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CHILAIDITI'S SIGN: A CASE REPORT

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Abstract: Chilaiditi's sign is a fortuitous and rare imaging finding, more common in males. It has a low incidence, being a finding present in around 0.1 to 0.25% of chest x-rays and in 2.4% of computed tomography scans. This sign consists of the temporary or permanent interposition of the colon or small intestine in the hepatodiaphragmatic space in asymptomatic patients. In those cases, in which the patient presents any symptoms, such as abdominal pain, vomiting, nausea, retrosternal pain, respiratory symptoms, abdominal distension, intestinal obstruction or sub-occlusion, we call it Chilaiditi Syndrome. The cause is still unknown, but is probably multifactorial. In most cases, the approach is conservative. As it is a rare entity and difficult to diagnose, the importance of carrying out a good anamnesis and a good physical examination is highlighted, associated with the finding of interposition of the colon or small intestine in the hepatodiaphragmatic space, so that it is possible to diagnosis and exclusion of other possible differential diagnoses.
Keywords: Abdominal pain; Hepatodiaphragmatic space; Chilaiditi sign.

INTRODUCTION

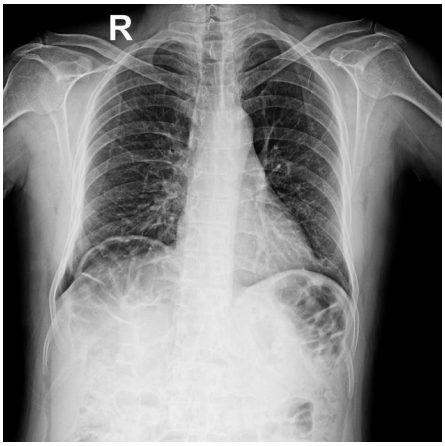
The Chilaiditi sign is a rare imaging finding in the medical world. In general, when observed, it demonstrates the existence of a temporary or permanent interposition of the colon or small intestine in the hepatodiaphragmatic space without clinical symptoms. However, when accompanied by clinical symptoms, it is defined as Chilaiditi Syndrome. It was initially described in 1865 by Cantini on clinical examination, however, only in 1910, with the publication of three cases by Demetrius Chilaiditi, did it become established as a radiological diagnosis. Typically, this imaging finding is associated with symptoms of abdominal pain, vomiting, nausea, retrosternal pain, respiratory symptoms, abdominal distension, intestinal obstruction or subocclusion requiring treatment in these cases, generally conservative that includes rest, hydration, nasogastric decompression, enema, laxatives, or surgical intervention depending on the case. This finding also serves for differential diagnosis, mainly of subdiaphragmatic abscess, pneumoperitoneum and Morgagni hernia. The existence of this finding is found in the medical literature with an incidence of 0.1-0.25% on chest radiography and 2.4% on computed tomography scans, with a predominance of males in a ratio of 4:1. It is not yet well understood, but it is known that there are factors that can probably cause it. The anatomy between the colon, intestine, liver and diaphragm, when altered, can facilitate the appearance of the sign and due to this factor of anatomical change, it can be divided between hepatic, intestinal and diaphragmatic factors. Liver factors such as cirrhosis, ptosis due to ligament relaxation, liver atrophy, ascites; Intestinal factors such as megacolon, meteorism, abnormal colonic motility; and finally, diaphragmatic factors such as thinning of the diaphragm, injuries to the phrenic nerve. When the ligaments are loose or elongated, interposition between the colon, liver and diaphragm can occur, leading to the Chilaiditi sign. Some other changes were observed, such as intellectual disability and schizophrenia related to anatomical changes in this region. As an iatrogenic form, bariatric surgery has been described as one of them.

OBJECTIVE

This work aims to report a clinical case, describing its low prevalence appearance and its characteristics, thus contributing to better knowledge about the case.

