**TOWARDS A COMPLETE TRUE HYBRID TREATMENT OF ATRIAL FIBRILLATION**

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**Background.**There is general agreement amongst experts that there is a pressing need for new tools and techniques to improve the outcome of AF treatment. Despite the increased use of this technique for the treatment of AF, results after the use of either catheter ablation or surgery, in terms of stable long-term patient freedom from atrial fibrillation without the use of antiarrhythmic drugs, are suboptimal and very often multiple procedures are required. This is particularly the case in long-standing persistent AF in which complex structural changes occur in addition to electrical disarrangement and remodeling. Recent advances in the treatment of AF have led to the introduction of the so-called “hybrid” procedure, which was pioneered by our group. Three-year follow up of hybrid procedure is reported and potential improvements ate discussed.

**Methods**: Hybrid AF ablation was successfully performed in 64 consecutive patients (53% with persistent AF). The mean follow-up period was 1732 ± 353 days. Periprocedural endocardial touch-up of incomplete epicardial lesions was performed in 17 (26%) patients.

**Results**: In paroxysmal AF patients, arrhythmia-free cumulative survival rates after 1 hybrid AF ablation without Class I or III antiarrhythmic drugs procedure and without redo catheter ablation were 83%, 80% and 80% after 1, 2 and 3 years, respectively. In persistent AF patients, these were 82%, 79% and 79% after 1, 2 and 3 years. Thirteen (20%) patients had at least 1 recurrent episode of supraventricular arrhythmia lasting longer than 30 s: the most frequent recurrent arrhythmias were left atrial flutter and AF. No mortality or conversion to cardiopulmonary bypass, no phrenic nerve palsy and no pacemaker implantation were reported.

**Conclusions:** Hybrid AF ablation, combining a transvenous endocardial and thoracoscopic epicardial approach in a single procedure, results in high drug-free-sinus rhythm at 3 years in paroxysmal and persistent AF. Linear lesions, true hybrid ablation and new bipolar tools are necessary to ensure better results when an anatomical remodeling has occurred.