PAPERS AND ORIGINALS

Value of outpatient follow-up after curative surgery for carcinoma of the large bowel

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Summary and conclusions

The records were reviewed of 406 patients with carcinoma of the large bowel who had been treated at the Middlesex Hospital during 1958-62. Of these patients, 180 were followed up regularly in this hospital after radical surgery, and from six months to 15 years after operation they were seen 2319 times; 71 developed a recurrent carcinoma but, of these, 41 recurrences (58%) were diagnosed at times other than those of the patients' routine outpatient appointments, although they were being regularly reviewed. Only one patient with recurrence appeared to have been cured by further surgery.

For the present, adequate education of patients in the symptoms of early recurrence, with instruction to return if any of these develop, is likely to be more effective than the unsatisfactory and time-consuming routine follow-up still used in many hospitals.

Introduction

After radical surgery for carcinoma the traditional policy of reviewing patients as outpatients for the rest of their lives is starting to lapse in many hospitals, partly because of the work load, but also because of increasing disillusionment about the benefit to the patient that is gained by seeking early recurrent disease.

Reviewing cases of recurrent carcinoma of the colon, Bacon and Berkeley¹ suggested that a strict regimen of frequent check-ups with regular sigmoidoscopy and barium enemas was

essential. More recently, however, Ekman *et al*² concluded that this was unnecessarily extensive but suggested that a simple follow-up was still necessary. Polk *et al*³ devised an outpatient review based on two-monthly visits in the first year designed to give a 2% recurrence pick-up rate; at the same time they reported satisfactory early results of a trial in which patients had had explained to them the symptoms of early recurrent cancer and there was no regular pattern of visits.

The possibility that a second primary colonic tumour may arise is another reason advocated for follow-up. In the comprehensive studies from St Mark's Hospital^{4 5} it was suggested that this reason alone justified following up the patient for life with regular sigmoidoscopy and barium enemas.

When detection rates of recurrent carcinoma are discussed, it is rarely reported whether patients were seen solely at times of routine outpatient appointments or whether those with recurrence tended to present with symptoms before routine appointment times. Berge *et al*,⁶ however, report that as many as 61.7% of their recurrences were detected between regular follow-up examinations and Ekman *et al*² that 17% were detected in this way. These important findings, if applicable generally, raise further doubts on the value of such follow-up schedules and support the view that educating patients in the symptoms of early recurrence is an important aid to detecting recurrent carcinoma.

We have reviewed the follow-up of patients who had radical surgery for carcinoma of the large bowel and for whom follow-up data were available for the first 15 years after operation, when it had been the hospital policy to continue follow-up of cancer cases indefinitely. The aims of our study were to determine whether the follow-up performed had been effective in detecting recurrence and, once detected, whether finding the recurrence had been worth while to the patient.

Patients and methods

Four hundred and six patients had been entered into the cancer registry at the Middlesex Hospital during 1958-62 with a diagnosis of carcinoma of the colon (197 patients), rectum (198), or anus (11). Analysis of the records showed that 180 had undergone a radical operation for cure, had had outpatient review performed only at this

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hospital, and had records that were complete in all details including those concerning the operation and, where appropriate, full documentation of recurrent carcinoma and cause of death. Many patients who underwent a radical operation here were followed up at their local hospital and were, therefore, excluded from this review, as was any patient who developed a recurrence within six months or whose follow-up was less than six months for any reason.

The details of these 180 patients' operations and outpatient attendances in the 15 years after operation were further analysed. No patient had been discharged from follow-up during this period, although a few failed to attend at intervals during it. The policy during this time was to see patients at three-monthly intervals in the first year after operation, then six-monthly for several years, and then at yearly intervals, but this policy was modified according to individual circumstances.

Results

SURVIVAL

At the end of the 15-year follow-up period 69 (38%) of the 180 patients were alive and apparently free of disease. Only one of these patients had developed a recurrence that had been successfully treated (see below). Of the 111 patients who died, 70 died of recurrent carcinoma and 41 died of unrelated causes. The mean survival of those dying of carcinoma was 35 months and of those dying of other causes 84 months.

RECURRENT CARCINOMA

Of the 180 patients studied, 71 (39%) developed recurrent carcinoma of the colon six months to 15 years after operation. Of these 71 cases, only 30 (42%) were diagnosed at routine outpatient attendances. In the 41 other cases (58%) the diagnosis of recurrence was made between regular outpatient appointments: in 28 cases because the patient, having first consulted his general practitioner with symptoms, was referred back early; in three cases because the patient rang the clinic himself for an appointment; and in 10 cases because the patient was admitted as an emergency to another hospital. No new primary carcinomas of the colon were found in the 15-year follow-up of these patients, except possibly one (see below).

