Rate control drugs differ in the prevention of progression of atrial fibrillation

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On behalf: RACE IV investigators

Topic(s):
Antiarrhythmic Drug Treatment

Background: In patients with paroxysmal atrial fibrillation (PAF), verapamil reduces progression to persistent AF through its intracellular calcium-lowering effects. Little is known on the effects of beta-blockade.

Methods: In this pre-specified post-hoc analysis of the RACE4 randomised trial (nurse-led care versus usual-care in newly detected AF) all patients with PAF and treated with beta-blockers or verapamil for rate control, were analyzed. Patients using class I or III antiarrhythmic drugs were excluded. The primary outcome was time to first electrical cardioversion (ECV) for non-selfterminating persistent AF. Event rates are reported using Kaplan-Meier analysis, and multivariate analysis was used to correct for baseline differences.

Results: Out of 430 patients with PAF, 383 used beta-blockers and 47 verapamil. Compared to verapamil patients, patients on beta-blocker were significantly older (60 ±12 versus 66 ±9 years), had a higher CHA2DS2-VASc score (1.5 versus 2.0) and a lower left ventricular ejection fraction (60% versus 55%). There were no other significant baseline differences between the two groups. Over a mean follow up of 36 months, 99 out of 430 (23%) patients underwent a first ECV after progression to persistent AF. In the beta-blocker group 95 of 383 (25%) patients underwent ECV, compared to 4 out of 47 (9%) in the verapamil group (P = 0.013, Figure 1). After correction for baseline differences verapamil remained significantly associated with less progression (OR 0.23, confidence interval 0.08 to 0.67). Similarly, ECV or chemical cardioversion, whichever came first, was performed in 113 of 383 (30%) beta-blocker patients and 7 of 47 (15%) verapamil patients (P=0.022). In total 35 atrial ablations were performed, 34 (9%) in the beta-blocker group and only 1 (2%) in the verapamil group (p=0.075).

Conclusion: In patients with newly diagnosed PAF, verapamil was associated with less progression to persistent AF, as compared to beta-blockers. In order to draw firm conclusions, these results need to be confirmed by a prospective study.
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Conclusion: In patients with newly diagnosed PAF, verapamil was associated with less progression to persistent AF, as compared to beta-blockers. In order to draw firm conclusions, these results need to be confirmed by a prospective study.

Figure 1

ECV free survival

Event rates are reported using Kaplan-Meier analysis, and multivariate analysis was used to correct for baseline differences.

Number at risk

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p = 0.013