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**Successful treatment of obstructing colonic cancer by combining self-expandable stent and neoadjuvant chemotherapy: A case report**

Li ZL*et al.*Successful treatment of obstructing colonic cancer by combining SEMS and neoadjuvant chemotherapy

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**Abstract**

***BACKGROUND***

Surgery 5-10 d after stent insertion was recommended for obstructing colonic cancer by European Society of Gastrointestinal Endoscopy. For some obstructive patients, this may be not a good choice. Here we report a case of successful treatment of obstructing colonic cancer by combining self-expandable stent and neoadjuvant chemotherapy.

***CASE SUMMARY***

The patient was a 72-year-old man and was admitted with a chief complaint of abdominal pain for more than 1 mo. Computed tomography (CT) scanning revealed that there was a mass in the descending colon, which led to intestinal obstruction. On admission, a series of therapeutic measures, such as fasting and water deprivation, gastrointestinal decompression, total parenteral nutrition and octreotide acetate, were taken to improve the obstructive symptoms. At the same time, a self-expandable metal stent was successfully placed across the stenosis and biopsy was obtained and diagnosed as adenocarcinoma. CT scanning 14 d after insertion of the stent revealed that the intestine was swollen significantly. Systemic chemotherapy with modified FOLFOX6 (mFOLFOX6) was administered. After 2 courses of mFOLFOX6, CT scanning showed that the swelling of intestine improved obviously. Subsequently, the patient underwent left hemi-colectomy without stoma placement. The postoperative course was uneventful, and he has now been disease-free for 6 mo after surgery.

***CONCLUSION***

This modified treatment strategy may provide an alternative therapy for the patients with obstruction of colonic cancers.

**Key words:** Stent; Colorectal neoplasms; Intestinal obstruction; Chemotherapy; Case report

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**Core tip**：As a bridge to surgery, the use of stents for potentially resectable colorectal cancers makes it possible to convert urgent to elective surgery. The European Society of Gastrointestinal Endoscopy guideline in 2014 recommended that the time interval to operation is 5-10 d. However, patients who experience a chronic obstruction are usually in a bad condition because of inadequate nutritional intake, and the intestine is swollen. We modified the therapeutic strategy to prolong the time interval to operation; two cycles of chemotherapy were administered before operation.

Li ZL, Wang ZJ, Han JG, Yang Y. Successful treatment of obstructing colonic cancer by combining self-expandable stent and neoadjuvant chemotherapy: A case report. *World J Clin Cases* 2018; In press

**INTRODUCTION**

About 8%-13% of advanced colonic cancer can cause large-bowel obstruction. Since the self-expandable metal stent (SEMS) was widely used, it has become a safe modality to treat the colorectal cancer with obstruction. The insertion of SEMS can relieve the symptoms of obstruction quickly and gain the preparation time for the patients who have the opportunity to undergo a radical operation. A time interval to operation of 5-10 d is recommended by European Society of Gastrointestinal Endoscopy (ESGE) as a bridge to elective surgery in patients with potentially curable left-sided colon cancer. However, because of the chronic obstruction, the swelling of intestine is common, and the patients usually suffer from malnutrition, electrolyte disturbances and some other disorders[1]. Stoma rate and complication rate are high in surgically treated patients[2]. We here report a case of a male patient who received two cycles of chemotherapy after the insertion of stent, and this improved the patient’s condition, inhibited tumor progression and achieved a satisfactory outcome.

**CASE PRESENTATION**

***Chief complaints***

A 72-year-old male was admitted to our hospital by a flat vehicle with a complaint of abdominal pain for more than 1 mo.

***History of present illness***

One month ago, the patient had a symptom of abdominal pain in the left lower abdomen. He came to the local hospital and was prescribed traditional Chinese medicine. However, the medicine did not work. The abdominal pain aggravated and the pain was located in the total abdomen which was accompanied by distention. His appetite lessened as the illness progresses. Three days ago, the patient stopped flatus and defecation, so he came to another local hospital. Computed tomography (CT) scanning revealed that there was a mass in the descending colon, which led to intestinal obstruction. For further treatment, the patient came to our hospital. During his illness, he lost 6 kg of body weight and became weaker and weaker.

***History of past illness***

He had no chronic illness.

***Physical examination upon admission***

Physical examination showed abdominal tenderness in the whole abdomen, and muscle tension was not palpated. The bowel sounded active and about 6-8 times per minutes.

***Laboratory examinations***

Laboratory findings indicated that CA125 was 80.90 U/mL (reference range < 30.2), albumin 28.8 g/L (reference range 40-55 g/L), sodium ions 132.9 mmol/L (reference range 137-147 mmol/L), hemoglobin 94 g/L (reference range 130-175 g/L).

***Imaging examinations***

CT scanning revealed that there was a mass in the descending colon, which led to intestinal obstruction. The colon and whole small intestine were swollen.

**FINAL DIAGNOSIS**

Intestinal obstruction, colon cancer, mild anemia, hyponatremia, and hypoproteinemia.

