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Impact of Successful Elective Electrical Cardioversion on Patient-Reported Outcomes in Persistent Atrial Fibrillation and Flutter: A One-Month Prospective Study

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Introduction: Elective electrical cardioversion (eECV) in stable patients with persistent atrial fibrillation (AF) or atrial flutter (AFL) is common procedure in the rhythm control strategy[1]. Restoring sinus rhythm (SR) should be considered in symptomatic AF patients to reduce cardiovascular morbidity[1,2]. We aimed to evaluate self-reported symptom relief after one-month follow-up in patients who successfully maintained SR after eECV, and to correlate these outcomes with baseline symptom severity, heart failure (HF) and ventricular rate.

Patient and Methods: This prospective observational study enrolled 105 patients with persistent AF/AFL undergoing elective eECV (mean age 67.50 ± 9.85 years; 65.71% male). Clinical assessment and 12-lead electrocardiography were performed at baseline and one month. Baseline ventricular rate, EHRA class (European Heart Rhythm Association), and HF status were recorded. Patients with unsuccessful cardioversion (N = 7) or documented arrhythmia recurrence within 30 days (N = 23) were excluded, leaving 75 patients with maintained SR for final analysis. Participants rated their perceived change from baseline on five-point Likert scale, ranging from worse (1) and unchanged (2) to slightly better (3), significantly better (4), and much better (5).

Results: Acute cardioversion success was achieved in 98 of 105 patients (93.33%). Among the 75 patients maintaining SR at one month, 19 (25.3%) were initially classified as EHRA 1, 47 (62.7%) as EHRA 2a, six (8.0%) as EHRA 2b, and three (4.0%) as EHRA 3 and ventricular rate during AF/AFL was not significantly associated with baseline EHRA class (p = 0.379). Among 56 initially symptomatic patients (EHRA ≥2a), 43 (76.79%) reported improvement: 16 (28.57%) felt slightly better, 21 (37.50%) significantly better, and six (10.71%) much better (**Table 1**). Thirteen (23.21%) reported no change. Improvement was reported by 22 of 29 patients with HF (75.86%) and 21 of 27 without HF (77.78%). Pre-cardioversion ventricular rate did not differ significantly between patients with and without perceived improvement, either among initially symptomatic (p = 0.285) or asymptomatic patients (p = 0.540). Notably, 12 of 19 initially asymptomatic patients (63.16%) reported improved well-being despite EHRA 1 classification, while seven (36.84%) reported no change. No participant reported worsening.

Conclusion: Among patients maintaining SR one month after eECV, self-reported well-being improved in more than three-quarters of those initially symptomatic and nearly two-thirds of those classified as asymptomatic. These findings suggest that baseline symptom assessment may underestimate perceived arrhythmia-related burden. These real-world findings therefore support assertive rhythm control strategy even in seemingly asymptomatic clinical phenotypes to maximize patient quality of life.

TABLE 1. Patient-reported symptomatic improvement according to baseline EHRA classification.

Baseline symptom status	N = 75	No improvement N (%) = 20 (26.7%)	Any improvement N (%) = 55 (73.3%)
EHRA 1 (asymptomatic)	19	7 (36.8%)	12 (63.2%)
EHRA ≥2a (symptomatic)	56	13 (23.2%)	43 (76.8%)

EHRA - European Heart Rhythm Association

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