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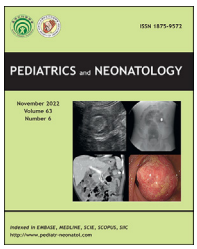


Letter to the Editor

# Endoscopic polypectomy of a large juvenile polyp due to recurrent intussusception in a 3-year-old child with severe anemia

Intussusception is one of the most frequent causes of intestinal obstruction in early childhood, especially within the first 2 years of life. The classic clinical presentations are colicky paroxysmal abdominal pain with vomiting, a palpable abdominal mass, and bloody stool. The most common type, ileocolic, accounts for 85% of cases, and the incidence of pathological leading points (PLPs) in pediatric patients ranges from 1.5 to 12%. The recurrence rate following fluoroscopy-guided air enema reduction is 5.4–15.4%.[1]

We present the case of a 3-year-old boy with dull abdominal pain for two days. However, he did not present with fever, diarrhea, vomiting, episodic irritable crying, or red, currant jelly stool. Abdominal ultrasonography performed in our emergency department showed one target lesion over the left upper quadrant; fluoroscopy-guided air reduction was performed successfully. The complete blood count revealed microcytic anemia (hemoglobin, 5.2 g/dL; MCV, $<$ 50 fL) with a low ferritin level (1.1 ng/mL), a low iron level (5 μg/dL), and a relatively elevated total iron binding capacity (430 μg/dL). The patient had no family history of thalassemia. The patient was discharged after symptomatic relief, with follow-up for the cause of anemia in the outpatient department.

The patient had two episodes of intussusception with bloody stools within the next 10 days. Abdominal ultrasonography revealed similar target lesion in the left upper quadrant (Fig. 1A). Because intussusception over this quadrant is unusual, we referred to the initial X-ray and fluoroscopy. We observed a mass-like lesion in the left upper quadrant and suspected colocolic intussusception (Fig. 1B). Abdominal computed tomography (CT) confirmed colocolic intussusception with a large tumor (Fig. 1C). A colonoscopy was then performed, and a large pedunculated polyp (Fig. 1D), measuring 3.5 cm in diameter, was identified in the descending colon near the splenic flexure. We successfully performed an endoloop-assisted polypectomy. Pathological examination revealed a juvenile polyp. Four months post-treatment, his abdominal pain and bloody stool subsided and hemoglobin and ferritin levels reached 11.8 g/dL and 48.8 ng/mL, respectively.

PLPs are more common in neonates and children over 5 years of age; the most common causes are inverted Meckel's diverticulum and intestinal polyps.[1,2] The incidence of PLPs is 5% for patients with one episode of intussusception, but is elevated to 19% for children with multiple recurrent episodes.[1] Hsu WL et al. (2012) reported that the probability of recurrence was 70% and 100% after the third and fourth episodes of intussusception, respectively.[2] A PLP should be suspected in these recurring cases.

Bloody stool is a common sign of intussusception; however, iron deficiency anemia is not.[1] We should consider the existence of PLPs in this atypical presentation and arrange further studies such as abdominal CT and surgical or endoscopic intervention.

The incidence of colonic polyps as a PLP in intussusception may be less than 8.5%.[3] The colonic juvenile polyp caused lower gastrointestinal bleeding in our patient, resulting in profound iron deficiency anemia. In our literature review, cases of intussusception due to colonic polyps and successful endoscopic resection mostly involved 4- to-10-year-old patients.[4] We report a case of this extremely young patient with a relatively large juvenile polyp (3.5 cm in diameter).

In summary, PLPs should be considered if there are more than three recurrent episodes of intussusception or atypical initial presentations, such as extraordinary age, unusual symptoms/signs, uncommon location of intussusception, or difficulty in air enema reduction. Colonoscopic

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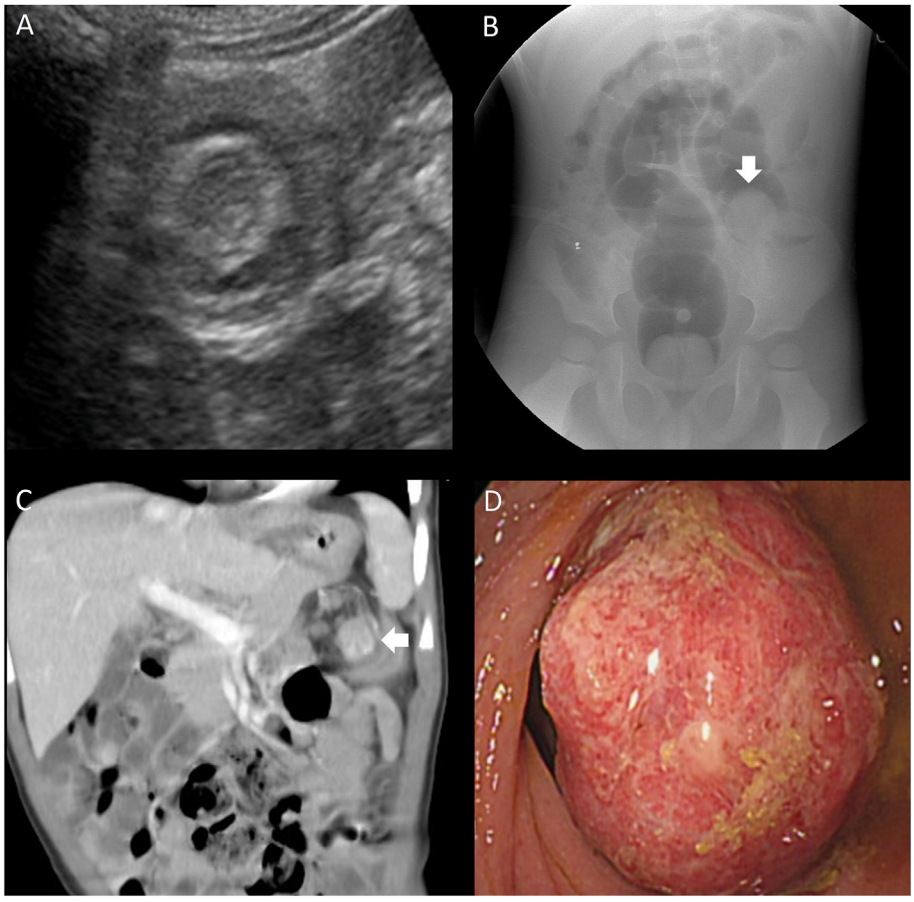


**Figure 1** (A) The ultrasonic examination shows one target lesion in the left upper abdomen, approximately 3.0 cm × 3.0 cm (B) A soft tissue mass is noted in the sigmoid colon due to colocolic intussusception (C) Colocolic intussusception is noted in the splenic flexure with focal thickening of the colonic wall at the site of the intussusception, suspicious of a pathologic lead point (D) A large 3.5-cm pedunculated polyp is located in the descending colon.

polypectomy is a safe, effective, and less invasive treatment for PLPs, such as colonic polyps, in toddlers.

## Declaration of competing interest

No conflict of interest exists in the submission of this manuscript.

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