**TREATMENT**

After admission, drinking and eating were prohibited. Total parenteral nutrition was given to improve the nutritional status. Octreotide acetate was administered to inhibit the secretion of digestive juices. To resolve the colonic stenosis, the SEMS was successfully placed across the stenosis and biopsy was obtained which was diagnosed as adenocarcinoma. CT scanning 14 d after stent placement revealed that colon and small intestine were significantly swollen (Figure 1). The patient received systemic chemotherapy with modified FOLFOX6 (mFOLFOX6). The regimen consisted of racemic leucovorin 200 mg/m2, oxaliplatin 130 mg/m2 in a 2-h infusion, bolus fluorouracil 400 mg/m2 on day 1 and a 46-h infusion of fluorouracil 2400 mg/m2. The tumor responded remarkably to chemotherapy, and the CA125 had returned to the normal level. CT scanning 40 d after stent placement revealed that the swelling of the colon and small intestine improved obviously except for the descending colon (Figure 2). The number of metastatic lymph nodes decreased. After 2 courses of mFOLFOX6, the patient underwent left-side colectomy. During the operation, the small intestine and proximal colon were normal, thus no stoma placement was performed. The pathological diagnosis was moderately differentiated adenocarcinoma of the descending colon. No cancer cells were identified in lymph nodes (0/36). The tumor had invaded the serosal layer. Incisional margins were negative. The pathological TNM stage was ypT4N0M0, and the regression grade was TRG1. The patient received an additional six cycles of chemotherapy with XELOX.

**OUTCOME AND FOLLOW-UP**

He recovered well. During a follow-up of 6 mo, there were no signs of recurrence and metastasis.

**DISCUSSION**

Colorectal cancer is one of the most common malignant tumors, and about 8%-13% of advanced colonic cancer can cause large-bowel obstruction[3,4]. Obstructive colonic cancer is an urgent condition which needs to be managed immediately. Compared to non-emergent surgery or surgery for non-obstructive condition, emergency surgical decompression is associated with both higher operative mortality and poor overall survival[5,6]. Moreover, stoma placement such as colostomy decreases quality of life.

SEMS placement has been applied over 20 years for the treatment of colonic obstruction[7]. As the stent type evolved, colonic stents have been used to treat colonic malignancies either as a bridge to surgery or as a palliative measure[8,9]. As a bridge to surgery, the use of stents for potentially resectable colorectal cancers makes it possible to convert urgent to elective surgery. According to literature, the stent-related complications rate is about 20%, including perforation, bleeding, pain, re-obstruction and so on[10]. Perforation is the most serious complication and the long-term perforation rate is 7.6%[11]. In the present case, the patient was in a bad condition and could not eat or drink for more than 7 d. He had a weight loss of 6 kg. After the insertion of stent, the symptoms of obstruction were alleviated obviously. The use of stent converted an urgent surgery to elective surgery. The guideline of ESGE suggests an interval of 5-10 d between SEMS and elective resection[11]. However, in the case of the patient, the intestinal obstruction had formed for about one month and the intestine was very swollen. Besides, the patient was in a poor nutritional status. If we performed the operation, the stoma would be done and the complication rate was relatively high. If we want a longer interval, the patient would get a better recovery and more optimal nutritional status. However, some studies reported that the endoscopic stent insertion for colorectal cancer may result in tumor cell dissemination into the peripheral circulation and may induce distant metastases and poor prognosis[12,13]. In order to reduce the complication rate and avoid distant metastases, we did not perform the operation on the patient at once. Instead, two cycles of chemotherapy were administered. About 40 d later, the patient recovered well and the tumor markers return to normal level. CT scanning revealed that the intestine was not swollen except for the descending colon. The operation was successful and no stoma placement was performed.

According to the guideline of ESGE, the interval between SEMS and operation was 5-10 d. This suggestion was based on limited data[11]. However, in the clinical work, we found that the swollen intestine was commonly found in the patients with intestinal obstruction. The longer the obstruction exists, the slower the swelling regresses. Theoretically, a longer interval will allow for better recovery and more nearly optimal nutritional status, but this may increase the risk of stent-related complications and may cause tumor cell dissemination. We think that an interval of 4-6 wk between SEMS and operation may be a better choice. In this period of time, we can carry out 2-3 cycles of chemotherapy. This modified treatment pattern can improve patient’s nutritional status and inhibit the tumor cell dissemination. Thus this can improve the patient’s prognosis.

Now we have treated 11 similar cases like this and the clinical result was satisfactory. This strategy provides an alternative therapy, particularly when the intestine is very swollen, and it reduces the stoma placement rate as well.

**CONCLUSION**

After stent insertion, an interval of 2-3 wk to operation for the patient with obstructing colonic cancer, especially for the patients with very swollen intestine, may be a good choice. This can further reduce the stoma rate and complication rate.

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**Figure 1 Computed tomography scanning 14 d after insertion of stent.** Transverse colon (A), ascending colon (B), and small intestine (C) were swollen.

**Figure 2 Computed tomography scanning 40 d after insertion of stent.** Transverse colon (A), ascending colon (B), and small intestine (C) return to normal.

C

B

A