

MANAGEMENT OF INVASIVE BLADDER CARCINOMA - A FIVE YEAR REVIEW

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SYNOPSIS

A series of 48 patients with invasive bladder carcinoma (T2, T3 and T4) is reviewed over a 5-year period. The disease occurred late in life with an average age of 68 years. 50% of these patients had T3 tumour while 29% and 21% had T2 and T4 tumours respectively. About two-thirds of the tumours were in Grade III and another one-third in Grade II category. Radiotherapy was used primarily, with 34 of the 48 patients received this form of treatment. Complete response was noted in 10 but only 7 (22%) were free of the disease during follow up between 1 to 3 1/2 years. Surgery was performed for 5 patients, of which 3 were total and 2 partial cystectomies. Salvage cystectomy could only be done in 1 of the 14 partial responders to radiotherapy. This poor result has prompted us to adopt a more aggressive policy of planned preoperative radiotherapy followed by cystectomy for those younger (below 65 years) and fitter patients.

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INTRODUCTION

Radiotherapy alone has been used to treat invasive bladder carcinoma with 5 - year survival rate varied from 16% to 38%(1,2). Our policy in the management of invasive bladder carcinoma (T2, T3 and T4) has been radiotherapy first and we reserve cystectomy for those who have failed to response to radiation treatment. The main advantage is the preservation of urinary and sexual functions of patient with no operative morbidity or mortality. The other reason for using radiotherapy is that some of our patients refused to accept cystectomy with ileal conduit diversion.

TABLE 1
STAGES CORRELATE WITH GRADING OF
BLADDER CARCINOMA

	T2	T3	T4	Total
Grade II	8	5	2	15 (31%)
Grade III	6	19	8	33 (69%)

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MATERIAL AND METHODS

48 patients with invasive bladder carcinoma (T2, T3 and T4) were treated in the University Department of Surgery, Singapore General Hospital between the period 1980 to 1984. 34 of the 48 patients had received radiotherapy of which 28 were radical and 6 palliative. Total cystectomy were performed in 3 patients. 1 with suprapubic mass, 1 with vesico-vaginal fistula and 1 with salvage cystectomy. 2 patients had partial cystectomy, 1 patient with a lower third ureteric tumour was treated by local excision. The other 10 patients had either very advanced disease and hence no further treatment or had died as a result of medical or surgical complications following transurethral biopsy or resection. 1 T3 patient had refused any additional treatment other than transurethral resection.

Age and Sex

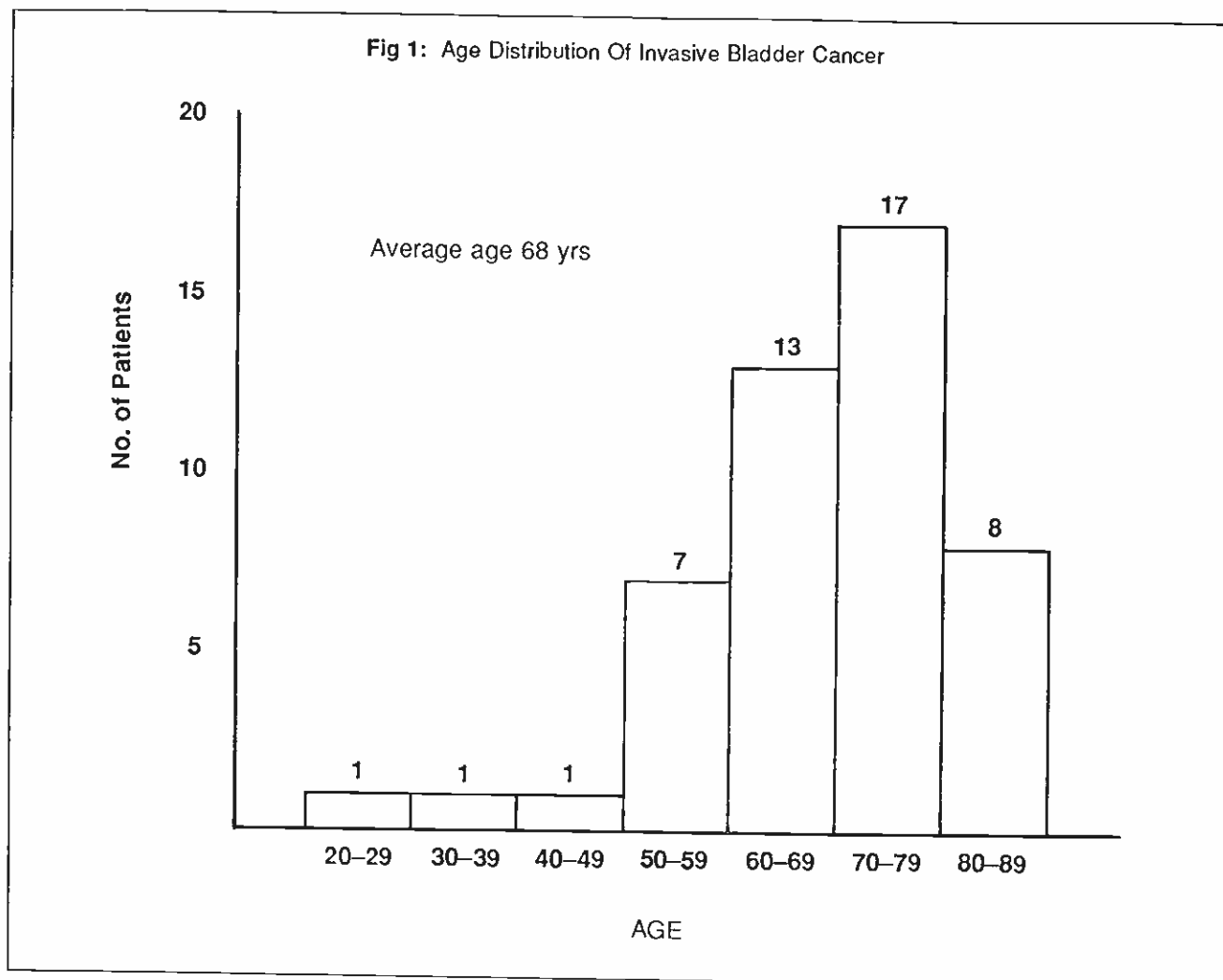
The age in this series ranged from 21 to 89 years with an average age of 68 years. Most of the patients were at 6th, 7th and 8th decades of life (Fig 1). The males to females ratio was 4.8 to 1 and this was similar to those we reported earlier(3).

