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Original Research Paper

Pathology

CLINICOPATHOLOGICAL STUDY OF URINARY BLADDER TUMORS IN A TERTIARY CARE HOSPITAL

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ABSTRACT

INTRODUCTION: Bladder tumor is the seventh most common tumor worldwide. As per Indian cancer registry data, it is the 9th most common cancer accounting for 3.9% of all cancers.

The origin of bladder tumor is multifactorial with tobacco smoke as principal cause in most countries. The vast majority of bladder tumors are epithelial in origin. Among these 80-90% are urotheilal carcinomas.

AIMS & OBJECTIVES: The aim of the present study is to analyse the spectrum of lesions in urinary bladder by histopathological examination of TURBT specimens.

MATERIALS AND METHODS: This is a prospective study conducted at Chalmeda Anand Rao Institute of Medical Sciences in the department of Pathology from August 2017 to July 2018. Clinicopathological data of all the TURBT were analysed.

RESULTS: A total of 32 cases were studied. The histopathological examination was done and tumors were categorized according to recent 2016 WHO classification. The most common age group was 61-70years (34.3%) with male to female ratio of 2.5:1. Among the urinary bladder tumors most of them were malignant lesions and most common type of malignancy was non invasive papillary urothelial carcinoma-high grade.

CONCLUSION: Among urinary bladder neoplasms the most common tumor is Non invasive papillary urothelial carcinoma-high grade followed by low grade.

KEYWORDS : Bladder tumor, Urothelial carcinoma, TURBT.

INTRODUCTION

The diseases of the urinary bladder are quite common and include both neoplastic and non-neoplastic lesions. Bladder cancer is the seventh most common cancer worldwide accounting for 3.2% of all cancers.[1] As per Indian cancer registry data, it is 9th most common cancer accounting for 3.9% of all cancers.[2]

The bladder tumor is multifactorial in origin. Urothelial carcinoma is the commonest type of bladder cancer accounting for 80-90% of all primary tumors of the bladder. It is more common in males than females (3.5:1).[3] Most cases of urothelial carcinoma of bladder are present in patients over the age of 50 years, but can also occur in younger adults and children.[4]

MATERIALS AND METHODS

This study was conducted at Chalmeda Anand Rao Institute of Medical Sciences in the department of Pathology for a period of one year from August 2017 to July 2018.

Size of the TURBT biopsy ranged from 2mm to 4mm. Biopsy specimens were processed as per routine histopathological technique. Formalin fixed paraffin embedded tissues sectioned at 3-5microns and stained with hematoxylin and eosin. Immunohistochemistry was done in diagnostically difficult cases.

The bladder tumors were studied according to latest WHO 2016 classification.

Inclusion Criteria

All the TURBT biopsies received in the department of pathology

Exclusion Criteria

- Inadequate biopsies.
- Autolysed specimens.

RESULTS

A total of 32 TURBT biopsies were analyzed in the study period.

In our study the age group ranged from 35 -85 years. The most common age group was 61 -70 years (34.3%) followed by 51 -60 years(31.3%) and the least common age group was less than 40 years (3.1%).

In our study males were most commonly affected than females. Male to female ratio was 2.5:1.

Table 1: Incidence of bladder tumors in various age groups

AGE GROUP (YEARS)	NUMBER OF PATIENTS	PERCENTAGE(%)
1-10	0	0
11-20	0	0
21-30	0	0
31-40	1	3.1
41-50	4	12.5
51-60	10	31.3
61-70	11	34.3
71-80	3	9.3
81-90	2	6.2
TOTAL	32	100

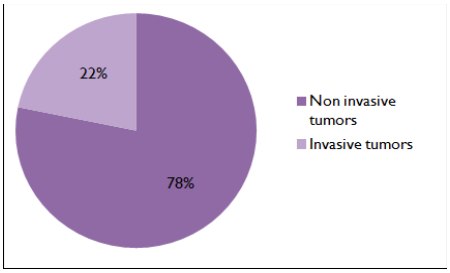
Table 2: Gender distribution of bladder tumors

SEX	NUMBER OF CASES	PERCENTAGE(%)
MALE	23	71.9
FEMALE	9	28.1
TOTAL	32	100

The most common clinical symptom was painless hematuria (72%) followed by dysuria (12%).

On cystoscopic examination most of the patients had papillary mass (82%), followed by solid mass (14%) and diffuse thickening(4%).

In the present study, non-invasive tumors were 25(78.2%) and invasive tumors were 7 (21.8%).



The most common histopathological diagnosis was non invasive papillary urothelial carcinoma-High grade (34.3%), followed by non invasive papillary urothelial carcinoma-Low grade (25%), invasive urothelial carcinoma(18.7%) and papillary urothelial neoplasm of low malignant potential(12.5%).

All the invasive urothelial carcinomas showed invasion of tumor tissue in to lamina propria

Table 3: Histopathological spectrum of bladder tumors in this study.

DISTRIBUTION OF CASES		
MICROSCOPIC DIAGNOSIS	NUMBER OF CASES	PERCENTAGE (%)
NON INVASIVE TUMORS		
Papillary urothelial carcinoma, High grade	11	34.3
Papillary urothelial carcinoma, Low grade	8	25.0
Papillary urothelial neoplasm of low malignant potential	4	12.5
Urothelial papilloma	1	3.1
Carcinoma in situ	1	3.1
INVASIVE TUMORS		
Invasive urothelial carcinoma	6	18.9
Paraganglioma	1	3.1
TOTAL	32	100

DISCUSSION

Urinary bladder neoplasms are heterogenous group of tumors with different subtypes and behavioral patterns.

