



without diabetes (RR, 0.71; 95% CI, 0.56 to 0.91 vs RR, 0.92; 95% CI, 0.77 to 1.09; $P_{\text{interaction}} = .04$).

Limitations of VISION included its observational design (statin use clearly might be a surrogate for another confounder related to 30-day outcome when the associated risk for survival is substantially lower than the primary outcome), the presence of some baseline differences, and the lack of data on statin type/dose, liver function, and muscle function.

Nonetheless, the data from this large cohort of patients undergoing noncardiac surgery indicate the potential value of statin use before surgery in lessening CV complications 30 days postoperatively. Dr Berwanger noted that these findings need to be confirmed in large perioperative randomized controlled trials.

Low Adherence/Discontinuation of Statin Therapy Is Common and Detrimental in MI Patients

Written by Brian Hoyle

Examination of hospital records of over 45 000 Medicare beneficiaries aged ≥ 66 years has revealed that high adherence to statin therapy, regardless of statin intensity, is beneficial following discharge after hospitalization for myocardial infarction (MI). Yet, low adherence to therapy or discontinuation is common.

The researchers, including Robert S. Rosenson, MD, Mount Sinai Icahn School of Medicine, New York City, New York, USA, and Paul Muntner, PhD, University of Alabama Birmingham, Birmingham, Alabama, USA recently reported that only 27% of 8762 randomly sampled Medicare beneficiaries hospitalized for coronary heart disease events received high-intensity statins [Rosenson RS et al. *J Am Coll Cardiol.* 2015]. The present study was undertaken as a further exploration of the finding.

The study initially enrolled 969 040 Medicare beneficiaries aged ≥ 66 years and < 110 years who were hospitalized at the aforementioned institutions for MI between 2006 and 2012. This initial population was whittled down to 45 629 individuals whose first statin prescription following discharge was for a high-intensity statin (atorvastatin, 40 or 80 mg; rosuvastatin, 20 or 40 mg; or simvastatin, 80 mg). The pattern of statin use at 182 days following discharge was ascertained, with maintenance of therapy for $\geq 80\%$ of the time deemed high adherence and $< 80\%$ of the time reflecting low adherence. Other patterns analyzed included down-titration and subsequent high adherence to moderate- or low-intensity statins; low adherence to high-, moderate-, or

low-intensity statins; and complete discontinuation of statin therapy (> 60 days with no statin supply and no prescription refills).

Outcomes included recurrent MI, hospitalization for cardiovascular diseases (CVD) and non-CVD, and all-cause mortality beginning 182 days after discharge and ending on December 31, 2012.

The majority of the 45 629 individuals displayed high adherence to high-intensity statin therapy at 182 days (57.4%), followed by those whose adherence was low (18.8%), those who discontinued therapy (14.1%), and those with high adherence to a down-titrated regimen (9.7%). These groups were similar in age (mean age, 76 years), sex (female, 53%), and race (white, $> 80\%$).

Similarities extended to the prevalence of diabetes (44.6%, 49.4%, 45.7%, and 43.3% in the same respective order) and a history of coronary heart disease (58.7%, 64.7%, 59.1%, and 54.8% in the same respective order).

Recurrent MI within 182 days following hospital discharge occurred in 1324 (5.1%) patients with high adherence to high-intensity statins, 334 (7.5%) patients with high adherence to low- or moderate-intensity statins, 796 (9.3%) patients with low adherence to statins, and 484 (7.6%) patients who discontinued statins.

Patients with high adherence to either high-intensity statins or low-/moderate-intensity statins experienced fewer MI recurrences, fewer CVD-related hospitalizations, and fewer all-cause mortalities. The pattern was less clear for non-CVD hospitalization but still favored high-adherent individuals.

Analyses of results adjusting for calendar year, age, race/ethnicity, and sex and for these parameters plus a battery of factors concerning patient care and history of comorbidities confirmed the lower occurrence of recurrent MI, CVD hospitalization, non-CVD hospitalization, and all-cause mortality in individuals with high adherence, be that to low-, moderate-, or high-intensity statins. Individuals whose adherence was low or who discontinued statin use had worse outcomes.

Thus, down-titration and discontinuation of high-intensity statins are both common and detrimental.

SUPPORT Findings: Smartphone App Bolsters Drug Adherence and Beneficial Lifestyle Changes in Myocardial Infarction Patients

Written by Brian Hoyle

A smartphone app that provides interactive feedback in response to patient input can be beneficial in