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Beneficial effect of statins in patients receiving chronic hemodialysis following percutaneous coronary intervention. A nationwide retrospective cohort study.

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Objectives: The cardiovascular diseases are the leading cause of mortality in end-stage renal disease (ESRD) patients. However, roles of statins are still controversial in dialysis-dependent ESRD patients regardless of having proven coronary artery occlusive disease. The aim of this study was to examine the benefit of statin following percutaneous coronary intervention (PCI) in ESRD patients who have proven coronary artery occlusive disease.

Methods: This study was based on the National Health Insurance Service-National Sample Cohort in South Korea. We included 150 ESRD patients on chronic hemodialysis who underwent PCI with stenting between 2002 and 2013. The primary outcome was a composite of myocardial infarction, stroke, and all-cause mortality. Multivariate time-dependent Cox regression analysis were performed, and statin therapy after PCI was treated as a time-dependent variable.

Results: During the follow-up period of 3.15 ± 2.71 (mean ± standard deviation) years, there were 82 patients with primary outcomes (17 cases of MI, 13 cases of stroke, and 52 cases of all-cause death by counting only the earliest event per patient). Figure 1 illustrates a survival plot based on the use of statin during the follow-up period. In the multivariate time-dependent Cox regression analyses, the adjusted HR [95% CI] for the use of statin was 0.54 [0.33–0.90] compared to no statin use (Table 1, Model A). Good adherence to statin ($PDC_{30day} \geq 0.8$, $PDC_{fu} \geq 0.8$) was also significantly associated with lower risk of adverse events (Table 1, Model B, C).

Conclusions: This study showed that statin has significant benefit on reducing adverse events risk in dialysis-dependent ESRD patients after PCI. This result suggests statin therapy in dialysis patients who underwent coronary intervention.

Figure1

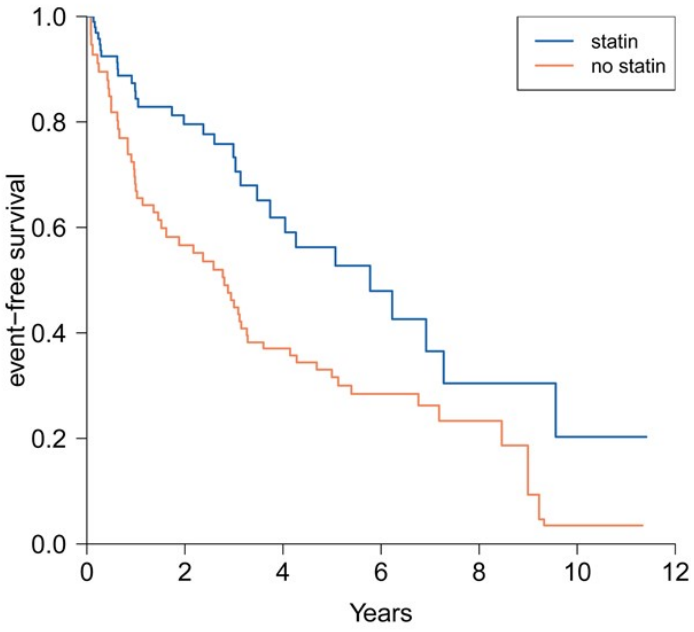

Figure 1. Simon and Makuch plot for event-free survival after coronary stent implantation in patients with end-stage renal disease by statin use

Table1