Original Article

Merits and Faults of Transanal Ileus Tube for Obstructing Colorectal Cancer

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BACKGROUND: We report eight cases of obstructing colorectal cancer successfully managed by preoperative lavage using transanal ileus tube.
METHODS: Decompression tube was transanally inserted into the colon proximal to the tumour under the guidance of the guide wire. Intestinal lavage with 1,500–2,000 mL of warm water was done every day until surgery.
RESULTS: There were six men and two women; the mean age was 67 years (range, 50–82 years). Three cancers were in the sigmoid colon and five were in the rectum. Seven patients were treated with a one-stage operation with adequate lymph node dissection. In one patient, only sigmoidostomy was carried out for unresectable huge tumour. In all cases, no dilatation was observed at the proximal colon and no anastomotic failure developed. Four patients suffered from fever of unknown cause after the insertion of the tube. In one patient, the resected specimen showed ulcer by tube compression. In the other patient, the tube penetrated the intestinal wall, which was covered by mesentery.
CONCLUSION: The transanal ileus tube is effective for the treatment of obstructing colorectal cancer. However, close observation is necessary because of possible perforation. [*Asian J Surg* 2006;29(3):125–7]

Key Words: lavage, obstructing colorectal cancer, transanal ileus tube

Introduction

Management of obstructing colorectal cancer is often difficult. Accumulated faeces proximal to the obstruction raise the possibility of anastomotic failure. Enlarged intestine occupies the abdomen and prevents surgeons from meticulous procedures such as systematic lymph node dissection. Thus, two-stage or three-stage surgery have been traditionally recommended[1] but it requires a longer hospital stay. Recently, primary resection and anastomosis have been adopted by using intraoperative colonic lavage,[2] subtotal colectomy,[3,4] stenting[5,6] and preoperative lavage using transanal ileus tube.[7]

We have experienced eight cases of obstructing colorectal cancer successfully managed by preoperative lavage using transanal ileus tube. We report here the merits and demerits of this method.

Patients and methods

Between August 2000 and March 2005, we treated 10 patients with obstructing colorectal cancer. Our policy of treatment is a one-stage operation using the transanal ileus tube. However, in one patient with cancer located at the splenic flexure, we gave up inserting the transanal ileus tube because the cancer was located at an acutely angled position. In another patient with sigmoid colon cancer, insertion of the tube was impossible because the obstruction was almost complete. Both patients underwent caecostomy for decompression. In the remaining

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eight patients, the transanal ileus tube was successfully inserted. Thus, the success rate was 80%. Medical records of these eight patients were investigated. Site of obstruction, size of the tumour, maximal circumference of proximal and distal colon of the resected specimen and its ratio, complications such as fever and abdominal pain after insertion of the tube, ulcer or penetration of the colon, and anastomotic failure were examined.

Procedure of the transanal ileus tube insertion is as follows: we used the transanal ileus tube set (Create Medic Co. Ltd, Yokohama, Japan). First, a colonoscope (Olympus CFQ240I) was advanced to the distal site of the tumour. A guide wire (0.052 inches in diameter, 3,000 mm long) was inserted through a colonoscope, the tip of the wire was placed proximal to the tumour and then the scope was removed. A dilater (26 Fr in outer diameter, 1,000 mm long) and then a decompression tube (22 Fr in outer diameter, 1,200 mm long) were transanally inserted into the colon proximal to the tumour under the guidance of the guide wire. A balloon was expanded and the tube was fixed. Intestinal lavage with 1,500–2,000 mL of warm water was performed every day until surgery.

Results

There were six men and two women; the mean age was 67 years (range, 50–82 years). Three cancers were in the sigmoid colon and five were in the rectum (Table 1). All but one patient were treated with a one-stage operation with adequate lymph node dissection after decompression of the proximal colon. The duration of lavage varied from 6 to 18 days depending on the condition of the drained water. No tube blockage was encountered. No dilatation was observed in the proximal colon in any patient. The ratio of proximal/distal circumference of the resected specimen ranged from 0.9 to 1.3, which confirmed the fair decompression effect. No additional irrigation during surgery was required. In one patient, huge rectal cancer was unresectable and only double-barrel type sigmoidostomy was made. Four patients experienced fever after the insertion of the tube and one ulcer was observed (Table 2). In one patient, the tube penetrated the intestinal wall, which was covered by mesentery (Figure). No perforated site in the tumour was observed and no anastomotic leakage developed in any of these patients.

