

Bladder Carcinoma Treated by Preoperative Radiotherapy Followed by Cystectomy

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Summary. In 1969 a clinical trial was started where patients with bladder carcinoma stage T2 and grade 3 were subjected to preoperative radiotherapy followed by cystectomy. The survival rate in this series was higher than in a previous series of comparable patients who were given full irradiation without cystectomy.

Key words: Preoperative irradiation - Cystectomy - Bladder carcinoma.

The discouraging results of radiotherapy alone or surgery alone in low stage but highly malignant carcinoma of the bladder evoked interest in preoperative irradiation followed by cystectomy (1, 4, 5, 6). In different centres the calculated mean tumour dose has varied from 2,000 rad given in 5 days to 3,000 rad and 5,000 rad in 3 to 7 weeks. The interval between irradiation and cystectomy has varied from 3 days to 3 months.

MATERIAL AND METHODS

In the period from 1957 to 1969, 108 patients with bladder carcinoma stage T2 and grade 3 were given full irradiation treatment with a ^{60}Co -unit using a three-field technique with two wedge filter beams in front and one open beam in the back. The whole bladder and a wide margin was included in the tumour dose and the regional lymph nodes were included in the 75 per cent isodose curve.

The mean age of the patients was 64 years. The dose was 6,400 rad in 7-8 weeks. The same therapy was given to 78 patients with stage T2 and grade 2 tumours.

During the years 1969-1975, 71 patients with carcinoma stage T2 and grade 3 were given preoperative radiotherapy followed by cystectomy and ileal conduit one month later. The mean age of these patients was 61 years. The irradiation was given on 6 MV Linear

Accelerator with a three-field technique with two wedge filter beams in front and one open beam in the back. The whole bladder with a wide margin was included in the tumour dose and the regional lymph nodes were included in the 75 per cent isodose curve. The calculated mean tumour dose was 3,600 rad given in 4 weeks.

RESULTS

The 1,2 and 5 year survival rates are given in the Table. In the patients with stage 2 and grade 2 tumours and given full irradiation the 5 year survival was 38%.

Table 1. Survival rate in patients with bladder carcinoma stage T2 grade 3

Therapy	Observation period (years)		
	1	2	5
Full irradiation	60/75 80 %	34/44 45 %	19/69 27 %
Preoperative irradiation and cystectomy	21/22 95 %	17/22 77 %	12/22 55 %

The operative mortality within one month following surgery was 5%. The operation was not rendered more difficult by the irradiation.

DISCUSSION

Even if this patient series is too small to permit a definite conclusion, it is evident that the survival rate in the patients subjected to both irradiation and surgery was higher throughout the observation period. The postoperative mortality following cystectomy without previous irradiation was 7-8 per cent in a number of reports on record. As judged from this small series the irradiation did not increase the operative mortality. Nor were late complications more common than in other comparative series where the patients had not been given pre-cystectomy irradiation.

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