**Risk stratification for atrial fibrillation patients with a severe quality of life deterioration.**

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**Introduction:** Catheter ablation of atrial fibrillation (AF) is well known to increase the patient’s quality of life (QOL) and its indication is basically decided upon by the symptoms, refractoriness to antiarrhythmic drugs, and type of AF. We aimed to elucidate the AF patients whose QOL would deteriorate if we followed them up without undergoing catheter ablation.

**Methods:** Within the KiCS-AF registry data, which included the individual patient’s quality-of-life information via the AF patients with Atrial Fibrillation Effect on QualiTy-of-life (AFEQT) score, 598 patients (age: 71±10 years, CHADS2 score: 1.6±1.2, male: n=403) who did not undergo catheter ablation and whose AFEQT deteriorated during the first year of his/her management were extracted. The patients were divided into two groups according to the severity of the AFEQT deterioration using the median decrement of the score: the -6.6〜0-point-decrement-group (mildly impaired group, n=299) and >-6.6-point-decrement group (severely impaired group, n=299).

**Result:** The QOL scores decreased from 85.7±13.0 to 70.6±16.4 in the severely impaired group and from 87.1±12.7 to 84.4±13.1 in the mildly impaired group, respectively. The proportion of females (severe vs. mild; 38.5% vs. 26.8%; p=0.002), a previous history of strokes (severe vs. mild; 14.0% vs. 7.0%; p=0.005), and the use of beta blockers (severe vs. mild; 58.5% vs. 49.2%; p=0.022) and diuretics (severe vs. mild; 32.1% vs. 24.7%; p=0.046) were significantly higher in the severely impaired group, leading to a higher CHADS-VASc score (severe vs. mild; 3.0±1.7 vs. 2.7±1.6; p=0.009). Within the baseline AFEQT score, the daily activity domain (severe vs. mild; 83.7±16.8 vs. 86.3±16.7; p=0.012) was more impaired in the severely impaired group. Notably, the AF type, usage rate of antiarrhythmics, baseline heart rate, serum BNP, and maintenance rate of sinus rhythm during the follow-up did not differ between the groups. As for the clinical events during the follow-up, strokes (severe vs. mild; 0.3% vs. 0%), heart failure (severe vs. mild; 3.7% vs. 3.0%, p=0.649), and bleeding (severe vs. mild; 2.7% vs. 2.0%, p=0.589) did not differ between the two groups. The logistic regression analysis revealed that both a female sex (odds ratio [OR]: 1.81, p=0.004) and previous stroke history (OR: 2.62, p=0.005) were the independent predictors of a severe QOL deterioration in AF patients that did not undergo catheter ablation.

**Conclusion:** Besides the symptoms, drug usage, and type of AF, patients with a female gender and
baseline comorbidities such as a stroke are likely to experience a more severe QOL deterioration and may need special attention.