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Surgical Research

Total Situs Inversus with Left Appendix Discovered During an Acute Abdomen in an Adult. A Case Report from the Visceral Surgery Department of Donka Chu Conakry

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ABSTRACT

Introduction: *Total situs inversus (TSI) is a rare congenital anomaly characterized by a complete transposition of all abdominal and thoracic viscera. The aim of our study was to describe a rare case of total situs inversus with the appendix on the left discovered during an acute abdominal event, which we discuss in conjunction with data from the literature.*

Case Report: *a 24-year-old patient was admitted for abdominal pain; vomiting; cessation of stool and gas; and abdominal distension, which had been evolving for a week. The patient's history included bilateral inguinal herniorraphy. Clinical examination revealed a slightly distended abdomen, the site of two bilateral postoperative inguinal scars, soft and painful overall and tympanic. The rectal examination showed an empty rectal ampoule. An abdominal X-ray without preparation revealed hydro-aerial images in the bowel. The patient presented in good general condition with a good color of the skin and conjunctival. TA = 110/70 mmHg; FR = 23 cycles/min, FC = 119 beats/min. The abdominal X-ray without preparation showed images of hydro-aerial small intestines (Figure 1), while the pulmonary X-ray showed dextrocardia. The biological assessment showed a slight disturbance in the ionogram. During surgery, we found a retro-distension of the small bowel loops starting 60 cm from the ileocecal angle where an ileomesenteric band was located, intestinal adhesions and epiplo-parietal adhesions; a sigmoid on the right and a cecum bearing an appendix in the left iliac fossa, with a liver in the left hypochondrium. We performed an appendectomy without burying the stump after sectioning the band and adhesiolysis. The postoperative course was uncomplicated.*

Conclusion: *total situs inversus with the appendix on the left is a rare congenital anomaly, and its association with intestinal obstruction due to bands is also very rare. Preoperative diagnosis requires a high index of suspicion and is facilitated by imaging. Surgery is the appropriate treatment.*

Keywords

Total situs inversus, Obstruction due to bands, Donka Hospital.

Introduction

Situs inversus total (SIT) is an abnormal anatomy of the visceral organs characterized by a transposition of organs or a complete inversion of the thoracic and abdominal organs. In the general

population, the incidence of SIT varies from 1 in 8,000 to 1 in 25,000. The aim of our study is to report a rare case of situs inversus discovered during an acute postoperative intestinal obstruction.

Observation

This involved a 24-year-old patient admitted for abdominal pain; vomiting; cessation of stool and gas; and abdominal distension. Evolving for a week. With a history of bilateral inguinal herniorrhaphy. The general examination: showed the patient to be in good general condition with good coloration of the skin and conjunctiva. Blood pressure = 110/70 mmHg; respiratory rate = 23 cycles/min; heart rate = 119 beats/min. The abdomen was symmetrical, slightly distended, with two bilateral postoperative inguinal scars, soft and painful overall and tympanic ; intestinal peristalsis is audible. The rectal examination showed an emptiness of the rectal ampoule. The plain abdominal X-ray showed hydro-aeric images in the intestine (Figure1).

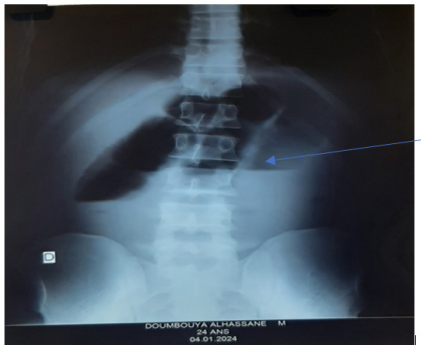

Figure 1: X-ray of the abdomen without preparation Showing Gas-liquid levels Phototheque service of visceral surgery HND.

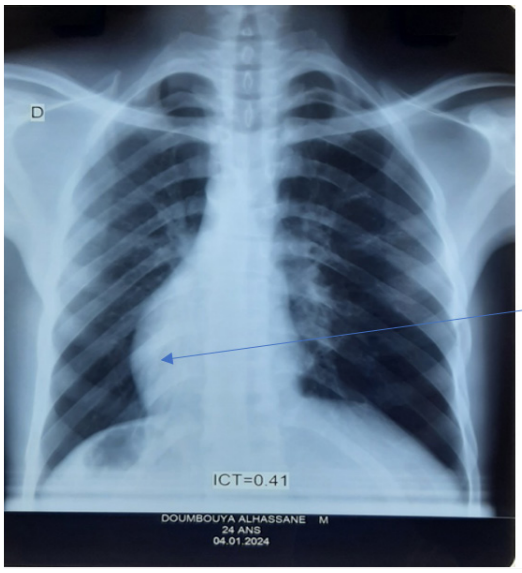

Figure 2: Chest X-ray showing dextrocardia. Phototheque service of visceral surgery HND.

