
Complications, Recovery, and Early Functional Outcomes and Oncologic Control Following In-bore Focal Laser Ablation of Prostate Cancer.

Lepor H¹, Llukani E², Sperling D³, Füttner J J⁴.

Abstract

From April 2013 to July 2014, 25 consecutive men participated in a longitudinal outcomes study following in-bore magnetic resonance imaging (MRI)-guided focal laser ablation (FLA) of prostate cancer (PCa). Eligibility criteria were clinical stage T1c and T2a disease; prostate-specific antigen (PSA) <10 ng/ml; Gleason score <8; and cancer-suspicious regions (CSRs) on multiparametric MRI harboring PCa. CSRs harboring PCa were ablated using a Visualase cooled laser applicator system. Tissue temperature was monitored throughout the ablation cycle by proton resonance frequency shift magnetic resonance thermometry from phase-sensitive images. There were no significant differences between baseline and 3-mo mean American Urological Association Symptom Score or Sexual Health Inventory in Men scores. No man required pads at any time. Overall, the mean PSA decrease between baseline and 3 mo was 2.3 ng/ml (44.2%). Of 28 sites subjected to target biopsy after FLA, 26 (96%) showed no evidence of PCa. Our study provides encouraging evidence that excellent early oncologic control of significant PCa can be achieved following FLA, with virtually no complications or adverse impact on quality of life. Longer follow-up is required to show that oncologic control is durable.

PATIENT SUMMARY: Early results for focal laser ablation of prostate cancer are very encouraging. Until long-term oncologic control is demonstrated, focal laser ablation must be considered an investigational treatment option.

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KEYWORDS: Focal laser ablation; Focal therapy; Prostate cancer; Prostate cancer treatment outcomes

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