THE MANAGEMENT OF SUPERFICIAL BLADDER TUMOURS

K H Tung
E C Tan
H S Lam
C O Low
K T Foo
E P C Tock

Department of Surgery
National University of Singapore

K H Tung, MBBS (Sing), FRCS (Edin), (Glas)
Senior Lecturer

E C Tan, MBBS (Sing), FRCS (Edin), (Glas)
Senior Lecturer

H S Lam, MBBS (Malaya), FRCS (Edin), (Glas)
Lecturer

K T Foo, MBBS (Sing), FRCS (Edin)
Associate Professor

C O Low, MBBS (Sing)
Medical Officer

Department of Pathology
National University of Singapore

E P C Tock, PhD (Lond), MD (Sing), MBBS (Mal), FACP, FRCPA, DABTM, FACCM
Professor and Head

INTRODUCTION

Over the past few years, we, in the University Department of Surgery, have been better able to stage bladder tumours using the TNM classification.

In this paper, we review our experience with the management of superficial T_1 tumours. We intend to highlight 2 problem areas in this condition — one of high default rate among patients and the second, the problem of management of recurrent tumours.

MATERIAL AND METHOD

Over the last five years from 1980 to 1984, a total of 130 patients with transitional cell carcinoma of the bladder were seen at the University Department of Surgery. Of those 82 patients (63.0%) were staged as having superficial cancers. These tumours were staged based on intravenous urogram, examination under anaesthesia and most importantly, cystoscopic findings. Histological examinations confirmed the superficial nature of these lesions.

RESULTS

Out of the 82 patients, 21 of them have absconded from follow up. These patients have been excluded from this review.

Of the remaining 61 patients there were 53 males and 8 females giving a male to female ratio of 6.6: 1. There was no obvious predilection for any ethnic group. We have divided these patients into 3 groups (Fig 1).

Fig 1: Group of Patients

I. Single Occurrence
II. Recurrences:
  A) Treated with chemotherapy
  B) Endoscopic control
III. Carcinoma-in-situ

The first group consisted of 22 patients (26.8%) with a single occurrence of tumour. Thereafter with regular check cystoscopies, in some patients up to 4½ years after the initial lesion, there have been no recurrence. The ages of these patients ranged from 19 years to 79 years with most of the patients in the 5th and 6th decades (Fig 2). There were 19 males and 3 females. 20 patients presented with haematuria and the duration of their symptom varied from 3 days to 5 years with the majority giving a history of 1 year.

At cystoscopy, 19 patients had single tumours. They were papillary in nature with a short stalk. 3 patients had multiple lesions — in one of them there were 7 lesions and in the other 2 cases 2 tumours each. One of these patients has died from a myocardial cause. The other 2 are still alive and free of tumours after 2 year and 4½ years.

12 patients had Grade I tumours and the other 10, Grade II tumours. There were no patients with Grade III lesions.

The second group consisted of 27 patients (32.9%) who have developed recurrent tumours. Their age range is shown in Fig 3.

12 of these have been treated with chemotherapy at some stage during the course of the disease. There were 11 males and 1 female and their ages ranged from 40 years to 69 years. 6 of these patients had initial single lesions. There were 4 patients with Grade I tumours and 8 with grade of 2 tumours.

Of the 6 patients with multiple initial tumours, 2 had resection followed by a course of thiotepa about 2 weeks later. One patient responded dramatically with only 2 recurrent lesions at 3 months. Subsequently, there were 2 further episodes of recurrences at 2 years 3 months and 3 years 6 months which could be controlled by transurethral resection. The other patient did not respond so well. He had another course of Thiotepa at 3 months and 1 year later still had multiple recurrences.

4 other patients also developed recurrences at 3 months after resection. These lesion were resected and patients given Thiotepa. One had 2 courses after which he did not develop any more recurrences while another 2 continued to develop recurrences. Both have been tried on other agents — one with mitomycin C with no recurrence after the first follow-up and the other with adriamycin with poor result. One last patient in this group was given mitomycin C after the first follow-up cystoscopy for recurrences.

