

**PP36**

**HIGH INTENSITY FOCUSED ULTRASOUND HEMIABLATION VERSUS MRI GUIDED 'LESION ONLY' ABLATION OF PROSTATE CANCER – GENITO-URINARY FUNCTIONAL OUTCOMES AND COMPLICATIONS**

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**Background:** Focal therapy (FT) for Prostate Cancer (PC) aims to gradually shift from sub-total/hemiablation (HA) towards image guided 'lesion-only' ablation (LOA). In this study, we compared the complications and early functional outcomes of High Intensity Focused Ultrasound (HIFU)-HA versus HIFU-LOA

**Materials & Methods:** We queried our prospectively maintained FT for PC database (2005 – 2015) of 291 patients and identified 88 patients of HIFU-HA and 47 patients of HIFU-LOA. At our institution, patients eligible for FT were offered HIFU-HA (Ablatherm) between 2009 – 2013 which involved complete ablation of the cancer containing lobe. MRI fusion HIFU (FocalOne) was introduced since July 2014 after which all the eligible FT patients underwent HIFU-LOA defined as MRI- US fusion targeted ablation of the cancer 'lesion only' with a safety margin of 8-9mm. Due to shorter follow-up of LOA group, we compared only the early genitourinary functional outcomes (pre-op and post-op – 1 month) between the two groups - using validated questionnaires (IPSS, ICS and IIEF) and the complications - reported according to Clavien-Dindo classification.

**Results:** The clinical and cancer characteristics of the study population is shown in Table 1. We treated significantly larger cancer volume in LOA group. There was no significant rise in IPSS score after the treatment in both the groups and the mean rise of IPSS were also similar between the groups. HIFU-HA had significantly higher incontinence rate and decrease in the IIEF score as compared to LOA. The complications and functional outcomes data are shown table 2. The complication rates were similar between the groups, but LOA was not associated with any grade 3 complications.

**Conclusion:** Our initial experience of HIFU-LOA had demonstrated significantly lower incontinence rates and better erectile function preservation compared to HIFU-HA. However, the oncological outcomes of LOA group are awaited.

**Table1: Clinical and cancer characteristics.**

Variable	HIFU-HA	HIFU-LOA	p - value
Number of patients	88	47	
Mean age (SD) years	68 (6.9)	67.6 (7.3)	0.8
Mean BMI (SD)	23.9 (5.9)	25.1 (5.8)	0.8
Mean PSA (SD) ng/ml	7.1 (2.9)	7.7 (2.6)	0.2
Mean Prostate volume (SD) cc	37.2 (12.2)	40.3 (11.6)	0.8
Mean percent of positive cores (SD)	12.4 (10.5)	19.4 (15.2)	0.2
Mean percent of positive core length (SD)	4.9 (5.1)	8.6 (10.6)	0.01
<b>Gleason Score (%)</b>			<b>0.03</b>
6 (3+3)	73 (83)	32 (68)	
7 (3+4)	15 (17)	15 (32)	
Mean pre-op IPSS score (SD)	5.8 (4.8)	3.6 (3.8)	0.2
Mean pre-op IIEF score (SD)	17.8 (6.7)	22.6 (3.5)	0.1
Number of incontinent patient (%)	0	0	

**Table 2: Functional outcomes and complications.**

<b>Variable</b>	<b>HIFU-HA</b>	<b>HIFU-LOA</b>	<b>p - value</b>
Mean hospitalization time (SD) days	3.1 (0.9)	1.7 (1.1)	0.1
Mean catheterization time (SD) days	2.9 (0.3)	2.4 (0.8)	0.5
Mean follow-up (SD) months	21.1 ( 6.3)	6.3 (3.1)	<b>&lt; 0.01</b>
<b>Follow - up at 1 month</b>			
Mean drop in PSA (SD) ng/ml)	2.5 (3.3)	2.5 (3.4)	0.7
Mean increase in IPSS (SD)	2.4 (4.5)	2.2 (3.7)	0.8
Number of patients with urine leak (%)	14 (15.9)	2 (5.1)	<b>0.04</b>
Mean drop in IIEF (SD)	4.2 (6.2)	2 (4.2)	<b>0.07</b>
<b>Complications (%)</b>	12 (13.6)	3 (6.8)	0.2
Complications requiring hospitalization (%)	7 (8)	0	
Complications requiring intervention (%)	2 (2.3)	0	