

Will statin therapy improve the outcome after ischaemic stroke through neuroprotective effects?

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Why is the study important?

Animal models using statins have shown acute statin therapy to be associated with reduced infarct volume and improved neurological function. But data regarding human ischaemic stroke outcomes are conflicting. There is concern that the use of statins may worsen outcomes or increase the risk of intracerebral haemorrhage.

Who were the participants? What methods were employed?

A systematic review and meta-analysis of existing observational studies and randomized control trials was done to clarify the results of conflicting data. A literature search for studies featuring statins and stroke and outcome published before August 2011 was done and 156 eligible studies out of 13,116 papers were retrieved. The primary analysis investigated the association between statin therapy at the time of stroke onset (i.e. patients on statin treatment immediately before stroke onset), good functional outcome (modified Rankin score 0-2), and all-cause fatality at

early and late time points after stroke.

What were the findings?

The primary analysis included 27 studies (24 observational, 3 RCTs). Observational studies showed that statin treatment at stroke onset was associated with good functional outcome at 30 days and 90 days

What were the conclusions?

The findings from this comprehensive literature review and meta-analysis of multiple studies suggest a relationship between statins and improved stroke outcome.

How can this study affect our clinical practice?

Stroke affects 10 million people worldwide every year. Statins are among the most effective drugs in reducing the risk of stroke in populations of patients at high vascular risk. However, randomized trials of statin therapy in acute ischaemic stroke are needed before routinely prescribing statins for acute neuroprotection.

Recommended Reading

1. Ni Chroinin D, Asplund K, Asberg S, Callaly E, Cuadrado-Godia E, Diez-Tejedor E, et al. Statin therapy and outcome after ischemic stroke: systematic review and meta-analysis of observational studies and randomized trials. *Stroke* 2013; 44: 448-56.

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