Continued Statin Prescriptions After Adverse Reactions and Patient Outcomes: A Cohort Study

Abstract

**Background:** Many patients discontinue statin treatment, often after having a possible adverse reaction. The risks and benefits of continued statin therapy after an adverse reaction are not known.

**Objective:** To examine the relationship between continuation of statin therapy (any prescription within 12 months after an adverse reaction) and clinical outcomes.

**Design:** Retrospective cohort study.

**Setting:** Primary care practices affiliated with 2 academic medical centers.

**Participants:** Patients with a presumed adverse reaction to a statin between 2000 and 2011.

**Measurements:** Information on adverse reactions to statins was obtained from structured electronic medical record data or natural-language processing of narrative provider notes. The primary composite outcome was time to a cardiovascular event (myocardial infarction or stroke) or death.

**Results:** Most (81%) of the adverse reactions to statins were identified from the text of electronic provider notes. Among 28,266 study patients, 19,989 (70.7%) continued receiving statin prescriptions after the adverse reaction. Four years after the presumed adverse event, the cumulative incidence of the composite primary outcome was 12.2% for patients with continued statin prescriptions, compared with 13.9% for those without them (difference, 1.7% [95% CI, 0.8% to 2.7%]; \( P \))
< 0.001). In a secondary analysis of 7604 patients for whom a different statin was prescribed after the adverse reaction, 2014 (26.5%) had a documented adverse reaction to the second statin, but 1696 (84.2%) of those patients continued receiving statin prescriptions.

**Limitations:** The risk for recurrent adverse reactions to statins could not be established for the entire sample. It was also not possible to determine whether patients actually took the statins.

**Conclusion:** Continued statin prescriptions after an adverse reaction were associated with a lower incidence of death and cardiovascular events.

**Primary Funding Source:** Chinese National Key Program of Clinical Science, National Natural Science Foundation of China, and Young Scientific Research Fund of Peking Union Medical College Hospital.