Case Report

Omental Herniation Through the Diaphragmatic Defect: Two Cases Mimicking Mediastinal Lipomas

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ABSTRACT

Omental herniation through a diaphragmatic defect without involvement of the stomach is rare and has often been misdiagnosed as mediastinal lipoma. We herein report two cases of intrathoracic omental herniation through adiaphragmatic defect in patients that were misdiagnosed as a mediastinal lipoma at presentation. They both underwent successful laparoscopic diaphragmatic hernia repairs with full resolution of their symptoms. Doctors should pay attention to the differential diagnosis between diaphragmatic hernia and mediastinal lipoma when a fatty mass is found in the mediastinum at the magnetic resonance imaging (MRI) or computed tomography (CT) scan.

KEYWORDS: *Hernia, mediastinal lipoma, omentum*

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INTRODUCTION

Diaphragmatic hernia, primarily divided into congenital and acquired forms, is characterized by protrusion of any abdominal structure into the thoracic cavity through a diaphragmatic defect. The herniation through the diaphragmatic defect excluding the stomach is rare, which was mostly misdiagnosed as a mediastinal lipoma previously.[1,3,4] Surgery is the first choice for patients with symptomatic diaphragmatic hernia; however, the surgical treatment of asymptomatic diaphragmatic hernia may be performed days to years later according to patient's status.[2]

CASE REPORTS

Case 1

A 47-year-old man was admitted to our hospital because of a mediastinal mass, discovered on a chest CT scan in a local hospital. The patient had coughed for more than 1 month with mild chest congestion. The patient denied trauma history or other medical history. On hospital admission, physical examination and laboratory test results were normal. Tl-weighted MRI clearly showed a fatty mass at the postero-inferior aspect of the mediastinum [Figure 1]. After obtaining the patient's informed consent, a thoracoscopic exploration was performed under an initial diagnosis of mediastinal mass in mind, which turned out to be an omental herniation through the esophageal hiatus. We reduced the omentum into the abdominal cavity and repaired the hiatus by video-assisted laparoscopic surgery as it was difficult to repair by a thoracoscope. The patient had an uneventful postoperative recovery without any complications.

Case 2

A 51-year-old woman was admitted to our hospital because of a giant mediastinal lipoma, discovered on a chest CT scan in a local hospital. The patient had fever and coughed for more than 1 month. The past medical history showed that she had hypertension, calculus of kidney, and chronic nephritis. The patient denied trauma history or other medical history. Tl-weighted magnetic resonance imaging (MRI) clearly depicted a fatty mass at the antero-inferior aspect of the mediastinum, measuring 8.2 × 7.7 × 9.3 cm in size [Figure 2]. After obtaining the patient's informed consent, a thoracoscopic exploration was performed under an initial diagnosis of mediastinal mass, which turned out to be an omental herniation through the Morgagni hiatus. We reduced the omentum into the abdominal cavity and

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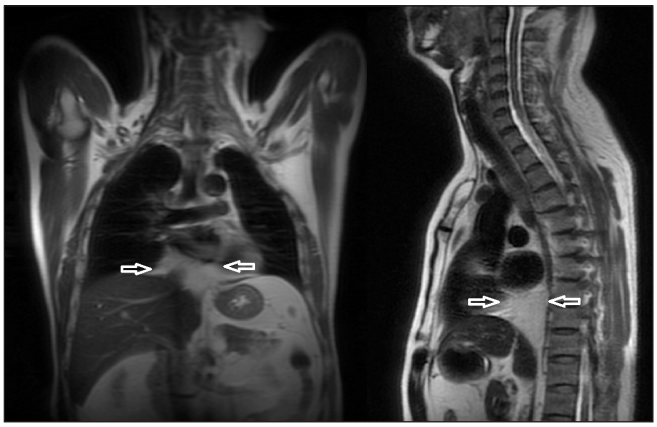

Figure 1: Coronal and sagittal sections of Tl-weighted MRI clearly depict a fatty mass at the posteroinferior of the mediastinum (arrows)

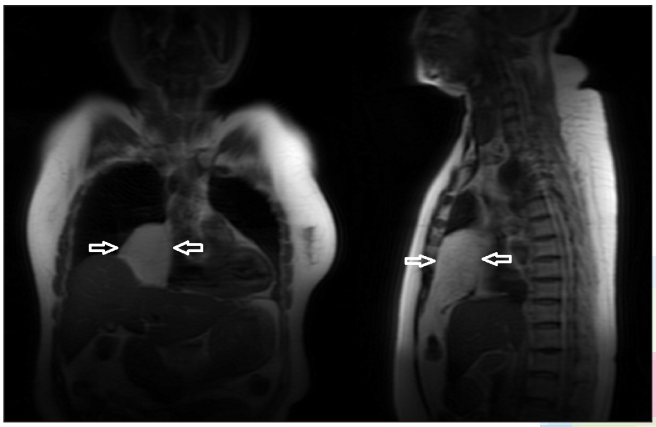

Figure 2: Coronal and sagittal sections of Tl-weighted MRI clearly depict a fatty mass at the anteroinferior of the mediastinum (arrows).

repaired the hiatus by video-assisted laparoscopic surgery. The patient had an uneventful postoperative recovery without any complications.

Discussion

The omentum sometimes herniates as a result of congenital defects of the diaphragm, such as Morgagni or esophageal hiatus.[3-7] However, some omental herniation has previously been misdiagnosed as intrathoraciclipomatous tumor and even been resected without a conclusive diagnosis.[3-5] MRI and CT scan are very useful tools for making diagnosis in most patients with omental herniation through the diaphragmatic defect. However, it is difficult to establish a correct diagnosis of omental herniation which requires the evidence of omental fat with omental vessels passing through the diaphragmatic defect. Both patients had MRI and CT preoperatively, but the definitive diagnosis was not established until at thoracoscopy. Thus, the most important point is how to establish an accurate diagnosis in distinguishing this pathology from other intrathoraciclipomatous tumors on imagery.

Mediastinal lipoma is a rare neoplasm of the mediastinum, which comprises only 0.3% of all the mediastinal tumors,[8] and is most common in the anterior mediastinum, whereas the posterior is rare. Very few lipomas are over the diaphragm, so we should be careful if the imaging tests show a fatty mass over the diaphragm. In addition, vascular structures are not found in most mediastinal lipomas through the CT scan. Therefore, before making a diagnosis of diaphragmatic hernia, it is important that vascular structures must be seen on CT scan. Three-dimensional diaphragm reconstruction from CT or MRI imaging can also help doctors distinguish diaphragmatic hernia from mediastinal lipoma, although not always. For symptomatic patients, if imaging tests and physical examination do not help to establish an accurate diagnosis, thoracoscopic exploration could be considered after obtaining the patient's informed consent.

Immediate operation is not necessary if patients with diaphragmatic hernia are asymptomatic. Therefore, doctors should have a high index of suspicion of the intrathoracic omental herniation through a diaphragmatic defect.

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Conflicts of interest

There are no conflicts of interest.

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