



SUBTOTAL COLECTOMY FOR COMPLICATED LEFT COLON CANCER

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Abstract

Surgery is the primary treatment for complicated colon cancer. Complicated left colon cancers are often accompanied by acute intestinal obstruction, inflammatory infiltrates, perforation, and peritonitis, requiring emergency surgery. Traditional Hartmann colostomy procedures do not always restore intestinal continuity and are associated with a decrease in patients' quality of life. This article presents experience performing subtotal colectomy with ileosigmoid and ileorectal anastomoses for complicated left colon cancer. Between 2012 and 2023, subtotal colectomy for complicated left colon tumors was performed in 37 patients. The patients ranged in age from 40 to 80 years. This method has been shown to restore intestinal continuity, reduce the incidence of colostomies, and improve postoperative outcomes.

Keywords: colon cancer, intestinal obstruction, subtotal colectomy, ileosigmoid anastomosis, ileorectal anastomosis, complicated colorectal cancer.

Introduction

Colon cancer is a leading cause of oncological disease. Complicated tumors of the left colon, characterized by intestinal obstruction, inflammatory infiltrates, perforation, and peritonitis, pose a particular challenge. In emergency surgery, intestinal obstruction accounts for up to 30–40% of colorectal cancer complications.

Standard surgical interventions for this pathology often result in the formation of a colostomy. However, stoma closure is not always achieved due to postoperative complications and the patient's severe medical condition. This significantly impairs the patient's quality of life and requires repeated reconstructive surgeries.

Therefore, the search for surgical methods that can immediately restore intestinal continuity, even in complicated cases, is crucial.

Study objective

To evaluate the effectiveness of subtotal colectomy with ileosigmoid and ileorectal anastomoses in complicated left colon cancer.

Research Materials and Methods

Between 2012 and 2023, subtotal colectomy was performed in 37 patients with complicated tumors of the left colon. Patients' ages ranged from 40 to 80 years.

Comorbidities: liver disease (17 patients), lung disease (20 patients), and arterial hypertension (all patients). Tumor complications: inflammatory infiltrate (22 patients),



subobstructive intestinal obstruction (9 patients), perforation with diffuse peritonitis (2 patients), and paracolic abscess (5 patients). Tumor location:

proximal sigmoid colon (11 patients), descending colon (22 patients), splenic flexure (6 patients), and distal descending colon (4 patients).

Methods

A key feature of the surgical technique is the anastomosis. A 9-10-centimeter incision is made in the anterior abdominal cavity, diagnosing the tumor location and determining the intestinal diseases. After determining the section of the colon to be operated on, clamping is performed, isolating the intestinal section 2-3 cm from the intact bowel, where the intestinal tract is slid crosswise into the intestinal cavity. The colon is then transected, leaving a 2-3 cm gap from the tumor. The bowel is mobilized, and the specimen is removed. This procedure was used to create an ileocoloanastomosis in 15 patients. In two patients, a side-to-side ileorectal anastomosis was created, and in two patients, an end-to-end ileorectoanastomosis was performed using microsurgical techniques. A subtotal colectomy was performed through a 9-10 cm midline laparotomy. After abdominal exploration and determination of the lesion boundaries, the colon was mobilized 2-3 cm from visually intact tissue. The affected segment was removed and an anastomosis was created.

Anastomosis types:

ileosigmoid anastomosis — in 15 patients,

side-to-side ileorectal anastomosis — in 2 patients,

end-to-end ileorectal anastomosis with elements of microsurgical technique — in 2 patients.

Study Results

Observations revealed a consistent pathogenetic chain of changes in complicated intestinal obstruction secondary to colon cancer. The primary mechanism is intestinal stasis (stagnation of intestinal contents), leading to overstretching of the intestinal wall and increased intraintestinal pressure. This, in turn, causes compression of the mesenteric vessels and disruption of the intestinal wall's blood supply.

Ischemia leads to severe disorders of the secretory, motor, and absorptive functions of the gastrointestinal tract. Progressive microcirculatory disorders are accompanied by lymphostasis, which exacerbates tissue edema and intestinal wall hypoxia.

Long-term circulatory impairment leads to destructive and degenerative changes in the intestinal neuromuscular apparatus, ultimately leading to intestinal paralysis. Clinically, this manifests as paresis, which, without timely surgical intervention, leads to the development of generalized peritonitis.

In some cases, severe complications such as intestinal wall necrosis and intestinal bleeding are observed at this stage, significantly worsening the patient's condition and worsening the prognosis.



Postoperative complications were observed in 12 patients: inflammation at the anastomotic site in 4 patients, anastomotic leakage in 1 patient, and inflammatory wound complications in 7 patients. There were 2 mortality cases: in one case, the cause was anastomotic leakage with peritonitis, and in the other, acute myocardial infarction.

In most cases, permanent colostomy was avoided and intestinal continuity was restored.

Discussion

The obtained results demonstrate that subtotal colectomy is a pathogenetically justified intervention for complicated obstructive intestinal obstruction due to left-sided colon cancer. This surgery allows for the removal of altered and functionally incompetent sections of the colon, preventing recurrent obstruction, and simultaneously restoring intestinal passage.

Diagnostic difficulties arise because clinical manifestations may resemble other diseases. Intestinal wall function is impaired, and intoxication develops. When making a diagnosis, it is important to consider changes in intestinal contents and their movement through the intestines. As the condition progresses, fecal passage deteriorates. Treatment must be prompt, as delays worsen the patient's condition and increase the risk of complications. It is important to differentiate between obstructive and strangulation forms of intestinal obstruction, as disruption of the blood supply during strangulation quickly leads to intestinal wall necrosis and peritonitis. Accurate diagnosis and surgical intervention are crucial. Prevention is aimed at preventing the development of intestinal obstruction and promptly seeking medical attention.

Conclusion

Subtotal colectomy with ileosigmoid or ileorectal anastomosis for complicated left colon cancer is an effective surgical treatment. This approach helps restore intestinal continuity, reduce the frequency of colostomies, and improve patients' quality of life. Timely diagnosis and early surgical intervention are crucial for a favorable outcome.

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