

## Transurethral Resection in Superficial Urinary Bladder Carcinoma

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### Abstract

Retrospective analysis of 112 cases of superficial carcinoma of urinary bladder treated with transurethral resection was done and the success rate of this modality of treatment was analysed. Out of 112 patients there were 95 males and 17 females. Oldest patient was 80 year old and the youngest was 40 year old. Chief presenting complaint was haematuria. Average duration of haematuria was 9 months. Transurethral resection was done in these patients. The five year survival was 84% in stage A-I, 81% in stage A-II. It was however 54% in A-III. Recurrence rate was 20%, 26% and 52% in A-I, A-II and A-III respectively. Transurethral resection is thus an excellent approach for the treatment of superficial bladder carcinoma.

### Key Words

Bladder carcinoma, Transurethral resection.

### Introduction

The management of urinary bladder cancer has evolved largely through empirical improvements in treatment. Different modalities have been adopted for effective treatment of urinary bladder cancer. Urinary bladder carcinoma constitutes a spectrum of neoplastic diathesis. Some cancers behave in a benign fashion and others are highly aggressive and lead rapidly to metastatic disease and death. In some patients invasive carcinoma develops rapidly from a single focus within the urinary bladder mucosa. Appropriate classification of the tumors particularly of the superficial lesions and the field from which they arise may yield important

predictive data which may alter strategies of therapeutic intervention. Urinary bladder carcinoma has been classified as superficial bladder carcinoma i.e. tumors that have remained confined to mucosa and to those that have extended into lamina propria and advanced bladder carcinoma where the tumor has invaded the muscle with confinement to the urinary bladder, or penetration through the muscularis into the perivesical soft tissue or involvement of regional lymph nodes (1). Strategies that appear to have good outcome have been adopted for the treatment of urinary bladder cancer including endoscopic resection, total cystectomy, partial cystectomy, laser

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surgery (2-4). Besides radiotherapy, chemotherapy and immunotherapy, there are other widely adopted adjuvant and neoadjuvant therapies in different stages and grades of disease. In our study we have analysed the role of transurethral resection, which appears to be an excellent approach in the treatment of superficial carcinoma of urinary bladder.

### Material and Methods

This study was conducted on 112 patients of carcinoma of urinary bladder. There were 95 males and 17 females. The oldest patient was 80 years of age and the youngest was 40 year old. Most common complaint was painless haematuria with an average duration of 9 months. Patients were evaluated by routine haematological and renal function tests, urine analysis, x-ray chest and ECG. Tumors were diagnosed and staged by transabdominal ultrasonography with recording of the maximum transverse and longitudinal diameter of the lesion, intravenous urography, urinary cytology and cystopanendoscopy. Resectoscope was used for transurethral resection and fulgration of the tumor. Resected material was sent for histopathological examination. The tumors were staged according to Jewett and Strong's classification, modified by Marshall and graded according to Broder's classification (1922). In the follow up, cystoscopy was done three monthly in the first year, six monthly in the second year and then yearly till five years. Ultrasonography, chest x-ray, urinary cytology and CT scan when indicated during the follow up period were done depending upon the affordability of the patients.

### Observations

Majority of the patients were males (90%). Eighty two percent of the patients had anaemia. The chief presenting symptom was painless haematuria. However, other urinary symptoms were also present in a significant

number of patients (Table 1) Eighty five percent patients were cigarette smokers, which was the main risk factor. They had been smoking for the last 15 years on average. Those patients who had left smoking for the last few years, had been chronic smokers for the past 20 years or more. Besides 62% were chronic alcoholics and 6% patients were exposed to dyes as they were working in the dye industry.

Table I

| Symptom                  | %age |
|--------------------------|------|
| Haematuria               | 92%  |
| Frequency of micturition | 38%  |
| Urgency                  | 36%  |
| Clot retention           | 8%   |

Transabdominal ultrasonography was helpful in 95% of the patients. It overstaged the tumors in 5% of the cases. Intravenous urography detected the tumour in 64% of the cases. Urinary cytology was positive in higher stage and grade of the the disease. It could detect the malignant cells in 78% patients with grade III tumor and only in seventeen percent with lower grades. Cystoscopy was however helpful in all the cases. It helped in locating the exact site and size of the tumors. Forty eight percent patients had tumors on the right lateral wall. Twenty eight percent of the patients had tumor on the left lateral wall. Eight percent patients had tumors on the posterior wall. In 4% patients tumors was located on the neck of urinary bladder. Only in 2% patients tumor was situated on the vault. 10% patients presented with multiple tumors on the right lateral wall, left lateral wall and the neck.

