

V61 - Recurrence of Paroxysmal Atrial Fibrillation After Cryoisolation of the Pulmonary Veins: Is a Redo Procedure Useful?

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Objectives: Pulmonary vein isolation (PVI) with the cryoballoon technique (ARCTIC FRONT, CryoCath Technologies Inc.) is an effective and save method to treat patients with paroxysmal atrial fibrillation (PAF). Freedom of AF recurrence can be achieved in about 70-80%. However, a treatment strategy is needed for the remaining 20-30% of these patients. There are limited data concerning the efficacy and feasibility of a second PVI with the cryoballoon.

Hypothesis: Redo procedure with the cryoballoon is useful and efficient in patients with recurrence of PAF after cryoisolation of the PV's.

Methods: Between April 2006 and August 2009, 499 patients were treated with the cryoballoon because of paroxysmal atrial fibrillation. 49 of them underwent a second procedure with the cryoballoon because of recurrence of AF. After the procedure and a blanking period of 3 months, all patients underwent follow up visits at 3 and 6 months, including a 7day Holter ECG recording, symptom driven transtelephonic ECG recordings, and questionnaires. Rate of PV's with reconnection, procedure time, fluoroscopy time, fluoroscopy dose, complications, and 6 months success rate were analyzed.

Results: 43 cases completed 6 months visits and were involved in the further analyses. In all these patients, at least one pulmonary vein was not isolated. Incomplete isolation was documented in about 65% of the left superior PV, 61% of the left inferior PV, 46% of the right superior PV and 59% of the right inferior PV.

Procedure time and fluoroscopy time as well as the fluoroscopy dose were comparable between the first and the redo procedure in these patients ($146,0 \pm 39,7$ vs. $147,0 \pm 47,3$ min; $37,0 \pm 13,6$ vs. $34,2 \pm 15,2$ min and 9150 ± 4817 vs. 9207 ± 6455 cGy/m²). In 26 of the 43 patients, no AF recurrence was detectable between 3 and 6 months follow up (success rate 60%). Two of the patients with AF recurrence underwent a third cryoballoon procedure with a recurrence free 6 months follow up. Rate of phrenic nerve palsies at the time of hospital discharge (5 %) was comparable to that of the first procedures. One intrapulmonal hematoma occurred but no major hemorrhage or pericardial tamponade.

Conclusion: Redo procedure with the cryoballoon in patients with recurrence of PAF after cryoisolation of the PV's is useful. Success rate is notably high and procedure and fluoroscopy times are tolerable. Severe complication rate is not higher than that of the primary procedures.

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