Quality of life of patients with structural heart disease undergoing concomitant CryoMaze procedures for persistent atrial fibrillation – randomised comparison of a hybrid approach and CryoMaze alone

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Abstract

Aims: We aimed to compare patients' quality of life (QoL) after two types of atrial fibrillation (AF) treatment: a hybrid ablation strategy and a surgical CryoMaze procedure alone.

Methods and results: Patients with non-paroxysmal AF undergoing coronary artery bypass grafting and/or valve repair/replacement with concomitant CryoMaze procedure were randomly assigned to undergo either radiofrequency catheter ablation after three months (Hybrid Group) or no further treatment (Surgery Group). QoL was compared using the Atrial Fibrillation Effect on Quality of Life (AFEQT) questionnaire. The AFEQT score was converted to the scale of 0 to 100 per cent points, i.e., a score of 0 corresponds to complete disability (or responding "extremely" limited, difficult, or bothersome to all questions answered), and a score of 100 corresponds to no disability (or responding "not at all" limited, difficult, or bothersome to all questions answered). In 106 Hybrid Group patients and 109 Surgery Group patients, both baseline and 12-month AFEQT data were available for final analysis. Patients' QoL did not differ between the Hybrid and Surgery Groups at baseline. At 12 months post-procedure, QoL improved significantly in both groups (from 61.9 ± 16.3 to 86.5 ± 13.4 and from 58.6 ± 14.9 to 81.5 ± 16.7 in the Hybrid Group and Surgery Group, respectively, $P < 0.001$). The 12-month AFEQT score was significantly higher in the Hybrid Group compared to the Surgery Group ($P = 0.017$). In an analysis based on AF recurrence, the QoL at 12 months was significantly higher in patients without AF recurrences compared to patients with AF recurrences (86.2 ± 14.0 vs 80.2 ± 16.8, $P = 0.005$).

Conclusion: Compared to the CryoMaze procedure alone, the hybrid ablation strategy was associated with higher QoL 12 months post-procedure in patients with non-paroxysmal AF undergoing cardiac surgery for structural heart disease. Arrhythmia recurrence was the most significant denominator of the QoL after concomitant AF surgery.

Keywords: AFEQT; Atrial fibrillation; Catheter ablation; Hybrid ablation; Maze procedure; Quality of life