

### A Girl with Ulcerative Colitis in a Tertiary Care Hospital- a Case Report

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#### Abstract

Ulcerative colitis (UC) is a chronic idiopathic inflammatory disorder of colon. We are presenting a case of ulcerative colitis in a 12 yrs old girl who presented with passage of loose bloody stool, low grade intermittent fever, abdominal pain with tenesmus and arthralgia of large joint along with significant wt loss. Diagnosis was confirmed by colonoscopy and biopsy. Treatment was thereafter started with parenteral steroid initially then oral steroid and meselamine. The patient is now on remission and is on regular follow up.

#### Key words

Ulcerative colitis, pediatrics

#### Introduction

Ulcerative colitis (UC) is localized to the colon and spares the upper gastrointestinal (GI) tract. Disease usually begins in the rectum and extends proximally for a variable distance. When it is localized to the rectum, the disease is ulcerative proctitis, whereas disease involving the entire colon is pancolitis.<sup>1</sup> The annual incidence of ulcerative colitis is 10.4 to 12 /100,000 people and prevalence is 35 to 100/100,000 people in USA.<sup>2</sup> Prevalence is lower in Asia.<sup>3</sup> A bimodal distribution has been shown with an early onset at 10-20 yrs of age and a 2nd, smaller peak at 50-80 yrs of age. About 25% of patients present before 20 yrs of age. IBD may begin as early as the 1st yr of life.<sup>1</sup> Though it is seen frequently in Europe and North America but studies have shown that the incidence is more or less same in developed and developing countries.<sup>4</sup> The increased incidence is related to the rapid westernization of lifestyles as well as environmental changes caused by industrialization and urbanization.<sup>4, 5</sup> The first pediatric case was reported in 1923 by Helmholz<sup>6</sup>, thereafter, several other cases have been reported in children.<sup>7-10</sup> UC usually exists in isolation and together with Crohn's disease (CD) and indeterminate colitis (IC) constitutes a

genetically, immunologically and histopathologically heterogeneous group of inflammatory bowel disorders called inflammatory bowel disease (IBD).<sup>11</sup> Very rarely are these diseases diagnosed in the same patient.<sup>12</sup>

There is no available data regarding the incidence & prevalence of UC in Bangladesh. It is rare in children of Bangladesh.<sup>8</sup> Many conditions mimic UC. If any children presents with repeated diarrhea and bloody stool UC could be an important differential diagnosis. The authors would like to share a case of ulcerative colitis.

#### Case summary

A 12 years 3 month old girl was admitted in Pediatrics department of Apollo Hospitals Dhaka with frequent passage of blood mixed stool for last 2 months. The frequency was about 8-10 times per day, associated with low grade intermittent fever. Additional symptoms include anorexia, tenesmus, lower abdominal pain, significant weight loss and pain in large joints (ankle, knee, and wrist). For this she was treated several times by different physicians without any improvement. She had no history of food allergies.

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## CASE REPORT

### Case summary

A 12 years 3 month old girl was admitted in Pediatrics department of Apollo Hospitals Dhaka with frequent passage of blood mixed stool for last 2 months. The frequency was about 8-10 times per day, associated with low grade intermittent fever. Additional symptoms include anorexia, tenesmus, lower abdominal pain, significant weight loss and pain in large joints (ankle, knee, and wrist). For this she was treated several times by different physicians without any improvement. She had no history of food allergies.

On physical examination she looked mildly pale and afebrile. Her heart rate was 102/min, blood pressure (110/80 mmHg) and respiratory rate (24/min) were normal. There was no clubbing, lymphadenopathy and skin lesion. Her height was 153 cm (at 50th centile reference value of CDC), and weight was 28 kg (<3rd centile of reference value of CDC). Abdomen was soft, mild tenderness present in lower abdomen but there was no guarding & no organomegaly. No abnormality was noted in the perianal region and no signs of inflammation in any joints. Other systemic examination revealed no abnormality.

Her investigations showed Hb-9.6 g/dl, white cell count 8.4/cu mm with neutrophilia (74%) and thrombocytosis (615/cu mm). ESR was 69 mm in 1st hr, CRP was high (4.08 mg/dl), mild hypokalaemia (3.1) in S.electrolytes. Her serum albumin was low (1.9 gm/dl). ANA was negative.

Stool microscopy showed numerous pus cells. Blood, stool & urine culture was negative. Abdominal ultrasound revealed normal study. Chest X-ray was also normal. Ileo-colonoscopy showed rectum was normal with edema, erythema, multiple ulcerative punched-out lesions with necrotic and hemorrhagic surface noted throughout the length of the colon in a patchy distribution and biopsy had been taken for histopathology. Colonic biopsy revealed focal surface erosion and focal cryptitis, an increased infiltration of lymphocytes, polymorphs, eosinophils in the lamina propria, degenerative and regenerative changes characterized by nuclear hyperchromatism, stratification and depletion of cytoplasmic mucin of lining epithelium. No definite crypt abscess, granuloma or malignancy was found. The findings were suggestive of ulcerative colitis. So the diagnosis of ulcerative colitis was made. Initially she was treated with injectable ciprofloxacin, metronidazole. After confirmation of diagnosis, Injectable hydrocortisone & Tab. Mesalamine was added. Her symptom of colitis begins to improve after 1 wk of treatment and subsequently she was discharged home on prednisolone and mesalamine. Her bowel movement had improved by the time of her outpatient review 2 weeks later.



