P077 Comparison of cancer detection rates in micro-ultrasound biopsies versus robotic ultrasound-magnetic resonance imaging fusion biopsies for prostate cancer

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Introduction & Objectives: We aimed to compare the cancer detection rates in patients who underwent micro-ultrasound biopsy (MB) versus Robotic ultrasound-magnetic resonance imaging fusion biopsies (RFB) for PCa.

Materials & Methods: Between February 2017 and September 2018, 451 biopsies were performed at our institution. We selected 271 patients that underwent target biopsy. In total 223 men underwent RFB and 48 underwent MB. The study cohort was divided into two groups: robotic ultrasound-magnetic resonance imaging fusion biopsy (Group A) and micro-ultrasound biopsy (Group B). Micro-ultrasound imaging was performed using the high resolution ExactVu™ system (Exact Imaging, Markham, Canada). RFB was performed using Artemis Device (Eigen, Grass Valley, CA). Biopsy samples were taken from targets in each modality, plus systematic samples.

Results: There were no differences according to age (median: 66.9 years), PSA (median: 9.1 ng/ml), prostate volume (median: 54.4g), and PIRADS (median: 3.96). There were no differences according cancer detection rates except for target detection rates of clinically significant tumors. The prostate cancer detection rate was 67.7% (151) in group A and 62.5% (30) in group B (p=0.48) The detection of clinically significant cancer defined as patients with Gleason score greater or equal to 3+ 4 was 31.8%(71) in group A and 39.5% (19) in group B (p=0.31). The cancer detection rate of random biopsies were similar in group A and group B (21.5% vs. 22.91% respectively; p=0.83). Patients from Group B had higher clinically significant tumours detection in target biopsies (37.5% vs. 22.86%; p=0.035).

Conclusions: Our study suggests that micro-ultrasound biopsy may be comparable to RFB according to prostate cancer detection. Micro-ultrasound might play a role in cognitive fusion biopsies.