

# Severe Lower Gastrointestinal Bleeding in a Patient with Crohn's Disease: a Case Report and the Review of Literature

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**Abstract-** Crohn's disease (CD) is rarely presented with lower GI bleeding (LGIB) which eludes the clinician. A 25-year-old lady with severe rectorrhagia was presented with no history of constipation, diarrhea or abdominal pain. Colonoscopy revealed ulcers in the rectum, sigmoid colon, and terminal ileum. Crohn's pathologic features were detected in the terminal ileum. The bleeding was controlled via supportive care and IV corticosteroid. Recurrent LGIB was managed by prednisolone and azathioprine. The patient had an uneventful recovery. The clinicians should consider CD as a possible diagnosis in severe LGIB. Prednisolone and azathioprine efficiently control acute bleeding episodes and prevent the recurrence.

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## Introduction

Crohn's disease (CD) is a disease of unknown origin which is characterized by transmural inflammation of gastrointestinal (GI) tract. Abdominal pain, altered bowel habits, fatigue, weight loss, and fever are mostly anticipated as the onset signs of a CD case (1). Severe LGIB is a rare incident with a high recurrence rate in CD patients which demands a comprehensive diagnostic assessment (2-6). Most of CD cases complicated by severe LGIB would eventually need invasive emergency interventions like colon resection (6). Here, we report a case of CD presenting with severe LGIB as the sole manifestation of the disease.

## Case Report

We describe a 25-year-old lady referred to ER with severe rectorrhagia and history of intermittent episodes of bleeding in the past seven months which eventually mounted to 100 mL per bowel habit. No history of constipation, diarrhea, abdominal pain or weight loss was noted.

In the colonoscopy, an 8 mm ulcer with active bleeding was detected in the rectum 7cm proximal to the anal verge which was controlled by hemoclip (Figures 1 and 2, see Video, Supplemental Digital Content 1, which

demonstrates the application of hemoclip on the bleeding site). After 10 hours, severe rectorrhagia recurred and resulted in hemodynamic shock. The patient was resuscitated and underwent rigid rectosigmoidoscopy which detected a second ulcer in the sigmoid colon. After 6 hours, another episode of severe rectorrhagia occurred. Ileal intubation was performed to control the bleeding. Diffuse nodularity and two suspected ulcer lesions were observed in the terminal ileum. The patient received 6 units of packed RBC and IV steroids (hydrocortisone 400mg/d for five days). The bleeding was completely controlled and the hemodynamics gradually ameliorated. The steroid was continued afterward as oral prednisolone (45 mg/d) with a tapering protocol. The colonoscopy was repeated in a week time. Pathologic assessment of biopsies revealed no abnormal lesions except for mucosal prolapsed syndrome. Abdominopelvic CT scan was normal.

We tapered off prednisolone during a period of four months. Meanwhile, episodes of mild to moderate rectorrhagia recurred which were accompanied by abdominal pain located in the right lower quadrant. The third colonoscopy revealed two white-based ulcers in the terminal ileum. The pathologic features were suggestive of Crohn's disease with moderate to severe mononuclear infiltrates and crypt distortion. Azathioprine was started at a dose of 100 mg daily. In a follow-up period of 14

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months, the patient experienced an uneventful recovery.



**Figure 1.** A spurting bleeding of the rectal ulcer



**Figure 2.** Hemostasis is achieved by clipping the vessel

## Discussion

There are limited reports of acute life-threatening LGIB in CD patients. LGIB has been introduced as an uncommon incidence in the course of CD (6,7). In current reports, severe LGIB has been defined as the occurrence of episodes of rectal bleeding leading to an abrupt fall in hemoglobin levels to below 9 g/dl (8) or at least 2 g/dL below the baseline (9), and/or transfusion of  $\geq 2$  units of blood within 24 h (6). Our patient was uniquely presented with acute severe LGIB leading to hemodynamic instability without any noteworthy past medical features other than intermittent episodes of rectorrhagia. Severe bleeding is a rare but challenging complication of CD with a high risk of recurrence (10). It is usually difficult to localize the source of bleeding in CD due to the presence of numerous lesions in the colon or small bowel and restricted utilization of capsule endoscopy (6,9,11). Kim *et al.*, have suggested that small bowel is a more common source of the initial episode of bleeding in CD cases (10). However, in our studied patient, main sources of bleeding were rectum, sigmoid colon and terminal ileum and the initial lesions were detected in the rectum. Colonoscopy and rigid rectosigmoidoscopy could successfully locate all

bleeding lesions in the ER setting. However, some studies have questioned the sensitivity of colonoscopy in localizing of bleeding, especially in the initial episodes of hemorrhage (7,10). It appears that with an even timing and selection of patients with ongoing hemorrhage, colonoscopy is helpful in the diagnosis of CD patients with LGIB (10).

Overall, more conservative therapeutic approach to hemorrhage in CD is agreed due to the natural propensity of bleeding recurrence (6). Emergency treatments in the first episode of severe bleeding consist of blood transfusion and supportive care (6). Medical treatments including anti-TNF agents (such as infliximab) are the next suggested step (12). Intriguingly, our patient responded dramatically to the combination of corticosteroids and azathioprine treatment.

Studies have underlined the negative association between the azathioprine/6-mercaptopurine administration and the incidence of severe bleeding (10). The ameliorative impact of azathioprine may be due to the protective effect on the damaged mucosal layer (13,14). Rebleeding has been mentioned as a common event after first and second episodes of hemorrhage (10,15). In CD patients with a colonic source of hemorrhage the frequency of rebleeding episodes are higher (6). The long-term efficiency of endoscopy and radiological embolization in the prevention of rebleeding episodes is questionable (10,12). The observed outcome of azathioprine administration further stresses the role of normal mucosal integrity in the prevention of rebleeding in CD.

In conclusion, we presented a rare case of CD which was presented with severe LGIB. After resuscitation, colonoscopy was used to locate bleeding lesions. Treatment protocol including corticosteroids and azathioprine led to the uneventful recovery of the patient.

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