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Salvage Cystectomy for Bladder and Gynaecologic Cancer after Irradiation Failure

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ABSTRACT

From November 1981 through 1983, salvage cystectomy was performed on five men with recurrent bladder carcinoma after definitive irradiation; three of the men were 75 years or older. There were no deaths, but the complication rate was fairly high, though acceptable. Salvage cystectomy was further performed, together with radical extirpation of reproductive organs, in two women with recurrent gynaecologic malignancy and a history of local irradiation. The authors conclude that salvage cystectomy is a fairly safe procedure, even in elderly patients, relieving discomfort and probably also prolonging survival.

INTRODUCTION

Radiotherapy followed by elective cystectomy and urinary diversion is the dominant treatment for invasive bladder carcinoma in Sweden. At the urology department of Uppsala University Hospital radical radiotherapy is restricted to high-risk patients or patients who do not accept cystectomy. In addition, definitive irradiation has been advised for patients with "biologic age" higher than 70 years. With these criteria, patients who do not respond to such treatment, or who have recurrence of tumour, are in a distressing situation. Post-radiation changes increase the risks in surgery, and of course the patients then are older than when the decision concerning primary treatment was made. Although previously judged to be unfit for cystectomy, this operation now offers their only chance of survival.

In earlier Scandinavian studies (3,5) the results of salvage cystectomy have been disappointing, with high complication rates and no prolongation of survival But in the past 10 years, refinements of technique in radiotherapy, anaesthesia, postoperative care, antibiotic prophylaxis (against anaerobic organisms) and surgical procedures seem to have effected some improvement. Several reports from the early 1980s (2,7,8) described results from salvage cystectomy as good as

those from elective cystectomy with or without preoperative irradiation. Towards the end of 1981 we adopted a positive attitude towards curative surgery after definitive pelvic irradiation, and this paper presents our experience up to the end of 1983.

MATERIAL AND METHODS

From November 1981 through 1983, seven patients underwent curative surgery after definitive irradiation. Five (all men) had been irradiated for bladder carcinoma, and two women had received radiotherapy for gynaecologic malignancy.

Bladder carcinoma

At the time of cystectomy, four of these five men had poorly differentiated transitional cell carcinoma with muscle invasion. The other man (Case 1) had incapacitating irritative bladder symptoms and tumour of low differentiation with stromal but not muscular invasion. Table 1 presents some clinical data on the individual patients.

Table 1. Clinical data in 5 cases of salvage cystectomy for bladder cancer

Case no	Age at cystectomy	Complicating disease	Irradiation dose (Gy)	Radiotherapy - cystectomy (months)
1	76	thrombosis	68	12
2	72	neurologic disease	64	9
3	65	-	78	24
4	75	hypertension	70	16
5	75	left nephrectomy for tuberculosis, cardiac insufficiency, spinal stenosis, bilateral hip replacement	64	11

Standard ureteroileostomy for urinary diversion was performed in all five cases, using the Wallace technique for the ureteroileal anastomosis. Cystectomy was done without extensive ileal lymph-node extirpation. Urethrectomy was performed in three of the five patients.

Gynaecologic carcinoma

One of the patients, a 75-year-old woman, had undergone surgery for cancer of the vulva in 1972, with full irradiation postoperatively. Recurrence of tumour was surgically treated in 1978 and 1981. Because of intractable

urinary incontinence, suprapubic cystostomy was carried out in 1982, and an unsuccessful attempt was made to close the urethra. The patient was admitted to our department for urethral closure. Cystoscopy revealed a squamous cell carcinoma in the bladder and around the urethra. Urinary diversion was performed, with cystectomy, hysterosalpingo-oophorectomy and total extirpation of the vagina.

The second woman was 57 years old. She had received radiotherapy for carcinoma of the uterine cervix in 1962 and for a recurrence in 1976. She now presented with local recurrence of tumour, in the anterior vaginal wall around the urethra. In addition to ileal conduit diversion of urine she was submitted to cystectomy, hysterosalpingo-oophorectomy and resection of the anterior and lateral vaginal walls. The anterior wall of the vagina was reconstructed with a peritoneal flap, which partly necrotized. The defect was convered with a free skin graft.

RESULTS

Bladder carcinoma

The outcome for the five patients with cancer of the bladder is summarized in Table 2. The length of hospital stay (20-32 days) was not discouraging.

Table 2. Outcome in 5 cases of salvage cystectomy for bladder cancer

Case no	Hospital stay (days)	Complications		Present status	Follow-up (months)
		early	late		
1	32	pulmonary embolism	thrombosis	good	32
2	20	-	claudication	good	35
3	22	wound rupture, urinary leakage	partial obstruction of left ureter	good	42
4	25	-	-	local pelvic recurrence	35
5	32	urinary leakage	recurrence in urethra	good	25

The patient with pulmonary embolism (Case 1) had not received peroperative thrombosis prophylaxis. When his anticoagulation therapy was withdrawn 6 months after discharge from hospital, venous thrombosis appeared in the leg. The patient is now doing well on anticoagulant medication.

Partial obstruction of one ureter resulted in pyelitis in Case 3. He is now symptom-free on maintenance antibiotic therapy. Transient urinary leakage occurred in Cases 3 and 5, but subsided without intervention. In one of the two patients without initial urethrectomy (Case 5), local recurrence subsequently necessitated extirpation of the urethra. This patient is now apparently tumour-free. Local (pelvic) recurrence of cancer has recently appeared in Case 4, 34 months after cystectomy.

Gynaecologic carcinoma

The patient treated for vulval cancer, who is now 78 years old, has done extremely well in the 3 years after salvage cystectomy. She had minor discomfort from a perineal hernia but no problems from the urostomy. The patient treated for cervix cancer has not been observed for 25 months after cystectomy. Her urostomy functions well, and the postoperatively more capacious vagina permits sexual intercourse. There are no signs of cancer recurrence.

DISCUSSION

The purpose of this report was to present our initial results following change towards an aggressive approach to tumour recurrence after full irradiation. Because of our selection criteria for radiotherapy of bladder carcinoma, three of the five patients with such tumours were 75 or older and they also had complicating disease. Nevertheless there was no mortality in the series.

The relatively high complication rate among our patients and the nil mortality were in agreement with reported results from radical cystectomy in elderly patients (6) and also with results from salvage cystectomy (2). The complications, however, were mostly mild and had little impact on the length of hospital stay.

There are convincing reports that salvage cystectomy improves survival rates among patients with partial response to definitive radiotherapy or with relapse after complete response (1,4). Indeed, the results in the latter cases, with radiotherapy followed by salvage cystectomy, challenge those from preoperative irradiation and elective cystectomy.

Most gynaecologic patients with tumour relapse after full irradiation are unfit for surgery because of tumour spread or fixation to the pelvic walls. Our small series included two patients who derived benefit from urinary diversion and pelvic exenteration, and we are convinced that no other treatment would have given equal or greater relief. Close collaboration between urologists and gynaecologic oncologists may be fruitful in selected cases.

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