

Treatment of atrial fibrillation with cryoballoon pulmonary vein isolation – results of a 5-year follow-up

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The goal: The goal was to show results of a long-term follow-up following the cryoballoon pulmonary vein isolation in patients with atrial fibrillation (AF).

Patients and Methods: A total of 126 patients were included in the study of which 77.0% had paroxysmal atrial fibrillation (PAF). Successful treatment outcome was defined as AF recurrence-free survival with stable sinus rhythm during a 5-year period after the procedure. A treatment failure was defined as symptomatic AF recurrence with ECG verification (12 lead ECG or AF lasting >30s by Holter EKG). The patients on antiarrhythmic therapy and those that underwent a redo pulmonary vein isolation procedure were also included.

Results: Following cryoballoon pulmonary vein isolation in a 5-year period 52.4% of patients were in stable sinus rhythm without AF recurrence. With redo pulmonary vein procedures a total of 61.9% of patients was without AF recurrence. Together with antiarrhythmic drugs 57.9% of patients was in sinus rhythm without AF recurrence in a 5-year period. With redo pulmonary vein isolation and antiarrhythmic drugs a total of 73.8% of patients were without AF recurrence. There was statistically significant difference regarding AF recurrence between patients that underwent redo pulmonary vein isolation and those that did not ($p=0.006$). In patients with PAF, 62.9% remained without AF recurrence and 79.4% who underwent redo procedure. In patients with persistent atrial fibrillation (PersAF), 41.4% was without AF recurrence and 55.1% that underwent a redo procedure. The difference between PAF and PersAF was statistically significant ($p=0.009$).

Conclusion: Data from our centre show good long-term results of cryoballoon pulmonary vein isolation in patients with atrial fibrillation. The procedure is especially successful in patients with PAF.¹ The use of redo procedures is justified as it increases long-term success rate.

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LITERATURE

1. Heeger CH, Subin B, Wissner E, Fink T, Mathew S, Maurer T, et al. Second-generation cryoballoon-based pulmonary vein isolation: Lessons from a five-year follow-up. *Int J Cardiol.* 2020 Aug 1;312:73-80. <https://doi.org/10.1016/j.ijcard.2020.03.062>