Case Report

Obstructive Colitis Related to Perforation by Descending Colon Cancer: Report of a Case

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We report a patient with obstructive colitis related to perforation by colon cancer. A 73-year old male had been hospitalized in our hospital for pneumothorax. He complained of left abdominal pain 2 weeks after admission. Abdominal CT revealed intraperitoneal free gas and thickening of the descending colonic wall. Under a diagnosis of panperitonitis, emergency surgery was performed. The intraoperative findings included tumorous stenosis of the descending colon and perforation with ischemic changes in the dilated transverse colon. The resected specimen revealed type II tumor in the descending colon and a perforating ulcer involving a 10–cm area on the orifice side. Histopathologically, normal mucosa was observed between an adenocarcinoma of the descending colon and the perforating ulcer in the transverse colon, suggesting obstructive colitis and perforation related to descending colon cancer. In patients with marked colorectal cancer–related obstruction, preoperative decompression and intraoperative greatest care must be performed, considering obstructive colitis.

Key Words: obstructive colitis, colon cancer, peritonitis

Introduction

Obstructive colitis (OC) is a condition widely recognized by surgeons and pathologists, defined as an ulceroinflammatory lesion in the large intestine proximal to a colonic obstruction5). Etiological factors for OC include incarcerated hernia, postoperative stricture, large intestinal diverticulum, radiation enteritis, and Hirschsprung’s disease2–4). The incidence of OC related to colorectal cancer is reported to range from 0.3 to 3.1%5). We report herein a case of OC related to perforation of descending colon cancer.

Case Report

A 73-year old male had been hospitalized in our hospital for right pneumothorax. Concerning his medical history, he had consulted the outpatient clinic for liver cirrhosis and atrial fibrillation over the past 3 years. Two weeks after admission, left abdominal pain occurred in the morning, and a detailed examination was performed. Physical examination revealed a temperature of 37.2°C, pulse of 100/min, and blood pressure of 118/72 mmHg. Abdominal distention, marked tenderness of the left abdomen, and muscular guarding were noted. Concerning laboratory data, the leukocyte count was within the normal range. However, the platelet count was decreased to 48,000/μl. The levels of C reactive protein, blood urea nitrogen, PT–INR, and FDP were increased to 16.6...
mg/dl, 31.9 mg/dl, 1.4, and 16.6 μg/ml, respectively. Abdominal X-ray showed intraperitoneal free gas and dilatation of the small intestine. Abdominal computed tomography (CT) revealed intraperitoneal free gas, dilatation of the small intestine, a small amount of ascites in Douglas’s pouch, thickening of the descending colonic wall, and narrowing of its cavity (Fig. 1). Under a diagnosis of acute generalized peritonitis related to perforation of the descending colon, emergency surgery was performed on the same day. The intraoperative findings included tumorous stenosis of the descending colon and a perforation, measuring 10 cm in length, with ischemic changes in the dilated transverse colon. Partial resection of the transverse and descending colons, one-stage end-to-end anastomosis, and intraperitoneal drainage were performed. The resected specimen revealed a 3/4 circumferential type II tumor in the descending colon and an ulcer measuring 4.8×3.5 cm with a perforation involving a 10 cm area on the orifice side (Fig. 2). The histopathologic diagnosis was moderately–differentiated adenocarcinoma (Fig. 3a). The lesion was evaluated as type 2, 4.0×3.9 cm, tub 2, pSS, int, INFβ, ly2, v1, pNx, pPM0, pDM0, and pRM0 according to the Regulations for Colorectal Cancer Treatment. The transverse colon with colitis showed neutrophilic infiltration, ulcer formation, and thinning of the muscle layer (Fig. 3b). Normal mucosa with edema was observed between the adenocarcinoma of the descending colon and the perforating ulcer in the transverse colon, suggesting OC and perforation related to descending colon cancer. Five days after surgery, the respirator could be removed, and the postoperative course was favorable. The patient was discharged 23 days following surgery. No recurrence has occurred during 7–months follow–up.

**Discussion**

OC is a condition widely recognized by surgeons and pathologists, defined as an ulceroinflammatory lesion in the large intestine prox-
Fig. 2  The resected specimen revealed a 3/4 circumferential type II tumor (arrow heads) in the descending colon and an ulcer measuring 4.8×3.5 cm with a perforation involving a 10 cm area on the orifice side (arrows).

Fig. 3  a Histopathologic findings showed moderately–differentiated adenocarcinoma (H&E, ×40). b Area of the transverse colon with colitis showed neutrophilic infiltration, ulcer formation, and thinning of the muscle layer (arrow) (H & E, ×4).

imal to a colonic obstruction⁷. OC accounts for 7% of patients with colorectal disorders⁸. However, the incidence of colorectal cancer–related OC ranges from 0.3 to 3.1%; this disorder is relatively rare⁹. In 1945, Kremen⁷¹ reported a patient with extensive gangrene in the distended bowel proximal to sigmoid colon cancer. In 1964, Glotzer et al⁷⁰ first reported an ulcer induced by experimental stenosis, as OC, using dogs. They defined its characteristics as follows⁷⁰: 1) ulceroinflammatory lesion is present on the orifice side of the obstructive site; 2)
anal side of the obstructive site is macroscopically and histologically normal; and 3) normal mucosa is present between the obstructive and ulcerative lesion sites, and its border is histologically clear. Our patient was diagnosed as having OC, as the findings fulfilled the above 3 conditions. OC frequently develops in the left colon and rectum, in which colorectal cancer–related intestinal obstruction is frequent, and in the colonic–splenic curvature and descending colon, in which ischemic enteritis is frequent, but is rare in the right colon, especially the cecum. This characteristic may be associated with common sites of colorectal cancer. The pathogenesis of OC may involve mucosal blood flow disorders related to an increase in intestinal pressure, the abnormal proliferation of enteric bacteria associated with intestinal convulsion and stasis of the intestinal contents, and ischemia of the intestinal mucosa in the presence of vascular lesions such as arteriosclerosis. According to a study, mucosal or submucosal ulcers were detected in many patients with OC, as demonstrated for ischemic colitis. However, our patient developed perforative peritonitis. As surgery could be performed early after onset, survival was achieved and septic shock was prevented. However, even in nonperforation patients, mucosal disorders may enhance the permeability, causing septic shock; therefore, therapeutic strategies should be immediately selected. Concerning the technique, one–stage resection should be performed. Uda et al reported that leakage occurred in 10% of patients with extensive ulcers. In particular, the prognosis is poor in the presence of preoperative shock; therefore, Hartmann's operation or colostomy should be selected. In our patient, a good general condition was maintained before surgery. In addition, we performed on-stage suture because intestinal dilatation at the site to be anastomosed was less marked, and blood flow was favorable.

Symptoms and findings such as abdominal pain, melena, and intestinal obstruction are clinically observed in patients with colorectal cancer. It is difficult to differentiate them from symptoms and findings related to inflammatory changes in the colon and small intestine before surgery. Therefore, in patients with intestinal dilatation resulting from marked colorectal cancer–related obstruction, preoperative decompression and close intraoperative care must be performed, considering OC.

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