

Toxic megacolon complicating a first course of Crohn's disease: about two cases

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Abstract

Toxic megacolon is a rare and serious complication of Crohn's disease. Because of the associated high morbidity and mortality, early recognition and management of toxic megacolon is important. Through two cases of toxic megacolon complicating Crohn's disease, we assessed the clinical, radiologic and therapeutic characteristics of this complication.

A 35-year-old man presented a first course of Crohn's disease treated with corticosteroid. He exhibited sudden severe abdominal pain and distension with shock. A plain abdominal radiography revealed toxic megacolon. He underwent medical therapy, but symptoms not relieved. The patient underwent subtotal colectomy with ileostomy. The resected specimen confirmed the diagnosis. Recovery of digestive continuity was performed. Endoscopic evaluation six months later did not shown recurrence. A 57-year-old man presented with severe acute colitis inaugurating Crohn's disease, was treated with corticosteroid and antibiotics. He exhibited signs of general peritonitis. Computed tomographic examination revealed toxic megacolon with free perforation, showing prominent dilation of the transverse colon and linear pneumatosis. The patient underwent emergent subtotal colectomy and ileostomy. The final histological patterns were consisting with diagnosis of Crohn's disease associated with cytomegalovirus infection. The patient underwent antiviral therapy during 15 days. Because of the high risk of postoperative recurrence, he underwent immunosuppressive therapy. Recovery of digestive continuity was performed successfully. Toxic megacolon in Crohn's disease is a serious turning of this disease. We underscore the importance of early diagnosis of toxic megacolon and rapid surgical intervention if improvement is not observed on medical therapy.

Introduction

Toxic megacolon (TM) is an infrequent but a potentially life-threatening complication of many colitis.¹ Primarily associated with inflammatory bowel disease (IBD), TM is also a documented complication of severe infectious, ischemic and metabolic affections of the colon.² The incidence of TM in Crohn's colitis ranges from 1% to 5%.³ TM is characterized by total or segmental non-obstructive colonic distension of at least 6 cm, associated with systemic toxicity.⁴ The diagnosis of TM is based on criteria proposed by Jalan *et al.*⁵ Because of the associated high morbidity and mortality, early recognition and management of TM is of paramount importance. Through two cases of TM complicating Crohn's disease (CD), we assessed the clinical, radiologic and therapeutic characteristics of this complication.

Case Reports

Case Report 1

A 35-year-old man with history of diabetes, presented with bloody diarrhea. Colonoscopy has demonstrated typical findings of Crohn's colitis with severe inflammation. He underwent glucocorticoid therapy, and on the 20th day of treatment, he exhibited sudden severe abdominal pain and distension. On physical examination, the patient had tachycardia of 125 beats per min, fever to 38.3°C, hypotension, and his abdomen was diffusely tender. A plain abdominal radiography revealed TM, showing prominent dilatation of the transverse colon (Figure 1). Computed tomographic (CT) examination excluded perforation. Intravenous corticosteroids and broad-spectrum antibiotics during 72 h not relieved symptoms. The patient underwent subtotal colectomy with ileostomy. The resected specimen confirmed diagnosis of CD. The postoperative course was uneventful. Recovery of digestive continuity was performed. Endoscopic evaluation six months later did not shown recurrence (Rutgeerts score i-0).⁶ There was no indication to postoperative medical therapy to maintain remission. The evolution was uneventful at 2 years follow-up.

