Denouement and Discussion

Bochdalek Diaphragmatic Hernia

Chest ultrasonography demonstrated bowel loops in the thoracic cavity. A barium contrast study of the upper gastrointestinal tract showed herniated intestinal loops in the left hemithorax with dilated stomach. Emergency laparotomy revealed a left-sided posterolateral diaphragmatic defect with acute gastric volvulus and herniation of the bowel into the thoracic cavity. The contents were reduced back and the defect was repaired. No associated pulmonary or intestinal tract abnormalities were found, and recovery was uneventful.

Herniation of abdominal contents into the thoracic cavity may occur as a result of a congenital or traumatic defect in 1 area of the diaphragm. Although there are several types and sites of congenital diaphragmatic hernia, the term is usually used synonymously with Bochdalek hernia or posterolateral defect, which is the most common term.1

Most cases present in the neonatal period; however, in 5% to 25% of patients, Bochdalek hernia may present later.1,2 The incidence of late-presenting diaphragmatic hernia has increased in recent years, perhaps reflecting the greater use of imaging in children with only mild symptoms.2 The question of whether the diaphragmatic defect in the late-onset group is congenital or acquired remains unresolved. Researchers have suggested that the defect exists prenatally but is small and occluded by the liver or spleen. However, in the small group of patients with previously normal chest radiography results, an acquired cause cannot be excluded.2

Symptoms in children with a delayed presentation may be acute or chronic. The most common acute symptoms include respiratory distress, vomiting due to intestinal obstruction, and cardiac arrest. Chronic symptoms are often nonspecific and include recurrent pulmonary infection, cough, chest pain, abdominal pain, and failure to thrive.3

Owing to the wide spectrum of symptoms and the lack of awareness of this rare condition, late-presenting diaphragmatic hernia can be mistaken for tension pneumothorax, pleural effusion, or pneumonia, which is the most frequent initial incorrect diagnosis (in up to 62% of patients).2,4 Misdiagnosis of this delayed presentation as pneumonia causes only an undesirable delay in treatment and is not associated with severe morbidity.2 In contrast, an incorrect diagnosis of tension pneumothorax or pleural effusion is associated with significant morbidity due to the insertion of a chest tube or chest drain into the herniated viscus.2,4

The treatment of a late-presenting diaphragmatic hernia is surgery. The reported incidence of associated defects, especially abnormal bowel fixation and/or rotation, is extremely variable, ranging from rare to common. Therefore, it is mandatory to look for associated anatomic abnormalities at the time of operation.4

Studies2 in children with late-presenting diaphragmatic hernia have described a favorable prognosis, especially in series2 published in recent years. The latter finding is most likely attributable to improved surgical and intensive care techniques and, consequently, lower rates of misdiagnosis.2

The case described here highlights 2 major points associated with late-presenting Bochdalek hernia. First, although the physical and imaging findings suggested the presence of pneumonia, the absence of fever and leukocytosis indicated another diagnosis. The coexisting symptoms of respiratory distress and symptoms suggesting gastrointestinal obstruction raised the suspicion of diaphragmatic hernia. Second, previously normal chest radiography results do not exclude the diagnosis of diaphragmatic hernia. A high index of suspicion is important because the condition could be life threatening.

Accepted for Publication: May 9, 2006.
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Financial Disclosure: None reported.

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