The table shows that 76% of the recurrences were diagnosed in the first three years after operation. After the first two years, when the intervals between attendances lengthened, more than twice as many recurrences were diagnosed in the intervals between routine appointments as at the appointments. No recurrences were diagnosed after 10 years.

Number of cases of recurrence of carcinoma of colon diagnosed in each year of follow-up

Year after operation:	1	2	3	4	5	6	7	8	9	10	>10
No diagnosed at routine appointments	10	11	2	2	1	2	0	1	0	1	0
No diagnosed between routine appointments	10	10	11	6	1	1	1	1	0	0	0
Total	20	21	13	8	2	3	1	2	0	1	0

When recurrence was diagnosed at routine appointments the diagnosis was made at a mean of 21 months after operation; when diagnosed between routine appointments, the mean interval was 28 months (this difference was not significant). Overall mean survival of these two groups was almost identical (34 and 36 months respectively).

Distant metastases were the commonest form of recurrence, occurring in 49 of the 71 patients (69%). Local recurrence in the pelvis was found in 14 patients (20%), whereas in only eight patients (11%) were there recurrences in the suture line. Those with recurrences in the suture line had the same range of sites of their primary carcinoma as those with other sites of recurrence; three of them had been detected in the first year of follow-up, three in the second year, one in the third year, and one in the fifth year. All but one of these patients had developed symptoms by the time their recurrences were diagnosed. The patient whose recurrence was detected in the fifth

year was apparently cured by further resection; histology showed that this tumour was no different from the original primary carcinoma, but it is impossible to be sure that this was a recurrence rather than a new primary tumour. This patient had had bleeding for some months before returning for his routine appointment. Of the 17 recurrences found after the first three years, 13 were distant, three in the pelvis, and one in the suture line.

TREATMENT OF RECURRENT CARCINOMA

For 35 of the cases of recurrent carcinoma no treatment, other than general supportive care, was given. Further operations were performed in 16 patients. In seven patients with recurrences in the suture line the aim was to resect the recurrence, but this was possible in only five patients, one of whom was apparently cured, and the rest survived only one to three years after further resection. In five cases further operations were performed to relieve obstruction, and in the remaining four cases they were performed either to diagnose or to excise recurrences in the pelvis or distant recurrences. Radiotherapy was given to 18 patients, including one who underwent a further operation, and chemotherapy to three.

OUTPATIENT VISITS

The 180 patients were seen 2319 times in the outpatient clinic in the 15-year follow-up period. There were 701 visits in the first year, 406 in the second, and then a steady decrease to only 17 in the 15th. Six hundred and fifty-four (28%) of the visits were by patients who had got, or would get, a recurrence.

The overall recurrence pick-up rate was one in 33 visits (3%; this includes routine and non-routine visits). In the first year the detection rate was 2.9%, but in the next three years it increased to 5.2%, 4.8%, and 4.0% as the frequency of the visits decreased. Recurrences in the suture line were found, on average, only once every 290 visits (0.3%).

Discussion

Outpatient follow-up in cases of carcinoma may be performed to help the patient by seeking curable recurrent carcinoma, to palliate incurable recurrences, or to manage postoperative complications other than recurrence. It is also believed to give general support and reassurance to the patient and in some cases it is advocated because such patients have an increased risk of developing other carcinomas. Another reason is to help the doctor assess the results of different treatments. Often, however, the follow-up becomes a routine with no consideration given to whether any of these aims are valid in a particular case.

Detection of early recurrence of carcinoma of the colon or rectum by the follow-up schedule in this study was undoubtedly inefficient. Seventy-two per cent of the time was spent in seeing outpatients who never developed a recurrence, and 58% of those who did were diagnosed at times other than those of their routine appointments. Seeking recurrences at routine appointments presupposes that they are more likely to be curable if found before they cause symptoms. Recurrences in the suture line are most likely to be amenable to further surgery with a hope of cure; in this study all but one of the patients had symptoms when their recurrences were diagnosed, and in other studies 80%³ and 70%⁷ of patients with localised recurrent tumour had symptoms and would probably have returned for review, if so instructed, in the absence of routine follow-up.

If prolonged routine outpatient review is of doubtful benefit for detecting curable recurrences, then the benefit is even more doubtful when the other aims are considered. Providing palliation for incurable recurrent carcinoma is certainly an important aspect of cancer follow-up, but only rarely will patients' palliation be more effective if they have been regularly reviewed in the period before they developed symptoms. Post-operative complications other than recurrence will probably be manifest in the first six months after operation; problems with

a colostomy or ileostomy are best managed in a stoma clinic rather than in the middle of a busy follow-up clinic.

