



RESEARCH ARTICLE

CHILAIIDITI SYNDROME ABOUT A CASE: THE EXPERIENCE OF THE MEDICAL CLINIC "THE STARS" OF BAMAKO

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Abstract

The chilaiditi syndrome is a pathology characterized by the interposition of the small or colonic intestines in the space between the lower surface of the diaphragm and the liver. We report the case of a 39-year-old man, worker, operated 3 months ago for acute appendicitis who presented with abdominal pain, acute urinary retention and occlusive syndrome. The CT scan was performed and revealed small bowel obstruction and Chilaiditi syndrome with interposition of distended small bowel loops in the right inter hepato-diaphragmatic area and bilateral basal broncho-pneumopathy. An exploratory laparotomy made it possible to treat this Chilaiditi syndrome and intestinal obstruction with the discovery of a colon tumor of the transverse colon. The purpose of this work is to provide the diagnostic and etiological interest of computed tomography and the complications related to chilaiditi syndrome.

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Introduction:-

The chilaiditi syndrome is a pathology characterized by the interposition of the small or colonic intestines in the space between the underside of the diaphragm and the liver [1,2]. The first clinical description dates back to 1865 by Cantini, but the first radiological diagnosis was made by a Greek radiologist, Dr. Demetrius Chilaiditi, who described 3 cases in 1910 [3]. It is a rare entity, found incidentally on radiographic examinations, with an incidence of 0.3% on chest radiographs and 2.4% on CT scans. Its incidence is estimated between 0.025 to 0.28% worldwide [4,5]. The male sex is more affected than the female sex. This pathology is more common in the elderly; it is rare in children [5,6,7]. And no case to our knowledge has been reported on this syndrome in Bamako. In this article, we report a rare case of Chilaiditi syndrome in a young male subject, the purpose of which is to provide the diagnostic and etiological interest of computed tomography and the complications related to Chilaiditi syndrome.

Observation:-

We bring the case of a young 39-year-old male patient, a worker by trade, who was admitted to the radiology department of the medical clinic 'les Etoiles' in Bamako, for carrying out abdominal computed tomography in the context of occlusive syndrome, abdominal pain and acute urinary retention. The patient brings a notion of surgery 3

months ago for acute appendicitis with appendectomy. Abdominal computed tomography performed without and with injection of arterial, portal and late contrast product revealed: the presence of an interposition of distended small bowel loops in the right inter-hepato-diaphragmatic extending into the iliac fossa on the same side evoking the syndrome of chilaiditi (**Figure 1**).

