

Salvage High Intensity Focused Ultrasound for Local Prostate Cancer Recurrence after Brachytherapy

Introduction and Objectives: Management of patients with recurrent Prostate Cancer (PCa) after Brachytherapy is challenging. These patients might benefit from definitive local therapy. The objective of this study is to assess the safety and feasibility of high intensity focused ultrasound (HIFU) in this group of patients.

Materials and Methods: Patients with salvage HIFU for local PCa recurrence after brachytherapy were retrospectively reviewed. All participants had their treatment with (Sonablate® 500) between 2006 and 2011. Patients were followed with prostate-specific antigen (PSA) and transrectal ultrasound guided biopsy. Progression was defined as positive biopsy and/or PSA > nadir + 2 ng/ml.

Results: Thirteen patients underwent salvage HIFU for PCa recurrence after brachytherapy. The mean age was 66.5 year (58.8-72.5) and the mean follow-up was 33.7 months (3-68). The clinical and pathological characteristics before brachytherapy and salvage HIFU are summarized in Table 1. All transrectal ultrasound guided biopsy at 6 months post salvage HIFU were negative. The biochemical failure rate was 50%. Additional therapy was required in 50% of patients. The comments adverse event was temporarily worsening lower urinary tract symptoms (75%). Rectourethral fistula rate was 16.6%. (Table 2)

Conclusions: Salvage HIFU is a feasible treatment option for PCa recurrence post brachytherapy with acceptable morbidity rate. A larger cohort of patients and longer follow-up should be carried out to confirm the findings.

Variables	Brachytherapy		Salvage HIFU	
	Mean	Range	Mean	Range
Base line PSA (ng/dl)	7.1	4.4-11.7	4.4	1.1-9
Prostate Volume (cc)	32 cc	25-39	22.6	13-40
Gleason Score	6	6	7	6-8
Nadir PSA (ng/dl)	0.62	0.18-1.24	0.97	0-4
Time to Nadir (months)	41.8	7.1-75.1	3.17	1.5-6

Table 1: Clinical and pathological characteristics before both brachytherapy and salvage HIFU.

Adverse events	Rate (%)
Temporarily worsening lower urinary tract symptoms	9 (75%)
Gross hematuria	3 (25%)
Recto-urethral fistula	2 (16.6%)
Urinary Retention	2 (16.6%)
Perineal Pain	1 (8.3%)

Table 2: Adverse events rate after salvage HIFU

Source of Funding: None