

Comparative effectiveness of rosuvastatin versus simvastatin in primary prevention among new users: a cohort study in the French national health insurance database

Abstract

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Purpose: Using the French claims database (Système National d'Information Inter-Régimes de l'Assurance Maladie) linked to the hospital discharge database (Programme de Médicalisation des Systèmes d'Information), this observational study compared the effectiveness of rosuvastatin and simvastatin prescribed at doses with close LDL-cholesterol-lowering potency on all-cause mortality and cardiovascular and cerebrovascular diseases (CCDs) in primary prevention.

Methods: This historical cohort included patients with no prior CCD, aged 40-79 years, who initiated statin therapy with rosuvastatin 5 mg or simvastatin 20 mg in 2008-2009 in general practice. Follow-up started after a 1-year period used to select patients who regularly received the initial treatment. In an intention-to-treat analysis, patients were followed up to December 2011. In a per-protocol analysis, they were censored prematurely when they discontinued their initial treatment. Adjustment for baseline covariates (age, deprivation index, comedications, comorbidities, prior hospital admissions) was carried out by a Cox proportional hazards model. In the per-protocol analysis, estimation was done by "inverse probability of censoring weighting" using additional time-dependent covariates. Analyses were gender-specific.

Results: A total of 106941 patients initiated statin therapy with rosuvastatin 5 mg and 56860 with simvastatin 20 mg. Mean follow-up was 35.8 months. For both genders and both types of analyses, the difference in incidence rates of mortality and/or CCD between rosuvastatin 5 mg and simvastatin 20 mg users was not statistically significant after adjustment (e.g., for CCD and/or mortality in men, in intention-to-treat analysis HR=0.94 [95% CI=0.85-1.04], in per-protocol analysis HR=0.98 [0.87-1.10]).

Conclusions: The results of this real-life study based on medico-administrative databases do not support preferential prescription of rosuvastatin compared to simvastatin for primary prevention of CCD.

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