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Histopathology of Urothelial Neoplasms-Teritiary Care Centre Study

Authors
Dr Karra Shilpa[1], Dr Rejani Komalam[2], Dr Madhukumar Ramakrishna[3]
[1]Associate Professor of Pathology, Mysore Medical College and Research Institute, Mysore
[2]Postgraduate Student, Mysore Medical College and Research Institute, Mysore
Email: *rr415682@gmail.com, Contact number: 9895532728*
[3]Postgraduate Student, Mysore Medical College and Research Institute, Mysore
Email: *rmadhukumar97@gmail.com, Contact number: 9916562377*
Corresponding Author
Dr Karra Shilpa
Address: #574/A, North East of N R Mohalla, Mysore 570007
Email: *karrashilpa@yahoo.com, Contact number: 9060500075*

Abstract

Introduction: *Tumors of the bladder are one of the most common urological lesions encountered in clinical practice. Cancer of the urinary bladder is the 7th most common cancer worldwide. Urothelial cancer has a propensity of divergent differentiation9.Urinary bladder lesions, non-neoplastic and neoplastic, are collectively responsible for significant morbidity and mortality. It is important to identify the neoplasm early and its invasive nature as it determines the prognosis of the patient.*

Aims & Objectives

1. *To study the histopathological spectrum of urothelial neoplasms*
2. *To determine age &sex distribution of urothelial tumors.*

Methods: *A One year study, from June 2015 to July 2016, of urothelial neoplasms was carried out in Department of pathology Mysore medical college &Research institute. Relevant clinical history of the cases were noted.*

Results: *30 cases were studied in the time period. Among the 30 cases studied most common was invasive urothelial carcinomas (40%), followed by 30% papillary urothelial carcinoma low grade ,10% papillary urothelial carcinoma high grade and 20% cases were diagnosed was papillary urothelial neoplasm of low malignant potential(PUNLMP) .53.33% of the total cases were in the age group of 51-70years. 96.66% were male patients.*

Conclusion: *Bladder cancer has become common now a days, which are more common in the elderly age with prevalence in males. Histopathological analysis of biopsy material is the mainstay for cancer diagnosis and treatment*

Keywords: *Urothelial neoplasm, Histopathological spectrum, Bladder tumor.*

Introduction

Bladder cancer is one of the commonest tumors worldwide. In the United States, it is the 7th most common cancer and in Asian countries it is the 6th most common cancer[1]. Thus the prevalence is higher in developed than in the developing countries. Urothelial cancer has a propensity of divergent differentiation[9]. They are an important

cause of morbidity and mortality[5],with the most common clinical sign being gross and microscopic haematuria in majority of the patients[8].Male predominance is common worldwidewith the risk factors being environmental factors, industrial exposure to arylamines, long term use of analgesics, cigarette smoking and infestation with Schistostoma hematobium.[1] Although progress has been made in the field of non-invasive imaging, histopathological analysis of biopsy material is the mainstay for cancer diagnosis and treatment[2]

Methods

The present study included cases of bladder biopsy specimens with clinical suspicion of malig-nancy which were received in the Department of pathology, Mysore Medical college & Research Institute from June 2015 to July 2016.Relevant clinical history of the cases were noted.

Results

A Total 30 cases were studied. Age ranged from 30-96 years. The mean age of the patient was 62. 5 years. Out of 30 cases studied invasive urothelial carcinoma was the frequent diagnosis and most commonly observed in 5th and 6th decade with majority in males than females .The next common diagnosis was papillary urothelial carcinoma low grade (30%), followed by papillary neoplasm of low malignant potential (20%) and papillary urothelial carcinoma high grade (10%). Among the invasive urothelial carcinomas two cases were diagnosed with divergent differen-tiation, one was diagnosed as urothelial carcinoma with sarcomatoid variant and one case as uroth-elial carcinoma with squamous differentiation.

