

**P61****FULL-CORE BIOPSIES ARE SUPERIOR TO STANDARD BIOPSIES FOR THE HISTOLOGICAL CHARACTERIZATION OF RENAL TUMORS**

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**Aim of the study**

Percutaneous renal tumor biopsies (RTBs) have been increasingly used in the last few years for histologic characterization of renal tumors. Most RTBs are today performed with the use of 18G standard automatic needles. However, full-core needles are available and can potentially increase the quantity and quality of tumoral tissue retrieved. Aim of this study was to compare the adequacy and diagnostic yield of RTBs performed with 18 G full-core and standard needles.

**Materials and methods**

RTBs were performed on surgical specimens in 74 patients who underwent radical or partial nephrectomy for a renal tumor. Median tumor size was 48 mm (IQR 30-73). In all cases one central and one peripheral RTB were obtained with a standard 18G Tru-cut automatic needle. One central and one peripheral RTB were also obtained with a 18G full-core automatic needle (BioPince®, AngioTech) in 42 cases. All cores and surgical specimens were blindly analyzed by 4 expert pathologists. Adequacy of the specimen was assessed and classified in 3 categories: adequate for diagnosis with good quality (AG), adequate for diagnosis with poor quality (AP) and inadequate for diagnosis (NA). Tumor histotype and Fuhrman grade were also assessed. Adequacy and diagnostic yield of standard and full-core RTBs were compared.

**Results**

Central RTBs were considered AG, AP and NA in 54-68%, 8-20% and 16-27% with standard needles vs. 69-79%, 10-17% and 7-19% with full-core needles. Peripheral RTBs were considered AG, AP and NA in 53-69%, 11-23% and 15-24% with standard needles vs. 79-84%, 5-7% and 10-14% with full-core needles. The diagnosis of histotype was possible on central cores in 73-84% of cases with standard needles vs. 80-93% with full-core needles, on peripheral cores in 76-85% of cases with standard needles vs. 86-90% with full-core needles. For RCCs, Fuhrman grading was possible on central cores in 70-89% of cases with standard needles vs. 80-97% with full-core needles, on peripheral cores in 74-93% with standard needles vs. 77-94% with full-core needles.

**Discussion**

RTBs obtained on the bench with full-core needles are more frequently adequate and have a higher diagnostic yield for tumor histotype and Fuhrman grade than RTBs obtained with standard needles. No significant difference in adequacy and diagnostic yield for tumor histotype and Fuhrman grade was observed for central and peripheral RTBs with the use of either standard and full-core needles.

**Conclusions**

Central and peripheral RTBs with full-core needles should be obtained for histological characterization of renal tumors. Full-core needles should be preferred to standard Tru-cut needles since they can obtain more adequate cores and allow a higher diagnostic yield for tumor histotype and Fuhrman grade.