Chilaiditi Syndrome – A Rare Case-Report of an Adult Presentation with Non-Obstructing Abdominal Pain

Dr. Alexander Vu, M.D., M.Sc[a] , Dr. Preeti Kodavanti M.D.[a], Dr. Aaron Zuckerman, M.D.[a], Dr. Cristhian Valor, M.D.[a], Dr. Ricky Patil, M.D.[a], Dr. Michael Huber, M.D.[a], Dr. Sharique Nazir, M.D.[a]

[a] Department of General Surgery, New York University Langone Health

Background

Chilaiditi syndrome: a clinical entity defined by radiographic evidence of colonic interposition between liver and diaphragm, with associated complications including chronic constipation, obstruction, abdominal pain, cirrhosis, and respiratory distress known as Chilaiditi sign[1].

Etiology: anatomic variations of colonic suspensory ligaments.

Treatment: asymptomatic patients are treated conservatively with bowel rest. Surgery is considered in cases of clinical obstruction. [1] There is a growing sentiment to operate on non-obstructive symptomatic Chilaiditi syndrome. [2]

Case Study

This is a 45-year-old female with one year history of RUQ abdominal pain, presenting to the emergency department after a syncopal episode. She experienced two weeks of dyspnea and orthopnea leading to this episode.

CT imaging (Fig. 1-3) of the abdomen and pelvis demonstrates colonic interposition between the liver and diaphragm without any obstruction. She was treated non-operatively during her hospital stay. During her workup, patient also presented with a pericardial effusion and a mild CHF exacerbation, which could also explain her dyspnea and orthopnea on presentation.

When discharged, patient endorsed resolution of abdominal pain, but with sensation of distention. On outpatient follow up, patient complained of continued abdominal pain and bloating. Hence, a repeat CT-scan was ordered with plans for surgical intervention. (Fig. 4)

Chilaiditi Sign

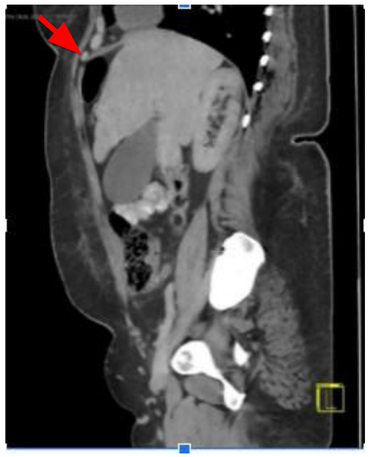


Figure 1. Chilaiditi sign, sagittal



Figure 2. Chilaiditi sign, coronal



Figure 3. Chilaiditi sign, axial



Figure 4. Resolution of Chilaiditi sign

Discussion

Due to the rarity of Chilaiditi syndrome, consensus has not been reached on the appropriate management of non-obstructing yet symptomatic presentation. As may be the case for this patient, the intermittent nature of pain may be due to periodic, positional obstruction that self-resolves once the interposed colon reverts to its original position. Persistently symptomatic Chilaiditi syndrome may warrant surgical colopexy. The patient is being managed conservatively prior to definite surgical intervention.

Fig 1-3: Chilaiditi Sign on sagittal, coronal, and axial imaging (see red arrows), colon present in this space.

Fig 4: Resolution of Chilaiditi sign on CT-AP 4 months prior to hospital admission, indicating intermittent nature of Chilaiditi syndrome

Named after Demetrius Chilaiditi (1883-1975), Greek radiologist who first described these findings in 1910 while working in Vienna. The published description of interposition of colon between the liver and the right diaphragm was published by Cantini in 1865[3].

References

Moaven, Omeed. "Chilaiditi Syndrome: A Rare Entity with Important Differential Diagnoses". Gastroenterol Hepatol. 2012 Apr 8. Volume 8, Issue 4, 276-278 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3380266/

Blevins, Wayne A. “Minimally invasive colopexy for pediatric Chilaiditi syndrome”. J Pediatr Surg. 2011 Mar 3. Volume 46, Issue 3, 33-35. https://pubmed.ncbi.nlm.nih.gov/21376185/

Z. V. Maizlin. Wonders of Radiology. (2010) ISBN: 9781449976453

Disclosures

The authors declare that they have no relevant or material financial interests that relate to the research described in this poster