Cystoscopy and Trans-Urethral Resection of Bladder Tissue biopsy are the main diagnostic measures. Thirty two cases of urinary bladder lesions were included in our study.

The most common presentation is painless hematuria, which is seen in more than 90% of all patients with bladder cancer. However, almost all patients will have microscopic hematuria[5]. In our study 72% of them had painless hematuria as the initial presenting symptom., followed by dysuria in 12% of cases.

Epidemiology shows a strong association of bladder cancer with various environmental factors such as tobacco smoking, use of smokeless tobacco, exposure to aromatic amines, pesticides and fertilisers. Cigarette smoking has been a major independent risk factor for bladder cancer. Smokers have four fold increased incidence of developing bladder cancer compared to non smokers[6].In our study, majority (90%) of the male patients were smokers.

In our study, male to female ratio was 2.55:1 which correlated with Hasan et al [7](2.58:1) and was lower than Cheng et al[8](3.3:1), Vaidhya et al[9] (4.5:1), Lim et al[10] (5:1), and Matalka et al[11] (9:1).
In our study most common age group was 61 – 70 years with 34% cases which correlated with Vaidya et al[9] 33.73% cases are of 61-70 years age group, while the mean age of presentation was 60.2 years (range 35 -85) which correlated with study by Matalka et al[11] (60.6years).

In present study, majority of tumors were urothelial carcinomas (90.6%) which were nearly correlated with the study of Sharma et al[12] (91.9%) and Goyal et al[4] (96.87%).

CONCLUSION

In the present study, the most common tumor is Non invasive papillary urothelial carcinoma. Majority of cases among non invasive urothelial carcinoma were of high grade followed by low grade.Pathological grade and invasion are the most valuable prognostic predictors of survival. Awareness is very much needed in the public about hematuria because they neglect it resulting in an advanced stage of bladder cancer at the time of presentation.

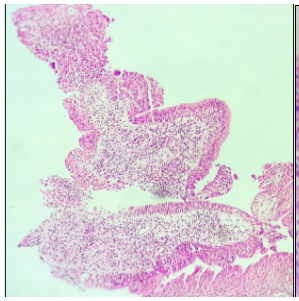


Fig 1: Urothelial Papilloma

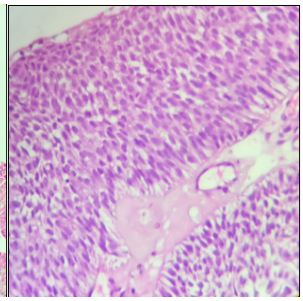
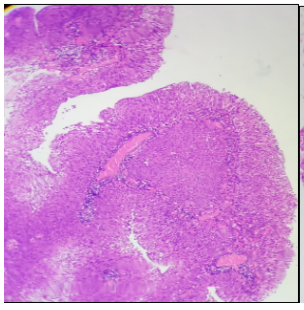


Fig 2: PUNLMP



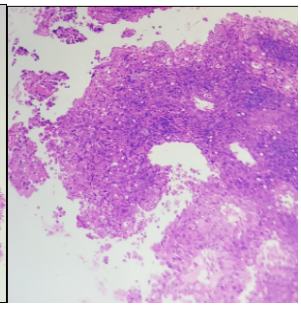


Fig 3: low grade non invasive urothelial carcinoma Fig 4: High Grade Urothelial carcinoma

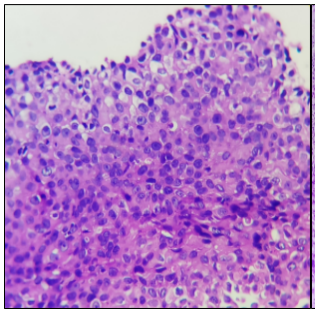


Fig 5: Flat Carcinoma In Situ

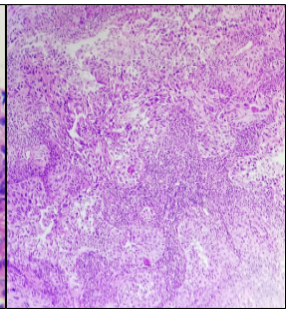
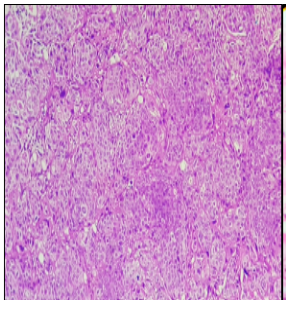


Fig 6: Invasive Urothelial carcinoma



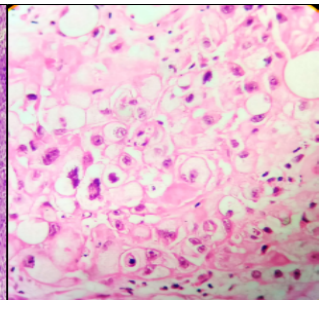


Fig 7: Nested variant, Urothelial Carcinoma 8: Lipid rich variant of F urothelial carcinoam

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