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Acute Intestinal Occlusion Associating a Volvulus Jejunum and a Double Ileal Atresia Observed in a Newborn

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Abstract

Background: Neonatal obstruction is a partial or total obstruction of the newborn's digestive tract resulting in an interruption or non-occurrence of intestinal transit. Neonatal obstructions are common and have various causes. We report a case of neonatal obstruction associated with jejunal volvulus with double ileal atresia. **Observation:** This was a seven-day-old female newborn admitted for lack of meconium passage, early bilious vomiting and abdominal distension. She had hyperthermia and signs of dehydration. The thoracoabdominal radiograph showed a significant pneumoperitoneum. We suspected gastrointestinal perforation. During the procedure, we noted that the jejunal volvulus was complicated by necrosis and perforation and was associated with staged ileal atresia. **Conclusion:** Neonatal occlusions are common and their causes are multiple; however, the association of jejunal volvulus with ileal atresia is exceptional.

Keywords

Atresia, Volvulus, Occlusion, Small Bowel, Newborn

1. Introduction

Neonatal occlusion is a frequent pathological entity with variable, often malformative etiologies [1]. These causes can be functional or organic, high or low below the jejunoileal angle [2]. Intestinal atresia, intestinal malrotation and anorectal anomalies are the most frequently found causes [3]. This obstacle leads to an absence or cessation of meconium emission, bilious vomiting and abdominal dis-

tension [4]. Mortality linked to neonatal occlusion is very high in Africa in the order of 20% - 70% of cases [5], while in developed countries, it is 15% [4]. We report an exceptional case of intestinal obstruction combining jejunal volvulus and staged atresia of the ileum in a seven-day-old male newborn.

2. Observation

We received a male neonate 7 days old, for greenish vomiting and no meconium emissions since birth. During the pregnancy, an ultrasound scan revealed hydramnios. There were no intercurrent maternal pathologies, and the TORSH serologies had been carried out and were negative. He was born at 40 weeks' gestation, vaginally in a village, at a birth weight of 2800 g. On admission, he was in poor general condition with a fever at 38˚C and moderate dehydration. The abdomen was bloated, stretched shiny, sensitive end tympanique (**Figure 1**), associated at a dyspnea. There was no rectal bleeding. The standard thoracoabdominal radiograph had shown a large pneumoperitoneum occupying the upper half of the abdomen; the abdominal lower half was occupied by a greyness with no aerocoly (**Figure 2**). After resuscitation, we operated on the newborn. Intraoperatively, we found a greenish peritoneal fluid, a volvulus involving the jejuno-duodenal angle with a double whorl (**Figure 3**). The hail was very dilated and ischemic upstream of the volvulus. The untwisting revealed a large jejunal perforation within an area of enteromesenteric necrosis (**Figure 4**), as well as a double ileal atresia (**Figure 5**). There was no intestinal malrotation. We performed a resection of the areas of atresia and necrosis then triple anastomosis. The evolution was marked by the death of the newborn on the 3rd postoperative day due to multiple organ failure.

