Portuguese Journal of Gastroenterology

GE Port J Gastroenterol 2018;25:52–53
DOI: 10.1159/000477763

Received: February 21, 2017
Accepted after revision: May 12, 2017
Published online: June 24, 2017

An Unexpected Abdominal Radiographic Finding: Chilaiditi Sign

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Keywords
Chilaiditi sign · Chilaiditi syndrome · Computed tomography

Um achado radiográfico abdominal inesperado: Sinal de Chilaiditi

Palavras Chave
Sinal de Chilaiditi · Síndrome de Chilaiditi · Tomografia computorizada

A 60-year-old male with a history of type 2 diabetes mellitus, diabetic nephropathy, and arterial hypertension, under isophane insulin and olmesartan treatment, presented to the emergency department due to profuse watery diarrhea (5–10 stools per day) for 2 weeks. He denied abdominal pain or other associated symptoms. Laboratory assessment revealed acute-on-chronic kidney disease and mild elevation of inflammatory biomarkers. An abdominal ultrasound and an abdominal X-ray were performed and were unremarkable. He was admitted to an intermediate care unit, and after aggressive intravenous hydration and antibiotherapy, he started to show clinical and renal function improvement. Stool cultures were negative. Nevertheless, 5 days after admission, he complained of epigastric pain, which was moderate, cramping, and nonradiating. The patient maintained 2 loose stools per day but denied nausea, vomiting, or other relevant symptoms. On physical examination, he presented slight epigastric tenderness. Laboratory testing was unremarkable. An abdominal computed tomography revealed a loop of colon between the liver and right hemidiaphragm, consistent with Chilaiditi sign (Fig. 1, 2).

This radiographic finding was initially described by the Greek radiologist Demetrius Chilaiditi in 1910. This condition has an incidence of 0.25–0.28% worldwide, being more frequent in men and the elderly [1]. The etiology can be congenital or acquired. It is usually incidental and asymptomatic; however, when it is associated with gastrointestinal symptoms, such as abdominal pain, constipation, or nausea, it is called Chilaiditi syndrome. Complications of Chilaiditi syndrome include volvulus of the cecum, splenic flexure or transverse colon, cecal perforation, and perforated appendicitis [2]. Chilaiditi syndrome is initially managed conservatively with rest, fluid therapy, and laxatives. Surgical intervention is only indicated when severe complication occurs [1]. In our patient, since other causes of epigastric pain, such as pan-

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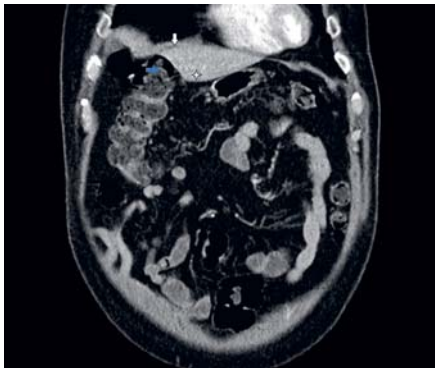

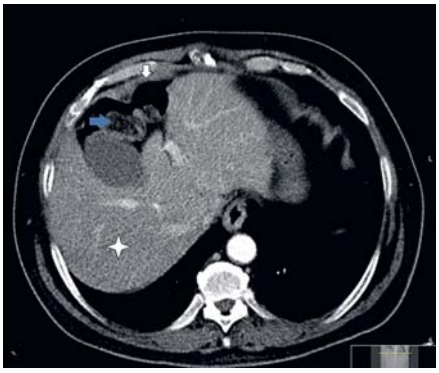

Fig. 1. Coronal view of abdominal computed tomography scan with evidence of Chilaiditi sign (white arrow, right hemidiaphragm; blue arrow, colon; asterisk, liver).
Fig. 2. Axial view of abdominal computed tomography scan. A loop of the colon is seen between the liver and right hemidiaphragm (white arrow, right hemidiaphragm; blue arrow, colon; asterisk, liver).

creatitis, cholangitis, or acute myocardial infarction, were excluded and admission abdominal X-ray was normal, we can conclude that this symptom was most likely related to Chilaiditi sign. A possible pathophysiologic explanation might be stretching of the right hemidiaphragm due to colonic interposition leading to epigastric pain. Due to the patient's comorbidities, we took a conservative approach with fluid therapy, rest, and close observation. Epigastric pain subsided completely after 24 h. There was no pain recurrence during hospital stay. The patient was observed 6 months later in the outpatient clinic and remained asymptomatic.

Chilaiditi sign and Chilaiditi syndrome are rare conditions that are often misdiagnosed in clinical practice. Since they can be associated with severe complications, it is important to recognize them on presentation in order to prevent unnecessary exams and surgical interventions.

Statement of Ethics

This study did not require informed consent nor review/approval by the appropriate ethics committee.

Disclosure Statement

There are no conflicts of interest to declare.

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