

One-stage Subtotal Colectomy with Anastomosis for Obstructing Carcinoma of the Left Colon

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Fourteen cases of severe obstructing carcinoma of the left colon were treated by emergency subtotal colectomy and ileorectal or ileosigmoid anastomoses. There was one death after two months and a further two septic postoperative complications. Follow-up stretched from two to 39 months (an average 13.7 months). One patient died of a myocardial infarction after 11 months and another of liver metastases after 21 months. Two patients were lost to follow-up at 12 and 25 months, and nine patients remain alive and well, free of disease. The last nine cases were consecutive, and two additional patients with obstruction had only colostomy performed due to their poor conditions. A staged approach to treatment reduces long-term survival as well as inducing a high cumulative mortality and morbidity rate. Colostomy also reduces the quality of life for the elderly patient. Results of this form of treatment are surprisingly good, and it is advocated as the treatment of choice for the vast majority of patients. [Key words: Carcinoma; Colon; Obstruction; Resection]

THE TREATMENT of obstructing carcinoma of the left colon carries a high morbidity and mortality. Goligher and Smiddy¹ have shown that results can be improved using a staged approach rather than performing a primary resection. Others²⁻⁴ have also stated their preference for an initial decompressing colostomy followed later by resection of the tumor and then colostomy closure.

Fielding and Wells⁵ have cast doubt on the advisability of postponing the tumor resection. They have shown that five-year survival figures after primary resection of an obstructing carcinoma were considerably better than those following a staged resection, in spite of a slightly higher surgical mortality rate in the former groups.

There is general agreement that the treatment of choice for an obstructing carcinoma of the right colon is emergency right hemicolectomy.⁶ However, the treatment of obstructing left colonic carcinoma still remains a surgical problem.

We have attempted to solve this problem and present our experience using a one-stage subtotal colectomy and ileosigmoid or ileorectal primary anastomosis. The principle of using small bowel and joining it to large bowel distal to the tumor is similar to that of emergency right hemicolectomy. The patient can thus be treated in one

stage, in a radical fashion, with a very acceptable morbidity and mortality rate and without the necessity of a stoma.

Materials and Methods

Between the years 1977 and 1981, we performed 14 emergency subtotal colectomies with ileosigmoid or ileorectal anastomoses for obstructing carcinoma of the left colon (Figs. 1 and 2). Initially, the operation was performed on selected patients. Because of the extremely good postoperative course, indications for the operation were widened. Over the last two years, all patients with left-sided intestinal cancer obstruction were treated by emergency subtotal colectomy unless there was a strong contraindication. Of the 11 patients with severe complete left-sided colonic obstruction so presenting in the last two years, only two had decompressing colostomy.

The definition of obstruction implied absolute constipation and grossly distended bowel, both on x-ray and on surgery, usually with evidence of the large bowel having "suffered." In cases where obstruction was incomplete, and the bowel was healthy enough, a local resection with colocolic anastomosis was performed with full preoperative bowel preparation.

The ages of the patients varied between 62 and 80 years (average 72 years) (Table 1). There were nine men and five women. Associated diseases included heart disease in four patients, hypertension in three, diabetes in three, and histories of a previous malignancy in three. Other conditions occurring included peripheral vascular disease, duodenal ulcer, and nephrolithiasis. The surgery performed was subtotal colectomy in all patients, with ileosigmoid anastomosis in nine instances and ileorectal anastomosis in five. In three of the patients, automatic staples were used which reduced contamination and shortened the operation. In addition, a right partial hepatectomy for a solitary metastasis was carried out in one patient, cholecystectomy for stones in two patients, and splenectomy as a result of operative trauma in one patient.

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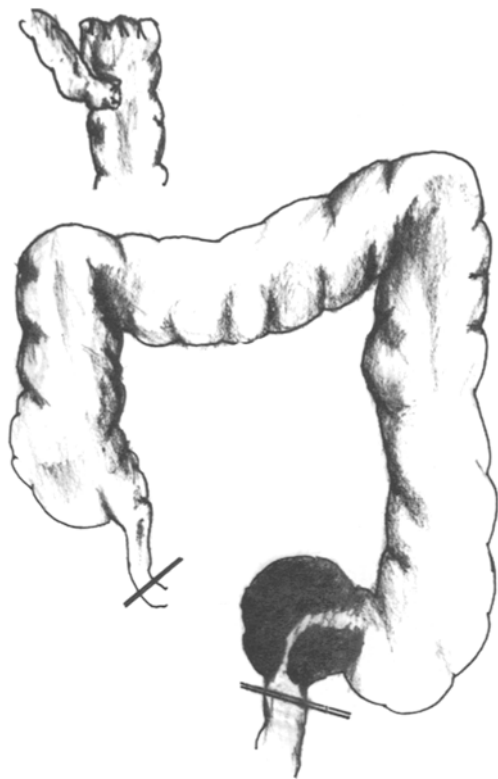


FIG. 1. Diagram showing obstructing tumor of rectosigmoid with ileorectal anastomosis (in inset), after subtotal colectomy.

