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

KEYWORDS: atrial fibrillation, pulmonary vein isolation, cryoballon, treatment outcomes.


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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 a 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. The use of redo procedures is justified as it increases long-term success rate.

LITERATURE