

BETWEEN A LIVER AND A HARD PLACE: A CASE OF CHILAITIDI SYNDROME

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CLINICAL INFORMATION

A 74-year-old woman with a history of GERD, esophageal strictures, chronic cecal malrotation, and surgical history of appendectomy, cholecystectomy, presented to a walk-in clinic with three days of dry cough due to an abnormal sensation in her chest, "burning" abdominal pain with eating, vomiting, and decreased appetite. A chest x-ray was obtained, which revealed a distended bowel loop with intraluminal air-fluid level between the right hemidiaphragm and liver in the right upper quadrant (Fig. 1). She was recommended to get a computed tomography (CT) scan for follow up and was directed to go to the emergency department.

An abdominal CT performed in the ED showed the hepatic flexure interposed between the diaphragm and the right lobe of the liver (Fig. 2) and redemonstrated the air-fluid level seen in chest x-ray (Fig. 3).

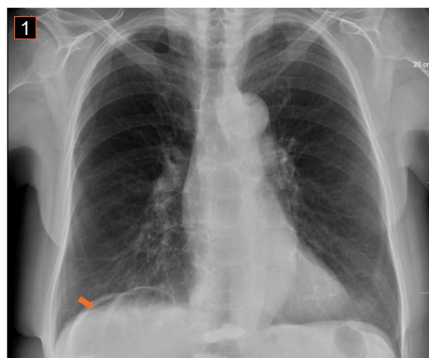
Physical exam:

Abdomen: Tenderness in bilateral upper quadrants, including focal tenderness at left costal margin. Right CVA tenderness. No guarding, rebound.
Remainder of exam was unremarkable.

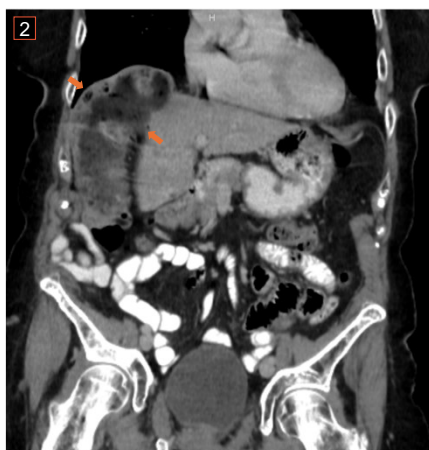
Prior imaging:

Radiographic evidence for Chilaiditi syndrome can be seen in a CT scan five months prior when the patient presented to the emergency department for evaluation of hip pain. Due to no signs of bowel obstruction, both symptomatic and radiographic, this would have been considered Chilaiditi sign. Seven months prior, the patient was admitted to the emergency department for unspecified left lower quadrant abdominal pain, where an abdominal CT was performed. At that time, there was no noted Chilaiditi sign, and no acute inflammatory processes were found.

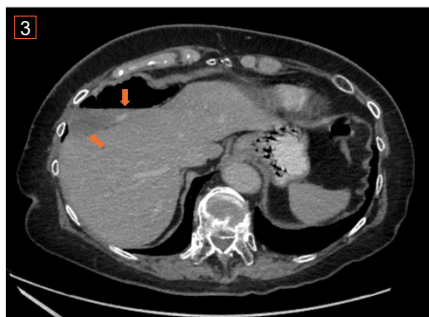
IMAGING FINDINGS



Chest x-ray obtained in walk-in clinic demonstrating a distended subdiaphragmatic bowel loop with apparent intraluminal air-fluid level.



Coronal view of abdominal CT obtained in emergency department revealing interposition of hepatic flexure between right lobe of liver and right hemidiaphragm, with no acute obstruction appreciated. This is consistent with diagnosis of Chilaiditi syndrome.



Axial view of abdominal CT obtained in emergency department redemonstrates colonic intraluminal air-fluid level initially identified in chest x-ray.

DISCUSSION

Chilaiditi Syndrome is a rare and often incidental finding, but when symptomatic, it can cause significant clinical concern due to its potential to mimic more serious pathologies, such as perforation or subdiaphragmatic free air. The syndrome is typically seen in patients with risk factors including chronic constipation, liver cirrhosis, or chronic obstructive pulmonary disease (COPD). The mechanism involves the temporary displacement of the colon into an abnormal position, often due to increased colonic mobility or anatomic variation.

In this case, the new onset of symptoms and imaging findings suggests a recent colonic displacement, which was not present on prior imaging. Conservative management is typically successful, though surgical intervention may be necessary in cases of bowel obstruction, ischemia, or failure of conservative measures.

Radiologists and clinicians should be aware of this condition and recognize its radiological hallmark to avoid unnecessary interventions. The differential diagnosis includes pneumoperitoneum, subphrenic abscess, bowel perforation or obstruction, and colonic volvulus, and accurate diagnosis can prevent mismanagement.

REFERENCES

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2. Al Omran AA, Ibrahim AH, Balhareth AS. Chilaiditi syndrome: an unusual presentation in elderly man. *J Surg Case Rep*. 2020 Jul 14;2020(7):rjaa141. doi: 10.1093/jscr/rjaa141. PMID: 32699594; PMCID: PMC7365046.