The site of the tumor (Fig. 3) was at the splenic flexure in four patients, the descending colon in one, the sigmoid colon in four, and the rectosigmoid in five patients. Dukes' staging was stage B in five patients, stage C in seven, and stage D in two.

Results

The average hospital stay was 18 days. With the exception of one patient, who died after two months, the average stay dropped to 15 days. Complications (Table 1) included one death (seven percent). This patient developed an intraperitoneal abscess which was drained; however, she died of lung complications nearly two months after her operation. There were three wound infections (21 percent), two cases of pneumonia, and one patient was hospitalized for almost a month due to difficulties in stabilizing her diabetes.

Follow-up on all patients was at from two to 39 months (average 13.7 months). One patient died two months after surgery after an intraperitoneal abscess and lung complications, another died of liver metastases after 21 months, and one succumbed to a myocardial infarction 11 months after surgery. Two patients were lost to follow-up at 12 and 25 months, respectively, at which time they were free of disease. Nine patients remain alive and well and continue to attend the follow-up clinic.

As for the quality of life, no patients have a colostomy, and all have returned to normal preoperative activity. Many are working even through post retirement age. The number of stools in any day rarely exceeded three or four. This followed a period of several weeks after surgery when stools were a little more frequent in some cases.

Discussion

It is generally felt that a decompressing colostomy alone for severely obstructing left-sided carcinoma of the colon carries a patient safely over this clinical emergency. The patient can then be treated later by resection of his tumor, and later still the colostomy can be closed.

Fielding and Wells⁵ indicate that this approach leads to a poorer long-term survival rate than when the tumor is initially resected. In addition, colostomy creation, which is considered a small operation, carries considerable morbidity and mortality. Mirelman *et al.*⁷ found that, of 271 colostomies performed at the Lahey Clinic, there was a significant complication in 21 per cent of patients, with a 2.2 per cent mortality rate; in 118 colostomy closures, 49.1 per cent had complications, and the mortality rate was 4.2 per cent. Complications of a procedure performed in one stage can only be compared with the cumulative complications of staged procedures designed to achieve the same end. A review of colostomy closures by Mitchell *et al.*⁸ shows that mortality rates vary between 0 and 2.8 per cent and complications between 11.6 and 49 per cent.

Clark *et al.*⁹ reviewed the results of treatment of 53 patients presenting with a carcinoma obstructing the left colon. The operative mortality in 11 patients undergoing primary resection was 27 per cent. Of the remaining 42 patients, 37 per cent died—a culminative mortality of the staged resections. Carson *et al.*¹⁰ reported their results on 37 completely obstructing tumors of the left colon. Of 28

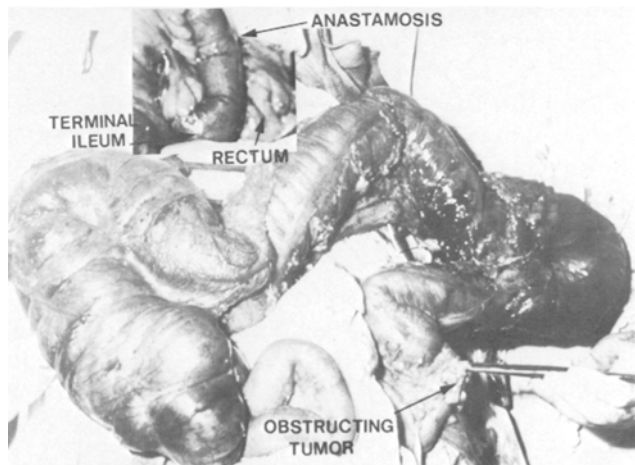


FIG. 2. Obstructing rectosigmoid tumor (Patient 11). Inset shows ileorectal anastomosis after emergency subtotal colectomy.

TABLE 1. Emergency Subtotal Colectomy: Summary of Cases

Patient	Age/Sex	Site	Dukes Stage	Additional Surgery	Days	Complications	Follow-up (Months)
1	69/M	Sigmoid colon	B ₂	—	12	—	Alive and well (39)
2	76/M	Splenic flexure	B ₂	—	21	Wound infection	Alive and well, lost to follow-up (12)
3	73/F	Splenic flexure	B ₂	Cholecystectomy	14	—	Alive and well, lost to follow-up (25)
4	62/F	Splenic flexure	D	—	12	—	Died, metastases (21)
5	80/M	Splenic flexure	B ₂	—	14	—	Died (11), myocardial infarction
6	73/F	Rectosigmoid	C ₂	—	26	Unstable diabetes	Alive and well (18)
7	75/M	Midsigmoid	C ₂	—	12	Mild pneumonia	Alive and well (18)
8	73/M	Proximal sigmoid colon	C ₂	—	26	Wound infection, pneumonia	Alive and well (13)
9	65/M	Rectosigmoid	B ₂	Cholecystectomy and splenectomy	12	—	Alive and well (13)
10	62/F	Rectosigmoid	C ₁	—	51	Intraperitoneal abscess, wound infection, chest complications, died	
11	74/M	Midsigmoid	C ₂	—	11	—	Alive and well (6)
12	73/M	Midsigmoid	D	Partial hepatectomy	13	—	Alive and well (6)
13	73/F	Distal sigmoid	C ₂	—	14	—	Alive and well (5)
14	80/M	Midsigmoid	C ₂	—	10	—	Alive and well (3)

patients who had initial decompressing colostomies, there was a 25 per cent mortality. Of the survivors, one died as a result of subsequent resection, and in five patients the initial colostomy remained the only surgery performed. Nine patients were treated by tumor resection and colocolic anastomosis, but with an additional proximal "protective" colostomy. There was only one death in this group.