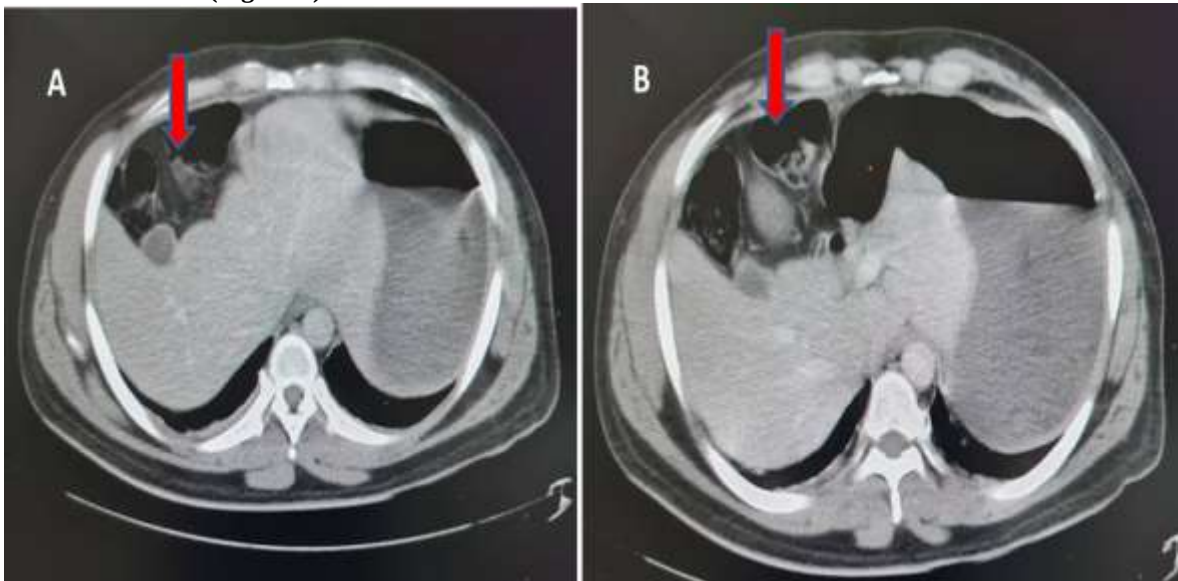


Figure 1:- (A and B) CT in axial reconstruction after injection of contrast medium showing the interposition of the loops in the right inter-hepato-diaphragmatic area.

The dilation of the hazel loops measured 49 mm in diameter, seat of hydro-aeric levels (Figure 2) upstream of a transition zone (stenosing thickening of the walls of the loops with infiltration of mesenteric fat) (Figures 3 and 4) in favor of a small bowel obstruction on flange.

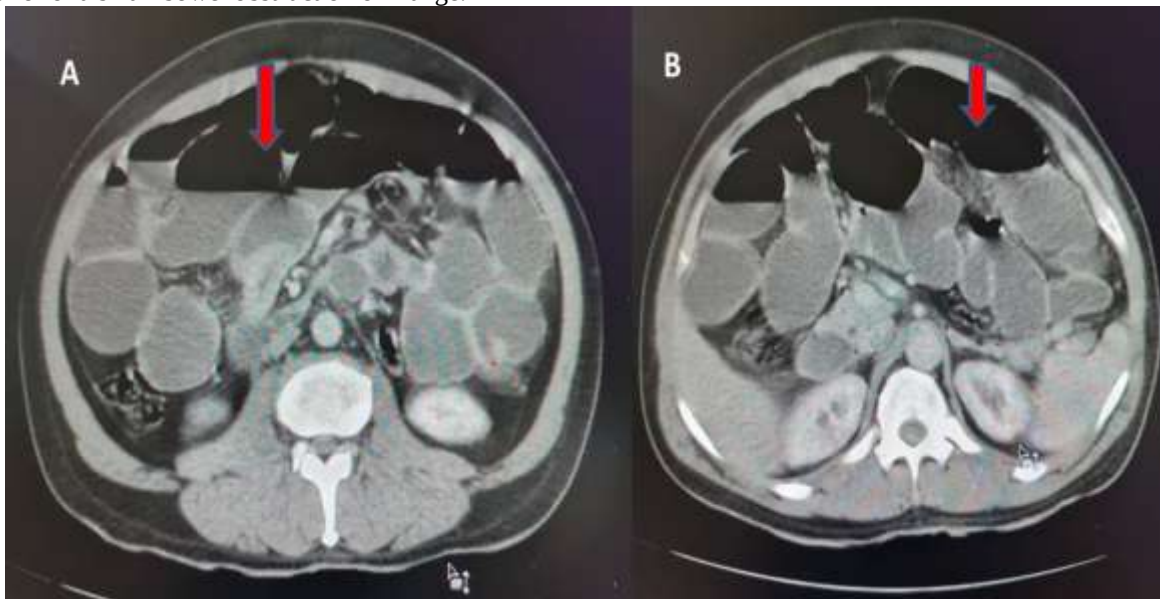


Figure 2:- (A and B) Abdominal CT in axial reconstruction after injection of PDC shows dilation of the small bowel loops located at the hydro-aeric level evoking an intestinal obstruction.