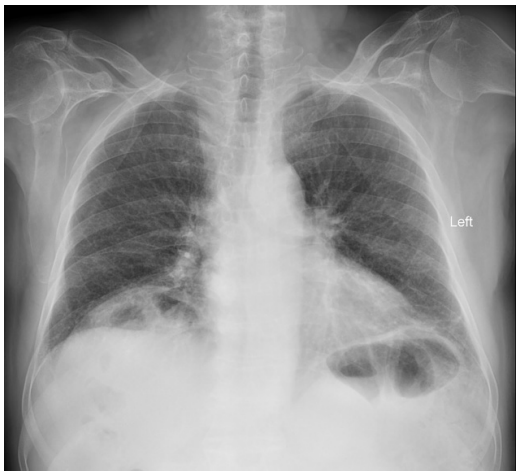
CASE REPORT

A 53-year-old male patient was admitted to the gastroenterology specialty clinic with abdominal pain. He reported colic-like pain in the epigastrium and right hypochondrium, with slight improvement with the use of Scopolamine and Simethicone, with no eating rhythm, unrelated to bowel movements or flatus; Furthermore, he denied urinary complaints, changes in weight or appetite. General physical examination showed no noteworthy findings. During the abdominal physical examination, mild bloating was noted in the right hypochondrium, without visceromegaly and with preserved bowel sounds. A computed tomography (CT) scan of the entire abdomen was immediately requested, which showed the presence of intestinal loops in the space between the liver and the diaphragm, corresponding to the Chilaiditi sign. There was no need to institute any drug or surgical treatment in this case. Patient returned for consultation after three days to return the results of the tomographic examination, asymptomatic, with a normal physical examination and therefore discharged from the service.



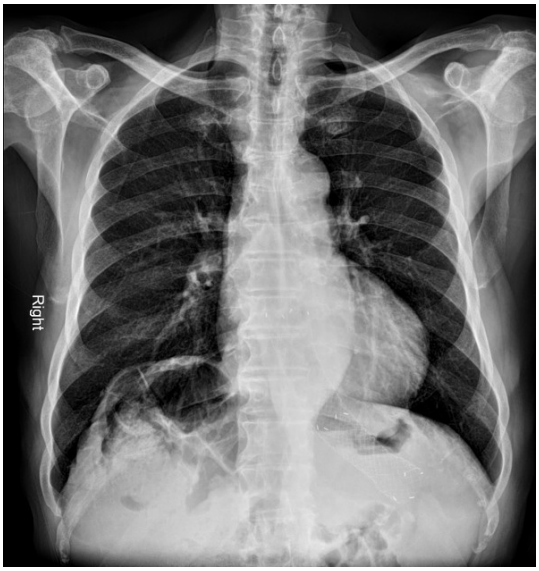
(Figure 1: The interposition of the gas-filled bowel loop (hepatic flexure of the colon) between the right hemidiaphragm and liver.)

(Source: https://radiopaedia.org/cases/chilaiditi-sign-7#image-51711293).



(Figure 2: There is an interposition of the gas-filled colon loop between the right hemidiaphragm and liver, that causes mild right hemidiaphragm elevation.)

(Source: https://radiopaedia.org/cases/chilaiditi-sign-18#image-64221626).



(Figure 3: There is interposition of the gas-filled large bowel loop between the right hemidiaphragm and liver. In addition, distal esophageal covered stent traversing the gastroesophageal junction. The structure of the stent and position is well delineated.)

(Source: https://radiopaedia.org/cases/chilaiditi-sign-11#image-53931539).

CONCLUSION

Chilaiditi syndrome, although rare, can cause significant abdominal symptoms. This case report highlights the importance of early identification of the Chilaiditi sign through imaging tests, such as computed tomography, to guide appropriate clinical management. In the case presented, the conservative approach was effective, with the patient responding well to non-invasive treatment and being discharged without the need for surgical intervention. This case contributes to the understanding of the clinical presentation and management of Chilaiditi syndrome, reinforcing the importance of clinical surveillance and the judicious use of diagnostic resources to optimize clinical outcomes.

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