Quality of life after pulmonary veins isolation: outcomes from a digital follow-up program

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Introduction: Even though symptoms drive indication in AF ablation, they have not been consistently incorporated as standard primary outcomes in ablation trials. Only recently, attention has focused on the benefits of ablation on the quality of life (QoL) associated with AF.

Aim: This study aims to evaluate the magnitude and durability of clinical benefits provided by AF ablation and explore possible predictors.

Methods: We implemented a digital follow-up (FUP) program for patients (pts) with AF referred for ablation in our high-volume centre since December 2020. FUP included scheduled visits and remote monitoring through a new digital health platform allowing real-time interaction between patients and doctors. The primary outcome was QoL as measured by the AF Effect on QoL (AFEQT) summary score reported by pts using the digital patient-engagement tool. The primary outcome was analyzed using a repeated-measures non-linear mixed model with random baseline score, time as fixed effects and month 12 response included as an outcome variable. Subgroup analysis examined the effect of baseline AFEQT score on the primary outcome. An explorative analysis of covariance was used to assess the relationship between improvements in QoL and baseline characteristics and the effect of antiarrhythmic drugs at 12 months of FUP.

Results: From the 305 ablations performed, 253 pts were enrolled until September 2022 (age 60±11 years, 33% female, 78% paroxysmal). During FUP time (mean 11.9±5.8 months), 1225 AFEQT questionnaires were collected from 222 different pts. The overall questionnaire completeness rate was 54.5%. The mean baseline AFEQT score was 64±14 points and 80±16 points at 12 months (absolute improvement of 18±4 points, relative improvement of 33.2±22.0%, p<0.001). The absolute improvement in QoL varied as a function of the baseline AFEQT score (p<0.001). For patients with the lowest tertile (score range 0-57) the mean improvement was 15.6±14.6 points, the middle tertile (score range 57-70) increased by 17.6±1.9 points and the highest tertile had the highest absolute improvement (22.0±2.3 points). Relative improvement was similar between tertiles (p=0.07). Subgroup analysis showed that female gender (p<0.01) and the use of antiarrhythmic drugs (p<0.001) were associated with lower improvements in QoL when compared to respective counterparts, despite significant increase in QoL at 12 months. No significant differences were seen according to baseline age and AF type. During FUP, AF recurred in 34 pts (14.5%), 14 of which during the first month of FUP (6%). Less than 7% of pts had at least one emergency department visit (n=16) and no deaths were reported.

Conclusion: Among pts with symptomatic AF, ablation led to significant improvements in QoL at 12 months. These differences remained stable 3 months after ablation and were proportional to baseline AFEQT score. Male pts and pts in whom antiarrhythmic drugs were discontinued reported higher improvement in QoL.