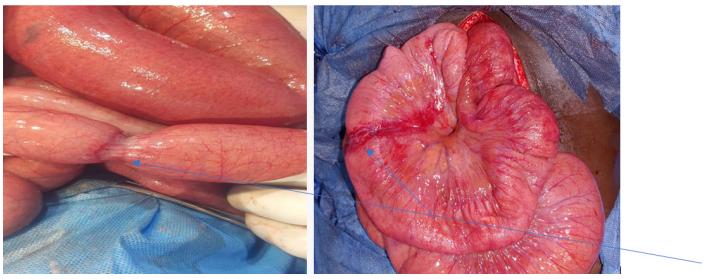

Figure 3: Intraoperative image showing the area of stricture of the intestinal clamp. Visceral surgery service photo library HND.

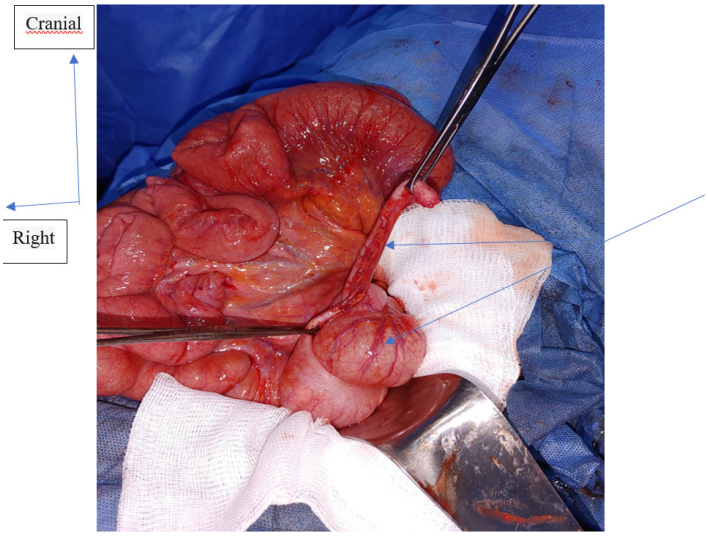

Figure 4: Intraoperative image showing a cecum bearing an appendix on the left.

Photothèque service of visceral surgery HND

The biological assessment showed a slight disturbance in the ionogram. The patient was taken to the operating room after being prepared; during the procedure, we found a retro-distension of the small intestine starting 60 cm from the ileocecal juncture where there was a ileo-mesenteric band, intestinal adhesions, and epiploic-parietal adhesions; a sigmoid on the right and a cecum carrying an appendix in the left iliac fossa, and a liver in the left hypochondrium. The rest of the ileum downstream of the stricture was flattened. We performed adhesiolysis; upon sectioning the band and a supplementary appendectomy without burying the stump. The postoperative recovery was uneventful. The patient, seen again after 6 months, showed no abnormalities.

Discussion

Situs inversus is a rare autosomal congenital malformation characterized by the transposition of abdominal and/or thoracic organs: it can be total (SIT) when the organs of the thoracic and abdominal cavities are transposed or partial when only one of these cavities is affected [1-3]. SIT often occurs with dextrocardia and rarely with levocardia [3] and can be associated with multiple congenital malformations and vascular anomalies [4];

its incidence varies from 0.001% to 0.01% [5]. Situs inversus is clinically suspected in the presence of atypical abdominal pain located in the left iliac fossa with nausea in a febrile context associated with the perception of heart sounds on the right. Hou S.K. et al., reported in their study that one third of patients with AA complain of abdominal pain in an unexpected location [6], due to the different anatomical positions of the appendix [7]. Our case presents an obstructive syndrome with abdominal pain; vomiting; cessation of bowel movements and gas; and abdominal distension. Imaging can be useful for diagnosis, as well as for confirming total situs inversus. The detection of dextrocardia on chest X-ray, of the left liver and the right gastric bubble on abdominal imaging, is of considerable value for establishing the diagnosis of total situs inversus. Abdominal ultrasound can be useful for locating the position of the inflamed appendix (accuracy of 71% to 97%). Computed tomography is superior to other Imaging modalities in diagnosing SIT (accuracy of 90% to 98%) and should be used to prevent any type of diagnostic error; laparoscopy can also be very helpful both for establishing the differential diagnosis and for treatment. Our case was a perioperative discovery during a laparotomy for postoperative acute intestinal obstruction after a suspicion on the chest X-ray focused on the domes which showed a dextrocardia and a pocket air gastric bubble on the right. The abdominal X-ray without preparation showed hydro-aeric images of the bowel.

After establishing the diagnosis, the surgical options are the same as for typical forms. Laparoscopic appendectomy is the standard treatment for SIT with the appendix on the left, although intravenous antibiotics may be considered a first-line treatment for some patients. In our case, we performed adhesiolysis and lysis of bands followed by complementary appendectomy without burying the stump. The postoperative course was straightforward [8-10].

Conclusion

While appendicitis is the most frequently encountered abdominal surgical pathology in emergencies, its atypical presentation in patients with intestinal malrotation poses a diagnostic challenge, especially in our context.

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