It is clear that if a one-stage procedure could be performed for these obstructing left colon cancers, without a colostomy and with an acceptable complication rate, it would be considered the treatment of choice. A colectomy, especially in elderly patients, markedly reduces the quality of life and often causes them to avoid socializing, due to the offensive smell and unpleasantness, in spite of the efforts made to minimize these problems.

Hughes¹¹ suggested using subtotal colectomy under these emergency conditions and reported 11 patients with only one postoperative death. Goligher⁶ mentions that he has had occasion to perform this operation from time to time in suitable patients; and the same observation is made in a discussion of a paper by Carson *et al.*¹⁰ Valerio and Jones¹² suggest the use of extended right hemicolectomy for obstructing splenic flexure tumors. They report five cases with no serious complications. Goligher⁶ also advocates this operation in obstructing left flexure tumors. Klatt *et al.*¹³ published their observations on five patients with left-sided obstructing colonic cancer. They performed emergency subtotal colectomy with ileocolic or ileorectal anastomosis. There were no serious postoperative complications, and the patients were discharged from the hospital after an average of 8.4 days. All their

patients but one were under 60 years of age. In comparison, all our patients were over 60 years old, and ten of the 14 were over 70 years. Klatt *et al.* propose this course of treatment in selected cases. We have found this form of treatment so successful that we propose it as the treatment of choice in all cases, with few exceptions. It has been

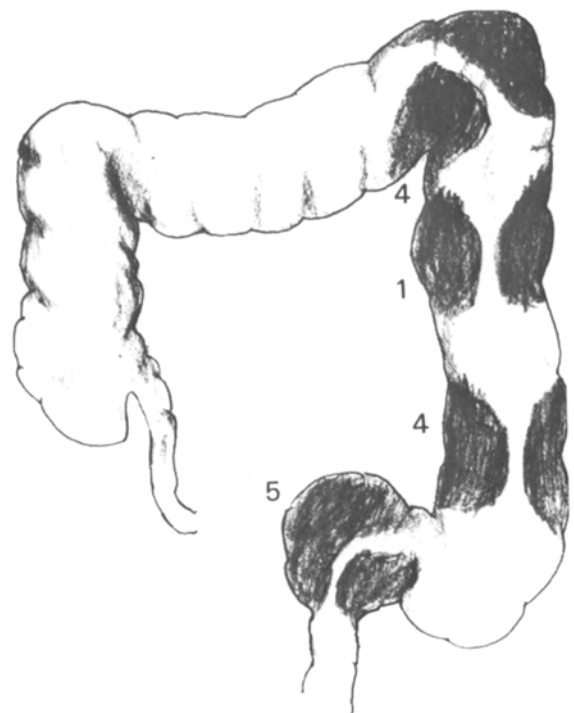


FIG. 3. Sites of obstructing colorectal tumors (14 cases) treated by one-stage resection and primary anastomosis.

found to be safe and greatly enhances the quality of life of the patients. We also feel that the 7 per cent mortality rate and 21 per cent complication rate are reasonable.

Advantages of this operation over staged forms of treatment include the lack of necessity of a colostomy—especially where there is a limited life span. If a colostomy can be avoided in a palliative procedure, this is obviously highly desirable. The operation is radical and deals with any synchronous tumors (one in our group of patients) and minimizes future colonic tumors. Two patients from our group had previously undergone resections for colonic cancers. Immediate postoperative complications are fewer than the cumulative complications of staged procedures. It must be stressed that the colon used for anastomosis is distal to the tumor and is normal and clean, and the small bowel is frequently not distended if the ileocecal valve is intact. Even if the small bowel is distended, the anastomosis is “safe.” Long-term survival may be improved if an initial radical operation is performed. The postoperative course is surprisingly good. The reason may have something to do with the removal of a grossly dilated colon which is toxic and the ease with which the abdomen can be closed afterward.

The staged colostomy frequently becomes definitive because of metastasis, or the poor general condition of the patient, especially if the tumor has been resected.

Overall, the hospital stay, with its associated financial saving, is shorter. We have also found that, with the use of automatic stapling devices, soiling of the peritoneal cavity is nonexistent, and an intraoperative bowel decompression, as suggested by Klatt *et al.*,¹³ is absolutely

unnecessary. We advocate this operation as the method of choice in practically all cases of obstructing carcinoma of the left colon, after the patient has been brought to a reasonable condition.

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