Abstract:

This article will describe the evaluation, diagnosis, and treatment of emergency department presentations of common pediatric surgical illnesses seen in early childhood. The 3 conditions chosen are acute abdominal pain from intussusception, gastrointestinal bleed from Meckel's diverticulum, and nonbloody emesis from hypertrophic pyloric stenosis. Each of these disease processes is associated with a common presentation of age, signs, and symptoms. Detailed discussions follow each case presentation to summarize the diagnosis and treatment pathway.

Keywords:

intussusception; Meckel's diverticulum; pyloric stenosis; abdominal pain; rectal bleeding; vomiting; pediatric surgery

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Topics in Emergency Pediatric Surgery in the Infant and School-Age Population

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he objective of this article is to describe the initial workup, diagnosis, and treatment of several emergency department (ED) presentations of common pediatric surgical illnesses in early childhood. Individual case reports have been selected to help demonstrate the presentation and elucidate the proper steps in treatment. The 3 illnesses are acute abdominal pain from intussusception, gastrointestinal bleed from Meckel's diverticulum, and nonbloody emesis from hypertrophic pyloric stenosis. Each disease process is associated with a common presentation of age, demographic, signs, and symptoms, which requires an algorithmic approach in the ED to facilitate prompt workup, treatment, and pediatric surgical consultation. Detailed discussions follow each case presentation to summarize the diagnosis and treatment pathway.

CASE 1: ABDOMINAL PAIN

A 4-year-old white boy, recently diagnosed with Henoch-Schonlein purpura, presented to the ED with a 2-day history of cramping, intermittent abdominal pain with associated anorexia, and nonbloody, nonbilious emesis. His mother admitted that the episodes of pain began insidiously, without exacerbating factors, and self resolved within hours after presentation. In addition, he had intermittent diarrhea over the last 2 days with hematochezia



Figure 1. Abdominal ultrasound demonstrating intussusception with intussuscipiens (*) and intussuceptum (+) in long (A) and transverse (B) views.

the morning of presentation, which led his mother to the ED for evaluation. He otherwise had no other medical or surgical history other than mild asthma and had not had any recent travel, sick contacts, or new medications. His social and family medical histories were unremarkable.

On presentation to the ED, the patient had a temperature of 37.0°C, heart rate of 84 beats per minute (BPM), respiratory rate of 19 breaths per minute, blood pressure of 115/59 mm Hg, and an oxygen saturation of 98% on room air. He was in mild distress but alert, with nonlabored respirations and good peripheral perfusion. His abdomen was soft, mildly distended, and tender to palpation diffusely, with a palpable mass in the right lower quadrant with voluntary guarding. His rectal examination was hemoccult positive without gross blood. Because of the high suspicion for intussusception, the patient was sent for immediate ultrasound of the right lower quadrant (Figure 1). A 2.7-cm diameter right lower quadrant intussusception was identified with surrounding free fluid. Upon confirmation of intussusception by ultrasound, the patient subsequently underwent contrast enema for the reduction of a suspected ileocecal intussusception. During the contrast enema, the contrast easily passed through the colon and into the ileocecal valve, where the intussusception was found in the distal terminal ileum (Figure 2). After diagnosis of a small bowel into small bowel intussusception was made, the contrast enema was aborted as it could not be used to reduce this, and discussion was held about the appropriate next step in management. The patient had no clinical signs of perforation or hemodynamic instability, which led to nonoperative management of his small bowel intussusception and treatment of his Henoch-Schonlein purpura as the likely pathologic lead point.

The patient was admitted to the hospital with continuous intravenous fluid resuscitation, bowel rest, serial abdominal examinations, supportive care, and intravenous steroids as directed by the rheumatology service. He improved dramatically over the hospitalization with return of bowel function, tolerating regular diet, and a repeat ultrasound was performed on hospital day 3, which was negative for intussusception. He was subsequently transitioned to an oral steroid taper and discharged on hospital day 6. He was seen as an outpatient 1 week later and was without any further episodes of abdominal pain.



Figure 2. Contrast enema demonstrating patent ileocecal valve (*) and small bowel intussusception (+).

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