

Value of Endorectal MRI in Romanian Men for High Risk of Prostate Cancer: MRI Findings Compared with Saturation Biopsy

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Abstract

Purpose: To evaluate the potentials of T2 weighted (T2W) MRI and diffusion weighted (DW) MRI for prostate cancer (PCa) detection, local staging and treatment planning in high-risk group.

Material and Methods: Endorectal MRI was performed in 17 Romanian men (median age: 66 years; range: 58 – 75 years), prostate specific antigen (PSA) serum levels (median: 20 ng/ mL; range: 8.6 – 100 ng/mL) with positive findings for PCa (median Gleason score: 8; range: 7 - 9). Imaging findings were compared to standardised 20-core transperineal saturation biopsy. The prostate was divided into 16 standard sectors (10 posterior and 6 anterior).

Results: Overall, prostate cancer was detected in 16 patients (94%) on DW-MRI alone and in all 17 patients (100%) on T2W-MRI alone, and on combined imaging. On T2W-MRI 165 sectors out of 272 were suspicious for PCa and 124 (75%) were cancer positive. On DW-MRI 126 sectors out of 272 were suspicious for PCa and 118 (95%) were cancer positive. On the combined imaging approach 134 sectors out of 272 were suspicious for PCa and 126 (94%) were cancer positive. This resulted in diagnostic accuracies per sector of 76% for T2W-MRI, 86% for DW-MRI and 89% for combined imaging. Multifocal PCa was confirmed both on MR imaging and by biopsy in 8 of the 17 men (47%) Extra capsular extension (ECE) or seminal vesicles invasion (SVI) was highly suspected in 8 (47%) respectively 7 (41%) of the 17 patients. 6 patients (35%) presented both ECE and SVI. MRI findings were taken into account for treatment planning and none of these patients underwent radical prostatectomy and instead was treated with palliative cryotherapy, radiotherapy and hormone therapy.

Conclusions: Endorectal MRI is highly accurate in PCa detection in the high-risk group and seems to have an important role in local staging and treatment planning for Romanian population.

Key words: diffusion, MRI, prostate cancer, saturation biopsy

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