

Chilaiditi Sign: A Rare Radiological Finding

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A 7-year-old girl, with no relevant medical history and normal development, presented acutely with a six-day history of coughing and pyrexia. Physical examination was normal except for tympany on percussion over the right upper abdominal quadrant. A plain chest radiograph showed a middle lobe consolidation with possible right-sided pleural effusion and incidentally detected hepato-diaphragmatic interposition of the colon (Fig. 1), known as the Chilaiditi sign. The observed colonic haustration suggested that there was no free intraperitoneal air. Blood tests showed a rise in the inflammatory markers (leukocytes 10,900 cells/ μ L, with 57.1% neutrophils and 32.9% lymphocytes, C-reactive protein 9.14 mg/dL) and the blood culture was negative. Right pleural effusion was observed with thoracic ultrasound. The patient was admitted for observation and started on antibiotics for pneumonia. She remained stable throughout her admission, with no associated symptoms or worsening radiological changes and she was discharged home after three days.

First described in the medical literature in 1910 by Greek radiologist Demetrius Chilaiditi, the Chilaiditi sign refers to the rare incidental radiologic finding of the hepato-diaphragmatic interposition of the colon.¹ The worldwide incidence is estimated at 0.025-0.28%.² The etiology is multifactorial, but not fully understood.² Generally, patients are asymptomatic. When associated with symptoms, typically gastrointestinal or respiratory, it is designated as Chilaiditi syndrome.^{2,3}

The clinical relevance of Chilaiditi sign and syndrome relate to a wide differential diagnosis that includes serious conditions such as pneumoperitoneum, diaphragmatic hernia, volvulus, and intussusception, requiring urgent surgical management.²⁻⁴ Although no intervention is required for an asymptomatic patient and the initial management of Chilaiditi syndrome is conservative, patients should be kept under clinical and radiologic observation in order to prevent complications.⁵ Despite predominance in adults,^{2,4} a rather limited number of pediatric cases are reported in the literature, starting in the neonatal period^{2,3} and, therefore, pediatricians should be aware of this condition.

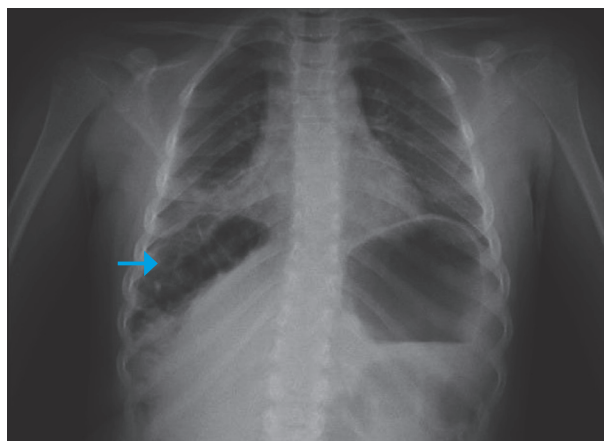


Figure 1. Chest radiograph. Chilaiditi sign: right hepato-diaphragmatic interposition of the colonic haustration. Middle lobe consolidation. Absent visualization of right diaphragm suggesting pleural effusion.

Keywords: Chilaiditi Syndrome / diagnostic imaging; Child

WHAT THIS REPORT ADDS

- Chilaiditi sign is a rare radiologic finding of the hepato-diaphragmatic interposition of the colon.
- Generally, it is asymptomatic but can be associated with symptoms, typically gastrointestinal or respiratory.
- Differential diagnosis includes pneumoperitoneum, diaphragmatic hernia, volvulus, and intussusception.
- Initial management of Chilaiditi syndrome is conservative, with clinical and radiologic observation.

Conflicts of Interest

The authors declare that there were no conflicts of interest in conducting this work.

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Awards and presentations

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