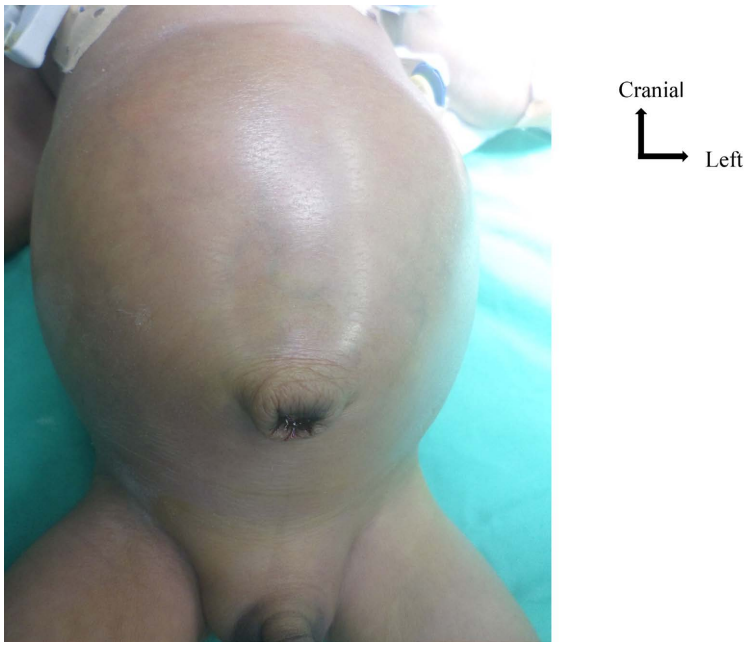

Figure 1. Preoperative clinical appearance showing significant abdominal bloating.

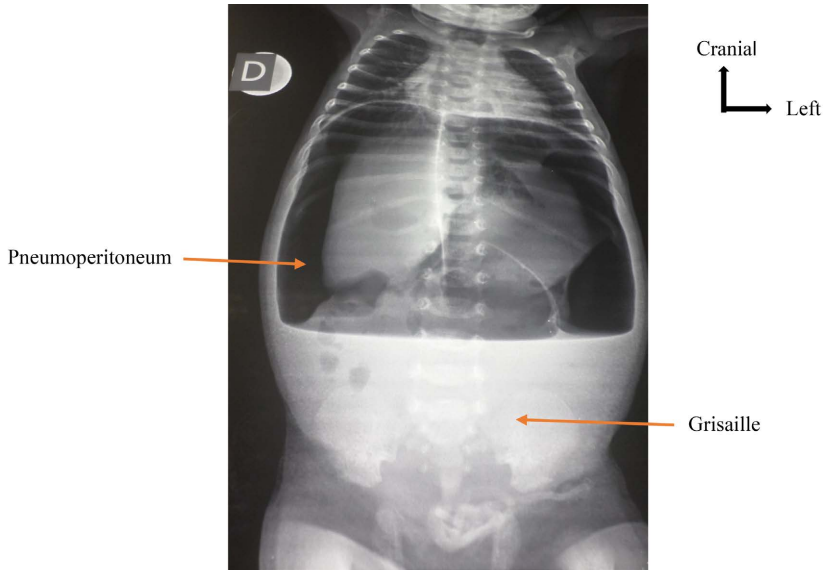

Figure 2. Thoraco-abdominal radiograph showing a large pneumoperitoneum on the upper floor of the abdomen.

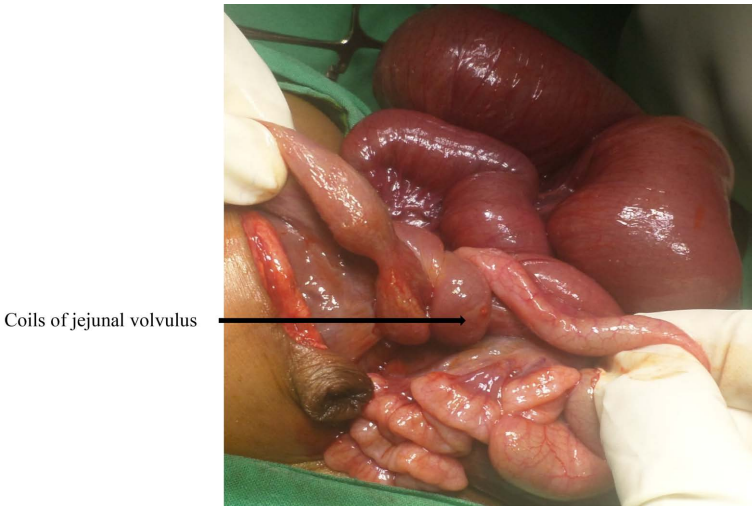

Figure 3. Operative image showing a double volvulus of the jejunum.

