

High Intensity Focused Ultrasound with the Sonablate® 500 for the Treatment of Localized Prostate Cancer. A Multi-Center Experience.

George M Suarez*, Miami, FL; Rafael Estrella, Santiago De los Caballeros, Dominican Republic; Carlos Garcia, Puerto Vallarta, Mexico

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Introduction and Objective: Treatment options for localized prostate cancer are varied and challenged by the unpredictable diversity of the biologic behavior of the disease. Accepted treatment often times result in compromising the quality of life style with high rates of impotence and incontinence. High Intensity Focused Ultrasound (HIFU), is a novel, minimally invasive alternative, which provides an acceptable cure rate similar to and in some instances greater than standard therapy.

Methods: 87 patients diagnosed with T-1 or T-2 carcinoma of the prostate were treated with HIFU.

Criteria: Gleason score 7 or less, PSA 10 or less, volume less than 40 grams. Patients completed pre and post treatment international index of erectile function (IIEF-5), IPSS and incontinence questionnaires. Post treatment PSA, IIEF-5, IPSS and incontinence questionnaires were at 3, 6, 12 and 18 months. Treatment was preformed as outpatient with epidural anesthesia/IV sedation. Average treatment time 2 hours. Catheter time ranged 14-21 days. Follow-up was 12 and 18 months.

Results: Of 87 patients, 70 maintained a PSA of Nadir, 17 had a post treatment PSA = 1 to 2 and have remained stable with increase from 3 month post treatment PSA. Of 87 patients, 84 reported no change in IIEF-5 nor their IPSS. 3 patients reported erectile dysfunction (ED) responsive to PDE-5 inhibitor (Cialis 20 mg). 2 patients reported a moderate degree of ED prior to HIFU even with PDE-5 inhibitors remained similar ED in the post treatment. There was no incidence of incontinence. Urinary tract infection occurred in 3 patients, urinary retention requiring a catheter was seen in 2 patients. 1 for 5 days after initial removal, 1 for 10 days. Stricture in one patient. No other complications were seen.

Conclusions: Prostate cancer remains a major health issue and the optimal treatment equally as challenging. The impossibility to differentiate biologic aggressive from non-aggressive cancer, groups patients to receive non-discriminating treatment that may be over aggressive. Current treatment may lead to a compromise of quality of life, whereas, patients fell the outcome is worse than the cancer itself.

Our preliminary results indicate HIFU as an effective option in treating cancer, while preserving potency and continence. We recognize long term follow-up is vital to appropriately evaluate this technology. The promising outcome of our data and the results of the international literature on HIFU for prostate cancer merit these results be communicated in the urologic community.