

Cryosurgery in the treatment of rectal carcinoma

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Summary

Four patients with adenocarcinoma of the rectum were treated by cryosurgery. In all cases there was considerable improvement in local symptomatology following treatment, although in 2 patients troublesome complications were encountered following application of the cryoprobe. All 4 patients are alive at 2 years.

KEY WORDS: rectal carcinoma, cryosurgery.

Introduction

Cryodestruction for rectal carcinoma can be carried out for those patients who are medically unfit for general anaesthesia or for those who refuse the conventional operative treatment.

The procedure is relatively painless and a general anaesthetic is not necessary. In the anxious patient, intravenous injection of diazepam may be useful.

Patients and methods

All patients came to cryosurgery with the histological diagnosis of well-differentiated adenocarcinoma established (Table 1). Two were unfit for surgery on medical grounds, while the other two refused operative treatment (Table 2). The tumours were frozen using a cryoprobe cooled by nitrous oxide (KRY-MED MT 600, the probe tip being a T2500 maxiderm). The machine produced and maintained temperatures as low as -70°C .

The patients were placed in the lithotomy position and a full bimanual pelvic examination was carried out in order to assess size and fixation of the tumour. A Parks anal retractor was introduced into the rectum following anal dilatation. The cryoprobe was initially pressed against the tumour, thermal contact being improved by K-Y jelly, and when firm adhesion was achieved, traction was applied to pull the tumour away from surrounding tissues in order to protect underlying structures. The probe was kept in place for 5 min, several applications to different parts of the tumour being necessary.

All patients were seen at 2 monthly intervals for assessment and treatment was given if applicable.

Results

Complete local tumour regression, as shown by clinical and histological examination, was achieved in 2 patients after 3 applications of the cryoprobe (Table 3). These patients remained free of local disease for a period of 2 months. Troublesome local complications (Table 3) in the form of reactionary and secondary haemorrhage requiring blood transfusion, and profuse serous discharge lasting for 2 weeks after application of the cryoprobe were encountered in the other 2. Characteristically, these were the larger tumours.

There were no deaths, perforations of the bowel, strictures or fistula formation. Local symptomatology after treatment was completely eliminated with the smaller tumours and considerably improved with the larger ones.

All 4 patients are alive at 2 years, cases 2 and 4 requiring a total of 8 treatments and cases 1 and 3 requiring a total of 12 treatments.

Discussion

The accepted treatment for low rectal carcinoma is abdomino-perineal resection. Circumstances arise however, such as patient refusal or poor general condition, where the least invasive procedure may be necessary to control the problems of the primary tumour.

The local management of low rectal carcinoma as primary treatment has been mainly confined to diathermic fulguration (Madden and Kandalaf, 1967; Crile and Turnbull, 1972); local resection (Parks, 1972) and contact irradiation (Papillon, 1974). Cryosurgery has also been used with good results (Langer, 1974). Osborne, Higgins and Hobbs (1978) report good palliation in 6 cases of rectal carcinoma, although no indication as to the nature, size and extent of dimensions is given. Two of their cases were complicated by the development of rectal stricture and one by the development of reactionary haemorrhage.

In the present study, the most troublesome complication was reactionary and secondary haemorrhage

TABLE 1. Details of tumour

Case number	Macroscopic appearance	Site (distance (cm) from anal verge)	Size	Position
1	Ulcerating	7	4.0 cm × 3.0 cm	Anterior and lateral rectal wall
2	Ulcerating	6	2.5 cm × 1.0 cm	Posterior rectal wall
3	Ulcerating	6	5.0 cm × 2.5 cm	Almost involving full circumference of bowel
4	Polypoid	5	2.0 cm × 1.0 cm	Posterior rectal wall

TABLE 2. Details of patients with rectal carcinoma

Case number	Age	Sex	Symptoms	Problems
1	86	F	Rectal bleeding Change in bowel habit	Refuses surgery
2	69	M	Rectal bleeding	Carcinoma of prostate Refuses surgery
3	81	M	Change in bowel habit Mucus discharge	Chronic obstructive airways disease Congestive cardiac failure
4	90	M	Rectal bleeding	Chronic obstructive airways disease Congestive cardiac failure

TABLE 3. Results and complications of treatment

Case number	Number of treatments	Results	Complications
1	12	Tumour bulk regression	Rectal haemorrhage
2	8	Complete tumour bulk regression	Nil
3	12	Tumour bulk regression	Rectal haemorrhage. Serous discharge
4	8	Complete tumour bulk regression	Nil

which was severe enough to necessitate blood transfusion, although re-application of the cryoprobe produced haemostasis. This was confined to the larger carcinomas. Small tumours can regress completely on a local basis as shown by clinical and histological examinations. Whether this is only true in the well-differentiated carcinomas treated here is not certain. It is of interest that although larger tumours can have an initial rapid reduction in bulk, further size ablation tended to be extremely slow despite the number of applications of the cryoprobe.

It is our belief that small carcinomas can be locally successfully treated by cryosurgery without complications and with minimal hospital confinement, while the treatment of large tumours tends to be

complicated with the resultant morbidity outweighing the benefits.

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