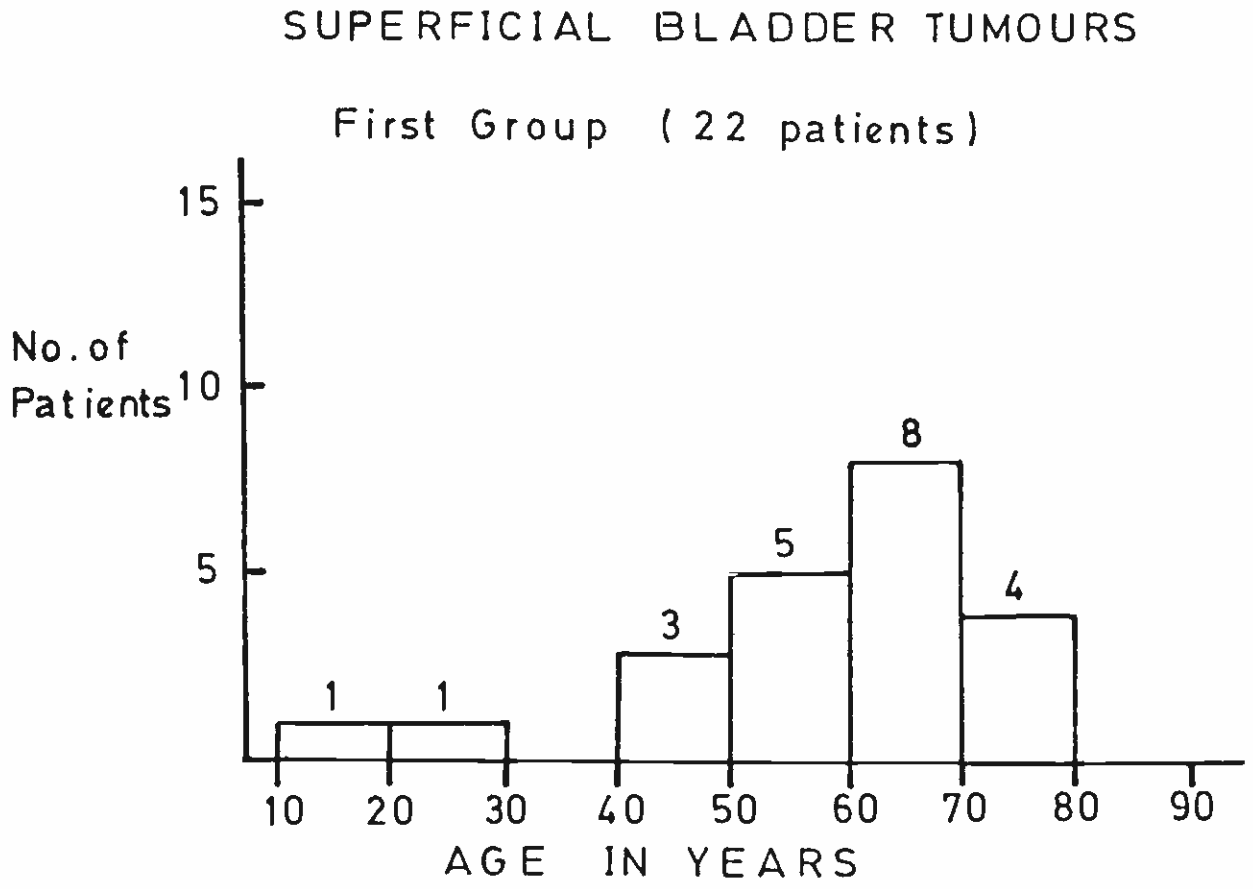

Fig 2: Superficial Bladder Tumours

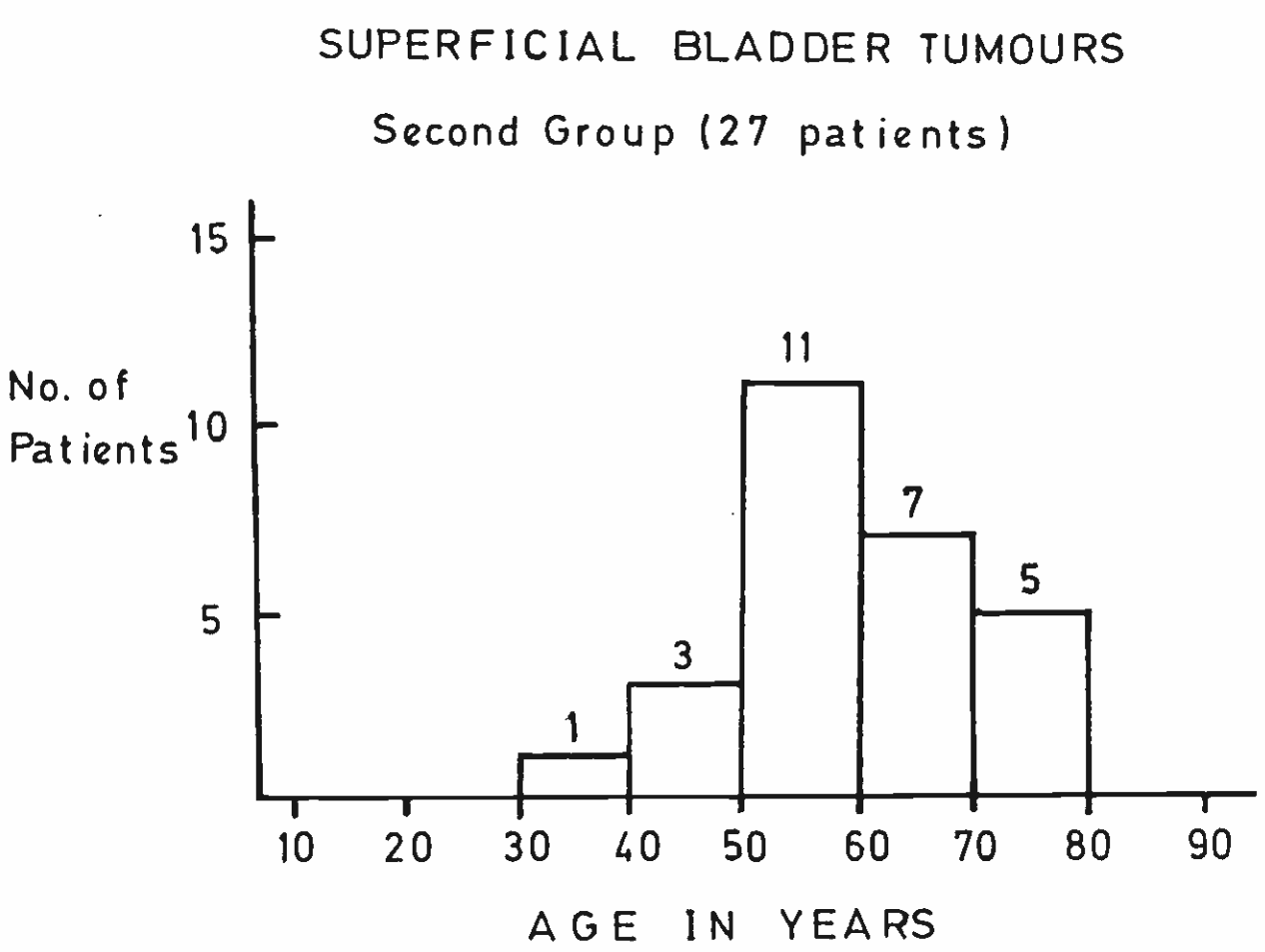

Fig 3: Superficial Bladder Tumours

In the 6 patients with single initial lesions, the first recurrence developed at intervals varying from 3 months to one year after the initial treatment. These lesions were usually managed by transurethral resection and Thiotepa was only given when

a) recurrence became multiple

b) interval between recurrences was short

c) biopsy of surrounding mucosa showed dysplasia

The remaining 15 cases in this group of patients who have developed recurrences have been managed by endoscopic means. In this subgroup, there were 14 males and 1 female. The ages ranged from 39 years to 78 years. There were 2 patients with multiple lesions. 11 patients had grade I tumours and 4 had grade II tumours, both patients with multiple tumours were treated by transurethal resection. One of them also had a ureteric tumour for which a nephroureterectomy was later done. This patients had 2 episodes of recurrences at 3 months and 6 months but thereafter no tumours were found on check cystoscopy. He had ueen followed up for 3 years. There other patient had 1 episode of recurrence.

