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## *Acute Complete Colonic Obstruction due to Ischemic Colitis : A Reported Case Requiring Surgery*

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### **Abstract**

Diagnosis of ischemic colitis is challenging and base upon high index of suspicious. Most of ischemic colitis can resolve with non-operative treatment. Permanent stricture causing complete obstruction due to this disease was rare. We reported an eighty-seven years old Thai male presented with complete obstruction of colon that required emergency surgical treatment. Pre-operative investigation was only acute abdomen series film. The provisional diagnosis was malignant colonic obstruction. Intra-operative findings revealed colonic obstruction at splenic flexure. Left hemicolectomy with Hartmann pouch was performed. Pathological report revealed ischemic colitis causing complete stenosis. In conclusion, the more incidence of ischemic colitis may lead to larger number of colonic obstruction that requires emergency surgery. Recognition of ischemic colitis may reduce the morbidity and mortality from the complications.

Colonic ischemia is the most common form of ischemic injury to the gut. The natural history and stage of disease has been reported by Marston, et al since 1966.<sup>1</sup> Although the incidence of ischemic colitis was not clearly reported, it appears to be uncommon. The diagnosis of ischemic colitis is challenging and still bases upon high index of suspicious. In addition, indications for surgical treatment are not fully established. Surgical indication bases mainly on emergency conditions due to complications or from

non-responding to conservative treatment. We would like to report a patient affected by ischemic colitis causing permanent stenosis and presented with acute colonic obstruction that required emergency surgical treatment.

### **CASE REPORT**

An eighty-seven years old Thai male was admitted in our hospital for elective hydrocelectomy. During

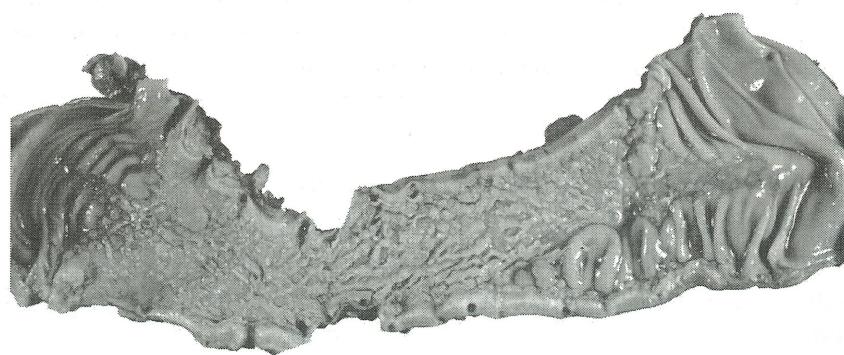
two days of preoperative admission, he developed cramping abdominal pain at the upper abdominal area and distended abdomen. After that, he had constipation and obstipation. Past history revealed off and on cramping abdominal pain for 2 weeks. Physical examination showed abdominal distension but no appreciable tenderness. Bowel sound was decrease. Per rectal examination showed empty rectum, no mass, no bloody stool. Leucocyte count was elevated but no other remarkable abnormality in blood chemistry. Plain film of the abdomen showed distended transverse colon with scanty air fluid level of the small bowel. Clinical condition deteriorated in spite of intensive medical treatment (nasogastric tube suction, NPO, intravenous fluid) so that laparotomy was performed after 18 hours of abdominal symptoms. Splenic flexure of colon was found to be infarcted with thick wall and there was significant disproportion of colon proximal to this area. Due to unprepared bowel and malignancy could not be ruled out, left hemicolectomy with Hartmann pouch was performed. The gross pathology revealed several chronic ulcerations scattered along the whole length of the transverse colon. There was a fibrotic change of the wall leading to complete narrowing of the lumen at the splenic flexure of colon. There was no tumor mass detected (Figure 1). Microscopically, the lesions were

found to be chronic ulcer with nonspecific inflammatory reaction involved the muscular coat (Figure 2). The mural arteries showed sclerotic change with evidence of obstruction and recanalization of the vessel without evidence of malignancy (Figure 3). Post-operatively, there was no complication. Thus the patient was discharged 10 days after and he was re-admitted for elective anastomosis of colon and hydrocelectomy 2 months later without any complications.