Case Report 2

A 57-year-old man, with no past medical history, presented with bloody diarrhea and fever to 39°C. Colonoscopy showed findings of severe acute colitis. Biopsy specimen revealed severe Crohn's colitis. The patient underwent intravenous corticosteroid therapy and antibiotics. Seven days later, he presented abdominal pain and distension. On physical examination, the

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patient had pulse rate of 123 beats per min, hypotension, abdominal distension and tenderness with signs of general peritonitis. Laboratory findings revealed hyperleucocytosis (18,200/mm³), C-reactive protein 296 mg/L. A plain abdominal radiography showed dilatation of the transverse colon and linear pneumatosis. CT examination revealed TM with free perforation, showing prominent dilation of the transverse colon and linear pneumatosis pararelling the bowel wall (Figure 2). The patient underwent emergent subtotal colectomy and ileostomy. The final histological patterns were consisting with the diagnosis of CD associated with the presence of cytomegalovirus (CMV) inclusions. The patient underwent antiviral therapy (ganciclovir 10 mg/kg/day) during 15 days. Because of the high risk of postoperative recurrence, the patient underwent immunosuppressive therapy (azathioprine 2.5 mg/kg/day). Recovery of digestive continuity was performed with no recurrence at 8 months follow-up.

Discussion

TM is a rare and lethal complication of CD. TM affects male and female patients of all ages.⁴ The incidence of TM in crohn's disease ranges from 1% to 5%.³

TM is more likely to complicate pancolitis than segmental disease.⁷ It occurs early in the course of CD and may be the initial disease in 20% of cases.⁵ In accordance with our two patients who had no history of previous colitis. Predisposing factors are sometimes identified.⁴ CMV infection may trigger toxic megalon in patients with IBD. As shown in our second case, CMV infection may be responsible for an increased morbidity and mortality rate in patients with severe IBD. The most widely used

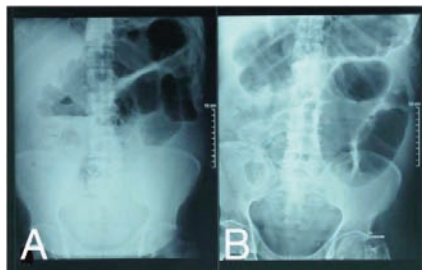


Figure 1. A plain abdominal radiography showing prominent dilatation of the transverse colon (A: standing; B: supine).

criteria for the clinical diagnosis of TM, proposed by Jalan *et al.*,⁵ were radiographic evidence of colonic distension, at least three of the following: fever $>38^{\circ}\text{C}$, heart rate $>120/\text{min}$, neutrophilic leucocytosis $>10.5 \times 10^9/\text{L}$, anaemia. In addition, to the above, at least one of the following symptoms: dehydration, altered consciousness, electrolyte disturbances, hypotension.

Plain abdominal radiography is crucial for the diagnosis as well as for the day-to-day monitoring of patients with TM.^{4,7} The transverse or right colon is usually the most dilated colonic segment, frequently more than 6 cm and sometimes up to 15 cm on supine films,⁴ as with our two cases. Early detection of TM is of clinical importance, mainly because surgery is mandatory in 50% of patients with severe acute colitis.⁷

The initial treatment of TM in patients with CD should be medical, including intravenous

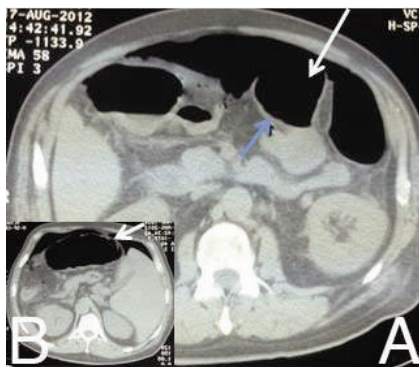


Figure 2. Important dilatation of the transverse colon (white arrow) and a thin bowel wall (blue arrow) (A). Linear pneumatosis against the bowel wall (white arrow) (B).

corticosteroids and broad-spectrum antibiotics. Subtotal colectomy is recommended when distension persists or if improvement is not observed on maximal medical therapy after 24-72 h.⁴ Early surgery in patients without evidence of perforation results in lower mortality (2-8%) than colectomy done after colic perforation has occurred (40%).⁴

Conclusions

TM in Crohn's disease is a serious turning of this disease. We underscore the importance of early diagnosis of TM and rapid surgical intervention if improvement is not observed on medical therapy.

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