

Pediatric Rectal Prolapse

Volume 59 - Issue 6 - June 2019

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Citation:

Gray BW, Molleston JP. Pediatric rectal prolapse. *Consultant*. 2019;59(6):185-187.

A 12-month-old boy presented to a local emergency department (ED) with a 2-hour history of a protruding anal mass that had been incidentally noted when his parents had changed his diaper after a bowel movement. They had found soft stool and no blood in the diaper. The mass was pink and emanating directly from the boy's anal orifice. This was the first such episode. He had been eating well and had had no evidence of pain.

His recent medical history was remarkable for intermittent diarrhea and bloody stools approximately 1.5 months prior to presentation. He had been transitioned to a nondairy diet due to suspected milk protein intolerance, and the symptoms had resolved. He had no recent history of constipation, producing 1 to 2 soft stools daily. His parents also reported a 1-week history of an upper respiratory tract infection with notable coughing.

The patient's past medical history was unremarkable. He had been delivered at full term and had had no subsequent chronic pulmonary or gastrointestinal tract issues. Circumcision had been his only procedure, and he had had no associated abnormal bleeding. There were no familial genetic, neoplastic, pulmonary, or gastrointestinal tract disorders.

At the presenting hospital, the staff attempted to manually reduce the mass twice to no avail. The photographs in **Figure** were taken in the ED at presentation, 3.5 hours after the mass had been initially noted. A pediatric gastroenterologist at the tertiary referral center was consulted, and the decision was made to transfer the patient for further evaluation and management.

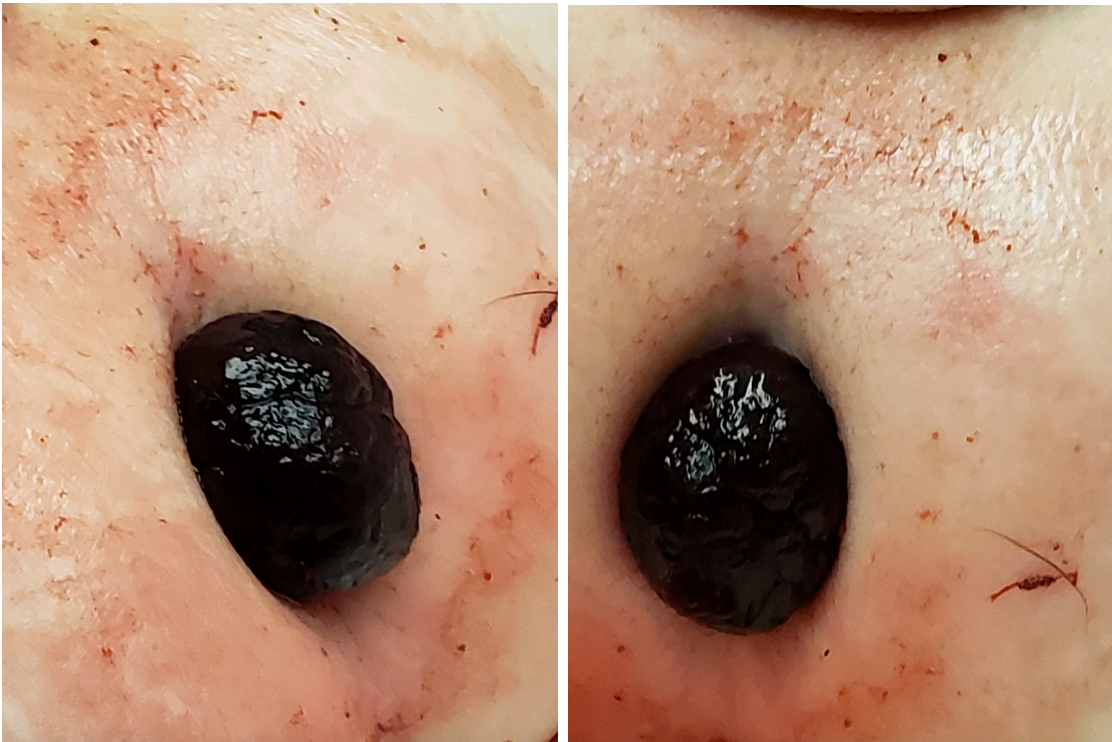


Figure. Lateral (top) and perineal (bottom) view of the anal protrusion.

