A per operative discovery of an extremely rare cause of obstruction in a newborn

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ABSTRACT

Intussusception is an extremely rare cause of intestinal obstruction in neonatal period. We present a case of a 4-day- female newborn who presented with abdominal distension, vomiting and rectal bleeding. The initial diagnosis was intestinal obstruction due to ileocecal volvulus. On exploratory laparotomy, it turned out to be a case of ileo-coecal intussusception without any leading point. In this article, the published work about clinical features and management of intussusceptions in neonatal period has been reviewed. The authors intend to emphasis the difficulties in recognizing neonatal intussusception and differentiate it from other causes of intestinal obstruction. Subtle clinical and radiological features can help avoiding the delay in diagnosis and management and can be life saving. High index of suspicion with timely intervention is the key for optimizing outcome. A diagnosis of intussusception should always be considered in any neonate with suspected intestinal obstruction.

INTRODUCTION

Intussusception is a well-recognized condition in young children, but rarely occurs in the neonatal period. It accounts for only 3% of intestinal obstruction in neonates and only 0.3% (0-2.7%) of all cases of intussusceptions. (1) It is defined as a process in which a segment of bowel invaginates into the adjoining intestinal lumen, causing bowel obstruction.

The authors report the case of a full-term newborn, diagnosed with an acute intestinal intussusception.

CASE REPORT

A 4-day, full-term female newborn was admitted to the NICU of Farhat Hached Hospital for vomiting, abdominal distension and bloody stools. There was no remarkable history with the pregnancy. She was born at 39 Weeks of Gestation, by caesarean section. The Apgar score was 9 and 10, at 1 and 5 minutes respectively. Weight at birth was 3,700 g and the examination was normal. She was breast fed and first meconium was passed before the end of the second day. The mother and her baby were discharged from the hospital two days after birth. On the third day, the baby presented a poor feeding, behavior changes, vomiting and rectal bleeding. On examination, the baby was calm, with a normal neurological examination. BP was 85/35mmhg and HR was 150/min regular. The abdomen was distended and tender on touch. No masses were palpable and there were no hernias. Laboratory tests showed anemia with no sign of inflammation or coagulopathy . A plain abdominal X-ray was performed and showed an important distension in intestinal loops (Fig. 1).

Figure 1 : Abdominal x-ray showing dilated loops of bowel

Abdominal Ultrasonography was performed, but was non contributory due to the interposition of gas. Abdo-

men CT scan showed an intestinal occlusion caused by an ileocecal volvulus (Fig. 2).

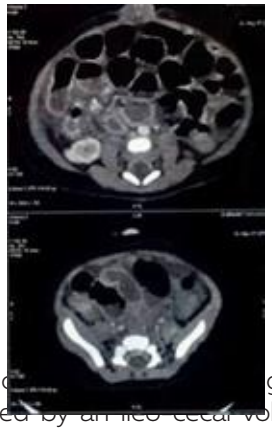
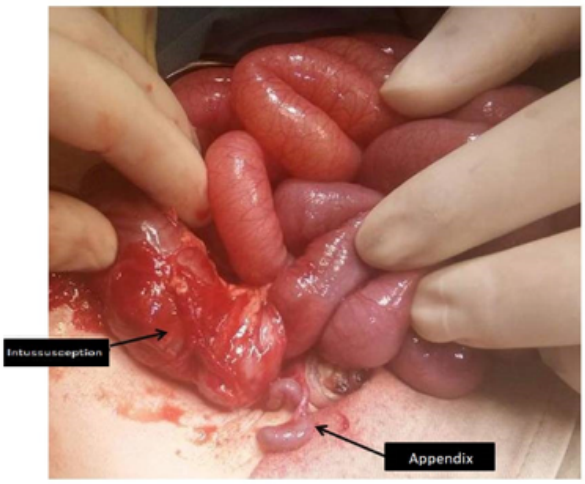


Figure 2 : Abdo g an intestinal occlusion caused by an ileo-cecal volvulus.

An emergency laparotomy was done six hours after admission. The patient was found to have ileocecal Intussusception. (fig3)



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The intussuception was reduced manually with some desquamating lesions in the ascending colon and a small perforation of the caecum measuring 2 mm x 1 cm which was repaired. The postoperative course was uneventful. The patient performed well, tolerating feeds and having bowel movements. Actually, she is followed at the outpatient and remains clinically well.

INTRODUCTION

Intestinal obstruction in neonatal period may be due to intestinal atresia or stenosis, malrotation, meconium-ileus, meconium plug syndrome, anorectal malformations, Hirschprung disease, ileus related to sepsis, and other rare causes [1]

Intussusception is the most common cause of intestinal obstruction at ages between 6–18 months, but is extremely rare in neonates. Its incidence ranges from 0.3% to 2.7% in the first month of life and is the cause of 3% of all neonatal bowel obstructions [2,3,4].

Intussusception in infancy, childhood and full-term neonates occurs most commonly at the level of the ileo-colic junction (80%) [3,5]. The small bowel intussusceptions are found in less than 10% of cases among all age groups. In premature neonates, however, the involvement of small bowel is very common and is mostly observed in ileum and jejunum (91.6%) [3,5].

Diagnosing intussusception in the neonatal age group requires a high index of suspicion and it is often confused with other causes of intestinal obstruction and intestinal distention.

The cardinal infantile symptoms of paroxysmal abdominal cramps, palpable mass, and currant jelly stools are often absent in the neonate. Instead, intussusception in the younger infant may present with non specific signs including abdominal distension, bilious vomiting, and intolerance to feeding, rectal bleeding may also occur, mimicking necrotizing enterocolitis (NEC) [3-4]. Clinically, NEC can be indistinguishable from intussusceptions, but it has a more septic and tenuous course. Abdominal x-ray in neonatal intussusception is generally unremarkable. Features of obstruction like multiple air-fluid levels or dilatation of bowel loops may be seen.This is in contrast to the hallmark of NEC, i.e. pneumatosis with generalized bowel distension. However, only about half the cases of NEC have Pneumatosis intestinalis and/or portal venous gas in the X-ray.(7)

Ultra-sonography (USG) is an important investigation for diagnosing neonatal intussusception.

Sometimes, in neonates, the sigmoid colon lies on the right side along with distended small bowel loops, overlapping the intussusception [8]. This may make the diagnosis of intussusception on USG difficult. This point needs to be kept in mind while dealing with such patients. The etiology of intussusception remains unknown in the majority of cases.

In full term neonates, a lead point is present in approximately 58% of patients [2], such as duplication cyst, hamartoma, Meckel's diverticulum, or mesenchymoma [4]. In premature infants, perinatal risk factors such as hypoperfusion and hypoxia may result in intestinal dysmotility and lead to intussusception [5]. Ueki et al. [6] in his study of 14 neonates conclude that hypoxic events may play a crucial etiologic role in the pathogenesis of late onset neonatal intussusception.

Early and accurate diagnosis of neonatal intussusception is fundamental in the management. Prompt laparotomy following diagnosis is crucial for achieving better outcomes.

CONCLUSION

Acute intussusception is an extremely rare surgical emergency in neonates that can be life-threatening. It is unfortunately difficult to diagnose preoperatively in neonatal period. A diagnosis of intussusception should always be considered in any neonate with suspected intestinal obstruction. Surgical treatment must be performed as early as possible to avoid any complications.

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