Case Report

Ulcerative colitis: An uncommon cause of hematochezia in children of preschool age group

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ABSTRACT

Inflammatory bowel disease (IBD) is a perplexing disease characterized by chronic mucosal inflammation. It results from a complex interplay of various factors including genetic and environmental and adaptive immunity of the host. Crohn's disease and ulcerative colitis (UC) are the two broad phenotypes of IBD. The incidence of pediatric IBD seems to be increasing globally. The common age of presentation of pediatric IBD is between 5 and 15 years of age with a mean duration between the onset of symptoms and diagnosis being 96 months. Children usually present with the classic symptoms of weight loss, abdominal pain, and bloody diarrhea. They may sometimes present with non-classic symptoms of poor growth, anemia, or extraintestinal manifestations. We report a case of UC in a 5-year-old child in whom the diagnosis was clinched within 1 month of onset of symptoms.

Key words: Colonoscopy, Hematochezia, Inflammatory bowel disease, Ulcerative colitis

Inflammatory bowel disease (IBD) is characterized by a tendency for chronic or relapsing immune activation. Children and adolescents younger than age 17 years constitute only 10% of the estimated patients with IBD [1]. Pediatric Crohn's disease (CD) is more common than ulcerative colitis (UC). Although true incidence rates are uncertain, UC is diagnosed at a rate of 0.5–4.3/100,000 [2,3]. Patients with UC usually present with bloody diarrhea, abdominal pain, and rectal bleeding, whereas CD patients predominantly present with diarrhea and abdominal pain with increased tendencies to have systemic features such as fever, fatigue, reduced appetite, and weight loss.

Upper and lower gastrointestinal endoscopy along with tissue biopsy for histopathology are crucial in making a prompt diagnosis. The incidence of pediatric IBD varies in different countries, the highest being reported in Western countries, especially in Northern parts of America and Europe [4]. In the case discussed below, timely investigations, especially colonoscopy and biopsy, helped diagnose the condition within 1 month of presentation of symptoms.

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CASE REPORT

A 5-year-old boy presented with complaints of 3–4 episodes of loose stools mixed with fresh blood daily for 1 month. There was also a history of diffuse abdominal pain lasting for 30–60 minutes, 3–4 times a day. There was no history of fever, tenesmus, mass protruding per rectum, swelling of joints, rashes, jaundice, cough, chest pain, redness of eyes, or focal neurological symptoms. History of bilateral knee joint pain was present for the past month. The history was essentially normal. He had been admitted twice in tertiary care hospitals and received courses of antibiotics.

On examination, the patient's vitals were normal and pallor was present. There were no cyanosis, clubbing, lymphadenopathy, pedal edema, signs of vitamin deficiency, rashes, eye congestion, or joint abnormality. Per abdomen and other systemic examination were normal. On per rectal examination, no mass was palpable and there was no rectal tenderness. Fingertip was stained with blood and mucous.

The blood investigations showed a hemoglobin of 5.7 g/dL, a total leukocyte count of 7500/mm^3, differential count as polymorphs – 55%, lymphocytes – 39%, eosinophil – 3%, and monocytes – 3%. The platelet count was 2.6 × 10^9 cells/mm^3 and erythrocyte sedimentation rate (ESR) was 18 mm. Peripheral

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blood picture showed microcytic hypochromic red blood cells with mean corpuscular volume of 65.2 fl and mean corpuscular hemoglobin (MCH) of 17.3 pg. The iron profile showed a serum iron level at 11, transferrin saturation of 3.8% suggestive of iron deficiency anemia. The liver function tests, renal function tests, and international normalized ratio were normal. The stool routine and culture were normal. The level of C-reactive protein (CRP) was 2.3 mg/dL, rheumatic factor (RF) was positive, and antinuclear antibody by IF was negative. Serum immunoglobulin (Ig) A, IgG, and IgM levels were normal. Viral markers for HIV and hepatitis B and C were non-reactive.

Colonoscopy showed loss of normal vascular pattern, edematous, and inflamed mucosa with superficial ulcers extending from anal canal to entire ascending colon with Ulcerative Colitis Endoscopic Index of Severity (UCEIS) score of 5 (V2, U2, and B1) (Fig. 1). Histopathology report of the ascending colon and rectal mucosa showed villous transformation, crypt distortion, crypt disarray, crypt resetting, and budding with inflammation and lymphoid follicle formation suggestive of UC with mild activity.

