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Case Report

SUCCESSFUL MANAGEMENT OF MULTIPLE COLONIC PERFORATIONS IN A CASE OF ULCERATIVE COLITIS – A CASE REPORT

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ABSTRACT
A case report of successful surgical management of a patient with ulcerative colitis presenting with multiple perforations in the colon, a not uncommon but dreaded complication of ulcerative colitis.

Keywords: *Ulcerative Colitis, Perforation Peritonitis, Fulminant Colitis*

INTRODUCTION
Perforation of colon is one of the known complications of ulcerative colitis. Perforation of colon in ulcerative colitis is most frequent in acute fulminant type. It is a surgical emergency and is associated with high mortality and morbidity (Ripstein *et al.*, 1952). Primary closure of the perforation is often impossible due to the presence of diseased colon. Controversies existed regarding the appropriate surgical procedure in this scenario with surgeons favouring either diversion ileostomy alone or combined colonic resection with end ileostomy. All recent studies in this scenario point in favour of colonic resection as the more appropriate procedure (Bacon and Trimpi, 1950; Cattell and Sachs, 1948; Miller *et al.*, 1949; Ripstein, 1952). Here we present a case of ulcerative colitis with multiple colonic perforations treated successfully with colonic resection with end ileostomy.

CASES
A 62 yr old post-menopausal woman, a known case of idiopathic ulcerative pancolitis diagnosed and being treated elsewhere for past 2 months was admitted in our hospital with chief complaints of abdomen pain, mucoid loose stools and high grade intermittent fever with chills for 2 days duration. Patient had no other comorbidites and had no previous surgeries. Prior to admission patient was on mesalamine 1.2g tablets taken twice daily. On examination patient had a pulse rate of 102/min with a BP of 80/60mm Hg. The patient was thin built with palor and glossitis with no evidence if dehydration. Abdomen was distended with guarding and rigidity. Bowel sounds were absent. Per rectal examination revealed yellow fecal staining.

Figure 1: X-ray picture showing air under diaphragm

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Patient was kept NPO with continuous nasogastric tube aspiration. IV fluids and prophylactic antibiotics were given. Complete hemogram showed anaemia (8.7g/dl), leucocytosis with left shift, hypoalbuminemia (1.9g/dl) and hypokalemia (2.38meq/l). X ray abdomen erect view showed air under diaphragm.

A provisional diagnosis of hollow viscus perforation? Colonic perforation with peritonitis and septic shock was done and patient was resuscitated and taken for emergency laparotomy under high risk with consent for permanent ileostomy. Pre operative fresh frozen plasma infusions were given in view of elevated PT-INR (2.51) and hypoalbuminemia.

Laparotomy showed multiple colonic perforations in terminal ileum, ascending, transverse and sigmoid colon. There was purulent free fluid of around 750 ml in the peritoneal cavity. Entire colon was erythematous and friable. Total procto-colectomy was done and the terminal ileum was brought out as end ileostomy.

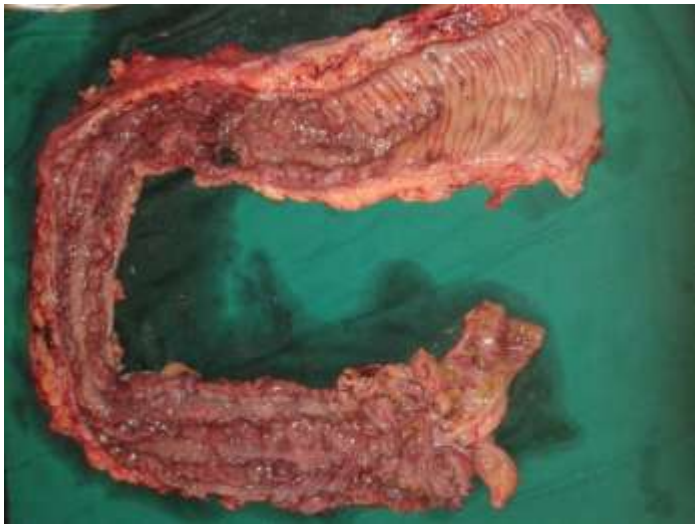

Figure 2: L Total proctocolectomy specimen showing pseudopolyps and multiple perforations

During the post operative period patient developed severe hypotension which was maintained with vasopressors and patient was put in mechanical ventilation since her saturation dropped. Patient went in for anuria. A provisional diagnosis of MODS (Multi-organ dysfunction syndrome) was done. Urgent bedside echocardiography was done which showed severe left ventricular dysfunction with 20% ejection fraction and hence started on dobutamine infusion. Renal function test showed picture of acute renal shutdown with deranged electrolytes level. Nephrologist opinion was sought and hemodialysis was done. Electrolytes correction was given.

Patient's general condition slowly improved and her blood pressure improved. She was weaned off the ventilator and vasopressor support was slowly reduced and finally withdrawn. Patient was started on Ryle's tube feed. Repeat echocardiography showed improved left ventricular function with an ejection fraction of 60%. Patient was started on soft diet. Abdomen drain tube was removed on post-op day 16 after the output decreased. Suture removal was done on post-op day 12. Since patient improved symptomatically she was discharged from the hospital after instructions regarding the stoma care and bag change.

DISCUSSION

Ulcerative colitis is a form of chronic inflammatory bowel disease that invariably involves the rectum and to a variable extent the proximal colon. Small bowel involvement is unusual except in cases of backwash ileitis. Both genders are equally affected and the disease is common in patients of higher socioeconomic status. It is a multifactorial disease though the exact etiology is largely unknown.

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The major pathologic process affects the mucosa and submucosa with sparing of the muscularis propria. Characteristic gross appearance is continuous inflammation of the colonic epithelium with pseudopolyps and crypt abscess starting from the rectum with variable involvement of the proximal colon. Clinically patients present with diarrhea and passage of mucus. Urgency and hematochezia are more common than in Crohn's disease.

Traditionally, double contrast barium enema is the primary radiological investigation to arrive at a diagnosis in a case of suspected ulcerative colitis (Carucci and Levine, 2002). Contrast CT plays an important role in the evaluation of complications associated with the disease viz. abscess formation and perforation (Eisenberg, 1998; Broek *et al.,* 2007; Wiesner and Steinbrich, 2003). Colonoscopic examination is indicated to differentiate from Crohn's disease, to assess the extent of the disease, to monitor the response of treatment and to assess long standing cases to evaluate for malignant changes. Colonoscopy and barium enema are contraindicated in acute scenarios (Broek *et al.*, 2007).

The complications from the disease can be either local such as abscess formation, perforation, stricture formation, obstruction and fistulisation into nearby structures viz. bladder, bowel or uterus, or they can be systemic such as erythema nodosum, pyoderma gangrenosum, ankylosing spondylitis and arthritis

Colonic perforation is one of the most dangerous local complications 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. The complication is often hard to recognize because 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 (Felicity *et al.,* 1964). The common sites of perforation are in the descending order of frequency, sigmoid colon, descending colon, caecum and terminal ileum. Rarely the perforations can be multiple (Felicity *et al.,* 1964). Though surgery in an already ill patient carries much higher morbidity and mortality, it offers the best chance of survival to the patient (Bacon and Trimpi, 1950; Ripstein, 1952).

Conclusion

Colonic perforation in ulcerative colitis is a surgical emergency with high mortality and morbidity. Total colectomy with stoma construction is indicated in such scenario since primary perforation closure of the diseased colon is often not possible and anastomosis not advisable. Total colectomy also has the advantage of removing the diseased colon giving the patient a chance to recover from the ongoing sepsis.

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