

High Dose Atorvastatin for Reduction of Post-Pericardiotomy Syndrome after Cardiac Surgery

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Objective. Post-pericardiotomy syndrome (PPS) is a potential complication of open heart surgery. This syndrome presents as a delayed pleural or pericardial reaction, characterized by fever, chest pain, and a friction rub. We investigated the effect of high-dose atorvastatin as a drug for reduced PPS.

Methods: The study was an unmatched retrospective cohort study. Over a two-year period (2005-2006) and a one-year period (2008), 455 and 363 patients, respectively, underwent cardiac surgery. Uni-variant analysis was performed, exploring the relationship between high atorvastatin use and PPS 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 PPS.

Results: Of the 818 patients, 53 (6%) had PPS after surgery. older age >71 years and smoking affected the incidence of PPS. Also high-dose atorvastatin was found to be associated with a reduction in the incidence of PPS: high-dose (9/363 -2.5%) vs. low-dose (44/455 - 9.7%), (OR=0.24, P<0.001).

To adjust for the effects of the factors (age, smoking) known to affect PPS, logistic regression models were created to control for possible sources of bias. Smoking was found to be associated with an increased incidence of PPS (OR=0.1.97, P<0.001), while high-dose atorvastatin was found to be associated with a reduction in PPS incidence (OR=0.22, P<0.001).

Conclusions: In our study, patients who had been treated with high-dose atorvastatin had a reduced incidence of PPS, ranging from 11-47%.