**Fig: Image shows colonoscopic findings of ulcerative colitis**

### Discussion

Ulcerative colitis (UC) is a multifactorial disease characterized by remission and relapse. Both genetic and environmental influences as well as abnormality in intestinal mucosal immunoregulation may play role in the pathogenesis of the disease.<sup>1</sup>

The hall mark symptoms are chronicity (>2-3 wks), abdominal cramping, diarrhea and bloody stool.<sup>1,13</sup> Mild disease observed in 50-60% confined to the distal colon only with no systemic manifestation.<sup>13</sup> Moderate disease is observed in 30% of patients with bloody diarrhea, cramps, urgency to defecate and abdominal tenderness. Associated systemic findings such as anorexia, weight loss, low grade fever and mild anemia are present.<sup>13</sup> About 10% patients present with features of severe colitis such as more than six bloody stools per day, fever, weight loss, abdominal tenderness, anemia, leucocytosis, hypoalbuminaemia. Life threatening complications like severe hemorrhage, toxic megacolon, or intestinal perforation may occur in these patients.<sup>13</sup> Similarly our patient had more than six bloody stools per day for two months, fever, weight loss, abdominal tenderness, anemia and hypoalbuminemia. But she did not have any complication. Less than 5% of children with UC present predominantly with extraintestinal manifestations that include pyoderma gangrenosum, sclerosing cholangitis, chronic active hepatitis, and ankylosing spondylitis.<sup>1, 13</sup>

PUCAI (Pediatric ulcerative colitis activity index) is a clinical scoring system may be used to assess disease activity and to determine the necessity to escalate therapy in fulminant colitis. A PUCAI score of >65 indicate severe disease. A score >45 on day 3 identify patients likely to fail corticosteroids and a score >70 points on day 5 identify patients who will require short-term treatment escalation.<sup>14</sup>

Several conditions may mimic UC. These are Crohn's disease, infective colitis, allergic colitis

and immunodeficiency disorder etc.<sup>2</sup> A long list of tests can be done for the diagnosis of UC, but Kim and Ferry identified UC solely by clinical history (gastrointestinal bleeding and abdominal pain) and routine laboratory tests, and diagnosis was confirmed by colonoscopy and biopsy. There is little benefit in adding serological testing for diagnostic purpose.<sup>15</sup>

Our patient had no rectal involvement and there was patchy distribution of lesion in colonoscopy. Though classical findings are involvement of rectum with erythema, edema, and loss of vascular pattern with no discontinuous (skip) lesions.<sup>1</sup> Rectal sparing and patchiness of disease also found in patient with ulcerative colitis which was reported by different other studies.<sup>16-18</sup>

Usually cryptitis, crypt abscess with foci of inflammatory cells are found in histopathology<sup>1</sup> but there was no crypt abscess found in our patient. Similar absence of crypt abscess was discussed by Washington K et al<sup>19</sup> and Shah SN et al.<sup>20</sup>

A medical cure for ulcerative colitis is not available; treatment is aimed at controlling symptoms and reducing the risk of recurrence, with a secondary goal of minimizing steroid exposure. The intensity of treatment is dependent on the severity of the disease.<sup>1</sup> Mild disease can be treated with aminosalicylates (5-ASA) like Sulfasalazine, Mesalamine.<sup>1</sup> Children with moderate to severe pancolitis or colitis should be treated with 5-ASA and corticosteroids (if unresponsive to 5-ASA). Immunomodulators such as azathioprine or 6-mercaptopurine can be used as a steroid sparing agent. Infliximab and cyclosporine are also used in addition to above mentioned drugs in severe or fulminant colitis.<sup>1</sup>

With medical management, most children are in remission within 3 month; however, 5-10% continues to have symptoms unresponsive to treatment beyond 6 month.<sup>1</sup>

## CASE REPORT

Based on the symptoms and signs, colonoscopy and histopathology our patient was labeled as a case of severe UC and was treated accordingly. At a follow up visit 2 weeks later she reported that her diarrhea had improved. There was no visible blood in the stool. She had no fever or abdominal pain. Her lab parameters also became normal. Now, the parents are being persuaded to do follow up colonoscopy, as they are reluctant to do so because the patient is clinically out of symptoms.

Surgical treatment for intractable or fulminant colitis is total colectomy. The major complication of this operation is pouchitis which is seen in 30-40% of patients. It commonly responds to treatment with oral metronidazole or ciprofloxacin.<sup>1</sup> Probiotics may have a more important role in a patient with pouchitis.<sup>13</sup>

Beyond the 1st decade of disease, the risk of development of colon cancer begins to increase rapidly. The risk of colon cancer may be diminished with surveillance colonoscopies beginning after 8-10 yr of disease. Detection of significant dysplasia on biopsy would prompt colectomy.<sup>1</sup>

### Conclusion

UC should be suspected in childhood bloody chronic diarrheal diseases. If proper investigations, appropriate treatment with immunosuppressive therapy, and meticulous follow-up can be done, a normal healthy life is possible in these children.

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