



A rare adult morgagni hernia mimicking lobar pneumonia

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ABSTRACT

Morgagni hernia is the rarest form of congenital diaphragmatic hernia and is commonly found either in the first few hours of life or in the antenatal period. It is less common in adults and is mostly diagnosed accidentally in asymptomatic patients. Symptomatic adult cases are even rarer with a wide variety of symptoms. We report a patient with a 1-year history of chronic recurrent cough and dyspnea who had been misdiagnosed with recurrent pneumonia before being recognized and treated for Morgagni hernia.

Keywords: Adult, morgagni hernias, misdiagnosis

INTRODUCTION

Morgagni hernia is the rarest form of congenital diaphragmatic hernia with a prevalence of 2%–3%. Herniation occurs due to defect on the anterior part of the diaphragm, which allows abdominal organs to penetrate the thoracic cavity (1). It is commonly found in the first few hours of life or in the antenatal period (2). This condition can be detected during fetal life by routine ultrasonography, when the abdominal organs are demonstrated in the thoracic cavity (3). Late diagnosis of this condition in adults is less common with only 81 asymptomatic cases reported between 1955 and 2002. Symptomatic adult cases are even rarer with only 12 cases described (4).

Adult patients who present with diaphragmatic hernias complain a wide variety of non-specific symptoms, and the diagnosis may be difficult to confirm (2). The majority describe abdominal pain due to strangulation of the viscera (1). However, very few also complain about respiratory symptoms such as cough, dyspnea, and chest pain depending on the severity of the defect (5). Here we report an adult man with chronic recurrent cough who had been treated for recurrent pneumonia before being diagnosed with Morgagni hernia.

CASE PRESENTATION

A 22-year-old man was admitted to the emergency department with a 1-year history of chronic recurrent cough and dyspnea. He had been treated for recurrent pneumonia in several hospitals. Two days before admission, productive cough and dyspnea developed. A simple chest X-ray showed a non-specific opacity at the right lower hemithorax, and the left hemidiaphragm was not clearly visible (Figure 1). The patient was diagnosed with lobar pneumonia and treated by another department. After 2 days in the hospital, the patient consulted our department with aggravated dyspnea and vomiting. Computed tomography (CT) scan of the chest was performed. The ascending colon and small intestine were demonstrated at the right hemithorax (Figure 2).

Furthermore, the patient underwent reduction of hernia contents via laparotomy and evaluated for any sign of intestinal injury or ischemia. The hernia sac was left unresected. Thoracotomy was used to expose the diaphragm defect. There was a 5×6 cm defect on the right anterolateral of the right hemidiaphragm. The defect was closed using a Dacron patch. A thoracic drain was placed to be evaluated for analysis later, and then the operation was terminated.

Three months after surgery, the patient completely recovered without symptoms. A follow-up chest X-ray revealed normal pulmonary vasculature without residual hernia (Figure 3). Written informed consent was obtained from the patient who participated in this case study.

DISCUSSION

Majority of adult Morgagni hernia cases are asymptomatic due to plugging of the defect by the underlying liver or omentum, preventing other abdominal organs from herniation into the thoracic cavity (6). Therefore, most patients were accidentally diagnosed by a routine chest X-ray. In symptomatic cases, patients may complain a wide variety of non-specific respiratory and gastrointestinal symptoms, and

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Figure 1. A simple chest X-ray showing a non-specific opacity at the right lower hemithorax



Figure 2. A CT scan of the chest showing the ascending colon and small intestine at the right hemithorax



Figure 3. A follow-up simple chest X-ray showing normal pulmonary vasculature without residual hernia

the diagnosis might be difficult to confirm. Respiratory symptoms of chest pain, dyspnea, and recurrent respiratory infection are commonly found in pediatric patients (4). In adults, majority of cases are presented with non-specific gastrointestinal symptoms due to intestinal obstruction or strangulation of the abdominal organs (1, 4). Our case was unique in that the patient had predominant respiratory symptoms for 1 year and had been treated for recurrent pneumonia in several hospitals before diagnosed and treated for Morgagni hernia. This case illustrates the difficulty in diagnosis of adult Morgagni hernia, which is rare and presented with non-specific symptoms.

Radiological investigation can be performed to confirm the diagnosis of Morgagni hernia. A plain chest X-ray is usually conclusive for diagnosing Morgagni hernia in pediatric or asymptomatic adult patients (4). The opacity can be seen in the right, left, or bilateral pericardiophrenic area due to herniation of the omentum. In the presence of transverse colon, small intestine, or gastric herniation, air fluid level may be present (7). However, in our case, a plain chest X-ray only was inconclusive and caused previous misdiagnosis. Respiratory symptoms of productive cough and dyspnea accompanied with opacity on plain chest X-ray in this case are suggestive of lobar pneumonia (Figure 1).

In symptomatic or clinically suspected adult patients, a CT scan is preferred to confirm the diagnosis. It is the most sensitive diagnostic tool as it provides anatomical details of hernia contents and its complication (1). In this case, a CT scan provides the essential information regarding ascending colon and small intestine herniation at the right hemithorax to confirm the diagnosis of Morgagni hernia (Figure 2).

Owing to the rarity of the case, there are no exact guidelines for Morgagni hernia treatment. Our case was managed with thoracic–abdominal approach. The most common surgical approach is open laparotomy, owing to the convenience to reduce hernia content and evaluate the intestine for any sign of injury or complication, such as strangulation and ischemia (8–10). Thoracotomy is preferred for its extensive exposure and easier repair of the diaphragm defect (10, 11). The thoracic–abdominal approach is used in patients with huge Morgagni hernia (6). We use the thoracic–abdominal approach for its convenience to reduce hernia content and repair diaphragm defect. The use of a prosthetic patch to close the defect is not mandatory. A patch is used when the defect is >3 cm (12)

Hernia sac excision was not performed in our case. Hernia sac excision in a Morgagni hernia case is still under controversy; however, it is considered to be safer to leave the hernia sac unresected owing to the possibility to cause pneumomediastinum and injury to the lung, pericardium, or other mediastinal organs (6).

CONCLUSION

Symptomatic adult cases of Morgagni hernias are rare with non-specific symptoms and difficult to diagnose. Radiologic investigation using a CT scan can be used to confirm the diagnosis. The thoracic–abdominal approach is preferable owing to its better exposure for defect repair and easier hernia content reduction.

Informed Consent: Written informed consent was obtained from patient who participated in this study.

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