

Synchronous Perforation of Transverse and Sigmoid Colon due to Ulcerative Colitis: A Rare Case Report

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Abstract

Acute severe ulcerative colitis is a potentially life-threatening condition that requires a pro-active approach with either effective medical treatment or timely colectomy. The possibility of free perforation in ulcerative colitis must be considered in fulminating cases. This report describes a 39-year-old female with known ulcerative colitis on maintenance medical therapy. She was admitted for peritonitis, and intraoperative findings revealed a synchronous colonic perforation. After multidisciplinary discussion she was managed with total colectomy and end ileostomy.

Keywords: Colonic perforation; Ulcerative colitis; End ileostomy

Introduction

Inflammatory bowel disease (IBD) encompasses Crohn's disease (CD) and Ulcerative Colitis (UC). These autoimmune conditions involve mucosal inflammation of the entire gastrointestinal tract in CD and the colon and rectum in UC [1]. While primary management of IBD is medical, surgical indications are generally reserved for toxic colitis, perforation, bleeding, strictures, neoplasms, and failure of medical management.

Perforation of the colon is the most dangerous local complication of the disease. The colon does not form adhesions in ulcerative colitis and the consequence is that, if perforation does occur, it usually results in a generalized faecal peritonitis which is extremely dangerous. Although there are sometimes the classical signs of a perforation, the condition may produce few local signs and the only indication that some disaster has occurred is a marked deterioration in the general condition of the patient.

Toxic dilatation of the colon is one of these rare complications and it is well recognized that if it is not effectively treated it may go on to perforation [2]. Perforation in association with UC is even less common than toxic dilatation and although the two conditions may be associated, perforation in UC may occur without dilatation [3]. Here, we report a 39-year-old female with known ulcerative colitis on maintenance medical therapy. Workup revealed a synchronous colonic perforation. After multidisciplinary discussion she was managed with total colectomy and end ileostomy.

Case Report

A 39-year-old woman was admitted to the Emergency Department with complaints of abdominal pain, nausea and vomiting for 2 days. The pain was constant and located primarily in the periumbilical area, and then became generalized. She had been under medical treatment for ulcerative colitis (UC) for 15 years, but had continued to have symptoms of anaemia and bloody diarrhea. Bouts of diarrhea were occurring up to 10 times a day with blood apparent in the feces. She was diagnosed with UC via symptoms and colonoscopic evidence of disease. Her medical history included diabetes mellitus and epilepsy.

On physical examination, her blood pressure was 110/60 mmHg, pulse rate 104 beats/minute, body temperature 38.4°. Lung and heart sounds were normal but heart rhythm was tachycardia. The abdomen was distended and tenderness was noted to direct and rebound palpation with guarding in all quadrants.

The laboratory findings revealed; sodium of 142 mmol/L; potassium of 3.1 mmol/L, white blood cell count (WBC) 18.7×10³/μL, Hemoglobin (Hb) 9.2 g/dL and Platelets (Plt) 372×10³/μL. In liver chemistry, aspartate aminotransferase (AST) was increased to 71 IU/L, alanine aminotransferase (ALT) 56 IU/L, Gamma Glutamyl Transpeptidase (GGT) 115 IU/L, and Alkaline phosphatase (ALP) 74 IU/L. Plain X-ray of abdomen revealed dilatation of transverse colon about 10 cm. An erect chest X-ray revealed gas under diaphragm (Figure 1).

Immediate fluid resuscitation and intravenous antibiotics were initiated. Upon admission, the patient was placed on ciprofloxacin and metronidazole. Hydrocortisone IV was initiated since the patient had a history of chronic prednisolone use and was given nothing-by-mouth. The patient underwent surgery after the diagnosis of peritonitis due to perforated viscera was made. Exploratory laparotomy revealed synchronous perforation of the sigmoid and hepatic flexure. After an effective abdominal washout, total colectomy was performed (Figure 2), followed by ileostomy. The rectal stump was left in place and oversewn. She was placed on enoxaparin 40 mg SQ every 12 hours for deep vein thrombosis prophylaxis.

On hospital day #2, patient was significantly improved with softened abdomen, improved leukocytosis, and increased urine output. On hospital day #3, the patient continued to improve with decreased abdominal distention and pain in addition to passing flatus per stoma. Oral diet was given 24 hours after removing the nasogastric tube on the third postoperative day. On the fifth day of her hospitalization, the patient was discharged in good condition on oral steroids and 5-ASA with a plan to perform ileorectal anastomosis 6 weeks later.

Discussion

The goal in treating any IBD flare is to induce remission of the acute flare, and design appropriate maintenance therapy to improve quality

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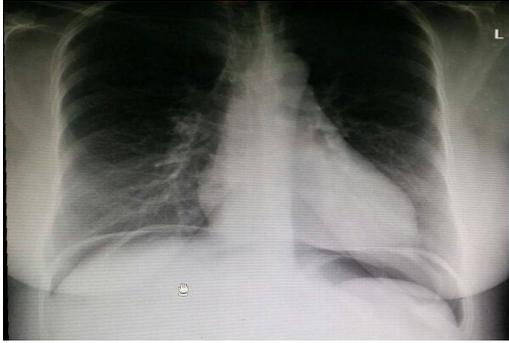


Figure 1: An Erect Chest X-ray Revealed Gas under Diaphragm.



Figure 2: Shows Specimen of Colon which was removed.

of life. Surgical intervention in ulcerative colitis is typically reserved for failure of medical therapy, acute change such as toxic colitis, perforation, bleeding, or the development of strictures or neoplasm [4].

Wilks and Moxon, in their description of ulcerative colitis, realized the danger of perforation, mentioning the cecum and rectum as possible sites where this was likely to occur [5]. It is now widely accepted that intraperitoneal perforation of the colon is the most lethal local complication of acute ulcerative colitis. Previous series in which the site of perforation is stated suggested that the commonest site is in the sigmoid colon [6-10]. Most of these series described solitary perforation. Presence of synchronous perforation, as in our case, is very rare.

The diagnosis of perforation in ulcerative colitis may be difficult to make. In the series of Edwards and Truelove, the presence of perforation was not recognized until autopsy in 10 of their 20 patients [11,12], and in the series of Dombal et al., there had been no preoperative clinical evidence of perforation in 5 of 11 patients who underwent emergency operation for sudden deterioration in their clinical condition [13]. In our case, high suspicion and presence of classical signs of peritonitis made the diagnosis not difficult.

Perforation of the colon may be preceded by dilatation of the colon although often perforation occurs without any such premonitory manifestation. In our case, the patient developed perforation in association with severe dilatation of the colon. Previous studies revealed high rate of mortality (50-80%) which related to comparatively longer patient histories of colitis, longer current attacks, slightly greater delays between presumed perforation and operation, and much higher transfusion requirements [14,15]. In our case, early diagnosis and intervention prevented those complications. In summary, we successfully managed a case of complicated UC via total colectomy and end ileostomy.

Conclusion

The possibility of free perforation in ulcerative colitis must be considered in fulminating cases. Careful clinical monitoring and early surgical intervention are crucial for quick, uneventful recovery.

Conflict of interests

Authors have no conflict of interests to disclose.

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