

TRANSURETHRAL RESECTION OF BLADDER TUMOUR (TURBT) : EXPERIENCE OF A TERTIARY CENTRE

Niraj T¹, Agbo CA², Agrawal CS¹

1. B. P. Koirala Institute of Health Sciences, Department of Surgery Dharan, Nepal.
2. Jos University Teaching Hospital, Division of Urology, Surgery Department Jos, Nigeria.

Corresponding Author:
Dr. Niraj Thapa,
E-mails : agboxtian@yahoo.ca

Abstract

Objective: To show the epidemiological profile of patients who had transurethral resection of bladder tumours and the various histological types of bladder tumour at presentation.

Methodology: A retrospective study on patients who had transurethral resection of bladder tumor (TURBT) at B.P Koirala Institute of Health Sciences Dharan, Nepal between the time period of November, 2007 and March, 2016. Information were retrieved from the record and entered in a structured proforma and analyzed using Statistical Package for Social Sciences (SPSS) software version 17.0.

Results: Fifty-five patients with urinary bladder tumour had transurethral resection of bladder tumor (TURBT) within the years under review. The mean age was 61.6 years and smoking was found as the major risk factor ($P < 0.05$) for high grade Transition cell carcinoma (TCC). Farming (45%) was the commonest type of occupation and hematuria (95%) as the commonest presenting symptom . Transitional Cell Carcinoma was the commonest histological variety in our study accounting for 85.5% of cases with majority (78%) as non-muscle invasive. The muscle invasion was directly associated with the grade of tumor.

Conclusion: Bladder tumour is a common genitourinary condition with transurethral resection of bladder tumor (TURBT) being effective in giving the degree of differentiation, depth of tumor invasion, parameters useful in diagnosis, treatment and prognosis assessment.

KeyWords: Transurethral, Resection, Bladder Tumour, Tertiary Centre

Introduction

Urinary bladder cancer is the sixth most common cancer worldwide and the second most common malignancy of the genitourinary tract after prostate cancer^{1,2}. Estimated new cases and deaths from bladder cancer in the United States in 2016 were 76,960 and 16,390 respectively¹. Transurethral resection of the bladder tumor (TURBT) is a therapeutic procedure that gives the material necessary for histopathological diagnosis with the degree of differentiation, and depth of tumor invasion, parameters useful in elaboration of diagnosis and prognosis assessment². This study aimed to show the epidemiological profile of patients who had TURBT and the various histological types of bladder tumour at presentation.

Methodology

This was a retrospective study on patients who had

undergone Transurethral Resection of Bladder Tumor (TURBT) at B.P Koirala Institute of Health Sciences Dharan, Nepal during time period from November, 2007 to March, 2016. Data of patients were obtained from the medical record section and information about the age, sex, history of smoking ,exposure to other possible risk factors, clinical presentations, blood investigation, operative findings and histopathological diagnosis were retrieved. The collected data were entered in a structured proforma and was analyzed using Statistical Package For Social Sciences (SPSS) software version 17.0.

Results

A total of fifty-five (55) patients had trans-urethral resection of bladder tumor (TURBT) in the years

under review with male female ratio of 3.6:1. The age of the patient at presentation ranged from 30-80 years with the mean age of 61.6. Most of the patients with bladder carcinoma were between 60 and 70 years of the age. The major occupation among the patients were farming (45%).

Regarding clinical features of the patients, hematuria was the most common symptom (95%) at the time of presentation among which 48 (87.3%) patients were having painless hematuria and 7

(12.7%) patients had painful hematuria. There was a significant correlation between smoking and grade of TCC ($P < 0.05$). The operative findings were dominantly of proliferative growth (32.7%) followed by polypoidal growth (30.9%), followed by papillary growth (10.9%). The most common site being lateral wall 34.5%. Transitional Cell Carcinoma (TCC) was the most common histological variety of bladder cancer in our study accounting for 85.5% of which 12 (21.8%) patients had high grade and 35 (63.6%) patients had low grade tumor as shown in Table 1 below.

Table 1: Showing Histological Diagnosis

Histology	Muscle invasion		Total	Percentage
	Present	Absent		
Benign conditions	0	8	8	14.6
Low grade Papillary urothelial cancer	9	26	35	63.6
High grade Papillary urothelial cancer	11	1	12	21.8
Total	20	35	55	100.0

Discussion

Urinary bladder cancer is commonly seen in males than in females (M:F = 3:1)^{3,4}. The present study also shows a similar distribution pattern (M:F = 3.6:1). Furthermore, studies done in Malaysia and India revealed higher M:F ratio of 9.4:1 and 8.6:1 respectively which shows male preponderance. This shows that as similar to other part of the world, in Nepal also, incidence of bladder cancer is high in male than in female. The reason for higher incidence in males could be attributed to environmental, dietary exposure, anatomical difference, urinary habits and hormonal factors whereas, less incidence of bladder cancer in females could be due to less exposure of females to individual carcinogens and less smoking^{5,6,7}.

