The utility of 29 MHz resolution Micro-Ultrasound and mpMRI in the management of Gleason 6 Prostate Cancer with Active Surveillance
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INTRODUCTION
The introduction of the PSA test to screen men for prostate cancer (PCa) has led to an increase in the overdiagnosis of indolent PCa that can remain asymptomatically during a patient's lifetime. Active Surveillance (AS) is the recommended management strategy for men with low-risk prostate cancer. We assess the role of micro-ultrasound and multiparametric MRI (mpMRI) in monitoring the progression of prostate cancer in men on AS according to the Prostate Cancer Research International: Active Surveillance (PRIAS) criteria.

OBJECTIVE
This study seeks to identify the potential of ExactVu™ Micro-Ultrasound System (Exact Imaging, Markham, Canada, Figure 1) as an additional tool for the management of Gleason 6 prostate cancer with Active Surveillance.

RESULTS:
- For all PCa micro-ultrasound sensitivity was 84% and mpMRI was 72%.
- csPCA was found in 6/39 (15%) subjects with GS 3+4 or greater, targets from either modality alone would have found 5/6 of these with 1 small volume (3mm) discovered systematically near the Micro-ultrasound and MRI target (Table 1).
- 13/19 subjects were confirmed in GS 3+3 pathology by micro-ultrasound targets, while 9/19 were confirmed by MRI (Figure 4).
- 17/39 (44%) of subjects had non-suspicious imaging on at least one modality.

CONCLUSIONS:
- Micro-ultrasound and mpMRI evaluations performed similarly in the detection of csPCA, with Micro-ultrasound detecting more Gleason 6 PCa.
- Incorporation of micro-ultrasound or mpMRI in Active Surveillance protocol could reduce the number of unnecessary repeat biopsies:
  - Eliminating the need for biopsy in patients with benign findings
  - Increase yield of csPCA detection in fewer biopsies

REFERENCES: