



SPECTRUM OF HISTOMORPHOLOGICAL LESIONS IN CYSTOSCOPIC URINARY BLADDER BIOPSIES

Pathology

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ABSTRACT

Urinary bladder tumors were one of the most common entities of urological pathology. Neoplastic & nonneoplastic lesions of urinary bladder were the common reasons for morbidity and mortality throughout world. Among neoplastic lesions, urothelial carcinoma is a common primary tumor of urinary bladder. The aim of this retrospective study was to determine the spectrum of various urothelial lesions from cystoscopic bladder biopsies received over a period of 3 years. All the urinary bladder biopsies received with two inadequate biopsies were included in this study. Out of 54 biopsies received, 12 were non neoplastic & 40 were neoplastic cases and two were inadequate biopsies. Majority of the cases were in 60-79 years age group. Males were affected more than females (2.85:1 ratio). Majority of the neoplastic lesions were urothelial carcinomas.

Conclusion : Among the bladder tumors ,urothelial carcinoma was the most common type, among these, high grade urothelial carcinoma was common in our study. Non invasive were more common than invasive carcinoma. Identification of grade & invasion into muscle layer has an impact on prognosis as well as on therapeutic approach.

KEYWORDS

Urothelial Carcinoma, neoplasia, Muscle invasion

INTRODUCTION

Non-neoplastic & neoplastic urinary lesions¹ were collectively responsible for significant morbidity & mortality throughout the world. Neoplasms of bladder pose biologic & clinical challenges. An accurate diagnosis of bladder lesion requires simultaneous data from urology, radiology and surgical pathology labs. Cystoscopy was the primary diagnostic tool for patients who were suspected of having bladder tumors which allows direct visualization of bladder mucosa and taking biopsies of the suspected lesions. Cystoscopic bladder biopsy was the gold standard for the bladder lesions¹². Urothelial carcinoma is 6th most common carcinoma world wide⁶. The present study aimed to diagnose the histopathology of spectrum of bladder lesions. These lesions more common in males when compared to female, in developed countries than in developing countries and in urban areas than rural population. The lesions affect mostly in 50-80 years age group⁹ people. As per Indian cancer registry urothelial carcinomas stands in 9th position and constitute 3.9% of all cancers². Physical examination, cystoscopic evaluation & histopathological analysis of biopsy material were the mainstays of contemporary bladder biopsies.

MATERIALS & METHODS

This was a retrospective study of cystoscopic (TURBT) biopsies over a period of 3 years. All the urinary bladder biopsies received with two inadequate biopsies were included in this study.

RESULTS

Total 54 cases of cystoscopic biopsies were analyzed for a period of 3 years. Among these cases the majority of cases were in age group 71-80 years, followed by 51- 70 years. Non- neoplastic lesions were 12 cases (22.2%), neoplastic lesions were 40 cases (70%), 2 cases were unsatisfactory (3.7%). Among non-neoplastic lesions, chronic non specific cystitis was common. Most common neoplastic lesions were high grade urothelial carcinoma, mostly non-invasive. Among the study population 40 cases were males with 2 inadequate biopsies and 14 cases were females with male to female ratio 2.85 :1, similarly male preponderance was in neoplastic lesions was 3:1. As per histological grading -WHO/ISUP(2004) used in the study showed high prevalence of high grade urothelial carcinoma, followed by low grade urothelial carcinoma. Muscle invasion was seen in 2 cases and lamina propria invasion in 1 case of high grade papillary urothelial carcinoma where as none of the cases of low grade papillary urothelial carcinoma showed muscle invasion.

