

The Role of Ipsilateral and Contralateral Transrectal Ultrasound-guided Systematic Prostate Biopsy in Men With Unilateral Magnetic Resonance Imaging Lesion Undergoing Magnetic Resonance Imaging-ultrasound Fusion-targeted Prostate Biopsy

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Abstract

Objective: To determine how ipsilateral (ipsi) and contralateral (contra) systematic biopsies (SB) impact detection of clinically significant vs insignificant prostate cancer (PCa) in men with unilateral magnetic resonance imaging (MRI) lesion undergoing MRI-ultrasound fusion-targeted biopsy (MRF-TB).

Materials and methods: A total of 211 cases with 1 unilateral MRI lesion were subjected to SB and MRF-TB. Biopsy tissue cores from the MRF-TB, ipsi-SB, and contra-SB were analyzed separately.

Results: A direct relationship was observed between MRI suspicion score and (1) detection of any cancer, (2) Gleason 6 PCa, and (3) Gleason >6 PCa. MRF-TB alone, MRF-TB + ipsi-SB, and MRF-TB + contra-SB detected 64.1%, 89.1%, and 76.1% of all PCa, respectively; 53.5%, 81.4%, and 69.8% of Gleason 6 PCa, respectively; and 73.5%, 96.0%, and 81.6% of Gleason >6 PCa, respectively. MRF-TB + ipsi-SB detected 96% of clinically significant PCa and avoided detection of 18.6% of clinically insignificant PCa. MRF-TB +

contra-SB detected 81.6% of clinically significant PCa and avoided detection of 30.2% of clinically insignificant PCa.

Conclusion: Our study suggests that ipsi-SB should be added to MRF-TB, as detection of clinically significant PCa increases with only a modest increase in clinically insignificant PCa detection. Contra-SB in this setting may be deferred because it primarily detects clinically insignificant PCa.

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