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Clinical Reviews & Cases

Incomplete Situs Inversus Associated with Common Mesentery and Splenic Duplicity: About A Case and Literature Review

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ABSTRACT

Situs inversus is a rare congenital malformation characterized by the inverted position of the thoracic and abdominal organs relative to the sagittal plane. It can be complete or incomplete.

We report an incomplete case of situs inversus associated with a common mesentery and splenic duplicity, revealed by acute generalized peritonitis by ileal perforation of typhic origin.

Keywords
Situs inversus, Mesentery, Spleen.

Introduction
Situs inversus is a rare congenital malformation characterized by the inverted position of the thoracic and abdominal organs with respect to the sagittal plane. This malformation is due to abnormalities in the rotation of the heart tube and the primitive intestine during the embryonic period. The situs inversus can be complete or incomplete, or be associated with other malformations [1,2]. We report a case of incomplete situs inversus associated with a common mesentery and splenic duplicity, revealed by generalized acute peritonitis by ileal perforation of typhus origin.

Clinical Case
This was a 20-year-old patient admitted for generalized abdominal pain starting in the umbilical region, evolving for approximately 10 days in a fever context. The patient had no known history. On clinical examination, she presented with an altered general condition and vital constants within normal limits. The abdomen was slightly enlarged, with a syndrome of generalized peritoneal irritation. Plain abdominal X-ray (ASP) showed diffuse grayness. There were no air-fluid levels or pneumoperitoneum. A chest x-ray showed dextrocardia. The biological assessment showed no abnormality. The diagnosis of acute generalized peritonitis by probable ileal perforation of typhoid origin was made and the patient was admitted to the operating room in emergency after preoperative resuscitation for laparotomy.

The performed laparotomy reveals: an ileal perforation of about 2 cm long axis located 25 cm from the ileocecal junction, a gallbladder located in the left hypochondrium and two spleens in the right hypochondrium (Figure 1) and a common mesentery of the small intestine with a colonic anlage which measures approximately 50 cm (Figure 2). A suture excision of the ileal perforation was performed followed by toileting and drainage of the peritoneal cavity.

The postoperative course was complicated by acute renal failure that led to the death of the patient on the 3rd postoperative day.

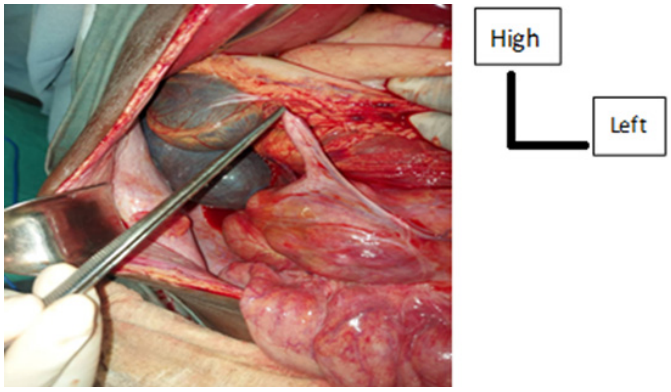

Figure 1: Appendice en fosse iliaque droite sous les deux rates.

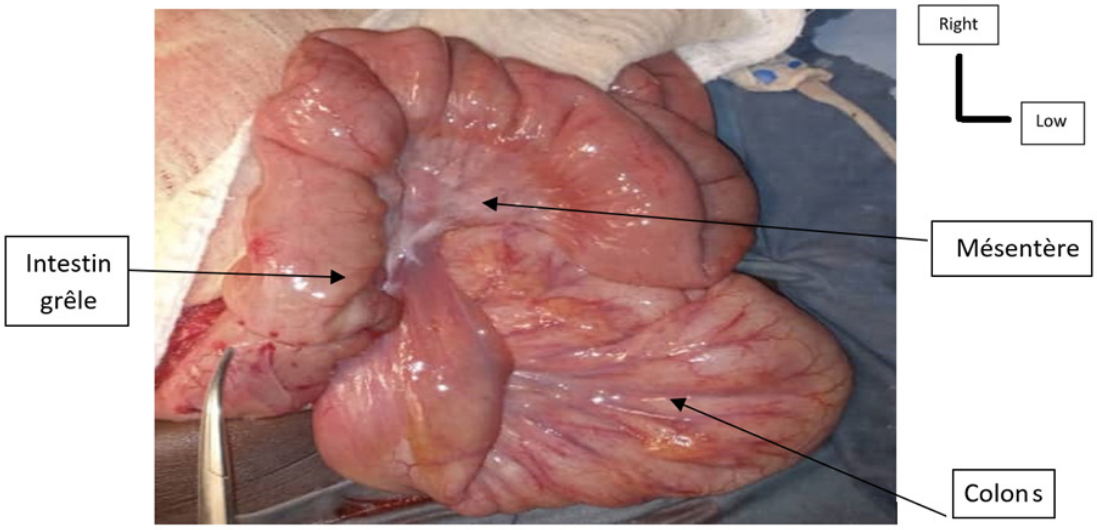

Figure 2: Mésentère commun.

Discussion

Situs inversus is a rare anomaly, the incidence of which is 1/10,000 to 1/20,000 live newborns with a male predominance and a sex ratio of 3/2 [3,4]. A distinction is made between complete situs inversus, where all the organs have a mirror position with respect to normal, and partial situs inversus, where the anomaly affects only certain thoracic or abdominal organs [3,4].

The association situs inversus and common mesentery is rare but is described in the literature [5]. During embryonic development, the intestine undergoes phenomena of reintegration, rotation and joining. When these phenomena are incomplete or absent, they cause malpositions of the digestive tract such as the common mesentery, which can lead to digestive complications. Several entities are described, the complete common mesentery which is a stoppage of the rotation of the intestinal loop at 90° during its formation, it results in the position of all the small loops in the right part of the abdomen , This malposition is not pathogenic and remains asymptomatic [5]. Another possible presentation corresponds to the incomplete common mesentery which corresponds to a stop of the rotation at 180°, the hail being placed on the left of the colon. This situation is at very high risk of small bowel volvulus and intestinal-mesenteric infarction, since only 15% of incomplete common mesenteries remain asymptomatic, unlike the complete common mesentery which does not expose to the risk of volvulus [5].

This anomaly is responsible for diagnostic and therapeutic difficulties, especially surgical ones [4]. At the abdominal level, the situs inversus can involve all the viscera, or only the supra-mesocolic organs and is often associated with other malformations: cardiac, digestive, genito-urinary or others [1,2]. Amadou et al, as well as Prisca Gabrielle et al. [6,7] reporting cases of Kartagener syndrome which is characterized by a clinical triad: sinusitis, bronchiectasis and complete or incomplete situs inversus. The situs inversus is often asymptomatic, the diagnosis is made fortuitously during the export of a pathology. The reason for consultation of our patient was abdominal pain. Elfanagely et al [3] coupled with a similar case of situs inversus revealed by diffuse abdominal pain, Boukoffa et al [8] also report a complete Situs inversus case revealed by an occlusive syndrome.

The discovery is often fortuitous as was the case in our clinical case. Peroperatively, Elfanagely et al [3] report an associated colonic perforation. Fredon et al report a case of ambiguous situs associated with polysplenia, a complete common mesentery and vascular malformations [9].

Preoperative diagnosis requires an abdominopelvic CT scan [8]. Its management remains surgical, with the procedure to be performed depending on the surgical exploration [8].

Conclusion

Situs inversus, that surgical condition in which major viscera and organs apart from the heart are inverted into a mirror position from their normal arrangement is rare. Pre-operative diagnosis is a challenge in an under-equipped environment.

Références

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