Alleviation of AF related symptoms following acute conversion of recent-onset, symptomatic atrial fibrillation to sinus rhythm with flecainide acetate oral inhalation solution


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Introduction: Pharmacological restoration of sinus rhythm (SR) in patients with symptomatic atrial fibrillation (AF) is expected to be accompanied by prompt alleviation of symptoms to avoid the need for electrical cardioversion (ECV) and/or hospitalization. The feasibility and safety of acute cardioversion of recent-onset (<48 hours) symptomatic AF to SR with flecainide acetate oral inhalation (FlecIH) solution was shown in the Phase 2, open-label INSTANT trial. We examined symptoms, heart rate, time to discharge and need for ECV reported among patients in the INSTANT trial whose AF was successfully converted to SR (‘conversion group’; N=25) versus those whose AF did not convert to SR (‘no conversion group’; N=29).

Methods: Conversion success was determined using 12-lead Holter monitoring during a 90-minute observation period. Patients in the no conversion group were offered alternative treatment per the investigator discretion. Symptoms, vital signs, time to discharge, and the need for ECV were evaluated through Day 5.

Results: Data from 54 patients (33.3% female) with a mean age of 62.1 years and a mean BMI of 26.8 kg/m² were analyzed. All patients reported at least one AF-related symptoms at baseline (palpitations=85%; dizziness=35%; shortness of breath=37%; chest discomfort=39%) and 83.3% presented with AF symptoms ≤24 hours in duration. At 90 minutes, 80.0% of the conversion group were asymptomatic compared to 37.9% of the no conversion group (p < 0.001). Mean (SD) ventricular rate at 90 minutes was 70.6 (12.5) bpm in the conversion group compared to 100.4 (29.4) bpm in the no conversion group (p < 0.001). Median time to discharge was 2.3 (IQR: 0.75) hours for the conversion group compared to 3.6 (IQR: 1.02) hours for the no conversion group (p=0.001). By Day 5, 23 (79.3%) patients in the no conversion group had undergone ECV; no patients in the conversion group experienced AF recurrence by Day 5 (0% required ECV; p < 0.001).

Conclusions: Conversion of recent onset AF to SR with inhaled flecainide was associated with a reduction in symptoms, normalization of heart rate, rapid hospital discharge and avoidance of ECV during a 5-day follow-up period.

Reduction in AF Symptoms over Time

Progression to ECV over Time

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