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## Freie Vorträge - Vorhofflimmerablation: Ergebnisse

### V1415 - Circumferential Pulmonary Vein Isolation With the Cryoballoon Technique: Results From a Prospective Three Center Study

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Antral pulmonary vein ablation with radiofrequency energy is widely used as a strategy for catheter ablation of paroxysmal atrial fibrillation (AF). A novel double lumen cryoballoon catheter was designed for circumferential pulmonary vein isolation (PVI) with the cryoablation technique. The purpose of the present study was to investigate the effectiveness and the safety of a novel cryoballoon device (ArcticFront™, Cryocath™, Montreal, Canada).

**Methods:** We consecutively enrolled 346 patients (pts) with symptomatic, drug refractory paroxysmal (n=293) or persistent (n=53) AF. In all pts, PVI of all targeted pulmonary veins (PV) was the therapeutic aim. The primary endpoints of this non randomized study were: 1. acute isolation rate of targeted PV; 2. first recurrence of AF (after a blanking period of 3 months). The secondary endpoints were: 1. occurrence of pulmonary vein stenosis; 2. Occurrence of atrio-esophageal fistula or esophageal injury. Proof of PVI was determined by established criteria with a circumferential mapping catheter. Recurrence of AF was defined according to the HRS guidelines as single episode of documented (not necessarily symptomatic) AF > 30 sec during follow-up off drugs. Follow-up was performed on a 3-monthly basis with 7 day Holter ECG's, questionnaire, and event recorder.

**Results:** 1360/1403 PV's (97%) could be isolated with the ArcticFront™ balloon (1302/1403; 93%) or with the balloon in combination with the use of large tip cryoablation catheter (Freezor Max™) (58/1403; 4%). The median total procedure time was 170 (140-195) min, the median of fluoroscopy time was 40 (30-57) min. We found that ablation with the cryoballoon technique resulted in a maintenance of sinus rhythm without antiarrhythmic drug treatment in 74 % of pts with paroxysmal AF and in 38 % of pts with persistent AF. The multivariate Cox-regression model revealed persistent AF and long axis of left atrium > 60mm to be independent predictors for documented recurrence. No PV narrowing occurred. Most frequent complication was a right phrenical nerve palsy observed during ablation at the right superior PV.

**Conclusion:** Complete isolation of the pulmonary veins with the double lumen cryoballoon is feasible. PVI can be achieved in the vast majority of patients with a limited single balloon approach. In the majority of pts with paroxysmal AF, cryoballoon ablation resulted in a stable sinus rhythm without any drug treatment. In our series, the cryoballoon ablation strategy was less effective in pts with persistent AF.