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RESEARCH ARTICLE

CHILAIDITI'S SYNDROME

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Abstract

Chilaiditi's sign refers to the interposition of the colon (usually the transverse colon) between the diaphragm and the liver. When associated with abdominal pain, it is referred to as Chilaiditi's syndrome. Chilaiditi's sign is uncommon with an estimated incidence of 0.025 to 0.28% worldwide (1). The sign occurs more frequently in males, with a male to female ratio of 4:1 (2). Apparent pneumoperitoneum seen on imaging below the right hemidiaphragm, a life-threatening condition, may in fact be merely Chilaiditi's sign. Awareness of this phenomenon and its consideration as a differential diagnosis is essential to prevent unnecessary laparoscopic intervention (1-2).

Introduction:-

Case report:

67 years old patient presented to Emergency department in our hospital with complains of Right Hypochndrium pain for around 4 days and constipation, which is chronic (1 bowel movement every 3-4 days). He had no nausea, vomiting, loss of weight, hematemesis or melena.

His initial laboratory investigation on admission showed normal full blood count, normal Urea, Electrolyte, Creatinine and liver function test.His chest x ray showed eventration as in figure 1.

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Figure 1:- Elevated right diaphragmatic copula?eventration.

Air lucencies are seen overlapping the hepatic density?Chilaiditi's syndrome

CT Abdomen with Contrast showed: The right diaphragmatic copula is elevated and colonic interposition is seen denoting Chyladiti's syndrome. (Figure 2 & 3)

Figure 2

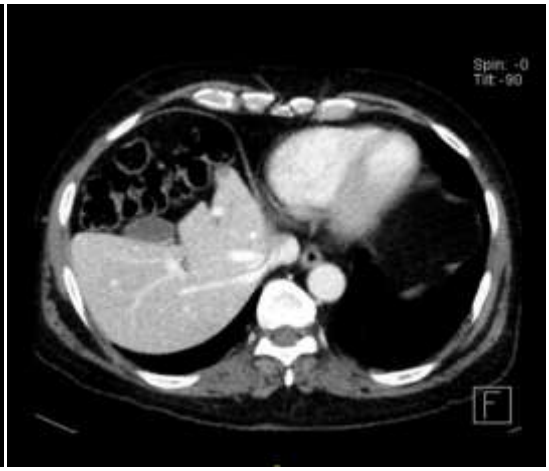

Figure 3

Gastroscopy showed: Small Hiatus Hernia (Figure 4) and antral Gastritis (Figure 5)

Figure 4

Figure 5

Colonoscopy showed:
Long redundant colon:
The scope was inserted up to the Terminal ileum (Figure 10), there is 2 diverticulae in the sigmoid and one in the Transverse colon (Figure 6 &7), one sessile polyp in the cecum measuring around 2 mm removed by biopsy forceps and one metal clip was applied with no more bleeding (Figure 8), and another sessile polyp in the sigmoid removed by biopsy forceps (Figure 9)


Figure 6

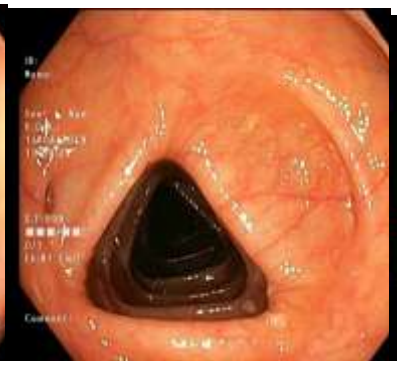
Figure 7


Figure 8


Figure 9


Figure 10

Discussion:-

Chilaiditi's sign is the malposition of the colon between the diaphragm and the liver. Thus, it is the manipulation of any of these three organs (the diaphragm, liver, or colon),which can predispose to such organ misplacement. The diaphragmatic causes include any factor that raises the diaphragm, thereby increasing the space between it and the liver. These include phrenic nerve palsy, which produces a right-sided diaphragmatic hemiparesis, and the congenital loss of the muscular fibers of the diaphragm which can result in diaphragmatic eventration [3]. Potential hepatic causes of Chilaiditi's sign are the loss of tone in the falciform ligament, which normally functions to connect the liver to the anterior abdominal wall and diaphragm, or a small liver secondary to cirrhosis or hepatectomy [4]. Dolichocolon, an abnormally long large intestine, can also be a cause of Chilaiditi's sign as the extra colon finds home in random spaces [5]. Ascites and obesity have also been associated with increased risk of developing Chilaiditi's sign [4,6]. Additionally, patients with abdominal adhesions are at risk. These fibrous tissue bands, if formed between the correct organs, may facilitate the colon's interposition between the liver and diaphragm [7].

Symptomatic patients will frequently present with nausea, vomiting, and loss of appetite [8]. Cases of Chilaiditi's sign causing severe dyspnea have also been reported [9-11]. A diagnosis of Chilaiditi'sis based on imaging with techniques including chest or abdominal X-rays, CT scanning, or sonography [12]. In some cases, such as with our patient, more than one imaging series or modality may be necessary to make the diagnosis with certainty [5]. If symptomatic and left untreated, severe complications include intestinal obstruction, bowel wall ischemia and perforation, and respiratory failure. However, conservative treatment including bed rest, IV fluids, endoscopic bowel

decompression, and laxatives is often sufficient [13]. Surgical intervention, should be considered in patients who show no improvement with conservative measures and those with serious complications

Chilaiditi's sign in our patient was a finding based on his presentation. His presentation fit with the epidemiology of the disease described in the literature - elderly males [6]. However, he did not appear to have any of the risk factors, such as cirrhosis, ascites, obesity, a history of abdominal surgery causing adhesions, or diaphragmatic palsy, that could predispose him to the interposition of intestine between liver and diaphragm. This atypical finding was concerning and led to a follow-up CT abdomen and pelvis ,that revealed no pneumoperitoneum, bowel obstruction or perforation. Per hospital protocol, the surgical service was consulted and based upon their clinical evaluation of the patient a recommendation was made to continue with conservative management.

Conclusion:-

Chilaiditi.s syndrome is relatively uncommon and is easily misdiagnosed. This case highlights the importance of clinical awareness of this sign among physicians to reduce the need for unnecessary surgical intervention.

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