

## **Impact of different ablation techniques on outcome after PVI in patients with atrial fibrillation**

*S. Zaltsberg<sup>1</sup>, A. Berkowitsch<sup>1</sup>, T. Neumann<sup>1</sup>, M. Kuniss<sup>1</sup>, D. Erkapic<sup>1</sup>, D. Pajitnev<sup>1</sup>, M. Wojcik<sup>1</sup>, C. W. Hamm<sup>1</sup>, H. F. Pitschner<sup>1</sup>*

<sup>1</sup>Abt. Kardiologie, Kerckhoff Klinik GmbH, Bad Nauheim;

### **Background:**

The development of new ablation techniques promise to improve the outcome after the pulmonary vein isolation. Aim of this study was to analyze success rates of patients with paroxysmal (PAF) and chronic atrial fibrillation (CAF) treated by different ablation techniques after one procedure.

### **Methods:**

A total of 371 consecutive patients (male=253, Age = 58 (49-64); PAF=280, LA size = 39 (36-41) x 54 (49x59) mm, LVEF= 60 (57-63) %, history of AF = 7.2 (3.2-9.8) years, Hypertension= 219, CAD = 33, DM=20; continuous data are given as median and IQR) were enrolled in the study. A total 253 patients were treated with radiofrequency using irrigated tip catheter (103 patients-ostial circumferential isolation of PV, mapping with LASSO catheter; 150 pts- block isolation of the ipsilateral PVs, mapping with HD mapper (MESH)). In remaining 118 pts antral isolation of PV was performed with cryo balloon. Endpoint of this retrospective analysis was the first documented recurrence of AF lasting > 30 s. The first three months after index procedure were considered as a blanking period. During the follow up period every 3 months 7-day Holter ECGs or event recordings for 3 weeks were performed. The outcome was analysed with Kaplan-Meier analysis and log rank test. Follow up was 13.1 (6.9-30) months.

### **Results:**

Out of 280 patients with PAF 170 (60.7%) were in sinus rhythm within follow up. There was no significant difference in outcome between patients treated with different techniques. In patients with CAF the outcome was generally poor, however the patients from whom block isolation of the ipsilateral PVs were performed had significantly better outcome compared with the other groups. The detailed data are given in the table 1.

### **Conclusion:**

Patients with PAF seem to have comparable probability to be in sinus rhythm independently of the ablation technique used. In contrast, the patients with CAF are more sensitive to the ablation technique.

AF type	Ablation technique	N	Events	Sinus Rhythm		P
				N	%	
PAF	RF+LASSO	84	39	45	53.6	<b>.515</b>
	RF+Mesh Mapper	90	30	60	66.7	
	Cryo Balloon	106	41	65	61.3	
	<b>Total</b>	<b>280</b>	<b>110</b>	<b>170</b>	<b>60.7</b>	
PERS	RF+LASSO	19	13	6	31.6	<b>.002</b>
	RF+Mesh Mapper	60	27	33	55.0	
	Cryo Balloon	12	9	3	25.0	
	<b>Total</b>	<b>91</b>	<b>51</b>	<b>40</b>	<b>44.0</b>	
<b>Total</b>		<b>371</b>	<b>161</b>	<b>210</b>	<b>56.6</b>	

**Table 1:** Outcome after pulmonary vein isolation with different ablation techniques.