

Non traumatic liver herniation due to persistent cough mimicking a pulmonary mass

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Abstract:

Background: Non traumatic liver herniation through a diaphragmatic defect is rare.

Case Report: A 44 year old woman presented with lower lobe opacity at the right lung. Chest Computed tomography (CT) demonstrated a round tumor adjacent to the right diaphragm. Percutaneous needle biopsy revealed liver tissue. A small liver herniation through a diaphragmatic defect was detected in saggital and coronal CT views but no traumatic rupture of the diaphragm or endometriosis were documented.

Conclusions: The patient suffered from gastroesophageal reflux disease and increased transdiaphragmatic pressure from paroxysmal cough due to aspirations may have provoked the diaphragmatic rupture. Hippokratia 2013; 17 (4): 376-377.

Keywords: Liver, herniation, diaphragmatic defect, lung tumor, gastroesophageal reflux disease, GERD

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Introduction

Non traumatic spontaneous liver herniation through a diaphragmatic defect is rare. To our knowledge this is the first case describing non traumatic liver herniation mimicking a lung tumor due to paroxysmal cough from aspirations from gastroesophageal reflux disease (GERD).

Case report

A 44 year old woman presented with right chest pain and cough for a week. She never smoked and had no other medical history. Chest X-ray showed an opacity next to the right diaphragm and a small pleural effusion. Previous X-rays were normal (6 months). Chest computed tomography (CT) revealed a smooth bordered mass (35mm diameter) in the periphery of the right lung adjacent to the diaphragm with a wide base and a small pleural effusion (Figure 1). Bronchoscopy was not revealing. CT guided percutaneous lung biopsy revealed normal liver tissue. Saggital (Figure 2) and coronal views (Figure 3) of a second chest CT showed liver herniation through a diaphragmatic defect. The patient did not mention any traumatic incidents in the past and had no signs indicating endometriosis. She suffered from GERD (history of endoscopy 2 years before) and reported several episodes of paroxysmal cough due to aspirations. She refused further treatment.

Discussion

This is a case of spontaneous liver herniation through

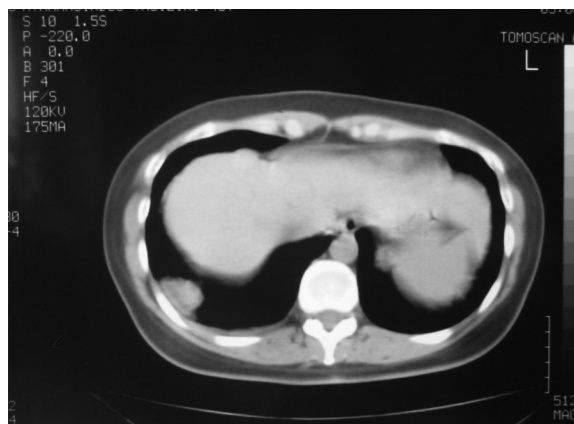


Figure 1: Chest computed tomography showing a mass (35mm diameter) with smooth borders in the periphery of the basis of the right lung adjacent to the diaphragm with a wide base and a small pleural effusion.

a diaphragmatic defect. The herniated liver mimicked a lung tumor¹⁻⁷. Diaphragmatic injury is usually the result of a high velocity blunt or penetrating trauma on the chest or abdomen resulting in increased transdiaphragmatic pressure gradient. It is unusual to be the result of a trivial injury⁸. There are cases of catamenial pneumothorax, spontaneous diaphragmatic rupture and liver herniation⁹. Endometrial cells are aggressive and may invade the diaphragm. Our patient did not have signs indicating endometriosis (catamenial pneumothorax/hemothorax,



Figure 2: Chest computed tomography (sagittal view) showing liver herniation through a diaphragmatic defect.

dysmenorrheal, elevated CA-125). The second CT scan was obtained during her menses and revealed only liver herniation without pneumothorax or effusion.

Our patient reported several episodes of aspirations with paroxysmal cough due to GERD. The increased transdiaphragmatic pressure could have induced liver herniation through a diaphragmatic defect that existed from a forgotten trauma or a congenital structural defect. The small pleural effusion could be the result of diaphragmatic pleura injury due to liver herniation.

For right sided ruptures, chest X-ray sensitivity is rather small, whereas helical CT with axial, sagittal and coronary reconstruction increases sensitivity and specificity. MRI, PET, percutaneous biopsy, thoracoscopy and laparoscopy may help the differential diagnosis⁸. Surgical treatment is usually indicated, but for small diaphragmatic injuries thoracoscopic or/and laparoscopic repair may be used⁸.

In order to avoid unnecessary examinations, liver herniation should be included in the differential diagnosis of intrathoracic opacities particularly those in contact with the right diaphragm.

Conflict of interest

Authors declare no conflict of interest.

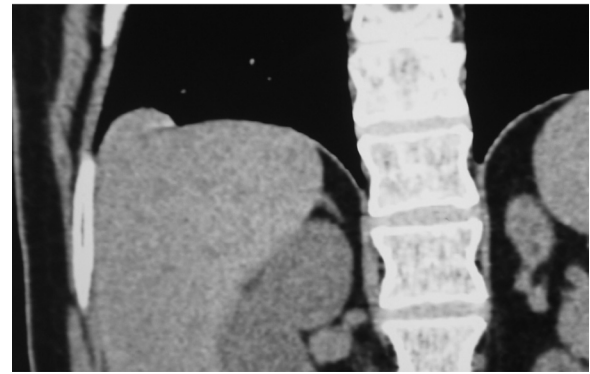


Figure 3: Chest computed tomography (coronal view) showing liver herniation through a diaphragmatic defect.

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