Table 1: Age wise distribution of bladder neoplasm

S no	Age	Non neoplastic	%	Neoplastic	%	Unsatisfactory
1.	30-40	2	16.6	1	.025	
2.	41-50	2	16.6	4	10	1
3.	51-60	3	25.0	5	12.5	
4.	61-70	3	25.0	11	27.5	
5.	71-80	2	16.6	14	35	1
6.	81-90	0	0	5	12.5	
Total	12		40			2

Table 2: Sex wise distribution of bladder neoplasm in the present study

Non neoplastic		Neoplastic	
Male		Female	Male
8		4	30
2:1			3:1

Table 3: Distribution of neoplastic & inflammatory lesions of urinary bladder

Inflammatory	%	Neoplastic	%	Inadequate	%
12	22.2	40	74.07	2	3.7

Table 4 : Spectrum of Non neoplastic (inflammatory) lesions of urinary bladder

Non-neoplastic		%
Chronic cystitis	4	33.3
Granulomatous Cystitis	3	25
Eosinophilic cystitis	2	16.6
Cystitis glandularis	2	16.6
Squamous metaplasia	1	8.33

Table 5: Spectrum of neoplastic lesions of urinary bladder

S.no	Benign		Malignant	
1.	Papilloma	8	LG papillary Urothelial Ca	10
2.	PUNLMP	6	HG papillary Urothelial Ca	16
Total	14(35%)		26 (65%)	

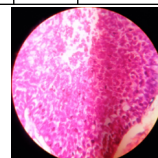
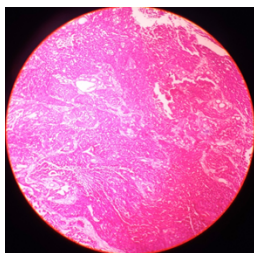


Fig 1: High grade urothelial carcinoma, H&E, x400

Table 6 : Distribution of invasive & non invasive urothelial carcinoma

Invasive carcinoma	Non Invasive carcinoma	
Upto lamina propria	2	13
Up to muscularis	1	

**Fig 2-HGPUC invading muscle,H&E,x100**

DISCUSSION

Vast majority of tumors of urinary bladder are epithelial origin, which arises from the urothelium-transitional type of epithelium that lines the bladder¹. In the present study, out of 54 cases, 12 cases were non neoplastic lesions, 40 cases were neoplastic lesions, 2 biopsies were unsatisfactory & advised repeat biopsy. The increased prevalence of bladder cancers in males than females was probably related to smoking & occupational exposure which was correlated with number of other studies. Peak incidence was observed in 60-80 years, which was correlated with studies done by Shresta et al¹¹ and Thappa et al¹². In our study non neoplastic lesions were chronic non specific cystitis which showed the urothelium within normal limits with lamina propria showing edema and infiltration of chronic inflammatory cells, followed by granulomatous cystitis showed epithelioid granulomas, histiocytes, giant cells & lymphocytes followed by cystitis glandularis which showed slit like cystic spaces, lined by cuboidal & columnar epithelium & a rim of urothelium which are present in lamina propria.

In the present study, neoplastic lesion (74.07, 22.22) were more common than non neoplastic lesions which was correlated with Thappa et al¹² (66.67%, 33.33%), Shresta et al¹¹ (79%, 21%) and Kumar et al⁹ (96%, 4%). In our study, out of 40 neoplastic lesions, 14 cases were benign lesions and 26 cases were non neoplastic lesions. Out of 14 benign lesions, papillomas were 8 (20%), papillary urothelial neoplasm with low malignant potential 6 (15%) cases. Out of 26 malignant lesions all are urothelial carcinomas, low grade urothelial carcinomas constituted 10 (25%), high grade urothelial carcinomas constituted 16 (40%) which was correlated with other similar studies. Among low grade urothelial carcinomas, all were limited to mucosa & no invasion was seen. Out of 16 high grade urothelial carcinomas, 3 cases showed invasion, 2 were showed muscle invasion and 1 case showed invasion up to lamina propria.

CONCLUSION

In our study different spectrums of histomorphological lesions of both neoplastic and non-neoplastic lesions of bladder were encountered. Muscle invasion was the most important indicator of prognosis and treatment of bladder carcinoma. Including muscle in cystoscopic biopsies needs to be given importance as it is a predictor of prognosis.

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