The patient was diagnosed to have UC with a pediatric ulcerative colitis activity index (PUCAI) score of 30. Sulfasalazine was started orally at a dose of 50 mg/kg/day. As the patient tolerated, it was gradually increased to 70 mg/kg/day in 2 weeks. The patient responded and started to improve symptomatically. The patient was discharged after 2 weeks of therapy. After 3 months of therapy, the patient's PUCAI score reduced to 10.

DISCUSSION

UC affects the rectum and the large intestine with contiguous involvement that can include the entire large intestine. The disease phenotype can be characterized according to the Paris classification, which divides the disease into isolated proctitis, left-sided colitis, extended colitis, and pancolitis [5]. Our case has left-sided colitis. The hallmark symptoms of UC include abdominal cramping, diarrhea, and bloody stools, but physical symptoms vary with the extent, duration, and severity of the disease. Extraintestinal manifestations of UC such as joint pain, ophthalmic conditions, and hepatobiliary disease may occur in some patients. Our patient had extraintestinal symptoms in the form of bilateral knee pain without arthritis and RF was positive. Median (range) time interval from the onset of symptoms to the first diagnosis in patients with UC is 96 months [6].

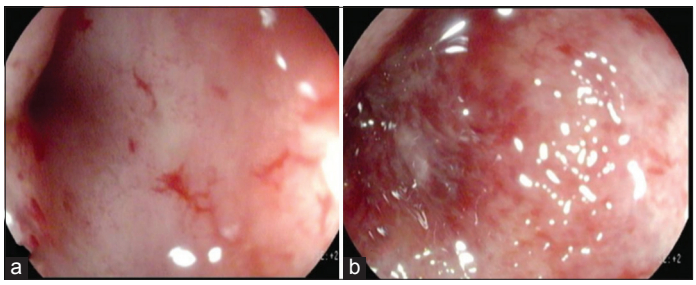

Figure 1: (a and b) Colonoscopy showed loss of normal vascular pattern, edematous, and inflamed mucosa with superficial ulcers extending from the anal canal to the entire ascending colon with Ulcerative Colitis Endoscopic Index of Severity score of 5 (V2, U2, and B1)

The availability of colonoscopy makes it the first-line investigation in the diagnosis of patients with suspected IBD. In our patient, despite normal ESR and CRP, colonoscopy with biopsy helped us in early diagnosis within 1 month of onset of symptoms. The therapeutic goal in UC is to gain clinical and laboratory remission of the disease with minimal adverse effects while permitting the patient to function as normally as possible.

The mainstay of outpatient management is anti-inflammatory therapy with 5-aminosalicylic acid (5-ASA) preparations, such as sulfasalazine and mesalamine [6]. Acute flares of UC in the pediatric population tend to respond well to corticosteroids, but numerous adverse effects prevent long-term use. Our patient responded well to 5-ASA and went into remission with induction therapy. The patient was shifted to maintenance therapy with 5-ASA after 6 weeks of induction and is on regular follow-up for more than 6 months then. Immunomodulatory agents can be a viable treatment option when the patient is steroid dependent or steroid refractory.

Toxic megacolon is the most serious acute complication of UC reported to occur in up to 5% of patients and is considered a medical/surgical emergency. Compromised mucosal integrity may allow bacteria to enter the submucosal tissues, leading to necrosis and peritonitis. Disease duration and pancolitis are well-recognized risk factors for malignancy, with the cancer risk surpassing that of the general population after 10 years [7]. The average time between the start of symptoms and diagnosis of UC in India is 96 months [8]. In our case, we were able to make an early diagnosis within 1 month of onset of symptoms.

CONCLUSION

IBD is an important cause of gastrointestinal pathology in children and adolescents. Pediatric IBD is being increasingly diagnosed from tertiary centers in the South as well as North India. It is important for the clinician to be aware of the presentation of this disease in the pediatric population. Colonoscopy with biopsy is the most valuable procedure in evaluating patients with IBD and should be considered early in the investigative workup.

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