

CLINICAL IMAGES

"Fluid" shift on chest radiography: Bochdalek hernia

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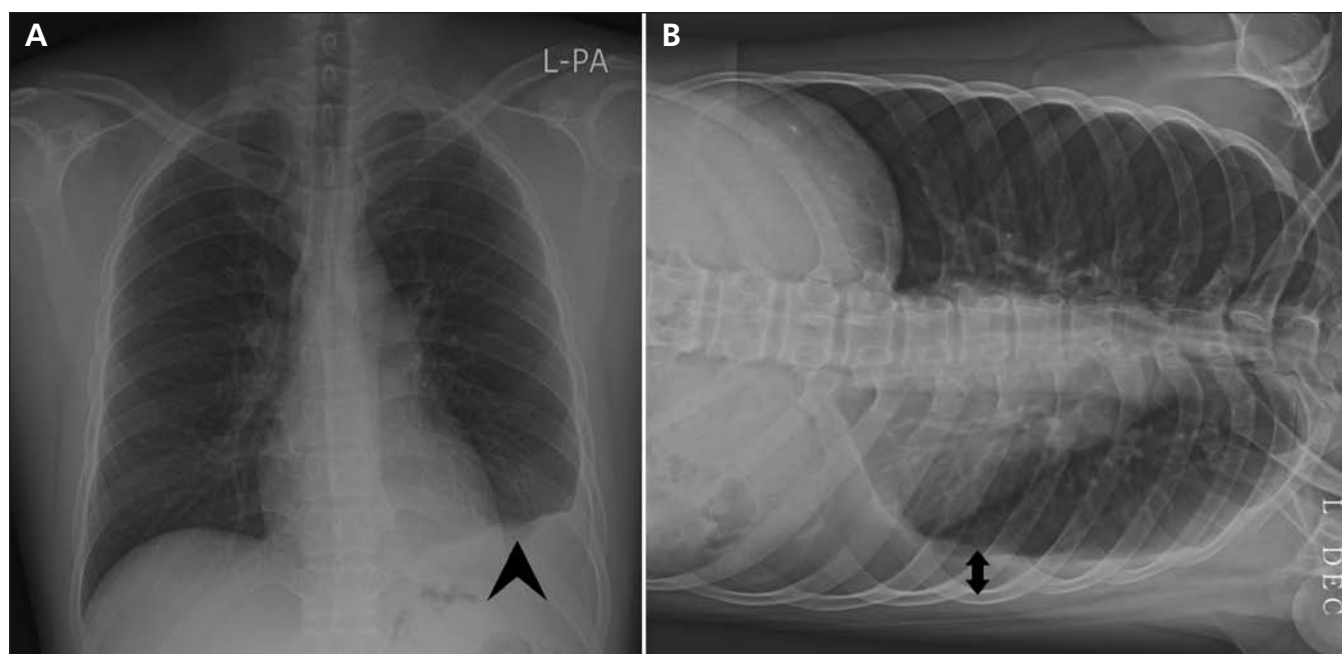
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Figure 1: Chest radiographs in a 36-year-old man showing (left) blunting of the costophrenic angle (arrowhead) and (right) more than 1 cm of shifting opacity on the left lateral decubitus view (arrow).

A 36-year-old healthy man presented with a suspicious pleural effusion on the left side that had been found on a pre-employment chest radiograph. He denied having any respiratory symptoms, and there was no history of trauma. On examination, he had decreased breath sounds and tactile fremitus on the left side. A posteroanterior chest radiograph showed blunting of the left costophrenic angle (Figure 1A), with more than 1 cm of shifting opacity seen on the lateral decubitus radiograph, consistent with free fluid (Figure 1B). Diagnostic thoracentesis failed to produce fluid.

A computed tomography scan of the chest showed a prominent peritoneal fat herniation through a left posterolateral diaphragmatic defect, with no evidence of pleural fluid

collection (Figure 2). The patient refused further management and has remained symptom free.

A Bochdalek hernia, resulting from inadequate closure of the posterolateral pleuroperitoneal membrane, is the most common congenital diaphragmatic hernia, with an incidence of 1:2000 to 1:5000 live births. Congenital diaphragmatic hernias are usually found in neonates (approximately 10% of all reported cases occur in adults) and are associated with cardiac malformations and neural tube defects in up to 57% of patients.^{1,2} Chromosomal abnormalities, including trisomy 18 or trisomy 21, have been described in 10% to 20% of all cases. Defects occur more frequently on the left side (78%) than on the right side of the diaphragm, and abdominal contents, including stomach, bowel loops, liver, spleen or fat tissues, can be displaced into the thoracic cavity.^{3,4} Peritoneal fat, especially omental fat, tends to be mobile and can look like fluid on lateral decubitus chest radiographs.

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Congenital hernias in neonates can be asymptomatic and can result in death secondary to respiratory insufficiency. In contrast, most congenital diaphragmatic hernias in adults are

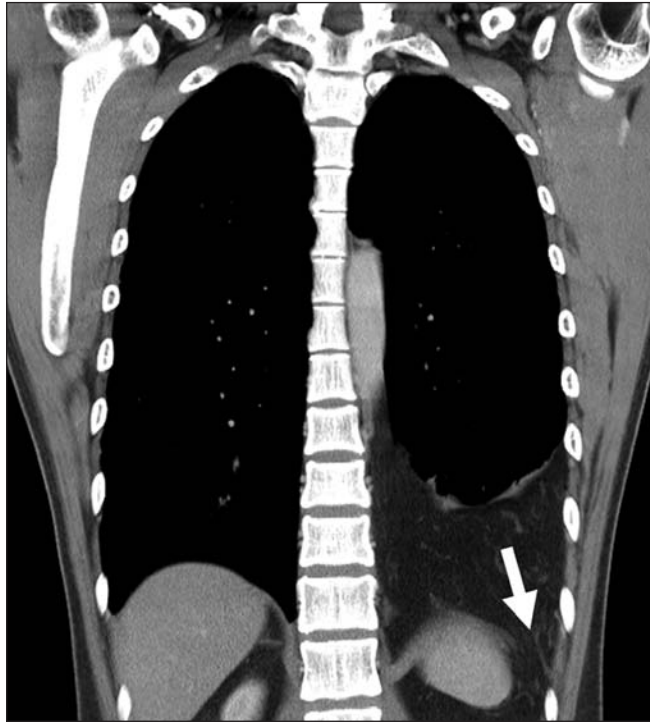


Figure 2: Computed tomography scan (coronal section) of the chest in a 36-year-old man showing a prominent peritoneal fat herniation through a left posterolateral diaphragmatic defect (arrow), with no evidence of pleural fluid collection.

clinically silent. In 73% of adults, the hernia involves only omentum or fat. When symptoms do occur, they are relatively nonspecific and include chest or abdominal pain.⁵ Bochdalek hernia can be misdiagnosed as pleural effusion, pneumonia, pneumothorax, lung cysts, mediastinal tumour and atelectasis.¹

This article has been peer reviewed.

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