On arrival at the tertiary center ED, the patient was stable with normal vital signs. No imaging or laboratory tests were obtained. A pediatric surgeon on call was consulted and came to see the patient promptly. On examination, the boy's abdomen was full but soft and nontender. Anal examination revealed a 5-cm dark purple mass protruding from the anus. It was oozing blood but was not ulcerated. The mass was not pedunculated, and the surface was smooth.

The surgeon diagnosed incarcerated rectal prolapse and was able to reduce the mass by applying gentle pressure, first radially inward and then upward toward the body. The bowel was successfully reduced 5.5 hours after the prolapse had been initially noted. On digital rectal examination (DRE), there was good anal sphincter tone, no anal or rectal mass, and minimal blood in the rectal vault. The patient was discharged to home, and the parents were instructed to call with any episodes of recurrent rectal prolapse.

After discharge, the patient was referred to a pediatric gastroenterology clinic for follow-up. He had had a prolapse recurrence 1 day after the ED visit. His parents noted rectal bleeding but were able to reduce the prolapse at home. DRE in clinic revealed persistent blood in the rectal vault. The family was encouraged to use stool softeners to ensure soft stools, and a plan was

made for colonoscopy to assess for a juvenile polyp or other lesion that could serve as a lead point.

Colonoscopy revealed a single 15-mm pedunculated polyp in the rectosigmoid colon. This was removed with a snare and sent for biopsy. The histology results revealed evidence of a juvenile polyp. The prolapse resolved after removal of the polyp.

Discussion. The differential diagnosis for pediatric rectal prolapse is quite broad (**Table**), but in most cases, the condition is benign and idiopathic. The toddler age group is a common age of presentation.

Table. Pediatric Rectal Prolapse Differential Diagnosis	
Patient/Behavioral Factors	<ul style="list-style-type: none"> • Constipation with straining • Malnutrition/anorexia • Behavioral issues with extended toilet time
Infectious	<ul style="list-style-type: none"> • Pulmonary: Pneumonia, pertussis • Colonic: <i>Escherichia coli</i> 0157:H7, <i>Entamoeba histolytica</i>, giardiasis, salmonellosis, shigellosis, <i>Clostridium difficile</i>, parasitic/<i>Trichuris</i>
Genetic	<ul style="list-style-type: none"> • Cystic fibrosis • Ehlers-Danlos syndrome
Neoplastic	<ul style="list-style-type: none"> • Rectal/sigmoid polyps • Rectal malignancy • Anal mass
Neurologic	<ul style="list-style-type: none"> • Myelomeningocele • Imperforate anus with insufficient sphincter function after pull-through
Intrinsic to Bowel	<ul style="list-style-type: none"> • Rectal duplication • Internal hemorrhoids • Ileocolic intussusception

The first step in caring for rectal prolapse is gentle reduction of the prolapsed bowel, which can be attempted by parents or local or ED clinicians; clinician reduction should be followed by DRE. Prolonged prolapse can result in vascular congestion of the prolapsed bowel and incarceration, strangulation, mucosal ulceration, and perforation of the prolapsed bowel in

extreme cases. Thus, if the prolapse has a dark, ischemic, or indurated appearance, reduction is best attempted in experienced hands. Reduction is accomplished applying gentle pressure to the prolapsed bowel, first radially inward and then upward inside the body. If edema is preventing reduction, placing sugar on the prolapsed mucosa can osmotically lessen the edema. This should only be attempted by medical professionals unless parents have been specifically instructed in this practice. The patient may also have to be sedated in the ED or operating room to decrease the abdominal pressure to allow reduction. In rare circumstances, necrotic prolapsed bowel needs to be resected emergently.

After reduction, the workup involves a thorough history and physical examination, including personal and family medical history to evaluate for risk of cystic fibrosis and other genetic causes. Further workup should be focused toward the most likely etiologies on the differential diagnosis, but it can include the following: sweat chloride testing, stool culture/ova/parasites testing, dynamic and static magnetic resonance imaging of the pelvic floor and rectum, video defecography, contrast enema, colonoscopy, and anorectal manometry.

Treatment is usually conservative for a matter of months to allow treatment of constipation, behavioral therapy to reduce toilet time and straining, and improved nutrition. Patients with persistent rectal bleeding should undergo colonoscopy to evaluate for polyps, ulceration, or other etiologies that cannot be treated conservatively. For patients with ongoing prolapse despite conservative management, many surgical options are available, including rectal submucosal sclerosant injection, procedures aimed at manipulating the anal sphincter, perineal pull-through procedures, and intra-abdominal procedures that involve fixating the rectum to the sacrum and/or colonic resection.

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