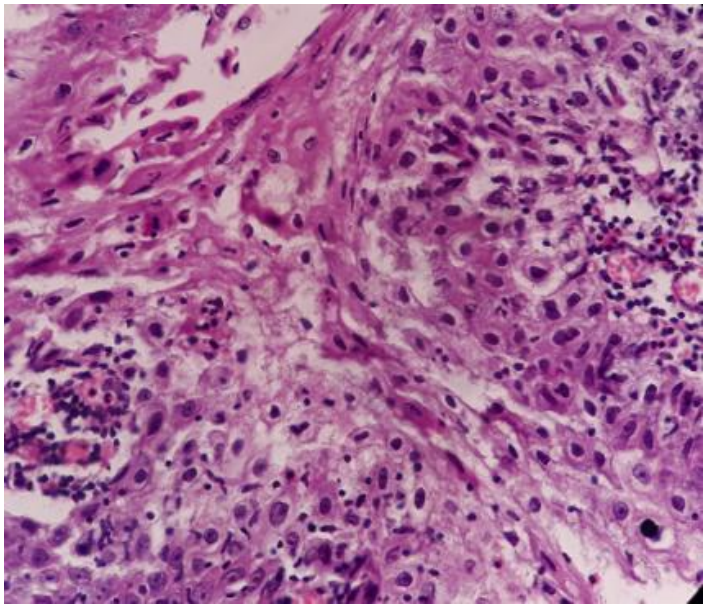

Fig 1: Urothelial carcinoma with squamous differentiation

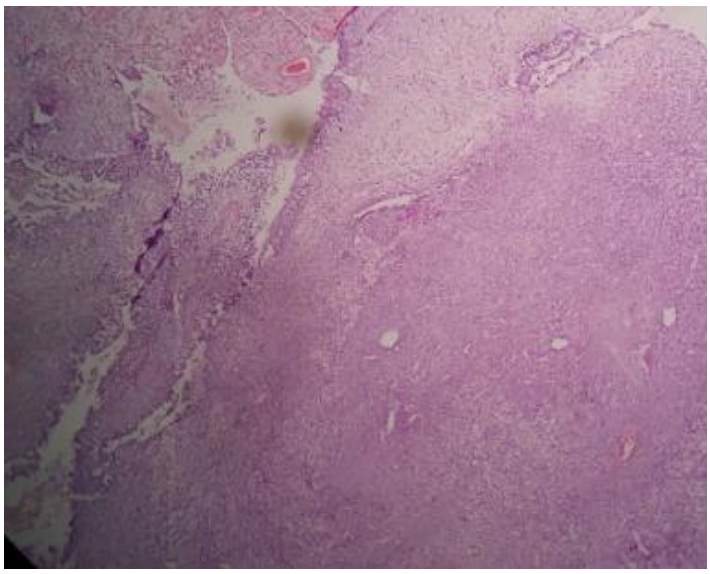

Fig 2: Urothelial carcinoma-sarcomatoid variant with heterologous predominant chondroid differentiation.

Table 1: Distribution of Histologic Variant of Neoplasms

Sl.No	Classification of urothelial neoplasms	No. of cases	Percentage	Male/Female
1	Papillary neoplasm of low malignant potential	6	20%	6/0
2	Papillary urothelial carcinoma low grade	9	30%	9/0
3	Papillary urothelial carcinoma high grade	3	10%	3/0
4	Invasive urothelial carcinoma	12	40%	11/1
	Urothelial carcinoma –Sarcomatoid variant heterologous differentiation(1)			
	Invasive urothelial carcinoma with squamous differentiation(1)			

Table 2: Age Distributtion of Urothelial Neoplasms

AGE GROUP	Invasive urothelial carcinoma	Papillary urothelial carcinoma high grade	Papillary urothelial carcinoma low grade	PUNLMP
30-50 yrs	3	0	1	2
51-70 yrs	6	1	5	4
71-90 yrs	1	2	3	0
>90 yrs	2	0	0	0

Discussion

The urinary bladder and renal pelvis are more common sites for urinary tract tumors than the ureters and urethra[7]. Majority of urinary tract tumors are epithelial. Both benign and malignant tumors occur, the latter being more common.

Malignant lesions were more common in the present study with a male predominance and the peak age of these was 51-70 years which is correlating with the study done by Bhavana Grandhi et al and C.Aparna M D et al. Mean age of the patient was 62.6 years which was correlating with study done by matalka et al.[4]In contrary to our studies, low grade was more common than high grade carcinomas in the studies done by Laishram et al[10] and Ahmed et al[11] accounting for 53.85% and 44% respectively.

Overall in most of the studies[1, 3] neoplastic lesions were predominant in which malignancy was most common which also concurred with our study.

Conclusion

Urinary bladder biopsy is one of the most common biopsies in urology practice and a wide variety of interesting lesions are seen. In our study, bladder tumors were the most common lesion among which invasive urothelial carcinoma was the predominant prototype. Urothelial carcinoma displays many forms, and some of these variant morphologies may pose diagnostic difficulties because of their similarity to other malignancies and/or benign lesions[2]. Additionally, it is important to recognize the variants that are associated with different outcomes from conventional urothelial carcinoma. For these reasons, familiarity with the diverse morphology of urothelial carcinoma is not only for academic exercise but is also important in providing quality care for patients as they have prognostic significance.

Acknowledgement

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