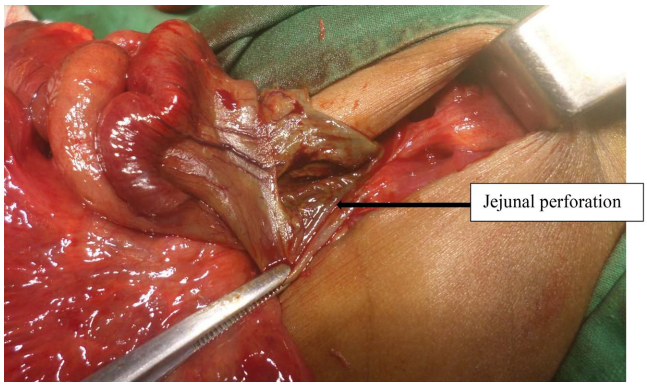

Figure 4. Intraoperative image showing a jejunal perforation within a necrosis area after devolving.

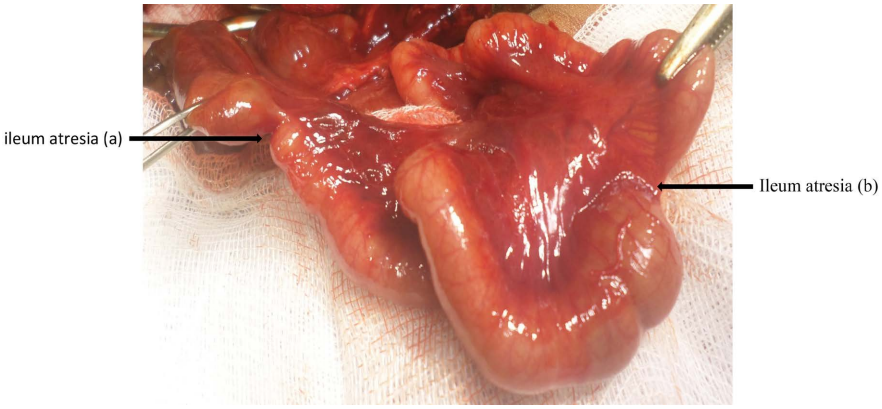

Figure 5. Operative image showing complete double atresia of the ileum at 20 cm (a) and 50 cm (b) from the ileo-caecal valve.

3. Discussion

Neonatal intestinal obstructions are nosological entities of variable causes, most often malformative and include anomalies of the antropyloric region dominated by hypertrophic pyloric stenosis, intestinal atresias, rotation and fixation anomalies, intestinal duplications and anorectal anomalies [6] [7]. The clinical diagnosis of neonatal intestinal obstruction is generally not a problem since it combines three main signs of variable expression depending on the level of the obstacle: food vomiting then bilious with or without free interval, the abdominal meteorism that is not constant and the disorders of emission of meconium [1]. Among, the many causes of neonatal obstruction, we have atresia of the small bowel and volvulus. Atresia can sit at any level of the small intestine, or even be multiple located at different levels [8] [9], which was the case of our patient. At birth, the newborn is all the more bloated than the atresia sits lower on the hail [4]. The volvulus of the small intestine can be secondary to an abnormality of rotation or be primitive on the intestine without malrotation, sometimes with a defect of attachment of the ascending colon as observed in our patient. Primitive neonatal volvulus is a rare entity [6], and an association with ileal atresia is exceptional. The clinical signs of call were greenish vomiting, lack of emission of meconium, the abdomen diffusely meteorized, shiny and sensitive. The standard abdominal X-ray did not point to either diagnosis, possibly due to the important pneumoperitoneum due to bowel perforation. However, in the case of neonatal obstruction, a combination of unprepared abdominal X-ray and ultrasound with or without Doppler is recommended [1] [2]. This would have made it possible to visualise the jejunal volvulus. The primary jejunal volvulus is rare [10] and the association of a staged atresia of the ileum and a volvulus of the jejunum is exceptional. Our patient died, this is explained by the delay in consultation and therefore medical and surgical management, already reported by other authors in developing countries [3]. Whatever the cause, the prognosis for neonatal intestinal obstruction remains very serious, even in developed countries where erratic diagnosis can delay treatment and be fatal [5] [11]-[13].

4. Conclusion

Neonatal intestinal obstructions are a medical and surgical emergency. They are of varying causes and severity. A combination of two causes of occlusion in a patient is rare. Delayed treatment is one of the main causes of morbidity and mortality.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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