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Short communication

Implications of abnormal pathology in fulminating colitis on the outcome of surgery

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Abstract

Background: The severe relapse of the diseases in patients with Crohn's disease or ulcerative colitis is associated with high morbidity and mortality. Early prediction for the failure of aggressive medical treatment and consequently, early surgical interference in cases with severe colitis and severe Crohn's colitis are supposed to be effective means for reducing these high rates. **Methods:** Patients who presented at the Accident & Emergency Department with severe colitis and severe Crohn's colitis and on whom emergency colectomy was operated were identified and they formed the basis of this study. **Results:** Patients ($n = 34$) with acute fulminating colitis and their condition required emergency colectomy were seen over a period of 5 years.

A strategy of early detection of cases of toxic dilatation and/or perforation proved efficient in reducing morbidity and mortality in cases of severe colitis.

The mortality in the presented series was zero and the morbidity occurred mainly in such cases that presented with fulminant distal colitis, which was complicated by proximal faecal loading. **Conclusion:** Diagnosis of proximal faecal loading in cases with fulminant colitis is likely to be an indication for surgery. Further studies are required for confirming this conclusion.

Keywords: Severe colitis; Crohn's disease; Ulcerative colitis; Surgery; Emergency colectomy; Inflammatory parameters; Zinc deficiency; Proximal faecal loading; Dilatation; Perforation; Bowel motility

1. Introduction

It is known that about 20% of patients with ulcerative colitis, go through severe acute relapse and its associated complications at some point in the course of their illness [1,2]. In general, 5–10% of patients with ulcerative colitis present with a severe first attack. The relapse-free interval in a given patient remains unpredictable. However, long-term prospective cohort studies have shown that virtually all patients will relapse and develop acute exacerbation at some point in the course of their illness [1,2]. Intensive medical treatment is successful in 60–70% of patients suffering from severe ulcerative colitis, but the rest require emergency surgery either for a complication or because they fail to respond to medical therapy [3–6].

Among those who respond to intensive medical therapy, a colectomy will be required in up to 50% within a year and in at least 75% at around 5 years of follow up [6,7].

Many risk factors have been acknowledged as reasons for poor prognosis in cases with acute fulminating colitis. The prognosis of an acute attack of colitis depends on the severity of the attack and the extent of the disease [1,8]. Depth of penetration of the bowel wall is also closely associated with outlook [9]. Other poor risk factors include the use of barium enema [10,11] or a colonoscopy [11] during the patient's hospital admission, the presence of free gas on plain radiography, or subcutaneous emphysema of the neck [12].

A history of recent medication with opiates or anticholinergic drugs also carries a poor prognosis, since both may be responsible for megacolon and perforation.

Further more, exposure to non-steroidal anti-inflammatory drugs is associated with an increased risk of fulminating colitis [13].

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Emergency surgery in anaemic, nutritionally depleted, immunosuppressed and toxic patients has a high morbidity and mortality The question is whether it is possible to predict for the results of aggressive medical treatment and accordingly to arrange for early surgical interference, if necessary, for improving the outcome after surgery.

1.1. Objective

We conducted a review on cases with severe colitis and severe Crohn's colitis that required emergency colectomy for examining the implication of macroscopic pathological abnormalities on the surgical outcome.

2. Patients & methods

All patients requiring emergency surgery defined as colectomy within 7 days of admission seen over a period of 5 years form the basis of this review. During this time emergency colectomy was performed on 34 patients; 11 were males, the mean age of patients was 37 years (range 17–67 years). Cases of pseudo membranous colitis were excluded. Various forms of presentation were encountered; 9 patients developed acute fulminating colitis within 6 weeks of the onset of symptoms; 6 patients were known to have inflammatory bowel disease but had been in complete remission and were admitted with a severe relapse; 19 patients had a long history of inflammatory bowel disease and were admitted with a flare up of recurrent colitis.

Table 1
Pathological extensions of the disease in severe colitis and severe Crohn's colitis patients.

Extension	No. of patients	Percentage
Rectum to ascending colon	14	42.42%
Rectum to descending colon	12	36.36%
Rectum to transverse colon	04	12.12%
Caecum to hepatic flexure	01	03.03%
Caecum & distal colon	01	03.03%
Ileocaecal	01	03.03%

The extension of the disease activity was identified (Table 1).

The indications for operation were deterioration or failure to improve with drug therapy over 5 days in 25 patients, dilatation of the colon observed on X-rays in 5 patients (three of whom had already perforated by the time operation was performed) and 3 patients who underwent surgery because of the complication of perforation noticed by pneumoperitoneum on plain abdominal X-ray. Finally, one patient required emergency surgery because of persistent colonic blood loss.

3. Results

Perforation of the colon occurred in three out of 23 patients whose ulceration was confined to the mucosa or submucosa

Table 2
Pathological abnormalities & outcome of surgery.

Macroscopic Pathology	Sex	Age at diagnosis	Time after diagnosis	Diagnosis	Extension of the disease	Complications after surgery
Perforation						
1.	Male	31Y	6Y	Crohn's disease	Distal colitis	Pelvic haemorrhage
2.	Female	56Y	4Y	Ulcerative colitis	Subtotal colitis	–
3.	Female	22Y	6Y	Crohn's disease	Distal Colitis	–
Perforation & dilatation						
4.	Male	41Y	First attack	Ulcerative colitis	Pan colitis	–
5.	Female	31Y	19 months	Ulcerative colitis	Pan colitis	–
6.	Female	38Y	2Y	Ulcerative colitis	Pan colitis	–
Dilatation						
7.	Male	42Y	15 months	Indeterminate	Distal colitis	Wound dehiscence
8.	Female	42Y	First attack	Indeterminate	Pan colitis	–
Faecal impaction						
9.	Male	36Y	4Y	Ulcerative colitis	Segmental	Small bowel obstruction
10.	Male	28Y	First attack	Indeterminate	Distal colitis	Small bowel obstruction + pelvic collection + wound dehiscence
11.	Male	42Y	15 months	Indeterminate	Distal colitis	Wound dehiscence
12.	Female	17Y	First attack	Ulcerative colitis	Distal colitis	–
13.	Female	41Y	6Y	Ulcerative colitis	Distal colitis	–