

COMPARISON OF BIOPSY DEVICES IN UPPER TRACT UROTHELIAL CARCINOMA.

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Upper tract urothelial carcinoma (UTUC) accounts for 5% of all urothelial cancers.

Radical nephroureterectomy (RNU): gold standard treatment for UTUC.

Nephron-sparing surgery (NSS) is traditionally reserved for patients with an imperative indication for renal preservation and low-risk patients..

Despite the recent growing interest in the conservative management of UTUC, an ideal method to biopsy and obtain adequate tissue samples has not yet been described.

OBJECTIVE:

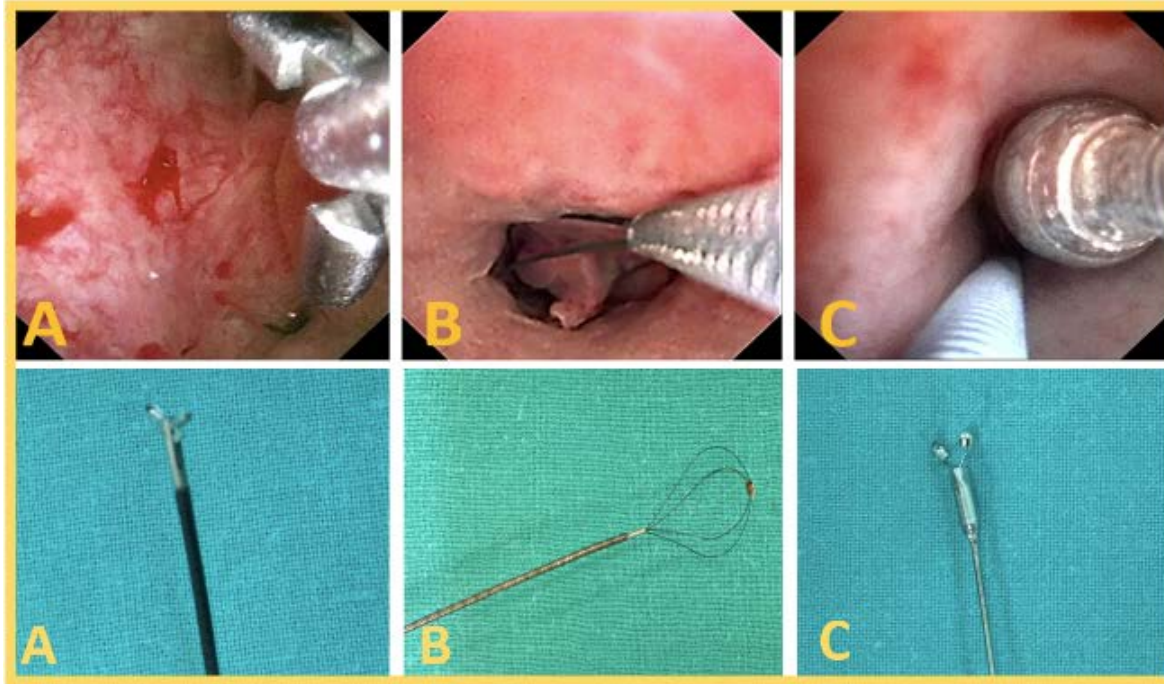
The objective of this study was to analyse the diagnostic accuracy of three different biopsy devices.

Also to evaluate the association between ureteroscopic biopsy grading and final UTUC pathology results when distal ureterectomy or RNU was carried out.



January 2015 to October 2017
Prospective data collection.

Semirigid ureteroscopy (URS) and flexibleURS (f-URS) were performed for newly diagnosed or UTUC surveillance.



- The ability of each biopsy device to obtain inadequate pathology specimen was evaluated
- Intraoperative complications related to the biopsy were evaluated.

RESULTS.

85 patients (70 males and 15 females)

112 diagnostic and therapeutic URS and f-URS procedures were performed.

The mean age was 71.32 (9.28) years.

A total of 302 biopsies were taken (25

In 236 (78.2%) cases the pathologist was able to make a diagnosis of the specimen received.

- 3Fr forceps achieved a diagnosis (74.9%)
- 6 Fr BIGopsy (81.9%)
- 2.2 Fr Nitinol basket group (100%)

140 cases of UTUC were found: 75 low grade, 50 high grade, and 15 carcinoma in situ.



RESULTS.

(21.8%) the biopsy specimens were inadequate for an accurate diagnosis.

Of those:

- 55 (83.3%) were taken using 3F forceps
- 11 (16.7%) using BIGopsy forceps.
- No cases when using the 2.2F Nitinol Basket.

There were no biopsy-related complications.

Among 28 patients who underwent distal ureterectomy or RNU:

Tumor was upgraded on final pathology to high grade in 9 cases (32%) all >2cm ($p < 0.05$)

In 19 cases (68%) cases the tumor grading was confirmed all <2cm tumors ($p < 0.05$)



Conclusion

In comparison to 3F forceps, the BIGopsy forceps are superior in obtaining sufficient specimen for pathologic examination.

The 2.2F Nitinol basket achieving a final pathology diagnosis in 100% of the cases.

The biopsy specimen has to be taken with large forceps or Nitinol Baskets whenever possible.

For tumor <2cm, there is a high concordance between URS biopsy grade and final pathology after distal ureterectomy or RNU, but almost 30% of the tumors >2cm are misdiagnosed by just the CT and biopsy.

