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Statin Therapy Reduces Future Risk of Lower-Limb Amputation in Patients With Diabetes and Peripheral Artery Disease

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Abstract

Context:

Although there is evidence to support the beneficial effects of statins on major cardiovascular events, few studies address the protective effect of statins on limb outcome.

Objective:

To investigate whether the use of statin is associated with a risk reduction in lower-extremity amputation in type 2 diabetes mellitus (DM) patients with peripheral arterial disease (PAD).

Design:

Observational cohort study.

Setting:

A nationwide DM database in Taiwan from 2000 to 2011.

Patients:

A total of 69,332 patients aged ≥ 20 years with DM and PAD were identified.

Intervention:

Patients were divided into three groups: 11,409 patients were statin users, 4430 patients used nonstatin lipid-lowering agents, and 53,493 patients were nonusers.

Main Outcome Measures:

The primary outcome was lower-extremity amputation. Secondary outcomes were in-hospital cardiovascular death and all-cause mortality.

Results:

Compared with nonusers, statin users were associated with lower risks of lower-extremity amputation [adjusted hazard ratio (aHR), 0.75; 95% confidence interval (CI), 0.62 to 0.90], in-hospital cardiovascular death (aHR, 0.78; 95% CI, 0.69 to 0.87), and all-cause mortality (aHR, 0.73; 95% CI, 0.69 to 0.77). In the propensity score matching analysis, the effect of statin on the risk of lower-extremity amputation was consistent. Only statin users were associated with the risk reduction of lower-extremities amputation (HR, 0.77; 95% CI, 0.61 to 0.97) and cardiovascular death (HR, 0.78; 95% CI, 0.68 to 0.89) when taking competing risk of death into consideration.

Conclusions:

Compared with statin nonusers who were never treated with lipid-lowering drugs, this study found that statin users had a lower risk of lower-extremity amputation and cardiovascular death in patients with DM and PAD.

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