PP30
Focal high intensity focused ultrasound targeted hemiablation for unilateral prostate cancer – A prospective evaluation of oncologic and functional outcomes
A. Sivaraman, E.R. Cordeiro Feijoo, E. Barret, R. Sanchez-Salas, M. Galinao, F. Rozet, D. Prapotnich, N. Cathala, A. Mombet, X. Cathelineau
Institut Mutualiste Montsouris, Paris, France

Objectives: To assess the oncological and the functional outcomes of focal High-Intensity Focused Ultrasound (HIFU) hemiablation in unilateral organ-confined PCa.

Patients and Methods: Single center prospective evaluation of HIFU Hemiablation for unilateral organ confined PCa (July 2009-December 2013). Cancer localization was done with Transrectal Ultrasound guided biopsy and Multiparametric Magnetic Resonance Imaging followed by HIFU hemiablation. Oncological outcomes were analysed with control biopsies and Prostate Specific Antigen (PSA) measurement. Functional outcomes were assessed with validated questionnaires for genitourinary symptoms.

Results: Out of 71 HIFU hemiablation patients, 67 completed the study protocol. The mean age was 70.2 ± 6.8 years and median (IQR) PSA was 6.1 ng/ml (1.6-15.5) (Table 1). Median (IQR) follow-up was 12 (6-50) months and 74.6% (50/67) patients had negative control biopsy. Positive control biopsy was noted in 16.4 and 9% in ipsilateral and contralateral sides respectively. The failure following right lobe hemi-ablation was significantly higher than left hemiablation (21.4% vs 8%, p < 0.05). Biochemical recurrence (BCR) was noted in 6 patients (9.7%) based on Phoenix criteria. Control biopsies and BCR were not associated systematically. At 3 month, no significant change in urinary symptoms and continence rates but a significant negative impact was noted in erection (p<0.001) (Figure 1). Complications included 9% and 0.03% grade II and III Clavien events respectively.

Conclusions: Focal HIFU hemiablation appears to achieve acceptable oncologic outcomes with low morbidity and minimal functional changes. Longer follow-up will establish future considerations.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
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<tbody>
<tr>
<td>No. of patients</td>
<td>67</td>
</tr>
<tr>
<td>Mean (SD) age, years</td>
<td>70.2 (6.8)</td>
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<tr>
<td>Median (IQR) follow-up, months</td>
<td>12 (6-50)</td>
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<tr>
<td>Mean (SD) body mass index, kg/m²</td>
<td>25.5 (6.5)</td>
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<tr>
<td>Median (IQR) number of biopsies</td>
<td>22 (20-69)</td>
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<td>Mean (SD) MRI prostate volume, cc</td>
<td>39.3 (15.7)</td>
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<tr>
<td>Median (IQR) preoperative PSA, ng/ml</td>
<td>6.1 (1.6-15.5)</td>
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<td>Gleason score, entry biopsy, n (%)</td>
<td>3+3: 58 (86.6), 3+4: 9 (13.4)</td>
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<tr>
<td>Positive control biopsy, n (%)</td>
<td>Total: 11 (16.4)</td>
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<tr>
<td>Treated lobe</td>
<td>Right: 9, Left: 2</td>
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<tr>
<td>Contralateral lobe</td>
<td>6 (9)</td>
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<tr>
<td>Median (IQR) nadir PSA, ng/ml</td>
<td>2.6 (0.2 - 11.1)</td>
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Table 1. Demographics and oncologic outcome
Figure 1. IPSS and IIEF5 scores over the follow-up period