Does the Diagnostic Accuracy of Micro-Ultrasound Vary with Prostate Location?

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INTRODUCTION

PRI-MUS™ (Prostate Risk Identification for Micro-Ultrasound) is an evidence-based risk assessment protocol developed to identify suspicious areas in the prostate as visualized during routine clinical scanning by high-resolution 29 MHz micro-ultrasound imaging. Multiple clinical studies have demonstrated the utility of the PRI-MUS protocol for characterizing tissue and helping to direct targeted prostate biopsies using micro-ultrasound. In this study we provide a prospective validation of PRI-MUS during its real-world clinical application.

OBJECTIVE

This study tracks the performance of the PRI-MUS protocol after introducing the micro-ultrasound platform (ExactIVu™, Exact Imaging, Markham, Canada) for targeted prostate biopsy into the Department of Urology at the Ordensklinikum Linz (Linz, Austria).

RESULTS:

- PRI-MUS accuracy ranged from 0.68-0.83 depending on anatomical area
- Accuracy highest in apex, lowest in base
- Anterior targets not often graded, but surprisingly accurate with AUC 0.80

CONCLUSIONS:

- Micro-ultrasound based PRI-MUS accuracy is relatively uniform across prostate areas, more study required in anterior and transition zones
- Micro-ultrasound provides a highly sensitive real-time targeting tool for prostate biopsies, thereby improving detection rates of csPCa at our clinic
- Exciting potential to reduce false-negatives without relying on multi-modality, multi-specialty solutions like mpMRI.

REFERENCES