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DISEASES OF THE ESOPHAGUS

Case report

Combination of paraesophageal hernia and Morgagni hernia in an old patient

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SUMMARY. **Paraesophageal hiatal hernia is an uncommon condition that requires urgent correction to prevent life-threatening complications. It is present in 14% of all hiatal hernias. The incidence of Morgagni hernia among all diaphragmatic defects is 3–4% and about 90% of the hernias occur on the right, 8% are bilateral and 2% are on the left. The combination of a Morgagni hernia and paraesophageal hernia is very rare and only four cases have been reported in the literature. All of them occurred in the right. This report describes an old case admitted to our clinic with dyspnea, chest pain and chronic gastrointestinal symptoms, found to have combined left Morgagni and paraesophageal hernia. Surgical repair was performed via transabdominal approach. This unusual case and surgical approaches are discussed in light of the data presented in the literature.**

KEY WORDS: **diaphragmatic hernia, Morgagni hernia, paraesophageal hernia.**

INTRODUCTION

Paraesophageal hernias occur when defects in the diaphragm allow varying degrees of abdominal contents to herniate cephalad into the mediastinum. Early recognition and prompt elective surgical treatment is necessary to avoid complications. Morgagni hernia is a congenital diaphragmatic hernia that occurs secondary to potential anterior defects in the diaphragm. Congenital diaphragmatic hernia has been reported to occur with a prevalence of 3.3 per 10 000 live births with Morgagni hernias constituting only 3–4% of congenital diaphragmatic hernias.[1,2] Morgagni hernia and paraesophageal hernia simultaneously occurring were first described by Makiyama *et al*. in 1982,[3] and since then only four cases have been found in the literature, and the relationship between them is unclear, which is probably a coincidental occurrence.[3–6] The diagnosis and management of this rare entity are discussed.

CASE REPORT

A 67-year-old man was admitted to our clinic with dyspnea, chest pain and chronic gastrointestinal symptoms. He had had obstructive pulmonary disease for 12 years. He was obese, dyspneic, and tachypneic. On physical examination there were reduced breath sounds and few crepitations in both lung bases. Direct radiographs of the chest were normal except for chronic lung changes. Computed tomography (CT) scan of the chest demonstrated a small retrosternal diaphragmatic hernia on the left and a large paraesophageal hernia (Fig. 1). Bronchoscopic examination was normal and esophagoscopic examination revealed esophagogastric junction at 33 cm and mucosal changes in the lower esophagus. A contrast enema study demonstrated a large paraesophageal hernia. Urine and hematologic and biochemical tests were found to be within normal range.

The patient was operated via an upper midline laparatomy. There was a large paraesophageal hernia. In addition, a left Morgagni hernia was observed, but it only contained omentum and colonic segments. The Morgagni hernia contents were reduced, the sac was excised, and the diaphragmatic defect repaired with interrupted silk sutures. The paraesophagial hernia was reduced and hiatal defect was repaired in the standard way at the same time and fundoplication was applied.

Postoperative course was uneventful and the patient was discharged on the seventh day. At 7 months postoperative follow-up the patient was asymptomatic, without evidence of recurrence.

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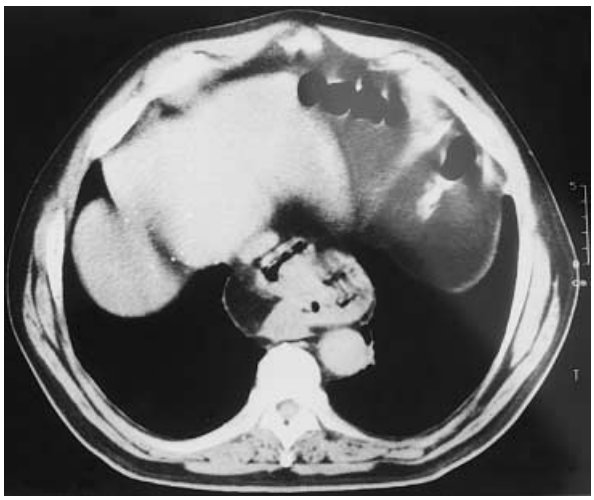

Fig. 1 Coexistence of both hernias in the computed tomography scan

DISCUSSION

A hiatal hernia is defined as a prolapse of a portion of the stomach through the diaphragmatic esophageal hiatus. A hiatal hernia is a type of diaphragmatic hernia. Diaphragmatic hernias can be congenital, which is rare, or acquired. Acquired diaphragmatic hernias can be traumatic in etiology affecting any area of the diaphragm. Nontraumatic acquired hernias can be classified as one of three types:[1] hiatal,[2] paraesophageal or mixed hiatal and paraesophageal.[3] Paraesophageal hiatal hernia is an uncommon condition that requires urgent correction to prevent life-threatening complications, and is present in 14% of all hiatal hernia.[7]

