

Does Nephroureterectomy Necessitate Prior Ureteric Biopsy in Cases with Upper Urothelial Tract Cancer?

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Introduction

Upper tract urothelial carcinoma (UTUC) is often managed with nephron-ureterectomy (NU), but pre-operative diagnosis can be challenging. The role of ureteroscopic biopsy in guiding surgical decisions remains debated. This study assesses whether biopsy improves diagnostic certainty and avoids unnecessary radical surgery.

The study aimed to evaluate the necessity and diagnostic value of ureteroscopic biopsy prior to nephron-ureterectomy in patients with suspected UTUC

Methods

This Retrospective study included the patients referred to Tertiary referral centre between 2015-2022 with suspected UTUC. Clinico-pathological characteristics included presentation, CT results, urine cytology, ureteric biopsy and final histo-pathology.

Histology grade on NU specimen	Group 1- Prior Biopsy done (n=39)	Group 2-No prior biopsy (n=50)
No evidence malignancy	4 (10.3%)	5(10%)
Grade 1	--	2(4%)
Grade 2	7(17.9%)	7(14%)
Grade 3	17(43.6%)	23(46%)
Other benign and malignant diseases	4(10.3%)	10(20%)
Inconclusive	1(2.6%)	--
Not available	6(15.4%)	3(6%)

Table 1

Results

A cohort of 161 patients presented with the following : 48% hematuria, 54 % CT filling defect, 8% ureteric thickening, 11% locally advanced and 17% inconclusive.

Urine cytology was positive in 13% (n=21).

89 patients underwent nephron-ureterectomy. This cohort was subdivided into: Group1 with prior ureteric biopsy (n=39) and Group 2 without prior biopsy (n=50). Histo-pathological analysis comparison of NU specimen of two groups is shown in Table1. 4 patients in Group 1 and 10 in group 2 had histological diagnosis of disease other than UTUC suggesting that 10% of group 1 avoided NU while 20% of Group2 could have had alternative treatment than NU if they had prior biopsy.

Amongst patients with prior biopsy, 5 had upstaging of histological grade on nephroureterectomy specimen. There was significant association (p=0.04) between histological grade on biopsy and NU specimen, especially in high grade disease.

Conclusion

Ureteroscopic biopsy is a valuable diagnostic tool that can guide treatment in patients with suspected UTUC. It may prevent unnecessary nephron-ureterectomies, stratify risk based on tumor grade, and Improve clinical decision-making

An Initial diagnostic ureteroscopy can be useful in identifying UTUC requiring radical surgery and ruling out conditions which could be managed by alternative treatments.

However, Prior Ureteroscopy maybe avoided in Patients with clear CT scan findings suggestive of UTUC associated with previous bladder cancer and/or abnormal urine cytology.