

## **CLINICAL OUTCOME OF HIGH-INTENSITY FOCUSED ULTRASOUND (HIFU) FOR LOCALIZED POSTATE CANCER: 5 YEAR OBSERVATIONS**

Toyoaki Uchida, E. Yamashita, Y. Okusa, T. Nagata, Tokai University, Tokyo, Japan

**INTRODUCTION AND OBJECTIVES:** We are reporting on the treatment of localized prostate cancer with high intensity focused ultrasound (HIFU).

**METHODS:** Patients with localized prostate cancer stage T1-2N0M0 were treated with the Sonablate™ 500 (Focus Surgery, Indianapolis, IN). Clinical outcomes were analyzed using ASTRO guidelines and Kaplan-Meier analysis

Since January, 1999, 314 patients with localized prostate cancer have received 358 HIFU treatments. Of these patients, 132 have been followed up more than one year (1 yr.) and are reported here. These patients are average age of 70 years (range 45-87 yrs.), and staging as follows: 70 patients were stage T1c, 47 were T2a, and 15 were T2b. Their mean pre-operative PSA levels were 14.5 ng/ml (3.39 – 89.6ng/ml). Average total treatment time was 2 hours 51 minutes (51 – 6 hrs. 30 min), average in-patient time was 4.8 days (2 – 20 days), and mean follow up time was 19.8 months (3 – 63 months).

**RESULTS:** At one year, the 132 patients in the study experienced an 88% clinical success rate, at 3 years it was 69% and also at 5 years, 69% had no recurrence. In addition, patients with a serum PSA before surgery < 10ng/ml. had 88% complete recovery (CR), those with PSA from 10-20ng/ml had 67% CR, 20-30ng/ml. had 61% CR, and >30ng/ml. had 27% complete recovery ( $p < 0.0001$ ). Using the hazard ratio and multivariate analysis it appears that pre-operative PSA levels are the leading predictive factor in the outcomes of this treatment ( $p < 0.0001$ ).

**CONCLUSIONS:** To assess the benefits and clinical efficacy of the treatment, we will need more patients with longer follow up, but the therapy is performed without incision and we can expect a high level of clinical efficacy and quality of life (QOL) outcomes for the patients.

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