Table II - Shows the site of the growth.

| Site of the growth | %age |
|--------------------|------|
| Right lateral wall | 48%  |
| Left lateral wall  | 28%  |
| Posterior wall     | 8%   |
| Bladder Neck       | 4%   |
| Vault              | 2%   |
| Multiple sites     | 10%  |



Ninty-three percent patients had papillary tumors. Only 7% of the tumors in our study were solid i.e. tumors that are slow growing, broad based with knot like swellings. The size of the growth is depicted in Table 3. Aggressive transurethral resection cleared the urinary bladder of the growth.

**Table III - Shows the different sizes of the growth**

| Size of the growth | %age |
|--------------------|------|
| < 1cm              | 38%  |
| 1cm - 2cm          | 48%  |
| 2cm - 3 cm         | 14%  |

A total of six percent patients presenting on bladder neck and vault had recurrences. Similarly all the 10% patients presenting with multiple tumors had recurrence in the first year. Two percent patients with tumors on the posterior wall showed recurrence in the first check cystoscopy after three months.

Histopathological examination showed that 93% of the patients were in stage A. Only 7% were in stage B1. 56% tumors were grade I, 36%, had grade II and remaining 8% had grade III. Patients, where tumour had progressed to muscle infiltration, were then further taken up for radio therapy. The patients were evaluated for local control as well as five year survival (Table 4).

**Table IV - 5 Year Survival**

| Stage/grade | No. of patients | 5 years survival | Local control | Recurrences |
|-------------|-----------------|------------------|---------------|-------------|
| A I         | 71              | 84%              | 80%           | 20%         |
| A II        | 23              | 81%              | 74%           | 26%         |
| A III       | 18              | 54%              | 48%           | 52%         |

### Discussion

In the present study it has been seen that transurethral resection (TUR) is used to establish the stage, grade and the local extent of the disease. However it may also act

as the primary modality of treatment for low stage low grade superficial bladder carcinoma (5,6). It is a safe option in the patients with associated diseases like ischaemic heart diseases, chronic renal failure, diabetes and chronic obstructive airway diseases. Pre-operatively ultrasonography, intravenous urography, and urinary cytology play a key role in establishing the nature of the disease (7-9). Cystoscopy is the mainstay in the diagnosis of urinary bladder cancer. Data from various studies show that despite the introduction of newer forms of therapy for patients with various stages of urinary bladder cancer, transurethral resection remains integral to the management (10,11). Melick has demonstrated that most of urinary bladder tumors were controlled by transurethral resection. In his study of bladder carcinoma with a follow-up of 17 year, survival rate was 88.7% (12). Yet another study shows that transurethral resection in superficial grade I or grade II carcinomas was very effective (13). Similar observations have been made by us. The five year survival rates have been excellent i. e. 84% to 86% in lower stage and grade of the disease where survival of patients with low stage low grade tumor approaches normal life expectancy. Tumors located in the base and lateral wall are resected safely by TUR. In our study patients with multiple tumors and large size tumors recurred on first check cystoscopy. Seven percent of the patients with tumor size ranging from 2cm-3cm progressed to stage B-1 and were subjected to radiotherapy. Patients with stage A-III tumors had a tendency to recur during the first year post-operatively. Transurethral resection offers a functioning urinary bladder with sexual functions in the males maintained (14). Further recurrences in the follow up period in majority of the patients do not show progression of the disease. Greater the size of the tumor, more are the chances of recurrences and further disease progression.

However aggressive transurethral resection may help to control this situation by effectively clearing the tumor from urinary bladder.

To conclude, TUR offers a normal functioning urinary bladder with a respectable survival rate with a least mental and physical trauma to the patient. Post operative period is safe and with less of blood loss and stay in the hospital, an average duration of 3 to 4 days.

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