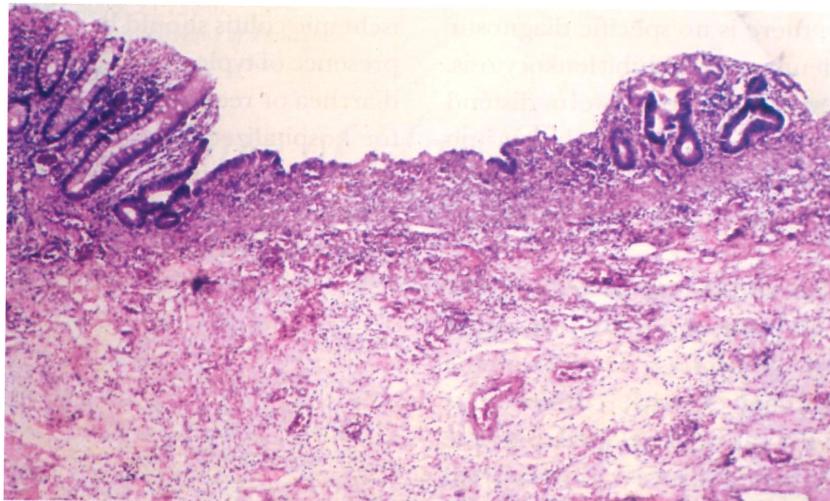
## DISCUSSION

In spite of the improved understanding of pathophysiology of ischemic colitis, its diagnosis remains a challenge. The most frequent clinical presentation is characterized by chronic abdominal pain, diarrhea with or without rectal bleeding, usually occurs in elderly patients.<sup>2</sup> The three-degree of severity of ischemic colitis as classified by Marston, et al include transient ischemic form, ischemic stricture form as a sequence of a partial thickness injury and the gangrenous form which is seen in 15-20% of cases. Of the 80-85% of non-gangrenous cases, most are transient and reversible. Persistent segmental colitis occur in 20-25% and stricture presents in 10-15% of cases.<sup>5</sup>

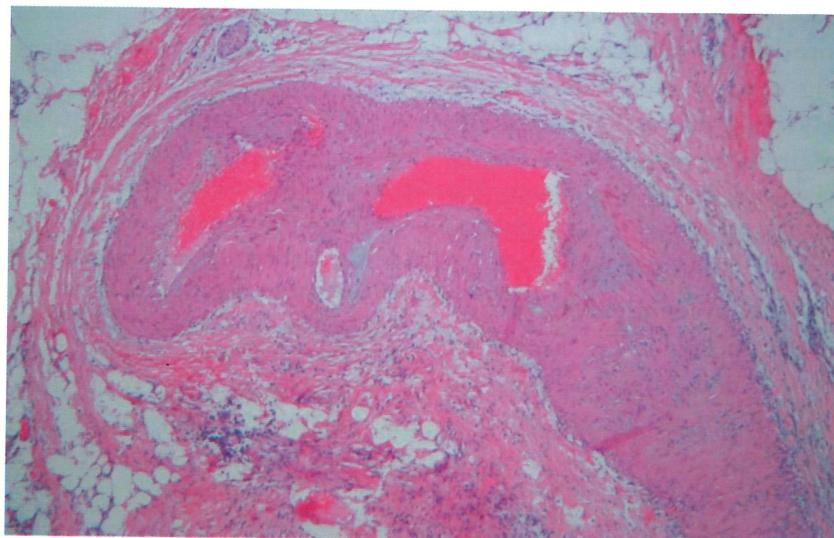
The ischemic stricture represents a partial thickness injury that involves the mucosa and the



**Fig. 1** Colonic gross specimen shows ulcerated lesion with fissuring. The obstructed lumen due to a mural fibrosis appears at the middle part.



**Fig. 2** Microscopically, The ulcerated lesion is covered by granulation tissue and shows marked fibrosis in the muscle layer underneath.



**Fig. 3** Arterial vessels shows sclerotic change with narrowing of the lumen.

muscular layer resulting in fibrosis and narrowing of the lumen over a period of time. The presentation of this disease is variable. The associated medical diseases most frequently found were cardiovascular (55%), diabetic mellitus (23%), pulmonary (21%) and others (such as renal failure and hematological disease).<sup>4</sup> In this reported case, we could not identify any associated medical illness or the etiological factors formerly described by Gandhi, et al<sup>5</sup> such as major vascular occlusion, small vessel disease, medication, colonic obstruction or hematologic disorder. The reported anatomic site of involvement has varied but many

reports support the involvement or at least being most severely around the splenic flexure between the territories of the superior mesenteric artery and inferior mesenteric artery.

The most frequent clinical presentation is characterized with abdominal pain. There may be bloody diarrhea, fever, abdominal distension included with the sudden onset of crampy abdominal pain. Anorexia, nausea and vomiting secondary to associated ileus may be presented. Abdominal examination may reveal mild distension and varying degrees of tenderness that usually correspond to the site of the ischemic

colon. Unfortunately, there is no specific diagnostic test for this disease. Patients usually exhibit leukocytosis. Abdominal film may reveal thickened bowel or distend colon. In the past, diagnosis was made by barium enema or exploratory laparotomy, but in the recent years colonoscopy has been used with increased accuracy.<sup>2</sup>

The reported case allowed us to make some considerations. First, the patient did not respond to conservative treatment, in contrast to most of the reported cases that resolved with conservative management. Second, the patient developed complete obstruction requiring surgery. This was rarely reported in the past. In most cases, ischemic colitis (proved by complete recanalization of colon due to ischemic stricture) was resected because malignancy could not be ruled out. Third, there was no associated medical disease and etiological factor. From this observation it appears that there were longer survival rate in the elderly people allowing mild to moderate form of ischemic colitis to reach to the process of irreversible stricture formation. In addition, recurrence episodes of diffuse mild to moderate abdominal pain in elderly people may be treated symptomatically regarding to the proper diagnosis and allowing the stricture formation. However, few cases of complete obstruction due to ischemic colitis was reported in the literature.<sup>6</sup>

In conclusion, ischemic colitis is still a diagnostic and therapeutic challenge. Moreover, the diagnosis of

ischemic colitis should be considered not only on the presence of typical clinical picture of abdominal pain, diarrhea or rectal bleeding but should be considered for hospitalized patients with non-resolving colonic ileus. The changing pattern of presentation of colonic ischemia will lead to the larger numbers of colonic obstruction requiring operation.

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