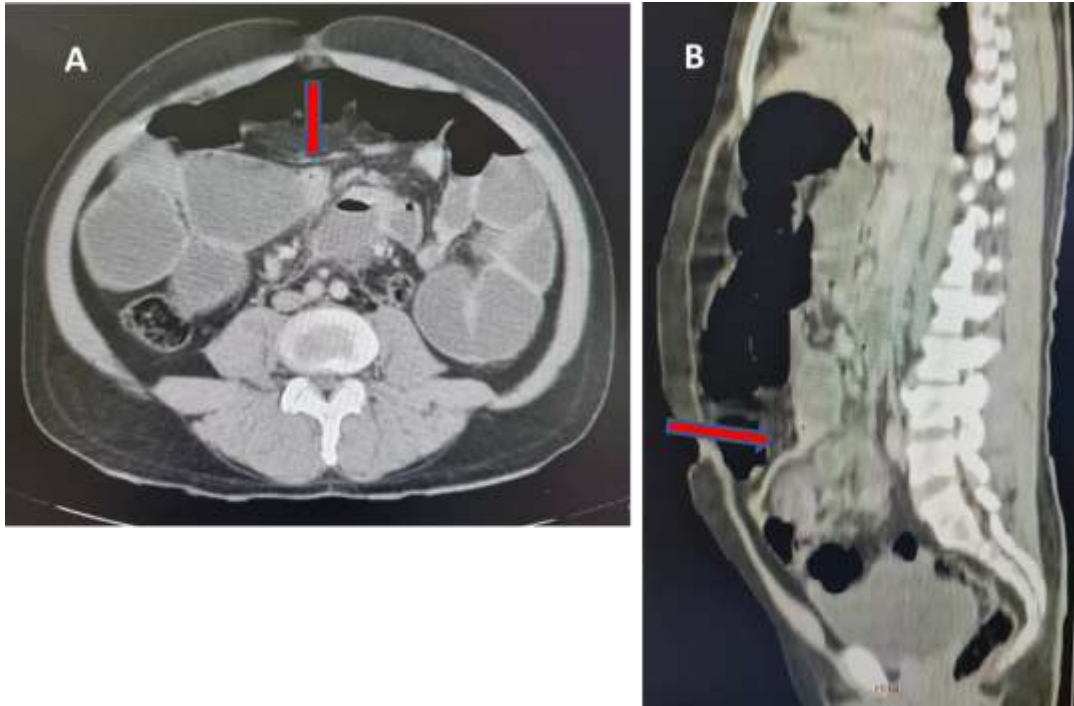


Figure 3:- (A and B) Abdominal CT in axial (A) and sagittal (B) reconstruction after injection of contrast product showing the transition zone upstream of small intestine dilatation.



Figure 4:- Abdominal CT in axial reconstruction showing adhesion with infiltration of mesenteric fat blue arrow.

There was no pneumoperitoneum. We also found a dilation of the right colon measuring 68 mm in anteroposterior diameter up to the transverse colon with a flat aspect of the left colon and the left colonic angle. He had no parietal pneumatosis, no renal bladder abnormality, no prostatic hypertrophy. The liver being pushed down appeared normal homogeneous without focal lesion (Figure 1). No effusion or deep abdominal lymphadenopathy was found either. The other intra-abdominal organs were intact. The presence of bilateral basal bronchopneumopathy was noted on the sections taken at the level of the thorax (Figure 5).

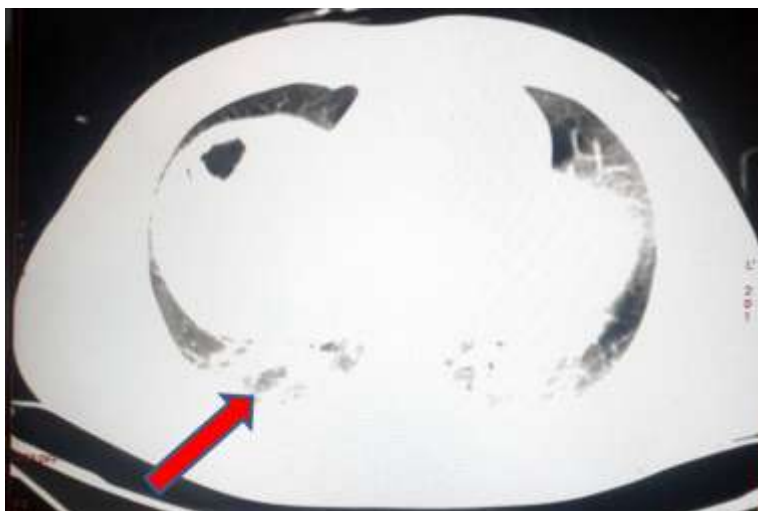


Figure 5:- Foci of bilateral basal lung disease.

A laparotomy was performed on day 2, confirming the chilaiditi syndrome with a tumor of the transverse colon responsible for right colonic and upstream small bowel obstruction, thus promoting incarceration of the distended intestinal loops between the liver and the right diaphragm. Parieto-jejunal adhesions found.

