

Acquired diaphragmatic hernia: A case report

Abstract

Acquired diaphragmatic hernias (ADH) are uncommon in elderly. We reported an old case of ADH with bowel obstruction following a recent blunt trauma. A 71-year-old male presented with new onset of dyspnea and abdominal distention. Thoraco-abdominal computed tomography showed a dilated bowel in the left hemi-thorax. Then, a bowel obstruction and ADH were diagnosed. The patient's hernia was repaired by surgery. ADH should be considered for elderly patients with a history of trauma and dilated bowel above the diaphragm.

Keywords: acquired, hernia, diaphragmatic, bowel

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Neda Nozari

Department of Gastroenterology, Tehran University of Medical Sciences, Iran

Correspondence: Neda Nozari, Gastroenterology department, Yas Hospital, Tehran University of Medical Sciences, Tehran, Tehran, Iran, Tel 982142046, Fax -2188948119, Email nozari_neda@yahoo.com

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Abbreviations: ADH, acquired diaphragmatic hernia; CT, computed tomographic

Introduction

Diaphragmatic hernias can be described as congenital hernias or traumatic hernias (including those following penetrating trauma, blunt trauma and unrecognized diaphragmatic rupture).¹ A blunt trauma to chest or abdomen is the main cause of diaphragmatic injury. This injury occurs in 1.1-3.9% of the cases following a trauma.^{2,3} Then, acquired diaphragmatic hernia (ADH) occurs in less than 50% of the patients with diaphragmatic injuries.^{2,4} Although ADH can be presented with obvious symptoms but also ADH can be missed in immediate phase. Some serious symptoms occurs following herniation of abdominal viscera into the thoracic cavity.⁵ We reported an old case of ADH with symptoms of bowel obstruction following a recent blunt trauma to his abdomen.

Case presentation

A 71-year-old man presented with breathless and lack of fecal defecation in the emergency room of our hospital. The symptoms initiated with dyspnea, palpitation, abdominal fullness and distention in a recent week. He had history of a blunt trauma (Falling on a hard object) to his abdomen one month ago. He was asymptomatic after falling and didn't visit by physician. His past medical history was uneventful. He was a non-smoker. His physical examination revealed absent breath sounds in his left hemi-thorax and diffuse abdominal distension. Laboratory data revealed: hemoglobin level of 14 g/dL, white blood cell count of 23,000/mm³ and platelet count of 350,000/mm³. Blood amylase, lipase, creatinine, and electrolytes were within normal ranges. His chest and abdomen computed tomographic (CT) scan revealed herniation of bowel contents into left hemi-thorax and also bowel dilatation was seen in thoracic and abdominal views (Figure 1). Bowel obstruction due to ADH was diagnosed. The patient's hernia was reduced by surgery. The signs of intestinal obstruction in our case warranted an approach with a midline incision. The Transabdominal approach was performed and returned the herniated bowel back into abdominal cavity. The bowel hadn't show gangrenous change. Then diaphragmatic defect was repaired. The patient had an uneventful post-operative course.

Discussion

ADH are usually due to a penetrating or blunt trauma.^{1,6,7} The mean age of ADH patients has been reported 33 years. The blunt trauma included road traffic accident or pedestrian hit by motor vehicle or patient gave history of falling from height.⁵ Our case was rare due to old age (71y) and blunt trauma type (Falling on a hard object). ADH is undiagnosed in up to 33% of cases during the immediate post-traumatic period.¹ Asymptomatic patients with diaphragmatic injuries are sometimes missed after trauma and the diagnosis is delayed.⁵ The symptoms are varied and included dyspnea, absence of breath sounds in thorax, abdominal pain and bowel dilatation.⁸ The most common side is left hemithorax (57-87.5%) followed by right hemithorax (24-36%).^{6,7} Diagnosis of bowel obstruction due to ADH could be mentioned according to the typical symptoms of subject including dyspnea, abdominal pain and distention. Clinician can confirm it by imaging including chest and abdominal x ray or CT scan.⁶ Right sided diaphragmatic injuries or hernias are difficult to diagnose by chest x ray.² CT scan has been showed to be useful in the detection of diaphragmatic injuries or hernias, with 71% sensitivity, 100% specificity, and 88% accuracy for left-sided injuries or hernias and 70% for right-sided injuries or hernias.⁸ All left-sided diaphragmatic injuries or hernias and most right-sided injuries or hernias should be repaired when diagnosed.⁵ 25-60% of mortality has been reported for patients with incarcerated viscera in the lake of treatment.^{1,9} The main management of ADH is surgery by reducing the viscera and repairing the diaphragmatic defect.⁶ The surgical approach of ADH is variable and depends on the severity of visceral complications. In conclusion, even though ADH is not common in elderly but should be considered for the patient with history of trauma and dilated bowel above the diaphragm.

Conflicts of interest

None.

Funding

None.

Ethical approval

Written informed consent was obtained from the patient for publication of this case report.

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