

Case Report



Morgagni Hernia Presented With Acute Gastric Obstruction and Mediastinal Shift

Şeyda ÖRS KAYA^{a1}, Faruk AYTEKİN², Şerife Tuba LİMAN¹, Koray TEKİN², Baki YAĞCI³

¹ Pamukkale Üniversitesi Tıp Fakültesi Göğüs Cerrahisi Anabilim Dalı,

² Genel Cerrahi Anabilim Dalı ve

³ Radyoloji Anabilim Dalı, DENİZLİ

ABSTRACT

Morgagni hernias, rarely seen in adults, are usually asymptomatic, but they may cause some severe complications. A case of Morgagni hernia with acute gastrointestinal obstruction and respiratory distress due to sudden mediastinal shift was presented here. ©2005, Fırat Üniversitesi, Tıp Fakültesi

Key words: Morgagni hernia, mediastinum, diaphragma

ÖZET

Akut Gastrik Obstüksiyon ve Mediastinal Şiftle Birlikte Morgagni Hernisi

Morgagni hernileri yetişkinlerde nadiren görülmekte olup, genellikle asemptomatiktir. Ancak bazı ciddi komplikasyonlara neden olabilirler. Gastrointestinal obstrüksiyon ve ani gelişen mediastinal şift nedeniyle solunum distresli bir Morgagni Hernisini burada sunuyoruz. ©2005, Fırat Üniversitesi, Tıp Fakültesi

Anahtar kelimeler: Morgagni hernisi, mediasten, diyafragma

The findings of retrosternal herniation of abdominal contents into the thoracic cavity were first described by Morgagni in 1790 (1). Although it is generally diagnosed incidentally by chest X-rays, it rarely become complicated and may lead severe disturbances. We presented here a case of morgagni hernia complicated by ileus and acute mediastinal shift which was caused acute severe respiratory distress.

MATERIAL AND METHODS

The findings of retrosternal herniation of abdominal contents into the thoracic cavity were first described by Morgagni in 1790 (1). Although it is generally diagnosed incidentally by chest X-rays, it rarely become complicated and may lead severe disturbances. We presented here a case of morgagni hernia complicated by ileus and acute mediastinal shift which was caused acute severe respiratory distress.

BULGULAR

A 65-year-old female patient was admitted to our emergency department with the complaints of dyspnea, nausea, and vomiting for the last three days. She also recounted no passage of feces and flatus during this period of time. There was no past history of intestinal obstruction. In her physical examination, she was afebrile; heart rate was 108/min, blood pressure 130/80 mmHg, respiratory rate 33/min. She was orthopneic. There was no breath sounds on auscultation of the middle and lower zones of the right hemithorax and the dullness was detected

on percussion over the same locations. Abdominal examination was unremarkable.

The laboratory tests were normal except the white blood count, 14000/L. In chest X-ray examination, a right paracardiac air-containing soft tissue mass suggesting Morgagni hernia was observed (Figure 1). CT of the thorax showed a paracardiac hernia containing stomach and colonic segments (Figure 2).



Figure 1. On the postero-anterior view, herniation of the gas-filled distal stomach at the first chest x-ray is seen.

^a Corresponding Adress: Dr. Şeyda Örs Kaya, Pamukkale Üniversitesi Tıp Fakültesi Göğüs Cerrahisi Anabilim Dalı, DENİZLİ
Tel: +90 258 2118585 e-mail: skaya@pamukkale.edu.tr

