Diaphragmatic hernia: an infant in respiratory distress

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DESCRIPTION

A term male infant with no prior medical history presented to the paediatric emergency department with respiratory distress, decreased oral intake and lethargy. On clinical examination, he was found to be tachypnoeic, with sub/intercostal recession. On auscultation, he was noted to have atypical, 'gurgling' breath sounds. A chest radiograph (figure 1) was performed. This showed almost complete whiteout of the left chest, with some subtle lobulated lucency in the left apex, consistent with air-filled bowel loops. There was also evidence of mediastinal shift to the right. A nasogastric tube was inserted and the patient was transferred to the paediatric intensive care unit. A chest and abdomen radiograph was subsequently performed (figure 2).

On admission, the patient was started on humidified high-flow nasal cannula oxygen. Echocardiography showed no evidence of pulmonary hypertension. Renal, pleural and cranial ultrasounds showed no evidence of any other anomalies consistent with a syndromic constellation. He was brought to theatre and underwent a type A Bochdalek hernia repair via a left upper quadrant incision. He was extubated on day two post-operatively and ventilated spontaneously without respiratory support. This young boy had an uneventful post-operative course. He was discharged to the ward, and subsequently home by day six post-operation, with routine outpatient follow-up.

Congenital diaphragmatic herniae (CDH) account for some of the most common birth defects, with an estimated incidence of 2–4/10 000 live births.[1] Typically, the diaphragmatic herniation occurs on the left side (up to 90%), on the right side (up to 10%) and bilaterally in rare cases.[2 3] With advances in obstetric ultrasonography, the number of diagnoses made antenatally continue to increase; however,

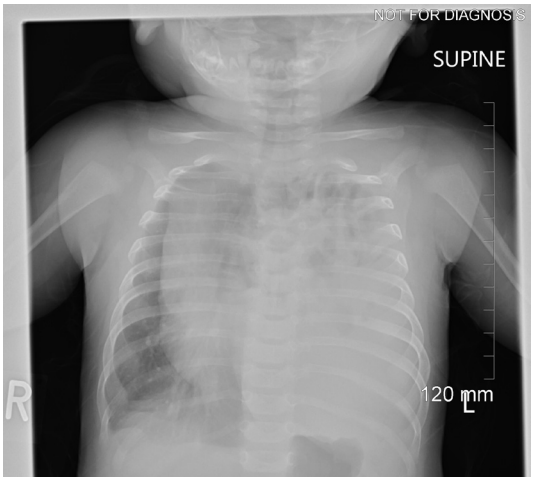

Figure 1 Chest radiograph showing mediastinal shift with almost complete whiteout of the left chest, and subtle lobulated lucency in the left apex, consistent with air-filled bowel loops.

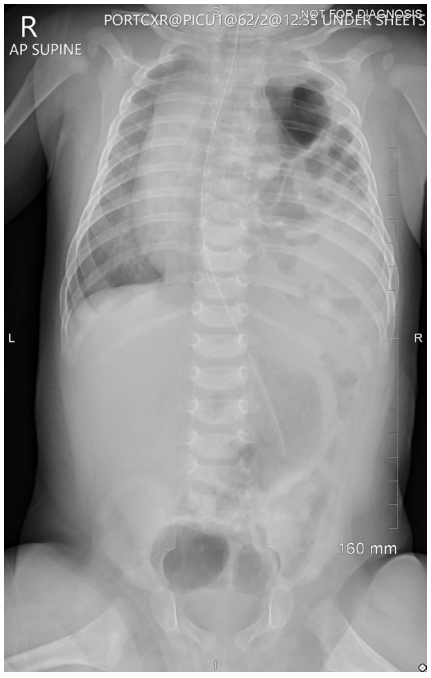

Figure 2 Chest/abdomen radiograph showing paucity of bowel in the abdomen with herniation of abdominal contents into the left hemithorax.

Learning points

- Late presentations of congenital diaphragmatic hernia (CDH) can be easily misdiagnosed by clinicians due to their rare incidence.
- Although most CDH cases are diagnosed antenatally, clinicians should be mindful of the importance of detailed clinical examination and the close assessment of radiographs (where performed) in infants with respiratory distress, gastrointestinal symptoms and failure to thrive.
- The similar constellation of presenting symptoms for delayed CDH and bronchiolitis, paired with its rare incidence, leads to great difficulty in making an accurate diagnosis.
- Although chest X-rays should not form part of routine investigation in patients with bronchiolitis, their role should be considered in atypical presentations.

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CDH can present after the initial neonatal period. Clinicians should be cognisant of atypical presentations of CDH, when interpreting chest radiographs of infants in respiratory distress.

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Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

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