The evolution was favorable with a flexible abdomen and disappearance of abdominal pain and a resumption of correct transit.

Discussion:-

Chilaiditi syndrome is a rare condition affecting more elderly male subjects but much rarer in older subjects and children [8]. We have not encountered many cases in the literature, not least in Mali. Our 39-year-old is a first case in Bamako, Mali. The etiologies are numerous including cirrhosis [9], chronic constipation, increased abdominal pressure (pregnancy) [2], obesity [10], enlargement of the bases of the rib cage due to pneumopathy chronic obstructive tissue with a large space in which colon ingrowth can occur [8]. Our case presented a bilateral basal pneumonopathy which could be its etiology since we had discovered during the exploratory surgery a tumor of the transverse colon responsible for the intestinal obstruction. Numerous risk factors have been identified: hepatic (ascites, abnormality or absence of the falciform ligament), diaphragmatic (diaphragmatic paralysis), colic (abnormality or absence of the suspensory ligaments of the colon, dolichocolon and colonic dilation) other (bed rest, respiratory failure, aerophagia, neuroleptic treatment)[11].

Anatomopathology:

The transverse colon followed by the right colic angle which are the most common segments of the colon interposed between the liver and the diaphragm or the abdominal wall, however the interposition of the small intestine is also reported [2-12]. It was the small intestine that was incarcerated in the right inter-hepato-diaphragmatic in our case, but there was also right colonic dilation and a tumor of the transverse colon.

Clinical:

The association of clinical manifestations linked to this positional anomaly (abdominal pain, vomiting, anorexia and constipation) is called Chilaiditi syndrome [4]. Although many authors have reported that chilaiditi syndrome was asymptomatic [7, 13, 14], in our case we noted abdominal pain, gas and gastric arrest. Several authors have reported similar signs [14, 15, and 16]. We did not note respiratory signs despite the presence of bilateral basal pneumonia.

Imaging:

Chilaiditi syndrome on radiological images requires the presence of the following criteria: the right diaphragmatic hemi-cupola must be elevated above the liver by the intestine, the colon must be distended with air illustrating a pseudo- pneumoperitoneum and the upper margin of the liver should be lowered below the level of the left diaphragmatic hemi-cupola [17]. Conventional X-ray can make the diagnosis but CT remains the best radiological examination of certainty to highlight intestinal incarceration in inter-hepato-diaphragmatic. In our case, an

abdominal X-ray without preparation (ASP) had not been performed. The abdominal CT scan was performed which then confirmed the diagnosis of chilaïditi syndrome, evoked the probable etiology (bilateral basal pneumopathy and/or tumor of the transverse colon) and possible complications (small bowel obstruction). Abdominal ultrasound can be performed to confirm the presence of gas in the hepato-diaphragmatic space [2]. Our patient did not then benefit from ultrasound due to the clinical urgency of an occlusive syndrome. We preferred to go directly to the CT scan, which is recommended to establish a definitive diagnosis in case of doubt on the X-ray and ultrasound [2].

Differential diagnosis:

Right diaphragmatic hernia, pneumoperitoneum and subphrenic abscess that can lead to surgical explorations [18]. Computed tomography of which makes it possible to rectify doubts about Chilaïditi syndrome and to raise possible complications such as occlusion (by volvulus or adhesion) or even ischemic necrosis [11]. Our case had no sign of parietal necrosis.

Treatment:

Treatment of chilaïditi syndrome is often conservative consisting of hydration, decompression, laxatives and observation [2]. Repetitive radiographic checks are necessary. But if the pain persists with development of signs of acute abdomen, the operation is indicated [2, 19]. In Huang's series [17], 25% of patients underwent surgical correction. In our clinical case, the surgical intervention allowed the correction and the discovery of the tumoral process of the right colic angle.

Conclusion:-

Chilaïditi syndrome, although rare in the general population, deserves to be thought about and mentioned in patients with signs of intestinal obstruction syndrome despite the large number of differential diagnoses and contributing factors. Abdominal computed tomography makes it possible to make a reliable diagnosis, to seek its etiologies, its complications and the associated pathologies finally to consider a correct surgical management without surprise.

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