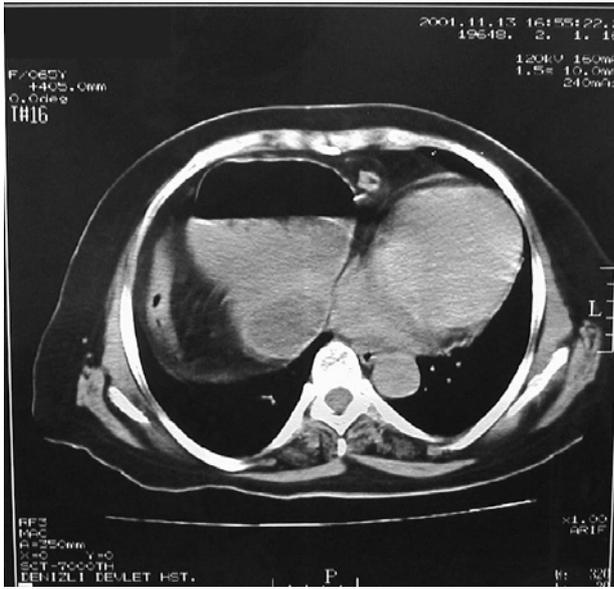


Figure 2. CT of the thorax showed a paracardiac hernia containing stomach.

Nasogastric tube was placed and 2000 cc gastric content was drained. But patient's respiratory status was getting worse in three-hour-period in the emergency department. Second postero-anterior and lateral chest X-ray revealed mediastinal shift caused by the hernia sac which was increased approximately two times in size (figure 3,4).



Figure 3. On the postero-anterior view, the hernia sac causing mediastinal shift to the left is seen at the second chest x-ray.

The patient had an urgent laparotomy by a midline epigastric incision and was found to have an intrathoracic volvulus of the stomach along with some segment of transvers colon within a large parasternal defect (8x5 cm in size). The stomach and bowel was reduced easily into the peritoneal cavity. The hernia had a well defined sac of pleura and peritoneum. The peritoneal layer of the hernia sac was detached by sharp and blunt dissection from the pleural layer and removed completely. After placing a chest tube into the thoracic cavity, the defect of diaphragm was repaired by using 2/0 nonabsorbable polypropylene sutures. Postoperative course

was uneventful, and chest tube was removed on the second postoperative day. She was discharged on postoperative day 7th.

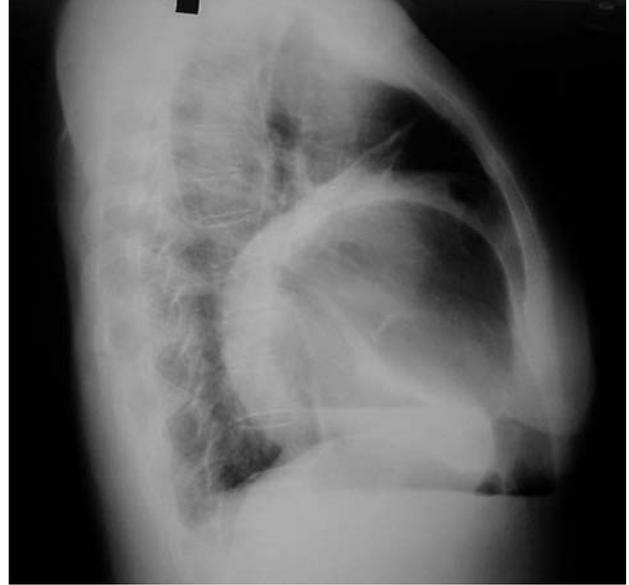


Figure 4. On the lateral view, herniation of the gas-filled distal stomach through the anterior defect in the diaphragm is seen.

DISCUSSION

Morgagni hernias are infrequently seen. Although their actual incidence is difficult to determine because generally to be asymptomatic, of all surgically treated diaphragmatic hernias, the frequency of Morgagni hernia was reported as 1%-3% (2). The organs generally found in this hernia are transverse colon and omentum; stomach and portions of the liver were rarely reported in the literature (3, 4).

Patients are usually asymptomatic and present with an anterior mediastinal mass on chest radiographies. The preoperative diagnosis of Morgagni hernias may be aided by the use of CT scans as in our case. Differential diagnosis to consider with Morgagni hernia include: Epicardial fat pads, eventration of the diaphragm, hiatal hernia, Bochdalek hernia, traumatic diaphragmatic rupture, diaphragmatic tumor and large anterior mediastinal masses (5).

Although usually asymptomatic, especially in older patients, the contents of the sac may be large enough to lead acute symptoms such as acute dyspnea and coughing (3). Moreover, Morgagni hernia may rarely become complicated as a result of incarceration or volvulus of the contents of the hernia sac. The pressure exerted by the hernial contents on intrathoracic structures causes various symptoms related to the respiratory, cardiovascular and the gastrointestinal system. Our case had been also asymptomatic for years, but stomach volvulus, acute distention of the stomach filling the one-third of the right hemithorax caused the mediastinal shift and acute respiratory distress. Our patient is one of the few cases of acute gastric volvulus reported in the literature (6, 7, 8).

All authors suggest operation in symptomatic diaphragmatic hernias without taking patient's age into the consideration (3). While asymptomatic hernia in adult does not require operation, many authors advocate surgical correction in children because increase in the amount of fat tissue in the

mesentery and omentum is believed to increase the chance of intestinal obstruction (9, 10).

Whereas both abdominal and thoracic approach can be performed, abdominal approach is recommended because it is more easier and more tolerable for patients (11). Ketonen and colleagues recommended that if the diagnosis is not definite, thoracic approach should be chosen (2). Also Kılıç at al. recommended transthoracic approach, in patients with Morgagni hernia as it provides sufficient exposure, easy repair of the hernia sac and an acceptable morbidity when compared with transabdominal approach (12). Taking her older age and

poor condition into the consideration abdominal approach was thought to be more tolerable and less painful for our patient. However, laparoscopic and thoracoscopic surgical techniques offer innovative approaches to the surgical treatment of Morgagni hernia (4,13).

As a result, Morgagni hernia always has a risk of causing severe complications. It should be operated even it is asymptomatic. Because, like our patient, in the elderly gastrointestinal obstruction and acute distention of herniated viscera and mediastinal shift are less tolerable.

REFERENCES

1. Kelly KA, Bassett DL. An anatomic reappraisal of the hernia of Morgagni. *Surgery* 1964; 55: 495-499.
2. Ketonen P, Mattila Sp, Mattila T, Jarvinen A. Surgical treatment of hernia through the foramen of Morgagni. *Acta Chir Scand* 1975; 141: 633-636.
3. Wolloch Y, Grunebaum M, Glanz I, Dintzman M. Symptomatic retrosternal (Morgagni) hernia. *Am J Surg* 1974; 127: 601-605.
4. Minneci PC, Deans KJ, Kim P, Mathisen DJ. Foramen of Morgagni hernia: changes in diagnosis and treatment. *Ann Thorac Surg*. 2004; 77: 1956-1959.
5. Anthes TB, Thoongsuwan N, Karmy-Jones R. Morgagni hernia: CT findings. *Curr Probl Diagn Radiol*. 2003; 32: 135-136.
6. Bencini L, Pampaloni F, Taddei G, Moretti R. Intestinal occlusion caused by strangulated Morgagni-Larrey hernia: clinical case and review of the literature. *Chir Ital* 2001; 53: 415-419.
7. Farshi DJ, Djalali BM. Gastric volvulus disclosing diaphragmatic hernia. *Chirurgie* 1994-95; 120: 375-357.
8. Harrington SW. Various types of diaphragmatic hernia treated surgically: report of 430 cases. *Surg Gynecol Obstet*. 1948; 86: 734-753.
9. Bingham JAW. Hernia ion through congenital diaphragmatic defects. *Br J Surg* 1959; 47: 1.
10. Bentley G, Lister J. Retrosternal hernia. *Surgery* 1965: 57; 567-575.
11. Comer TP, Clagett OT. Surgical treatment of hernia of the foramen of Morgagni. *J Thorac Cardiovasc Surg* 1966; 52: 461-468.
12. Kilic D, Nadir A, Doner E, Kavukcu S, Akal M, Ozdemir N, Akay H, Okten I. Transthoracic approach in surgical management of Morgagni hernia. *Eur J Cardiothorac Surg*. 2001; 20: 1016-1019.
13. Hussong RL Jr, Landreneau RJ, Cole FH Jr. Diagnosis and repair of a Morgagni hernia with video-assisted thoracic surgery. *Ann Thorac Surg*. 1997; 63: 1474-1475.

Kabul Tarihi:04.03.2005