Anastomotic Recurrence After Curative Resection of a Transverse Colon Carcinoma: a Case Report

Hideo Miyake1, Yoshihiro Moriya1, Keiichi Maruyama1, Toshihiro Yokota2 and Tadakazu Shimoda3

Departments of 1Surgery and 2Internal Medicine and 3Clinical Laboratory Division, National Cancer Center Hospital, Tokyo, Japan

We report a case of anastomotic recurrence after curative surgery for transverse colon cancer in a 53-year-old man. The recurrence was first detected as a submucosal tumor 1.3 cm in diameter, located on the suture line, during an annual follow-up barium enema and colonoscopy. A repeat examination 3 months later showed the lesion to be a typical colon cancer, 2.5 cm in size, with a large ulcerated area. Right hemicolectomy was performed with curative intent. Anastomotic recurrence is much rarer after colonic resection than after anterior resection. This was the first time that we had detected a recurrent lesion as a submucosal tumor during annual follow-up examination.

Key words: anastomotic recurrence - transverse colon carcinoma - submucosal tumor - endoscopy

INTRODUCTION

Anastomotic recurrence is an important pattern of local failure after anterior resection (1–3), but its incidence after proximal colonic anastomosis has been reported to be low (4,5). Its etiology has now been determined and several methods of prevention have been advocated, mainly in relation to anterior resection of rectal cancer (6–9).

Here we report a case of anastomotic recurrence which was detected as a submucosal tumor during an annual follow-up examination after curative transverse colectomy.

CASE REPORT

In August 1993, fecal occult blood was detected in a Japanese man aged 51 years, who had undergone gastrectomy for early gastric cancer in August 1986. He subsequently underwent colonoscopy and an advanced adenocarcinoma of the transverse colon was identified. We carried out transverse colectomy with curative intent, combined with lymphadenectomy up to the root of the middle colic artery on September 30, 1993. Histological examination revealed a well differentiated adenocarcinoma invading the muscularis propria (Fig. 1). There was no lymphatic permeation, venous invasion or lymph node involvement. The oral and anal free margins were 8.4 and 17.9 cm, respectively, and these were confirmed by microscopic examination. Barium enema performed during annual check-up in September, 1995 showed a polypoid lesion 1.3 cm in diameter at the anastomotic site. Colonoscopy showed this to be a submucosal tumor located on the suture line (Fig. 2). An endoscopic biopsy showed no atypical cells. Three months later, repeated barium enema and colonoscopy revealed that the tumor had grown to a size of 2.5 cm and showed the typical features of colonic cancer. A large ulcerated area was also apparent (Fig. 3). Biopsy showed a well differentiated adenocarcinoma. Right hemicolectomy was performed with curative intent on April 4, 1996. A localized ulcerating tumor 3.0 cm in diameter was located just on the suture line. At this time, the doubling time of the tumor, calculated from clinical data, was 5 months. Clinicopathological examination showed that this lesion was a recurrence of the previous transverse colon cancer, because it was located exactly on the anastomosis (Fig. 4) and it first showed a feature of submucosal tumor.

DISCUSSION

Recurrence of adenocarcinoma of the colon and rectum at the anastomotic site is a specific pattern of local failure. A high incidence of anastomotic recurrence has been reported in the past. Sugarbaker and Scott (1) reviewed reports from 1948 to 1976 and stated that between 10% and as many as 35% of patients who underwent surgery for large-bowel cancer developed this type of recurrence. However, a lower incidence of anastomotic recurrence has been noted more recently. Malcolm et al. (2) reported a rate of 3.9% in 285 patients treated surgically for cure and Eric et al. (3) observed an incidence of 2.7% among 1241 colorectal carcinomas.

A relationship between the rate of anastomotic recurrence and the site of anastomosis has also been reported by some workers. They found a higher incidence of anastomotic recurrence for...
left-sided than for right-sided or ileo-colic anastomosis. Stulc et al. (4) noted that 13 of 18 patients with recurrence at the site of colo-colic anastomosis had primary carcinomas in the sigmoid or rectosigmoid colon. Wright et al. (5) reported an anastomotic recurrence rate of 5.5% for the proximal portion of the colon and 11.3% of distal colo-colic anastomosis.

Several studies have indicated that exfoliated carcinoma cells in the bowel are capable of implanting at the site of tissue injury (8,9,10). Umpleby et al. (8) found cancer cells proximal to the operation site in 84% and distally in 57% of cases. Implantation of exfoliated cells is considered to be one of the etiological mechanisms by which anastomotic recurrence can arise. The results of these studies suggest that the proximity of a tumor to the anastomosis relates to the increasing incidence of anastomotic recurrence for distal anastomosis. Studies aimed at preventing anastomotic recurrence have therefore been conducted mainly in patients undergoing anterior resection. Irrigating the intestinal lumen to clear exfoliated carcinoma cells has been reported to be effective by some authors (6,7,10,11). As a result, intraoperative irrigation of the intestinal lumens is widely performed during anterior resection nowadays and the recent reduction in the incidence of anastomotic recurrence after anterior resection is probably attributable to this practice. However, intraoperative irrigation is difficult in proximal colonic carcinoma. In addition, it is possible to resect the colon with an adequate surgical margin in these patients and the incidence of anastomotic recurrence is low for proximal colonic carcinomas. Little attention has therefore been paid to the prevention of anastomotic recurrence of proximal colonic carcinomas. However, the present case shows the possibility of anastomotic recurrence after curative proximal colonic resection, even though the surgical margin was as great
as 8.4 cm. To prevent the anastomotic recurrence of colonic carcinomas, it is important to reduce the number of exfoliated cells. We are of the opinion that it is necessary to reduce the spread of tumor cells by intraoperative manipulation of the cancer-bearing area (12).

Previous reports indicate that success rates for curative resection and survival rates after anastomotic recurrence are relatively low. Stulk et al. (4) noted that 15 out of 30 patients with anastomotic recurrence underwent curative surgery with a median survival of 59 months and a 5-year survival of 49%. Eric et al. (3) reported that the median survival time of 14 patients treated for a recurrent tumor on the suture line by resection was 41 months and that recurrence occurred within 2 years in most patients. Difficulty in detecting recurrence at an early stage was considered to be one of the reasons for the relatively poor prognosis of anastomotic recurrence. Barkin et al. (13) stressed the importance of routine follow-up programs for the detection of intraluminal recurrence of colorectal cancer in patients who have undergone curative resection. The present patient was the first in whom a colonic anastomotic recurrence was initially detected as a submucosal tumor during an annual follow-up examination at our institution. In addition, no case similar to this has been reported previously, as far as we could ascertain. The tumor showed rapid progression, with a doubling time of only ~5 months. Follow-up examination, especially endoscopic examination, was very useful in detecting anastomotic recurrence in this patient.

**References**