

11-4 Abstract 18-07**Safety and efficacy of circumferential pulmonary vein isolation with a cryoballoon: long term follow-up in a monocentric prospective study**

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Aim of the study Cryoenergy is a new treatment of atrial fibrillation (AF). We try to assess the feasibility, efficacy and safety of cryoballoon as a tool of pulmonary vein isolation (PVI).

Methods Forty-six (33 men) patients with symptomatic, drug refractory AF were accepted for PVI with cryoballoon. We used a double lumen cryoballoon, either 23 or 28 mm in size as appropriate for the diameter of the PVs. Occlusion quality was assessed from minor to full occlusion. Cryoablation was applied for 5 min at least two times for each vein. We tried for at least one cryoapplication with full occlusion on each targeted vein. If this did not lead to successful PV isolation, we used a 4 mm irrigated radiofrequency catheter to perform additional segmental isolation. The procedural end point was the complete isolation of targeted PV. Patients were seen at out visit each trimester or if they complained a AF-related symptoms. A 48 Holter recording was used to document asymptomatic AF at third month. The follow-up end point was the absence of documented AF recurrence. We analyse results and discuss complications and safety of this procedure.

Results The AF was paroxysmal in 32 patients. 146/174 PV (84%) were successfully isolated with cryoballoon only. The average procedure time was 188 min and the average fluoroscopy 45 min. A median of nine applications were given during the procedure. Patients were followed for 7.6 months (3–11). All patients were free of AF recurrence at 6 months and 92% 9 months. These results were more significant among patients with paroxysmal AF (100%) than those with persistent AF (75%). Complications: During procedures, we experienced four transient phrenic nerve palsy (PNP), two pericardic effusion and, less common, one mediastinal effusion and one right coronary air embolism.

Conclusion The procedure seems feasible with a high acute success rate and with excellent results. This technique becomes the first attempt interventional strategy for paroxysmal AF.

11-5 Abstract 18-15**Pulmonary vein isolation by antral ablation using a novel duty-cycled bipolar/unipolar radiofrequency energy generator with a multielectrode ablation catheter**

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Introduction The electrical disconnection (dis) of the pulmonary veins (PV) plays an important role in the ablation strategy of paroxysmal AF (PAF). Circumferential antral ablation (abl) using a steerable ablation catheter does not always lead to an dis of the targeted PV.

Objective We evaluated the acute effectiveness of a novel spiral 10 pole abl catheter (PVAC, AblationFrontiers, Inc.) and the corresponding clinical follow-up of the treated patients.

Patients and Methods Patients with symptomatic PAF were part of this study. The antral abl was performed using the PVAC catheter in all. The RF abl was done with a new power-modulated bipolar/unipolar abl generator (GENius, AblationFrontiers), using 8W. Antral RF-applications were delivered as long as PV potentials could be demonstrated in the targeted vein. Follow-up was performed by using either an implantable event recorder (Reveal, Medtronic), or by a 7 days Holter monitoring after 3 months.

Results In 52 patients 206 PV were analyzed. An antral ablation was performed in 161 PV of them. Acutely 160 PV could be disconnected from the LA. The mean fluoro time for mapping and ablation was 17±12 min. Total procedure time was 115±25min. No complications occurred. Follow-up: At the moment 41 patients are in the follow-up period between 3 and 6 months. The data from the Reveal group (n=16) and the patients receiving a 7 day Holter after 3 months (n=25) showed the following results: 34 patients (83%) are free of AF without antiarrhythmic drugs. Seven patients still had AF, of which three (19%) were in the Reveal group and four (16%) were in the Holter group.

Conclusion A power modulated bipolar/unipolar antral ablation is an effective and safe electrophysiological method for electrical PV-dis in patients with PAF. In 83% of the patients it results in freedom of arrhythmia without antiarrhythmic drugs. An appropriate procedure-and fluoro-time underline the clinical value of this ablation strategy in this patient group.