



A novel upper tract ureteroscopic biopsy technique: the “form tackle”

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ABSTRACT

Introduction and Objective: Upper tract urothelial carcinoma (UTUC) represents 5% of all urothelial malignancies (1-3). Accurate pathologic diagnosis is key and may direct treatment decisions. Current ureteroscopic biopsy techniques include cold-cup, backloaded cold-cup and stone basket (4-6). The study objective was to compare a standard cold-cup biopsy technique to a novel cold-cup biopsy technique and evaluate histopathologic results.

Materials and Methods: We developed a novel UTUC biopsy technique termed the “form tackle” biopsy. Ureteroscope is passed into ureter/renal collecting system. Cold-cup forceps are opened and pressed into the lesion base (to engage the urothelial wall/submucosal tissue) then closed. Ureteroscope/forceps are advanced forward 3-10mm and then extracted from the patient. We compared standard versus novel upper tract biopsy techniques in a series of patients with lesions ≥ 1 cm. In each procedure, two standard and two novel biopsies were obtained from the same lesion. The primary study aim was diagnosis of malignancy. IRB approved: 21-006907.

Results: Fourteen procedures performed on 12 patients between June 2020 and March 2021. Twenty-eight specimens sent (14 standard, 14 novel) (Two biopsies per specimen). Ten procedures with concordant pathology. In 4 procedures the novel biopsy technique resulted in a diagnosis of UTUC (2 high-grade, 2 low-grade) in the setting of a benign standard biopsy. Significant difference in pathologic diagnoses was detected between standard and novel upper tract biopsy techniques ($p=0.008$).

Conclusions: The “form tackle” upper tract ureteroscopic biopsy technique provides higher tissue yield which may increase diagnostic accuracy. Further study on additional patients required. Early results are encouraging.

CONFLICT OF INTEREST

None declared.

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