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### Original Article

#### Effect of Nifedipine Versus Telmisartan on Prevention of Atrial Fibrillation Recurrence in Hypertensive Patients

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#### Abstract

It is controversial whether angiotensin II receptor blockers provide better protection than calcium antagonists against atrial fibrillation (AF) recurrence in hypertensive patients. This study was designed to compare the effect of nifedipine- and telmisartan-based antihypertensive treatments for preventing AF recurrence in hypertensive patients with paroxysmal AF. A total of 149 hypertensive patients with paroxysmal AF were randomized to nifedipine- or telmisartan-based antihypertensive treatment groups. The target blood pressure (BP) was <130/80 mm Hg. Clinic BP, ECG, Holter monitoring, and echocardiography were followed up for 2 years. The primary end point was the incidence of overall and persistent AF recurrence. During follow-up, there was no statistical difference in the rate of patients lowering to target BP between both groups, whereas nifedipine group had slightly better BP control but similar heart rate control at 24 months. The incidence of AF recurrence was similar in both groups (nifedipine versus telmisartan: 58.7% versus 55.4%;  $P=0.742$ ), and Kaplan-Meier analysis showed no significant difference in the freedom from AF recurrence (log-rank test;  $P=0.48$ ). However, the rate of developing persistent AF in telmisartan group was lower than that in nifedipine group (5.4% versus 16.0%;  $P=0.035$ ). Patients in telmisartan group had lower values of left atrial diameter, left atrial volume index, and left ventricular mass index at the end of follow-up. The effects of telmisartan in preventing AF recurrences in hypertensive patients with paroxysmal AF after intensive lowering BP is similar to that of nifedipine, but telmisartan has more potent effects on preventing progression to persistent AF.

#### Key Words:

- angiotensin II receptor blocker
- atrial fibrillation
- calcium antagonist
- hypertension

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