Clinical Follow-up and Treatment of Locally Recurrent Colorectal Cancer

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Following 630 potentially curative resections, three patients had reoperations for metachronous tumors and 36 for local recurrences. Twenty-four of the latter were identified at follow-up clinic, but 12 presented as emergencies with obstruction. At reoperation only five patients had obvious hepatic metastases. Further colon resections were performed in ten patients. Nine of the 36 survived more than 12 months and three are alive and well over five years after reoperation. [Key words: Colorectal cancer; Local recurrence]

POSTMORTEM STUDIES have shown that locally recurrent tumors are present in many patients who die from colorectal cancer.1,2 The value of clinical follow-up alone after resection of a colorectal tumour, however, remains debatable.3,4 The aim of this study is to assess how many patients from a large series had further surgery for local recurrence based upon clinical (not investigative) follow-up, and whether recurrence was detected because of the follow-up.

Patients and Methods

One thousand thirty-three patients with diagnoses of primary carcinoma of the colon or rectum were treated at Dudley Road Hospital between 1972 and 1982. Six hundred thirty patients (61 percent) had potentially curative resections. Clinical follow-up was by patient interview and physical examination, which is distinct from an investigative follow-up practiced in some centers, possibly including periodic colonoscopy or barium studies of the colon. In this series, investigations of the remaining large bowel were performed only when symptoms or signs suggestive of further disease were present. The time between reviews varied according to the policy of the individual surgeon but, most commonly, patients were seen every three months for one year, every six months for two years, and yearly thereafter for life. All patients in the series have been followed for at least three years after resection. The clinical stage of the primary tumor was recorded according to Turnbull’s modification of Dukes’ system.5,6 Patients had to have histologically proven recurrence to be included in this study. The chi-square test, with Yates correction where applicable, has been used for statistical analysis of the data.

Results

Following 630 potentially curative resections, 39 patients (6 percent) subsequently had reoperation for...
either a histologically proven recurrence \( N = 36 \) or a second colorectal cancer \( N = 3 \).

**Local Recurrence:** Only five of the 36 patients (14 percent) who had surgery for locally recurrent tumors had associated hepatic metastases at reoperation. The primary tumor had been situated in the rectum or sigmoid in 25 (70 percent) of the patients. The primary tumor was staged as Dukes' B in 28 patients (78 percent), while eight tumors (22 percent) were graded as Dukes' C. In many cases, however, the number of lymph nodes examined was not recorded, but in those where it was stated, the average was only three. It is likely, therefore, that there is an underestimate of stage C disease in these figures. Only seven tumors (19 percent) were reported as poorly differentiated. However, all of the 36 cancers had infiltrated through the wall of the large bowel when initially resected.

The mean time to presentation of local recurrence was 16 months (range, four months to four years). Twenty-four patients (67 percent) were diagnosed at follow-up clinics, while 12 patients (33 percent) presented as emergencies. All emergency patients presented with intestinal obstruction, and 15 of the 24 patients whose recurrences were diagnosed at follow-up clinics complained of abdominal pain. Patients presenting as emergencies tended to present, on the average, later than those diagnosed at outpatient review (electives: mean interval = 14 months; emergencies: mean interval = 20 months).

The operative procedures performed were as follows: colorectal resection, ten; small bowel resection, seven; stoma alone, ten; bypass, four; biopsy and radiotherapy, two, and biopsy alone, three.

Of the ten patients who had colorectal resections, two had obvious hepatic metastases. The two patients who had histologically proven pelvic recurrence and were treated with radiotherapy are still alive six and ten years later. Nine of the 36 patients survived over one year following reoperation, with a median survival of 36 months (range, 18 months to ten years). Survival in the remaining 27 patients was short with a median period of two months (range, one week to 1 year). Patients presenting with obstructing tumors had a reduced survival (median, three months) relative to those diagnosed at outpatient review (median, six months). Of those ten patients who had further colorectal resections, five have a mean survival to date of three years (range, 18 months to ten years). The remaining five patients had a median survival of only two months (range, one to four months) following repeat resection. Survival following small-bowel resection was poor with a median survival of only three months (range, two days to two years).

**Metachronous Tumors:** Three patients had histologically proven metachronous colorectal cancers at reoperation without evidence of local recurrence of the original tumor. One patient died postoperatively from an anastomotic leak, while a second died three years later without evidence of tumor recurrence. A third patient is still alive and well at four-year follow-up.

**Discussion**

In this review with only clinical, not investigative, follow-up, only two thirds of the patients were detected at follow-up; the remainder presented as emergencies. All patients who had reoperations for local recurrence initially had tumors infiltrating the tissues beyond the confines of the bowel. Others\(^5,6\) have also emphasized that tumors which have infiltrated through the intestinal wall are more likely to recur locally. Wood and his colleagues\(^9\) reported significantly reduced long-term survival in patients with macroscopic extramural tumor invasion and proposed a modified staging system based on the extent of local tumor penetration.

In this series of 1033 patients, 61 percent initially underwent a potentially curative resection and 6 percent of these patients developed local recurrences, an incidence slightly lower than that reported by others, including: 10 percent,\(^10\) 14 percent,\(^11\) 12 percent.\(^12\) After abdominoperineal excision the rate of local recurrence can be as high as 20 percent.\(^13\)

This report concurs with others in that in the great majority of patients (84 percent) the recurrences presented within two years of the initial resection.\(^5,14\) This suggests that special investigations might be worthwhile during the first two years. Despite their usage, however, the pickup rate of potentially curable, locally recurrent tumor remains low.\(^15\) Nonetheless, reoperation is worthwhile for suspected local recurrence as further treatment is sometimes beneficial (nine of 36 patients lived more than one year and three have survived five years). Furthermore, curable benign disease, such as adhesions, is often responsible for the symptoms.\(^16\) In the absence of evidence of disseminated malignant disease, an aggressive surgical treatment policy is therefore essential.

**References**