Chilaiditi Syndrome: A Case Report And Review of Literature

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ABSTRACT

Chilaiditi's syndrome is the hepatodiaphragmatic interposition of the colon. Although this is a benign condition with rare surgical indication, it has great importance for implying surgical emergency in cases where such condition is equivocally diagnosed as pneumoperitoneum. Its diagnosis poses challenge to clinicians and misdiagnosis may results in unnecessary exploratory laparotomy being performed. Here we reported a case having acute pain abdomen admitted to our hospital.

KEYWORDS: Chilaiditi Syndrome, Colon, Management

INTRODUCTION

The isolated and asymptomatic presentation of hepatodiaphragmatic interposition of the colon is known as Chilaiditi's sign. It was first described in 1865 by Cantini who observed it at clinical examination, but only in 1910, with the publication of a study reporting three cases, by Demetrius Chilaiditi, it was consolidated as a radiological diagnosis.[1] The incidence of such finding at radiography is between 0.025% and 0.28% including all the age ranges with slight increase in individuals aged above 60 years, being most frequently found in men than in women at 4:1 ration.[2,3]

CASE REPORT

A 35 years male patient presented with the complain of pain in the upper abdomen, distention of abdomen and constipation for 2 days. Physical examination revealed distended, tense, diffuse tendered abdomen with absence of bowel sound, guarding and rigidity. Rectal examination showed no abnormality. Other systemic examination revealed normal. Ultrasounography examination of abdomen and pelvis showed dilated bowel loops in between liver and right diaphragm. Chest X-ray shows haustral folds of colon under right diaphragm (Figure No.1). Radiologically, the case was diagnosed as Chilaiditi syndrome. The patient was kept nil per orally and managed conservatively. After 5 days of conservative management, the patient improved symptomatically. Repeat chest/abdominal X-ray showed normal (Figure No.2). Now the patient is symptomless and disease free since six months.

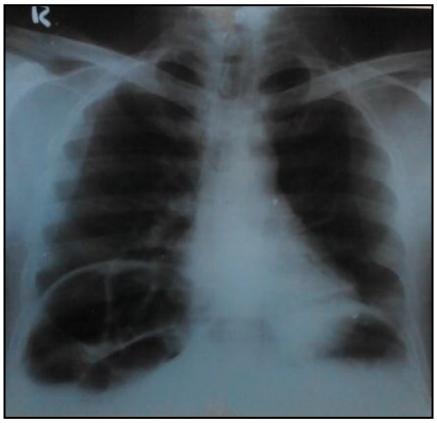

Figure-1: X-ray of chest showing hepato-diaphragmatic interposition of colon.

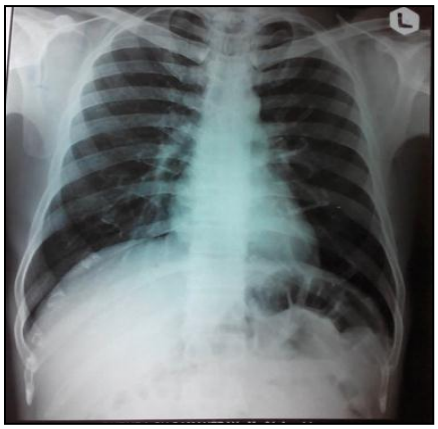

Figure-2: X-ray of chest/abdomen showing normal picture.

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DISCUSSION

Hepatodiaphragmatic interposition of hollow viscera, colon or bowel, described in 1910 by Chilaiditi.[4] It is a rare entity and is found incidentally at imaging studies, with an incidence of upto 0.3% at plain chest radiography and 2.4% at chest/abdominal computed tomography.[5] In cases where such a sign is found in assosciation with symptoms such as pain, nausea, dyspepsia and vomiting, it is called Chilaiditi syndrome.[6] Its cause still remains unknown, but it is probably multifactorial. Several conditions may facilitate the Chilaiditi syndrome onset as they change the anatomical relationship between the liver, colon and diaphragm. Such predisposing factors may be divided into hepatic (liver ptosis caused by relaxation of ligaments, cirrhosis, hepatic atrophy, ascites), intestinal (megacolon, meteorism, abnormal colonic motility) and diaphragmatic (diaphragmatic thinning, phrenic nerve injury, changes in intrathoracic pressure as in cases of emphysema.[7,8,9] In healthy individuals, Chilaiditi syndrome is generally attributed to an increase in the length, diameter and motility of colon. Colonic interposition can be diagnosed from chest or direct abdominal roentgenogram, abdominal ultrasound and computed tomography findings. It is important to distinguish gas-containing bowel loops between the liver and right hemidiaphragm from other significant pathological conditions such as perforated viscus, subdiaphragmatic abscess, pneumoperitoneum, posterior hepatic lesions and Morgagni hernia which require surgical operations.[10,11] Other imaging methods indicated for the differential diagnosis of Chilaiditi syndrome include the opaque enema technique and chest/abdominal computed tomography (CT) scan, this latter being considered as the method with highest diagnostic accuracy.[5,8] The chest X-ray may shows free air at bilateral subdiaphragm, mimicking pneumoperitoneum. For thoracic trauma patients, a CT scan can differentiate whether the air is free or intraluminal and helps to avoid inexpedient surgical intervention, including laparoscopy or laparotomy. [12]

In most cases, the hallmark of therapy is conservative and consists of bed-rest, fluid supplementation, nasogastric decompression, enemas, high fiber diets and stool softners.[13] Rarely surgery may be required for recurrent pain abdomen with most commonly, fixation of the interposed viscus or resection. Cases of volvulus with Chilaiditi syndrome may require urgent surgical intervention with either colectomy or colopexy .[8,14,15]

CONCLUSION

During examination of chest X-rays and abdominal X-rays of patients with acute abdomen, one should very careful to exclude Chilaiditi syndrome. Although, its incidence is very rare, the radiological diagnosis should be carefully done to avoid unnecessary surgical interventions.

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