

Catheter ablation of long-standing persistent atrial fibrillation: the ugly type of af?

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Introduction

In atrial fibrillation (AF) patients, **catheter ablation (CA)** by **isolating pulmonary veins (PVI)** is the most effective therapy to maintain sinus rhythm.

The success rate of CA relies on AF type and duration, being more successful in paroxysmal AF and **presenting suboptimal success in long-standing persistent AF (LSPAF, >12 months)**.

Aim

To evaluate the **success of AF ablation**, particularly in **LSPAF**.

Methods

Single-center prospective study of patients submitted to CA between 2004-2020.

Strategy: PVI (+cavo-tricuspid isthmus line (CTI) if history of flutter). Additional CA strategies were considered in pts with stable atypical flutter conversion, persistent triggers or no electrograms in the PVs.

Monitoring: Holter/7-day event loop recorder (3, 6, 12 months and annually up to 5 years)

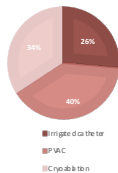
Success: absence of recurrences of any sustained atrial arrhythmias (>30 sec) after the 90th day ablation.

Statistic analysis: Cox regression and Kaplan-Meier survival curves were used to compare the success of ablation as a function of the clinical type of AF.

Results

Patients	862
Male sex	67,3%
Mean age	58±0.41
LSPAF	15,1%
Paroxysmal AF	63,3%
SDPAF	21,6%

Table 1. Baseline characteristics of patients submitted to CA between 2004-2020



Graphic 1: Ablation techniques

• **3-year success rate after 1 procedure: 54.1% in LSPAF vs 72.4% in paroxysmal AF and 61.6% in SDPAF** (LogRank $p < 0.0001$ -figure 1).

• **Risk of recurrence:** 37% higher in pts with LSPAF vs other groups (HR 0.63 CI 95% 0.43-0.92, $p = 0.016$).

• **After a mean of 1.17 procedures/patient:** no success difference between groups (LogRank - $p = 0.112$ - figure 2). With additional ablation procedures (REDO), the success rate at 3 years was 82.9% LSPAF pts vs 88.2% in paroxysmal AF pts vs 83.6% in SDPAF.

• In LSPAF patients, different ablation techniques did not predict recurrence.

Comorbidities: higher prevalence of peripheral arterial disease (PAD, $p = 0.005$), higher NT-proBNP ($p = 0.006$) and left atrial volume ($p = 0.045$) were associated with recurrence.

Results

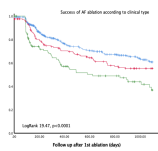


Fig. 1: Follow up after 1st year

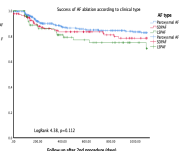


Fig. 2: Follow up after 2nd procedure

Conclusion

- **CA is more effective when performed earlier in the natural history of AF.**
- **Even in LSPAF pts, an acceptable rate of success can be achieved with additional procedures, independently from the ablation techniques.**