Discussion

Preoperative lavage using transanal ileus tube has several advantages. More effective decompression can be achieved than by using the nasoenteric ileus tube. Emergency surgery such as colostomy can be avoided. The colon proximal to the obstructing cancer can be screened preoperatively by barium enema through this tube. One-stage elective surgery with adequate lymph node dissection can be performed without intraoperative lavage.[2] The difficulty of the insertion technique is as much as that of placing a metallic stent and the cost is much less.[8] In our series, decompression effect was objectively measured by the ratio of proximal/distal circumference of the resected

Table 1. Demographic and clinical characteristics

Patient	Gender	Age (yr)	Tumour		Duration of lavage (d)	Maximum circumference (cm)		Ratio*	Operation performed
			Location	Diameter (cm)		Proximal	Distal		
1	Male	60	S	3.5	6	7.0	7.5	0.9	Sigmoidectomy
2	Male	63	R	6.0	18	8.0	8.0	1.0	APR
3	Male	69	R	3.5	15	8.5	7.0	1.2	LAR
4	Male	82	R	4.6	9	7.6	8.6	0.9	LAR
5	Female	50	S	6.0	12	8.0	6.0	1.3	Sigmoidectomy
6	Male	75	R	5.2	14	7.0	6.5	1.1	LAR
7	Male	70	S	6.5	6	7.0	8.0	0.9	Sigmoidectomy
8	Female	67	R	†	9	†	†	†	Colostomy
Mean	—	67	—	5.0	11.1	7.6	7.4	1.04	—

*Ratio represents proximal circumference divided by distal circumference; †unresectable case, specimen not obtained. S = sigmoid colon; R = rectum; APR = abdominoperineal resection of the rectum; LAR = low anterior resection of the rectum.

Table 2. Operative morbidity

Complication	*n* (%)
Anastomotic failure	0 (0)
Fever of unknown cause	4 (50)
Colon ulcer	1 (13)
Colon perforation	1 (13)
None	3 (38)

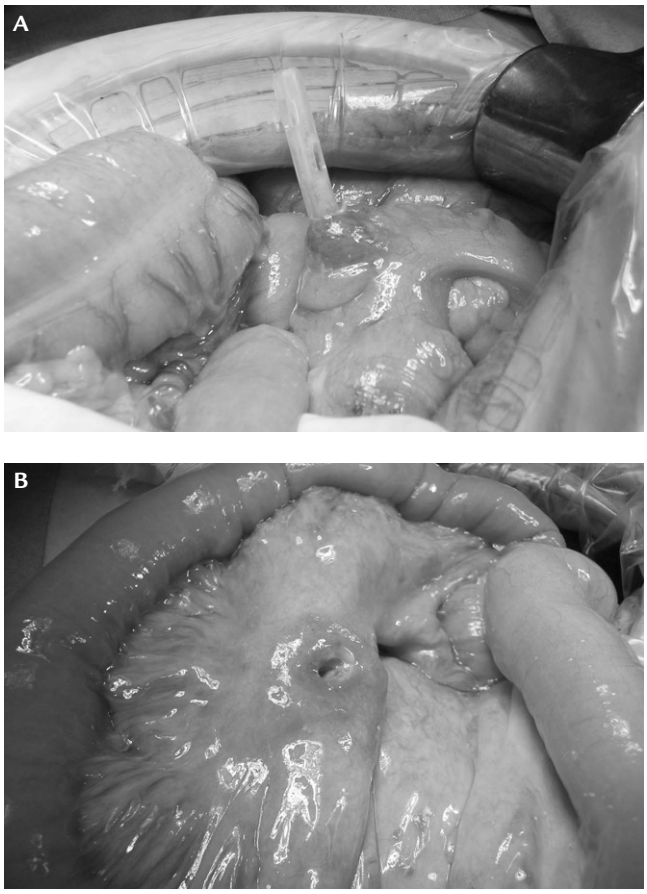

Figure. (A) Transanally inserted ileus tube broke through the colon. (B) Fortunately, the tip of the tube was covered by the mesentery of the small intestine.

specimen. The ratio ranged from 0.9 to 1.3 and the average ratio was 1.04, which suggested satisfactory decompression. We experienced no anastomotic failure.

Recently, several disadvantages have been reported. In our series, all patients experienced anal discomfort and the foul smell of faeces. The most serious side effect of this procedure is perforation. Ishikawa et al reported seven cases of perforation in Japan; the day of perforation after tube insertion varied from 1 to 5 days, and guide wire and/or compression necrosis by the tube were considered to be responsible for the perforation.[9] We experienced one perforation and one ulcer. Furthermore, four patients experienced fever of unknown cause. In the patient with ulcer, the cancer existed at the acutely angled portion. Insertion of the tube to the obstructed cancer at the acutely angled portion required special caution.[9] The guide wire used in this procedure was very strong and thick, with a diameter of 0.038 inches. During negotiation, the guide wire sometimes advanced in the direction out of the intestinal lumen. In that case, pinhole perforation can be expected[10] and since there is a possibility that a small perforation could cause fever, the pinhole was sealed or covered spontaneously. This can be conquered by using a thinner guide wire first and then exchanging to a thicker one using a sheath tube.

It is apparent that the transanal ileus tube is effective for the treatment of obstructing colorectal cancer. However, close observation is necessary because of possible perforation. There remain some points for improvement both in the material and the method of this treatment.

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