

# Catheter ablation in patients with atrial fibrillation

Jacob Pontoppidan, MD



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Official opponents: Gerd Hindricks, Germany, Steen Pehrson, and Lars Hvilsted Rasmussen.

Tutors: Torsten Toftegaard Nielsen, Peter Steen Hansen, Jens Cosedis Nielsen, and Steen Hvitfeldt Poulsen.

Correspondence: Jacob Pontoppidan, Department of Cardiology, Aarhus University Hospital, Skejby, Brendstrupgaardsvej 100, 8200 Århus N, Denmark.

E-mail: pontoppidan@stribnet.dk

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## ABSTRACT

Atrial fibrillation (AF) is the most common arrhythmia. In symptomatic patients without effect of medical treatment, radiofrequency ablation is a promising catheter-based treatment. This dissertation had the following purposes: 1) to evaluate the effect of radiofrequency ablation of AF at Aarhus University Hospital, Skejby, 2) to evaluate the effect of CTIB in addition to PV ablation in patients with AF and without documentation of common atrial flutter, 3) to evaluate the incidence of asymptomatic AF and the changes in quality of life. The dissertation consists of three papers:

The first paper included 102 patients who underwent AF ablation at Aarhus University Hospital Skejby. We concluded that CPVA can be introduced in the treatment of AF in our laboratory with a promising and reproducible outcome and safety. CPVA appeared to be more effective than SPVI. The second paper was a randomised, controlled trial with 150 patients with AF and no documentation of common AFL. Patients were randomly allocated to either CPVA alone or CPVA with additional CTIB. We could not demonstrate any beneficial effect of CTIB in addition to CPVA with regard to AFL or AF recurrences during follow-up. Repetitive long-term Holter monitoring demonstrated a 33% rate of freedom from AF during one-year follow-up. Including additional CPVA procedures, a clinical effect was noted in 62% of the patients.

The third paper included a quantitative and qualitative analysis of the rhythm in the cohort of patients from study 2. Asymptomatic arrhythmia after AF ablation was observed in 44% of the patients with documented arrhythmia at 12 months of follow-up. In patients with persistent AF, 63% of the documented arrhythmia at 12 months of follow-up were asymptomatic, and often persistent. In the subgroup of patients with asymptomatic arrhythmia, the QoL improved significantly in three of eight health domains, whereas patients with recurrent symptomatic arrhythmia had unchanged or worsened QoL scores.

In conclusion, AF ablation is a safe and efficient treatment in pa-

tients with symptomatic AF despite medical treatment. We found that patients with AF and no AFL did not benefit from additional CTIB during left atrial ablation. In our laboratory, CTIB is now only performed in AF patients with documented AFL before or during ablation. Repetitive long-term Holter recordings are efficient to detect AF recurrences during follow-up, and asymptomatic AF after ablation is very common. This confirms the necessity of rhythm monitoring, especially in patients with indication of anticoagulant treatment, in order to avoid thrombo-embolic complications. Patients with asymptomatic AF after ablation improve their quality of life, especially the physical subscores. These patients should therefore be carefully evaluated before re-ablation in case of AF recurrence.