Reassurance and support of the patient are often provided by a check-up in which no recurrence is found, but patients are often anxious and worried for days before such check-ups. If a patient asks himself why he is being brought back for review, he must conclude that it is because the surgeon is looking for recurrent disease and thereby be reminded regularly, and in most cases needlessly, of an operation and experience that is best forgotten. We believe that the patients studied were often falsely reassured by a negative result at a follow-up appointment, even though examination was often performed by a junior member of the surgical team, usually without sigmoidoscopy, barium enema, or occult blood testing. Because of this reassurance, patients often ignored symptoms which developed soon after an appointment. Thus the follow-up may, in fact, have delayed the detection of recurrences in some cases.

An important aspect of follow-up after operations for carcinoma of the colon is to look for metachronous tumours in the colon.^{4,5} In 100 patients, however, only two metachronous tumours are likely to develop during the 25 years after curative colonic resection, and one of these tumours is likely to be either inoperable or of Dukes stage C.⁴ We believe that this yield does not justify elaborate screening schedules on a national basis.

One approach to these disappointing results would be to argue that more frequent and thorough follow-up should have been performed. There are, however, no satisfactory data to suggest that more extensive follow-up increases the detection rate of curable recurrent carcinoma of the colon. There is increasing evidence that recurrences in the suture line are caused by incomplete excision of the primary tumour,⁸ and emphasis is therefore better placed on making the right decisions at the first operation than in trying to detect mistakes in outpatients subsequently. Apart from recurrences in the suture line it is sometimes possible to resect secondary deposits in the lung⁹ or liver,^{10,11} but permanent cures are rarely obtained from these procedures, and the prolonged survival compared with non-operated cases may be due more to case selection than to the results of surgery. Alternatively, if certain patients could be identified as being at particular risk of developing localised recurrent carcinoma, then they could be followed up more intensively. We could find no particular characteristics of the patients with recurrences in the suture line, but patients whose margin of clearance of the primary tumour is limited (perhaps to 6 cm¹²) would probably benefit from more intensive review. A further possibility for making the review more efficient would be to concentrate on the time after operation when localised recurrences would be most likely to occur, but we could identify no such time. Similarly, if a group can be identified as being at particular risk of a second primary carcinoma—for example, those with adenomata associated with the original carcinoma—then review could concentrate on them.

The development of efficient tumour markers may change the value of follow-up procedures. Persistently raised plasma carcinoembryonic antigen concentrations after curative operations are already being used as an indication for second-look operations.¹³⁻¹⁵ Long-term cure rates, however, are not yet

available, and many operations have turned out to be unnecessary because at operation the disease was found to be disseminated. Use of the new guaiac method of testing for faecal occult blood¹⁶ could prove to be a useful adjunct in detecting curable recurrences.

Since traditional follow-up is wanting in so many respects, we believe that far greater reliance should be placed on the alternative policy of educating patients in the symptoms of early recurrence and instructing them to return to the outpatient clinic if they develop these symptoms. A formal decision made either three or six months after operation about the need for, and likely benefit of, future routine appointments in each particular case would probably avoid many unnecessary visits, allowing more detailed investigation of those who return with symptoms.

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ONE HUNDRED YEARS AGO The Archbishop of Canterbury has conferred the degree of MD upon Mr James Rogers, MRCS, and LSA, of Swansea. Mr Rogers is, we believe, a respectable practitioner, and was formerly mayor of the town; and his friends, we see, are now raising a subscription to defray the stamp-duties and office-fees, amounting to about eighty guineas, and also to present him with the hood and gown of a Doctor of Medicine of Oxford; for it appears that the recipients of a Lambeth degree are entitled to wear the robes of the corresponding degree at that university at which the Archbishop has himself graduated. In these days, when so much is being done to raise the standard of medical examinations, when diplomas and degrees are so carefully sifted, and when so many are anxious to

obtain the right to style themselves "Doctor," this relic of mediaevalism might, we think, be abolished. In the present instance, it is difficult to discover what professional grounds were urged for so special and outlandish a proceeding. The degree is hardly one to be proud of; and we cannot imagine how a practitioner who possesses the respectable diplomas of examining bodies, which test the proficiency of those who apply to them, should care to wear the peacock feathers of Lambeth, which have no meaning, but which represent rather a burlesque than the reality of a professional honour. A Doctor of Medicine nominated by a bishop is an anachronism, and serves rather to point an ancient and monkish moral than to adorn any nineteenth century tale. (*British Medical Journal*, 1880.)