Focal Laser Ablation of prostate cancer: results in 121 patients with low to intermediate risk disease

Eric Walser, Anne Nance, Leslie Ynalvez, Shan Yong, Jacqueline Aoughsten, Eduardo Eyzaguirre, Stephen Williams
UTMB, Galveston TX, USA

Background: Focal laser ablation (FLA) is an alternative to whole-gland therapies for localized prostate cancer

Objective: Determine the morbidity and oncologic and functional outcomes at one year in the largest FLA series to date.

Design, Setting and Participants: 121 consecutive patients with low to intermediate risk prostate cancer had FLA between 2013 and 2016. At 6 and 12 months, patients had clinical follow up and prostate MRI with biopsies of suspicious areas. Surveys of sexual and urinary function before and after FLA documented functional outcomes.

Intervention: Transrectal, MRI-guided FLA done with a laser fiber inserted into affected portions of the prostate. MRI thermometry controlled ablation location/size.

Statistical Analysis: Multivariate logistic regression analyses identified determinants of positive post-treatment biopsy. 2-sided Wilcoxon signed rank test for survey scores and lab values.

Results and Limitations: The median age was 64 and median PSA was 6.05 ng/mL. Gleason score was 6 in 36 (29.8%) and 7 in 85 (70.2%), respectively. Fourteen (11.6%) of men had clinically-significant cancer after biopsy of MRI-abnormal areas after FLA. There was no significant difference between baseline and functional scores post-ablation. As the hemigland ablation technique emerged, there were improved results and only one of 16 (6.8%) men had residual cancer at one year. The median PSA fell to 3.25 at 12 months (p<0.001). Other than lesion size, there were no predictors for positive post-treatment prostate biopsy.

Conclusions: At 1 year, FLA in selected patients has promising oncologic results, low morbidity and no significant changes in quality of life.

Patient Summary: This study looks at the largest series to date of 121 men with prostate cancer treated with focal laser ablation -- a non-surgical, outpatient procedure for low to intermediate risk prostate cancer. At one year, only 12% of men (14 of 121) had biopsy-proven significant prostate cancer. Sexual and urinary function did not change after FLA.