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High Dose Atorvastatin for Reduction of Atrial Fibrillation after Cardiac Surgery

Diab, S; Khatib, N; Adler, Z; Kertsman, V; Cohen, O; Beckerman, Z; Bolotin, G
Rambam Health Care Campus, Haifa, Israel

Methods: This study was an unmatched retrospective cohort study. Over a two-year period (2005-2006) and a one-year period (2008), 426 and 340 patients, respectively, underwent cardiac surgery, without a history of AF or PAF. Uni-variant analysis was performed exploring the relationship regarding high-dose atorvastatin use and AF development. Patients in the first group (2005-2006) had been taking low-dose statins(<40 mg), while the second group (2008) had been taking high-dose atorvastatin (80 mg). The primary end point was incidence of postoperative AF.

Results: Of the 766 patients, 203(27%) had new onset AF after surgery. Many factors were found to increase the incidence of postoperative AF: older age>71 (37.2%)vs.<50(13.5%,P=0.0001);female gender(33.3%,P=0.014); congestive heart failure(44.2%,P<0.001),HTN(28.2%,P=0.018); urgent status(42.0%,P=0.013); valve surgery (38.3%,P<0.001).High-dose atorvastatin was found to be associated with reduction in the incidence of postoperative AF. High-dose (19.4%) vs. low-dose (32.2%),(P<0.001).
To adjust the effects of other factors known to affect AF(age,sex,CHF,HTN,urgent status and valve surgery) which may have changed over the study period, logistic regression models were created to control for possible sources of bias. High-dose atorvastatin was found to be associated with a reduction in post cardiac surgery AF (OR=0.53,P<0.0001).

Conclusion: In our study, patients who had been treated with high-dose atorvastatin had a reduced incidence of post cardiac surgery AF to 35%-72%.