Most of the patients with bladder carcinoma are between 60 and 80 years of the age with mean age of 61.6. This is similar to that obtained by Joshi HN et al⁸ in which most of patient of bladder tumor were

between 50 and 70 yrs of age.

The most common clinical manifestation was found to be a painless hematuria^{6,9}. In the present study, hematuria was found to be the most common clinical feature. In support to the present finding, a study done in India and Pakistan has shown that 97%, 81.4%, 88.7% of the patients had hematuria as presenting symptom^{4,6}.

In present study significant impact of smoking has been found as a major risk factor ($P < 0.05$) for high grade Transition cell carcinoma (TCC) in which out of 35 cases of bladder cancer with the history of smoking, 31(88%) were found to have high grade TCC, which is similar to the result of study carried out by Ray et al¹⁰ in which 72% of the patients with bladder carcinoma were smokers in developing of high grade TCC.

The study showed 85.5% patient had urothelial (TCC) carcinoma out of which 22 % had muscle invasive carcinoma and the muscle invasion was

related with high grade transitional carcinoma ($P < 0.05$). This is comparable to finding by Pudasaini et al¹¹ which showed among the malignant lesion of urinary bladder, 88.9% were urothelial tumor of which 25% cases showed muscle invasion.

Conclusion

The peak age incidence of bladder cancer was seventh decade of life with male preponderance and smoking as the major risk factor. Painless hematuria was the most common initial presentation. The operative findings were predominantly of single proliferative growth followed by polypoidal growth in the lateral wall of bladder. Transitional Cell Carcinoma was the most common histological variety of bladder cancer in our study accounting for 85.6% of cases with majority (78%) being non-muscle invasive. The muscle invasion was directly associated with the grade of tumor.

Transurethral resection of bladder tumour (TURBT) has a great impact in bladder tumour management as it gives the degree of differentiation, depth of tumor invasion, parameters useful in diagnosis, treatment and prognosis assessment.

Reference

1. Al-Samawi AS, Aulaq SM. Urinary bladder cancer in Yemen. *Oman Med J*. 2013;28: 33?-340.
2. Srikousthubha, [Sukesh](#), [Raghuveer CV](#), [Sanjay H](#). 'Profile of Lesions in Cystoscopic Bladder Biopsies -A Histopathological Study' *J Clin Diagn Res*. 2013;7:1609
3. Jemal A, Murray T, Ward E, Samuels A, Tiwari RC, Ghafoor A et al. Cancer Statistics, 2005. CA: A Cancer Journal for Clinicians, 55: 10-30.
4. Rafique M. 'Clinico-pathological features of bladder carcinoma in women in Pakistan and smokeless tobacco as a possible risk factor'. *World Journal of Surgical Oncology*. 2005;3:53.
5. Kong CH, Singam P, Hong GE, Cheok LB, Azrif M, Tamil AM et al. Clinicopathological features of bladder tumours in a single institution in Malaysia. *Asian Pac J Cancer Prev*. 2010;11(1):149-52.
6. Gupta P, Jain M, Kapoor R, Muruganandham K, Srivastava A, Mandhani A. Impact of age and gender on the clinicopathological characteristics of bladder cancer. *Indian J urol* 2009; 25: 207-210.
7. Horn, EP. et al., 'A study of gender based cytochrome P450 1A2 variability: A possible mechanism for the male excess of bladder cancer' *Cancer Epidemiol Biomarkers Prev*, vol. 4, 1995, pp. 529-33
8. Joshi HN, Makaju R, Karmacharya A, Karmacharya RM, Shrestha B, Shrestha R et.al. Urinary Bladder Carcinoma: Impact of Smoking, Age and its Clinico-Pathological Spectrum. *Kathmandu Univ Med J* .2013;44:292-295.
9. Kontey BR, Carroll PR. 'Urothelial Carcinoma: Cancers of the Bladder, Ureter and Renal Pelvis'. *Smith's General Urology*, (17th ed), New York, Mc Graw-Hill Companies, 2008;308-327.
10. Rafique M, Javed A. A clinico-pathological features of bladder carcinoma: Experience from a tertiary care hospital of Pakistan. *Int. Urol. Nephrol*. 2006;38: 247-250.
11. Pudasaini S, Subedi N, Prasad KB, Rauniyar SK, Joshi BR, Bhomi KK. Cystoscopic bladder biopsies: a histopathological study. *Nepal Med Coll J*. 2014;16:9-12.