Ileal atresia due to intrauterine intussusception caused by Meckel’s diverticulum

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Abstract. Impairment of the vascular supply to a segment of bowel may be one of a number of causes of intestinal atresia. Intrauterine intussusception is an extremely rare cause of intestinal atresia. The factors responsible for this disorder are still obscure. According to our knowledge, no specific leading point has been reported as yet. In some cases a polypoid mass has been found within the post-atretic segment of bowel and has been considered a remnant of intussusceptum. We report a type IIIa ileal atresia due to intrauterine intussusception with a Meckel’s diverticulum within the post-atretic intestinal segment; this is the first case reported in the medical literature so far.

Key words: Intrauterine intussusception – Ileal atresia – Meckel’s diverticulum

Introduction

Intrauterine intussusception is the least frequently reported cause of intestinal atresia [2, 6, 8]. We present a case of ileal atresia due to intrauterine intussusception with a Meckel’s diverticulum as a possible leading point, a phenomenon that to our knowledge has not been reported as yet.

Case report

A 4-day-old, full-term female infant was referred with a history of bilious vomiting and abdominal distension. She had passed a few apparently normal meconium stools. Physical examination was unremarkable except for a markedly distended abdomen. After rectal examination she passed a normal-appearing meconium stool.

An erect radiogram of the abdomen showed several grossly dilated bowel loops, some of which contained air-fluid levels. A barium enema showed the colon normal in caliber. Contrast medium filled the appendix and refluxed a few centimeters into the terminal ileum.

At operation, a type IIIa ileal atresia was found about 20 cm proximal to the ileocecal valve (Fig. 1). A tubular structure 5 cm long that was covered with intestinal mucosa was found projecting into the lumen when the post-atretic segment was opened. This structure was identified as a Meckel’s diverticulum when everted because it arose from the antimesenteric border of the gut and was covered with serosa (Fig. 2). In addition, a remnant of vitelline artery was observed at the its base. Approximately 15 cm of the greatly dilated proximal and 2 cm of the distal segment, including the intussuscepted Meckel’s diverticulum, were resected and a single-layer end-to-end anastomosis was carried out.

Microscopically, no ectopic tissue was seen within the Meckel’s diverticulum (Fig. 3).

Fig. 1. Intraoperative view showing Type IIIa ileal atresia
Twenty days after the operation, an adhesive ileus developed and adhesiolysis was carried out. The postoperative course was uneventful.

The child is now 4 months old and is asymptomatic except for diarrhea from time to time.

**Discussion**

Tandler's theory does not adequately explain all cases of atresia [3, 4]. According to current knowledge, intestinal atresias are caused by mechanical disturbances such as volvulus, congenital bands, and internal herniation of the fetal intestine [5, 7]. A vascular accident due to intrauterine intussusception might cause some ileal atresias, but this occurs less commonly: in only 0.6%-13.1% of the reported cases of intestinal atresia has intussusception been found responsible [8]. Type II or type IIIa ileal atresia has been observed in these patients [1, 2, 5, 8]. In some cases a polypoid mass has been found within the post-atretic segment and has been considered a remnant of intussusception (Fig. 4).

Increased peristalsis due either to intrauterine strangulation, viscid meconium, or other stimuli has been proposed as a cause of intrauterine intussusception by some authors [2, 3, 5], however the etiology is still obscure. No leading point has been reported.

The close relation between the intussusception and the intestinal atresia in our case is demonstrated by the presence of the Meckel's diverticulum within the post-atretic segment. We addition-