

Statin Use is Associated with a Reduction in VF/Fast VT in NICM Patients – Insights from MADIT-CRT

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Background: The MADIT-II trial, as well as other clinical trials, have demonstrated that the use of statins was associated with a significant reduction in VT/VF episodes in patients with ischemic cardiomyopathy, suggesting possible anti-arrhythmic properties of this drug family. It is not known, however, whether this effect also exists in patients with non-ischemic cardiomyopathy, or whether it should be attributed to direct anti-ischemic or to other pleiotropic effects.

Methods: Patients with non-ischemic cardiomyopathy who were recruited to the MADIT CRT trial (n=821) were divided by the use of statins (users=373). Overall mortality rate, incidence of defibrillator therapy for VT/VF and for combination of VT and VF, and ventricular tachycardia cycle length were compared between the two groups. The Kaplan-Meier method with significance testing by the log-rank statistic and time-dependent proportional hazards regression analysis were used to evaluate the effect of statin use on the probability of defibrillator therapy.

Results: Statin users were significantly older (mean age 62 vs. 58, $p < 0.001$) and had a higher prevalence of cardiovascular risk factors such as diabetes (36% vs. 16%, $p < 0.001$) and hypertension (61% vs. 50%, $p = 0.01$). A significant reduction was observed among statin users in the 3 year cumulative probability of defibrillator shocks (87% vs. 80%, p log rank = 0.02), in implantable cardioverter-defibrillator (ICD) therapy for VF and fast VT [defined as VT with a cycle length shorter than 320 milliseconds (83% vs. 40%, $p = 0.01$)] and in VF (95% vs. 90%, p log rank = 0.02). Statin use was also associated with a significant reduction in the combined end point of VT/VF or death (83% vs. 37%, p log rank = 0.025).

Conclusions: Our findings suggest that statin use is associated with significant reduction in the cumulative rate of VF and fast VT, as well as with a reduction in appropriate defibrillator shocks for patients with non-ischemic cardiomyopathy.