Assessment of patients

The baseline investigations included intravenous urogram, renal function tests and chest Xrays. Bone scan and CAT scan of pelvis were only done in selected cases. Amongst the 46 intravenous urograms that were done, 19 showed dilatation of the upper tracts, one in addition had a filling defect in the right lower ureter due to a tumour. 24 patients had obvious filling defects in the bladder.

Clinical Staging

All patients were assessed by cystoscopy, bimanual examinations under anaesthesia and resection. In T2 and T3 tumours, attempts were made to resect as much as possible the endophytic growth. Deep biopsies of the base of tumours were obtained and these informations were made use of in the final clinical staging of the disease. 24 patients (50%) were in clinical T3 category and T2 and T4 each consisted of 14 (29%) and 10 (21%) patients respectively.



Pathology

Solid tumours were found on cystoscopic examination in 25 patients, mixed with both papillary and solid elements in 21 patients and 2 had papillary tumours. 69% of tumours were in Grade III and 31% in Grade II (Table 1).

Response to Radiotherapy

The cystoscopic findings at 6 months after radiotherapy were used as a criteria of 'complete', 'partial' or 'non response' of the tumours (CR, PR and NR). For those that were likely to response, the regression of tumour was very obvious during first cystoscopy at 3 months. However, some continued to improved up to 6 months.

Follow up

The status of 10 patients who failed to turn up after an initial period of followed up were confirmed dead by the Registry of Deaths. 2 patients in the T3 category after radiotherapy have returned to Indonesia and Malaysia and were lost to follow up.

RESULTS

Tumour response and stage

The results of 32 patients following radiotherapy are shown on Table 2. 10 of the 32 patients (31%) in both T2 and T3 categories showed a complete response. The T2 patients had responded more favourably than T3 patients, 50% compared to 28%. The histological grades did not

**TABLE 2
RESPONSE OF RADIOTHERAPY
IN 32 PATIENTS**

	T2	T3	T4	Total
CR	5	5	0	10
PR	4	9	1	14
NR	1	4	3	8
TOTAL	10	18	4	32

seem to influence the outcome of radiotherapy as amongst the complete responders, there were 4 grade II and 6 grade III.

Survival of T2 and T3 patients

7 patients (22%) were free of the disease 1 to 3 1/2 years following radiotherapy (Table 3). 16 patients (50%) had died as a result of progression of the disease.

TABLE 3
RESULTS FOLLOWING RADIOTHERAPY IN
32 PATIENTS

	T2	T3	T4	Total
No Recurrence (1-3½ yrs)	3	4	0	7 (22%)
Recurrence (6 mths-2yrs)	2	6	1	9 (28%)
Dead (6 mths-2 yrs)	5	8	3	16 (50%)

Surgery

2 of the 3 total cystectomy patients had died of metastatic disease and only one was alive and well at 3 1/2 years. One patient with partial cystectomy was well at 2 years and the other had developed recurrence. Only 1 of the 14 partial responders had undergone salvage cystectomy. The rest either had too advanced a disease or were poor risk candidates and cystectomy could not be done.

