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Impact of Atorvastatin on Development of New-onset Diabetes Mellitus in Asian Population: Three-year Clinical Follow up Results

Background: Although statin therapy is beneficial for vascular diseases, the relationship between statin therapy and incidence of new-onset diabetes mellitus (DM) remains limited data. We evaluated the impact of chronic atorvastatin therapy on the development of new-onset DM from 5-year clinical follow up database in Asian population. Methods: From January 2004 to September 2009, a total of 3,566 consecutive patients who did not have DM were enrolled. New-onset DM was defined as having a fasting blood glucose $>126\text{mg/dL}$ or HbA1c $>6.5\%$. Baseline characteristics between the atorvastatin and the control group were propensity score matched (PSM, C-statistics=0.851). Three-year cumulative incidence of new-onset DM was compared between the two groups. Results: At baseline, patients in the Atorvastatin group had higher prevalence of elderly, male gender, dyslipidemia, coronary artery disease, smoking history, alcoholic history, higher levels of HbA1c and lower levels of HDL-C. Higher incidence of new-onset DM in the Atorvastatin group (5.8% vs. 2.1%, $p<0.001$) was observed up to 3 years. Adjusted with cox-regression analysis, atorvastatin use remained as an independent predictor of new-onset DM (OR=2.30, 95% CI 1.40 - 3.77, $p=0.001$). Conclusions: In our study, chronic atorvastatin therapy was associated with increased incidence of new-onset DM at 3 years clinical follow up.