Abstract: **P1456**

The clinical significance of left atrial remodeling after BOX isolation in non-paroxysmal atrial fibrillation

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**Topic(s):**
Rhythm Control, Catheter Ablation

**Citation:**

Background: The favorable left atrial volume reverse remodeling (LAVRR) after the pulmonary vein (PV) antrum isolation for non-paroxysmal atrial fibrillation (NPAF) patients predicts the better long-term clinical outcome. However the significance of LAVRR after the BOX isolation for NPAF cases is still limited.

Purpose: We aimed to elucidate the impact of the voltage map guided BOX isolation strategy comparing with long-term outcomes.

Methods: From October 2014 to March 2016, we analyzed 116 consecutive NPAF patients undergoing AF ablation. We obtained both a high density LA voltage map under sinus rhythm before a procedure and LA geometry at pre- and post-procedures by 3D-CT to measure LAV. We performed the large ring BOX isolation as the baseline strategy and followed all patients after a single procedure.

Results: In 95 patients, BOX isolation was undergone. For 21 patients without any low-voltage area (=1.0 mV) in LA body, we performed PV antrum isolation. In BOX ablation group, mean ?LAV was 31.3%. In 64% patients ?LA volume reduction =25% after procedure (R-group) was observed and the others were allocated to NR-group. In several clinical factors, septal and lateral E/e´ at baseline were strongly associated between R- and NR-groups (9.9 vs 13.4 cm/s and 7.3 vs 9.9 cm/s, respectively). Kaplan-Meier analysis showed better outcome in R-group at 2-year follow-up (Figure).

Conclusions: In over half of patients, LAV reduced more than 25%. LAVRR after large ring isolation for NPAF cases is a predictor for long-term outcome and left ventricular diastolic dysfunction and LA degeneration might be latent factor.
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Event-free Survival from the Primary Endpoint
Persistent / Long-Lasting AF

<table>
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<th>Interval</th>
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<th>365d</th>
<th>730d</th>
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<td>R-group; N at risk</td>
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<td>58</td>
<td>47</td>
<td>21</td>
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<tr>
<td>NR-group; N at risk</td>
<td>33</td>
<td>29</td>
<td>25</td>
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</table>

Log-rank P<0.042