

00374 Is Saturation Biopsy Still Relevant in the Era of MRI-targeted Biopsy?

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Aims: Combination of saturation and MRI-targeted prostate biopsies is still the standard of care as targeted biopsy alone can still miss a fifth of significant prostate cancer. However with morbidity associated with increasing cores and with increasing accuracy of MRI-targeted biopsies, we aim to identify clinical factors that can predict which patients can forgo saturation biopsy.

Methodology: Data was collected prospectively from 234 men undergoing robotic transperineal MRI-US fusion targeted biopsy at our institution from 2015-2017. All men had a 3-Tesla multiparametric-MRI performed and lesions assigned a PI-RADS (v2.0) score. Software fusion was performed using non-linear regression. Targeted biopsy was performed first followed by concomitant saturation biopsy.

Result: The mean age was 64.9 ± 7.4 years, mean PSA at biopsy was 9.3 ± 5.4 ng/L and the mean prostate volume was 42.3 ± 18.7 cc. The mean number of saturation cores taken per patient was 26.0 ± 8.1 and the mean number of targeted cores taken per lesion is 5.4 ± 3.2 . 92 patients had clinically significant disease detected of which 17 (18.5%) were detected by saturation biopsy alone, 22 (24.7%) by targeted biopsy alone and 50 (56.2%) by both modalities. There were 69 patients with incongruent biopsy outcomes (cancer detected by saturation biopsy outside targeted area) and 61 patients with congruent biopsy outcomes (no cancer detected out of targeted area). Race, PIRADS score, total lesional volume and volume discrepancy during fusion were significant on univariate analysis but only PIRADS ($p=0.04$) and volume discrepancy ($p=0.02$) remained significant predictors on multivariate analysis.

Conclusion: Close to a fifth (18.5%) of patients may have significant cancer missed by targeted biopsy alone. PIRADS score and volume discrepancy during fusion scan help select men who can forgo concomitant saturation biopsy.