Morgagni hernia was first described by Morgagni in 1761 and originates from the sternocostale trigone.[2] This triangular space is located between the muscle fibers from the xiphisternum and the costal margin fibers that insert on the central tendon. Lack of fusion at the anterior part of the pleuroperitoneal membrane and deficiency in the muscularization lead hernias in this space. The elevated intra-abdominal pressure can cause diaphragmatic hernia through this point. Generally there is a true hernia sac because the peritoneum is intact. The development of the hernia at the left side is rare due to protective effects of the pericardial sac at the left.[2,6] Morgagni hernias most commonly constitute only a piece of omentum. But sometimes, colon and most rarely small bowels or other abdominal organs can be found within the herniated sac.

Although it is thought that the probability of a secondary hernia is decreased when a large diaphragmatic hernia occurs, more than one hernia can be seen concomitantly as in our case. In our case, the presence of a large paraesophageal hernia may cause the smaller size of the Morgagni hernia. The diagnosis of Morgagni hernias is difficult due to a lack of symptoms. But they can cause respiratory distress. Iron deficiency anemia and gastrointestinal symptoms are frequent in paraesophagial hernias. Chest pain and gastrointestinal symptoms were present in our case.

Surgical treatment should be applied in both hernia types with less invasive methods considered.[6] All symptomatic patients should be treated surgically. Operating on asymptomatic patients in elective condition is advised due to the probability of an increase in the size of the hernia and of strangulation. If Morgagni hernia diagnosed preoperatively, a transabdominal approach is preferred via a subcostal or paramedian incision for surgical repair.[5,6] A median incision is appropriate in bilateral hernias.[1,2] When a Morgagni hernia is detected during a thoracotomy procedure that is performed due to an unknown mediastinal mass at the anterior cardiophrenic angle, the herniated sac is explored and pushed back into the peritoneal cavity. Recent reports described cases of Morgagni hernias that were repaired via transabdominal laparoscopy.[7,8]

Paraesophagial hiatus hernia (PEH) is a potentially life-threatening condition. Surgical indications for the various types of PEH differ. Surgical treatment centers on hernia reduction (returning viscera to the abdomen), closure of the hiatal defect, performance of an antireflux procedure and consideration for gastropexy. In the literature, much debate has centered on the choice of a transthoracic or transabdominal approach.[7,8] Although it can be treated by laparoscopy, every patient should be evaluated carefully to prevent recurrences and complications.

In conclusion, the best surgical approach is upper median laparotomy in the presence of two hernias concomitantly.[5,6] Satisfactory repair and antireflux procedure was performed by the transabdominal approach and the postoperative course was excellent without any complication in the present case.

References

1 Torfs C P, Curry C J, Bateson T F, Honore L H. A population-based study of congenital diaphragmatic hernia. Teratology 1992; 46: 555–65.
2 Kiliç D, Nadir A, Döner E, *et al.* Transthoracic approach in surgical management of Morgagni hernia. Eur J Cardiothorac Surg 2001; 20: 1016–9.
3 Makiyama T, Sugamura Y, Ohta K, *et al.* Case of Morgagni's hernia with esophageal hiatus hernia. Kyobu Geka 1982; 35: 759–63.
4 Wei C, Tanaka K, Takeuchi Y, Yamazaki N, Namikawa S, Kusagawa M. A case of Morgagni's hernia with esophageal hiatus hernia. Kyobu Geka 1984; 37: 308–11.
5 Yano H, Iwamoto I, Takechi Y, *et al.* A case of Morgagni's hernia complicated with esophageal hiatus hernia. Rinsho Kyobu Geka 1989; 9: 89–92.
6 Ngaage D L, Young R A, Cowen M E. An unusual combination

of diaphragmatic hernias in a patient presenting with the clinical features of restrictive pulmonary disease: report of a case. Surg Today 2001; 31: 1079–81.
7 Hashemi M, Sillin L F, Peters J H. Current concepts in the management of paraoesophageal hiatal hernia. J Clin Gastroenterol 1999; 29: 8–13.
8 Taskin M, Zengin K, Unal E, Eren D, Korman U. Laparoscopic repair of congenital diaphragmatic hernias. Surg Endosc 2002; 16: 869.
9 Hussong R L Jr, Landreneau R J, Hammond Cole F Jr. Diagnosis and Repair of a Morgagni Hernia With Video-Assisted Thoracic Surgery. Ann Thoracic Surg 1997; 63: 1474–5.