

Atrial fibrillation recurrence after ablation: how much AF is really AF

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Abstract

Atrial Fibrillation (AF) is a modern epidemic, affecting up to 9% of the population. Ablation is a well-established approach to treatment of AF. The **success rates are incongruent**, ranging from 60 to almost 90%. Some of the causes for that are:

- **diverse definitions of recurrence** after ablation
- difficulty to **really document asymptomatic** recurrences
- The established period of **30 seconds has questionable clinical significance**.
- A recent review showed that **AF episodes shorter than 6 minutes had no prognostic effect**, i.e., showed no higher risk of embolic events compared to no recurrence.
- **Thirty seconds** is an **arbitrarily** given amount of time, not derived from research.
- How much AF is really significant AF is a hot topic and needs to be further addressed.
- In this study the groups without recurrence and with recurrence but AF Burden < 2% were compared.

Methods: Between April 2016 and December 2017 a total of **141** consecutive patients with symptomatic **paroxysmal AF** (50% , PVI only) or **persistent AF** (50%, PVI ± substrate modification) were included in the study. We considered 2 groups of patients according to the AF/AT Burden during follow-up: no recurrence (AF/AT Burden = 0%, n=75) and AF Burden <2% (n=36). We analyzed AF-Burdens of 0.1, 1, 2, 4, 7 and 10%. The cutoff of 2% encompassed the **largest population** but still showed **no statistical significance** compared to no recurrence. An **implantable loop recorder** (ILR, Linq, Medtronic) with remote monitoring was implanted one day after the procedure. Monitoring of the episodes online was made daily in workdays. The AF/AT Burden, duration of episodes and symptoms were registered systematically at 3, 6, 9 and 12 months. Otherwise the patient was contacted in case of symptoms or documented episode. A blanking period of 3 months was considered. Each AF/ AT Episode > 30 sec. was considered as a classical recurrence.

Results: There were 111 (111/141, 79%) patients with no recurrence or recurrence with AF Burden < 2%, after 12 months follow up. The groups were divided in AF Burden **less than 2%** (36/111, **32%**) or **no AF/AT** recurrence (75/111, **68%**).

The **baseline** characteristics were **comparable** between the two groups.

As assessed by continuous cardiac rhythm monitoring, AF ablation showed a 12-month **arrhythmia free rate of 60%** in **persistent AF** and **58%** in **paroxysmal AF**, with a **symptom free rate of 83% and 84%**, respectively.

Because of **no significant symptomatic recurrence** occurred in patients with AF Burden < 2%, no **reablation or cardioversion** was indicated in this patient population.

Patients with **Burden > 2%** (n=30) had a **81%** symptom rate, **31%** cardioversion rate and **34%** reablation rate. Patients **without recurrence or recurrence <2%** (n=111) had a **8%** symptom rate and **0%** cardioversion or reablation indication.

Conclusion: Patients with an **AF Burden < 2%** are **comparable** with patients without recurrence in its **baseline characteristics, need of cardioversion** after the ablation, **symptoms** and indication for **re-ablation**. Patients with **no recurrence** and AF **Burden < 2%** have **better prognostic** indicators when **compared to** recurrence with AF **Burden > 2%**. Since the aim of AF ablation is the improvement of symptoms and quality of life, it might be reasonable to **consider new endpoints** for AF ablation with **AF Burden < 2%** in future.



Biography:

Carolina Schwab is an attending electrophysiologist in Klinikum Coburg. PhD Student at University of Split, Croatia She is Co-Investigator in more than 10 international, multicentric clinical trials. Graduated at Faculdade de Medicina do Vale do Aço Fellow in Cardiology at Vera Cruz Hospital from 2005 to 2007. Certified cardiologist by Brazilian Cardiology Society. Fellowship in Electrophysiology and Artificial Cardiac Stimulation by Royal and Beneficent Portuguese Society in São Paulo from 2007 to 2010. Certified

electrophysiologist by Cardiac Arrhythmia Society of Brazil. Certified in Artificial Cardiac Stimulation by Brazilian Society of Cardiovascular Surgery. Former member of the clinical staff of the Army Hospital, Alvorada Brasília Hospital and São Francisco Hospital. Member of EHRA Member of DGK (German Society of Cardiology) and it's rhythmology work group Member of Stimulier Council Member of Electrophysiologist International Community Alliance.

Speaker Publications:

1. "P981 Predictor factors and the prognostic role of persistent pulmonary veins isolation in patients with arrhythmia recurrence necessitating a second ablation procedure"; European Heart Journal / 2019 / 10.1093/eurheartj/ehz747.0574
2. "Characteristics of early recurrences detected by continuous cardiac monitoring influencing the long-term outcome after atrial fibrillation ablation"; Journal of Cardiovascular Physiology / 2019 / 10.1111/jce.14109
3. "Predictive Factors and Safety of Non-Invasive Mechanical Ventilation in Combination With Propofol Deep Sedation in Left Atrial Ablation Procedures"; The American Journal of Cardiology / 2019/ 10.1016/j.amjcard.2019.04.013

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