Post-irradiation complications

Mild to moderate symptoms were noted in 6 patients. These included frequency, urgency, dysuria, haematuria and sometimes diarrhoea. Usually they responded to conservative treatment. Severe irradiation cystitis were seen in 3 patients, all had small bladder capacity of about 50-100 cc with intense urinary symptoms, 2 patients required permanent indwelling Foley's catheter.

DISCUSSIONS

The rationale of using radiotherapy to treat invasive bladder carcinoma is based on the concept that the radiosensitive tumours would respond favourably to radiation and the disease can either be cured or downstaged. Most series reported a complete response rate of 30 to 40%(1,4,5). Cystectomy can then be withheld for this group of patients and used only in those who failed to respond well to radiotherapy. Blandy et al(1) believed that this approach did not jeopardize the survival of the patients on the whole.

Other reasons for using radiotherapy, are that a considerable numbers were poor risk patients and many

patients feared cystectomy with ileal conduit diversion and would prefer radiotherapy.

The complete response rate of 28% in T3 in this series is low compared to 42% reported by Blandy(1), but comparable to those reported by Miller, Warf-Messing and Wallace and Bloom(1,6,7). Although the response to radiotherapy cannot be predicted accurately by available clinical or pathological data(8), our results seem to show that lower stage is a favourable factor as 50% of T2 achieved a complete response. This might be due to a smaller tumour load for radiotherapy as it has been our practice to resect as much as possible of the endophytic growth at the time of initial cystoscopy. In this study, the histological grading does not seem to influence the outcome of radiotherapy.

3 of the 10 complete responders (22%) have since returned with recurrences 9 to 12 months after radiotherapy. Such finding is distressing and would indicate that complete response to radiotherapy does not mean a cure of the disease. Hall and Health (8) has pointed out that one-third of these patients would develop recurrent disease if the bladder is not removed. The observation of this short coming of radiotherapy had led to the combined use of both radiotherapy and cystectomy in the treatment of invasive bladder carcinoma first pioneered by Whitmore and his colleagues.(10)

The idea of salvage cystectomy may appear to be attractive but one has to realize that only a small number of patients are suitable for this procedure. It was 7% in this series and 8% reported by Blandy et al(1). The reasons for such a low salvage cystectomy rate are firstly, after failing radiotherapy, most of these patients are in poor general health and nutrition to withstand a major surgery. Secondly, failure to advise an early operation before the disease become too advance, this occurs when one is too preoccupied in trying to achieve local control with fulguration or intravesical chemotherapy. Lastly, some of our patients have actually refused salvage cystectomy.

The morbidity of radiotherapy is seen in those who develop post irradiation cystitis. Though the milder form responded well to conservative treatment, in those severe cases, the symptoms become intractable due to a small contracted bladder and a cystectomy with urinary diversion would be necessary. However, none of the 3 patients were fit for this operation.

Judging from the poor results of radiotherapy in this series, we felt that an alternate line of approach is needed. The works reported by Whitmore and others(7 - 11) on planned preoperative radiotherapy and followed by cystectomy appeared to give a better results with 5 year survival rate ranged from 33 to 46%(1,6,7,10).

We have thus adopted this policy for our younger (below 65 years) and fitter patients with invasive bladder carcinoma in the hope of achieving a better survival rate. Radical radiotherapy will continue to be used for those who are poor surgical risks.

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BOOK REVIEW

BOOK REVIEW: COLOUR ATLAS OF OPHTHALMOLOGY

Authors:

LIM & CONSTABLE

2ND ENGLISH EDITION 1987

The book was lying on my table. The eye with a foreign body on the cornea was staring me in the face. I turned the book round face downwards. The back hard cover was full of words: there was nothing adverse said about by the past reviewers. In fact all the reviews heaped laudatory remarks about it - absolutely top rate, high quality, fine atlas, highly recommended etc.

I therefore decided to read the book from cover to cover. Except for typographical errors, I was indeed impressed with the book. The layout was good, the colour photographs superb. Having left ophthalmology a long while ago, it was refreshing to read this little volume which pretended not to be a textbook but only a colour atlas. Nonetheless the information supplied in each chapter was simply digested and conveyed the message for each topic succinctly.

If a medical student was to be enticed to do ophthalmology, this book should be presented to him when he is doing his short posting in ophthalmology. The book should be read and understood in the short space of time and the salient points on diagnosis and the elementary points in management could well be remembered.

As mentioned in the preface, this atlas is meant to be "a useful guide not only to general practitioners, but to other non- ophthalmologist as well as the physicians, surgeons, nurses, students and all those paramedical personnel who have to deal with common eye diseases." This aim has been successfully accomplished. The index with figures in bold referring to illustrations is a superb idea.

"A picture is worth a thousand words" and this high quality atlas is truly therefore a large warehouse of knowledge despite its small handy size.

Dr Chee Yam Cheng