The other 13 patients have developed recurrences at varying intervals. The number of lesions at each recurrence has been small enough for transurethral control. In those cases where we have carried out biopsies of the bladder wall, there have been no evidence of mucosal dysplasia.

In recent years we have picked up a third group of patients. These are cases with carcinoma-in-situ. So far we have discovered 12 cases (14.6%). All these have been found in patients who have been followed up by cystoscopy for papillary bladder lesions. There were 10 males and 2 females. Their age ranged from 30 years to 73 years. 6 of these patients have developed muscle invasion, of these 2 have died. We do not intend to discuss this aspect of bladder carcinoma in this paper but will present our results on this group of patients soon.

DISCUSSION

Twenty one patients who have absconded from follow-up have be excluded from this review. However, they do illustrate an important aspect in the management of this cancer. The default rate among patients is extremely high. In this study it accounts for 25.6% of cases. Although some patients are from overseas, these account for the minority. All the patients in this group have developed recurrent tumours after initial resection. The most common reason cited is that patients do not see the need for such close follow-up especially when they feel well. Keeping tract of these patients has been a problem and sometimes patients do not turn up for follow-up without being missed. Perhaps computerisation of patients records may help in keeping a better follow-up.

The first group of patients in this study who have only a single occurrence of bladder tumour illustrates that there is a group of patients who will not require close check cystoscopies. We do know that if tumours recur, they tend to do so within the first year. Because of the problems associated with follow-up by check cystoscopy, we have in recent years been thinking of

keeping tract of these patients by doing urine cytology. This modality of monitoring patients is inexpensive. In experienced hands it can be quite accurate and a 95% accuracy has been reported for high grade tumours (1).

The management of recurrent bladder tumours is a challenging one. Intravesical chemotherapy now has an established place in the treatment and many agents are now available. We have been using Thiotepa 30 mg weekly for four weeks as a first line agent until a year ago when we have changed to mitomycin C which is more readily available.

It seems from our experience with chemotherapy that most of the response is only partial. However, it does reduce the number of recurrent lesions thereby making them more amenable to transurethral control. Also the interval between recurrences do seem to be prolonged. These effects of chemotherapy have been reported by many other workers using Thiotepa as well as various other agents (2,3,4,5).

CONCLUSION

We have presented here our experience with the management of superficial bladder tumours during a five-year period. We have highlighted two aspects of the problem in the management — one of abscondment of patients and the other of management of recurrences.

We still have many unanswered questions and are still trying to find the appropriate treatment for each individual patient. Recently we are doing urine cytology and random bladder biopsies routinely but perhaps we need to look into flow cytometry studies, ABO grouping and cysto-photography among other things.

In the meantime, various other modalities of treatment have been tried out by many other centres and promising results seem to be coming especially with the use of BCG therapy (6,7).

REFERENCES

1. Murphy WH, Soloway HS, Jukkola AF, et al: Urinary Cytology and Bladder Cancer. The cellular features of transitional cell neoplasms. Cancer 1984; 53: 1555-65.
2. England HR, Flynn JT, Paris AMI, Blandy JP: Early multiple-dose adjuvatn Thiotepa in the control of multiple and rapid T_1 tumoour neogenesis. J Urol 1981; 53: 588-2.
3. Robinson MRG, Shetty MB, Richards B, Bastables J, Glashan RW, Smith PH: Intravesical epodye in the management of bladder tumours; combined experience of the Yorkshire Urological Cancer Research Group. J Urol 1977; 118: 972-3.
4. Abrams PH, Choa RG, Graches CGC, Ashken MH, Green NA: A Controlled Trial of single dose intravesical adriamycin in superficial bladder tumours. J Urol 1981; 53: 585-7.
5. Soloway MS: Intravesical and systemic chemotherapy in the management of superficial bladder cancer. Urol Clinics, N America 1984; 11: 623-35.
6. Lamm DL: Bacillus Calmette-Guerin immunotherapy for bladder cancer: J Urol 1985; 134: 40-7.
7. Jean B, Dekernion MY, Huang A, Lindner PB, Smith PH, Kaufinan JJ: The management of superficial bladder tumours and carcinoma-in-situ with intravesical Bacillus Calmette-Guerin. J Urol 1985; 133: 598-601.