

Atorvastatin for aneurysmal subarachnoid hemorrhage

A meta-analysis ¹⁾ and multicenter randomized phase 3 trial of simvastatin ²⁾ found no clinical benefit for for [aneurysmal subarachnoid hemorrhage](#).

Chen et al. explored whether acute [atorvastatin](#) treatment would improve clinical outcomes and reduce the incidence of cerebral [vasospasm](#) after [aneurysmal subarachnoid hemorrhage](#) in elderly Chinese adults. Patients (60 to 90 years old) were admitted to intensive care units after surgery to clip or embolize their aneurysms. We assessed 592 patients and assigned 159 to receive atorvastatin (20 mg/day) and 158 to receive a placebo once daily for up to 14 days. The primary outcome was the Glasgow outcome scale at 6 months, and secondary outcomes were cerebral vasospasm, 30-days all-cause mortality, cerebral infarction, and delayed ischemic neurological deficit. The incidence of postoperative cerebral vasospasm (39.3% vs 56%, $P=0.004$) and cerebral infarction (18.7% vs 27.3%, $P=0.027$) were significantly lower in the atorvastatin group. The study did not detect benefits in the use of atorvastatin for 6 months clinical outcome or 30-day all-cause mortality, but it suggests that atorvastatin together with nimodipine can reduce cerebral vasospasm and cerebral infarction after subarachnoid hemorrhage ³⁾.

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Vergouwen MD, de Haan RJ, Vermeulen M, et al. Effect of statin treatment on vasospasm, delayed cerebral ischemia, and functional outcome in patients with aneurysmal subarachnoid hemorrhage: a systematic review and meta-analysis update. *Stroke*. 2010; 41:e47-e52

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Kirkpatrick PJ, Turner CL, Smith C, et al. Simvastatin in aneurysmal subarachnoid hemorrhage (STASH): a multicentre randomized phase 3 trial. *Lancet Neurol*. 2014; 13:666-675

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Chen J, Li M, Zhu X, Chen L, Yang S, Zhang C, Wu T, Feng X, Wang Y, Chen Q. Atorvastatin reduces cerebral vasospasm and infarction after aneurysmal subarachnoid hemorrhage in elderly Chinese adults. *Aging (Albany NY)*. 2020 Feb 7;12. doi: 10.18632/aging.102788. [Epub ahead of print] PubMed PMID: 32035420.

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