a 30-year-old male who was referred to surgical department for an abnormal finding in a routine chest X-ray. We further investigated the patient with a CT thorax which confirmed the diagnosis as to be hernia of Morgagni with transverse colon as its content [Figure 4]. After discussing with the patient, he was subjected to laparoscopic repair where the transverse colon was found to be herniating into the defect of about 3 cm × 3 cm in the anterior aspect of diaphragm. The defect was repaired with composite mesh. The post-operative period was uneventful and the patient was discharged from the hospital on post-operative day 4 and is doing well after 6-month post-surgery.

DISCUSSION

The retrosternal diaphragmatic hernia described by Morgagni in 1769 makes up <2% of reported diaphragmatic defects.^[6] The hernia occurs between the xiphoid process of the sternum and costochondral attachments of the diaphragm where the internal mammary vessels pass through the diaphragm to become the epigastric vessels. It results from a failure of muscle tissue to spread over the area. This potential space is covered by pericardium on the left side, and so more hernias occur on the right. The hernia usually has a sac, unless the sac has ruptured in prenatal life. This rare hernia may be found in childhood but is more likely to be present in adults. The symptoms vary, and they may be only vague fullness and cramping

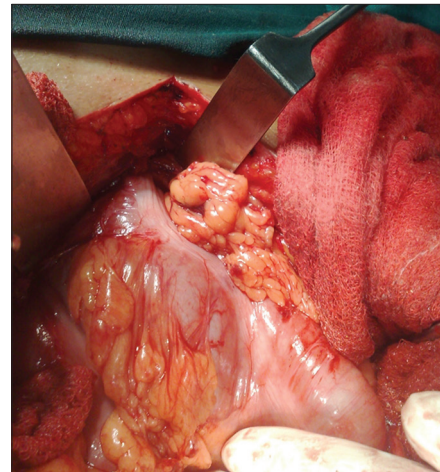


Figure 1: Transverse colon herniating into retrosternal defect

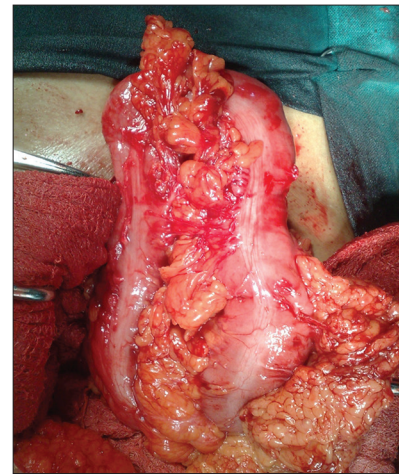


Figure 2: Contents of hernia (omentum and transverse colon) reduced



Figure 3: Erect abdominal and chest radiograph showing air-fluid level in the right hemithorax

to obstructive in nature, some patients may present with respiratory difficulty/dyspnea. There seems to be a larger percentage of female patients, and obese patients are

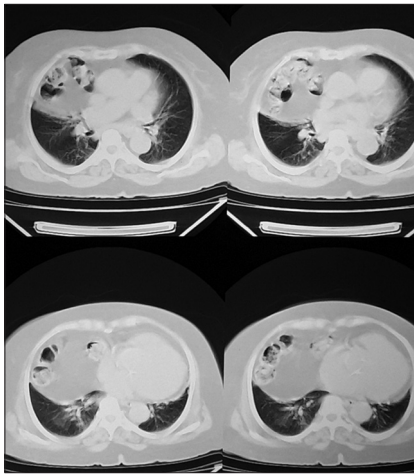


Figure 4: Contrast-enhanced computed tomography thorax showing omentum and transverse colon in the right hemithorax

more symptomatic.^[7] The hernia frequently presents as an incidental abnormal finding on chest X-ray films. The film may show a mass or even a fluid level. The viscera in the sac usually include one or more of the following: Colon, omentum, stomach, and small bowel. An upper gastrointestinal series or barium enema can characterize abdominal contents in the sac. Computed tomographic scanning is particularly useful and has a reported 100% sensitivity for diagnosis.^[8]

The need for surgery depends on presentation. Although the majority of these hernias are asymptomatic, repair is recommended to avoid future complications. Operation is indicated when the colon is in the sac, as there is a high risk of obstruction. If the hernia is small or if it contains omentum only, operation is indicated when symptoms are recurrent and bothersome. Treatment options include transabdominal, transthoracic and laparoscopic repair, and mesh repair are done when the defect is large.^[9,10]

CONCLUSION

Morgagni hernia constitutes 1–3% of congenital diaphragmatic hernias and usually presents later in adult life. The hernia is usually asymptomatic and may be detected incidentally on routine chest X-ray or the patient may present with symptoms of epigastric discomfort, dyspnea, and bowel obstruction. Repair is advised whenever bowel (colon) is the content of hernia because there is risk of obstruction and strangulation. Awareness of clinical entity of Morgagni hernia and its atypical presentation in adults would help in prompt diagnosis and early surgical management.

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How to cite this article: Kumar KYS, Iddalagi MH. Hernia of Morgagni in Adults: Atypical Presentations. *Int J Sci Stud* 2018;6(3):16-18.

Source of Support: Nil, **Conflict of Interest:** None declared.