

15th Euro Nursing & Medicare Summit

October 17-19, 2016 Rome, Italy

Short-term use of statins for prevention of delayed ischemic neurological deficits after aneurysmal subarachnoid hemorrhage: Updated study-level meta-analysis

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Introduction: Statins were shown to have neuroprotective effects, with reduced vasospasm and DINDs. However, the role of statins-use for functional outcome and survival remains controversial.

Aim: The aim of this study was to quantitatively assess the effects of short-term use of statins on DINDs and functional outcome in patients with aneurysmal subarachnoid hemorrhage.

Materials & Methods: We searched MEDLINE, EMBASE, and Cochrane Central Register up to December 8, 2014 to retrieve relevant studies comparing the outcomes between immediate statin-treated in statin-naïve patients and untreated patients following aneurysmal subarachnoid hemorrhage (SAH).

Results: Eight randomized controlled clinical trials and five observational studies met eligibility criteria. Thirteen relevant studies from 2148 patients were finally included in our study. In the RCTs, which enrolled a total of 1150 patients (of whom 555 received statins), statins were found to significantly reduce the occurrence of DINDs (RR 0.76; 95% CI, 0.61-0.94; P = 0.01), but not poor functional outcome (RR 1.01; 95% CI, 0.87-1.16; P = 0.93) or mortality (RR 0.80; 95% CI, 0.58-1.11; P=0.18). Of 998 patients in the observational studies, 504 received statins. Statins-use was not associated with any reduction in DINDs, poor outcome, or mortality.

Conclusion: Statins-use may have the potential effects in the prevention of DINDs in patients with aneurysmal SAH, but the role of statins for improving neurological outcome was limited. Further well-designed RCTs with modified protocol in selected patients are still needed.

Biography

Seon Heui Lee has completed her PhD from Yeonsei University. She has worked in Health Insurance Review and Assessment Service and National Evidence-based Healthcare Collaborating Agency of Korea. Now she is an Associate Professor at the Gachon University, College of Nursing.

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