Management of Refractory Distal Intestinal Obstruction Syndrome With Ileum Installation of a Hyperosmolar Solution

ABBREVIATIONS DIOS, distal intestinal obstruction syndrome

KEYWORDS cystic fibrosis complications; distal intestinal obstruction syndrome; letter; pediatric; treatment

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We read the detailed and comprehensive review regarding the management of distal intestinal obstruction syndrome with *N*-acetylcysteine (NAC), which was published by Shauble et al.¹ The authors stated that patients who were refractory to medical treatment would eventually require surgical intervention; however, surgery may not always be unavoidable in patients. We describe a 6-month-old boy who presented with irritability and vomiting. Past medical history revealed elevated stool chymotryptic activity in neonatal screening, sweat chloride test above the reference value on 2 separate occasions, and compound heterozygosity in exon 11 c.1521_1523delCTT (rs113993960; p.Phe508del) for cystic fibrosis. Prior to admission, the infant was asymptomatic, of normal height and weight, and with normal stool output for his age. Abdominal sonography did not show retention of stool.

He underwent surgery for suspected acute appendicitis. His postoperative course was uneventful, and oral feedings were successfully instituted. Fecal elastase level was below 15 mcg/g stool, which is consistent with pancreatic insufficiency. Hence, enzyme replacement therapy was started and salt and vitamin supplementation was begun. Three days after discharge, he presented with abdominal distention and failure to pass stool; hence, he was diagnosed with distal intestinal obstruction syndrome.² Administration of oral (4% NAC 60 mL over 1 hour) and rectal NAC (4% NAC and 60 mL enema dose) and polyethylene glycol (4 g/kg over 6 hours) were unsuccessful. A videocolonoscopy examination revealed thick and viscous fecal material in the ileum. NAC (4% NAC 30 mL) and polyethylene glycol (1 g/kg) were installed directly into ileum via colonoscopy. Viscous material was dissolved and the obstruction was relieved. The patient started to pass stool and cleared most of the retained feces within 24 hours. Although patients with distal intestinal obstruction syndrome, who are refractory to conventional treatment, are candidates for surgical intervention,² ileal intubation and installation of hyperosmolar solution may resolve the obstruction.² Although this procedure has been described in adults,^{3,4}

this is the first report of its use in a pediatric patient.

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Ethical Approval and Informed Consent Given the nature of this study, the report was exempt from institution review board/ethics committee review and HIPAA authorization, assent, and parental permission.

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