

Short-term peri-operative statin treatment does not reduce complications after cardiac surgery

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High-dose statin treatment around the time of cardiac surgery does not reduce the rate of in-hospital complications after cardiac surgery, according to the results of a new study presented today as a Hot Line at ESC Congress 2014.

The lack of benefit in the Statin Therapy In Cardiac Surgery (STICS) Trial is a bit of a surprise, said lead investigator Barbara Casadei, MD, DPhil, from the John Radcliffe Hospital, University of Oxford, UK.

"Previous small randomised trials had suggested that peri-operative [statin therapy](#) might halve the likelihood of developing atrial fibrillation after [cardiac surgery](#), as well as preventing damage to the heart muscle and kidney failure," said Professor Casadei. "We expected there to be beneficial results in STICS, although it seemed likely they would be more modest than the initial trials. STICS was twice as big as all the previous trials combined and involved particularly careful and systematic assessment of post-operative complications. Despite this we found no evidence of benefit from peri-operative statin [therapy](#)."

The STICS results have important implications for peri-operative practice and guidelines in cardiac surgery, added co-lead investigator Zhe Zheng, MD, PhD, Deputy Director of Cardiovascular Surgery at the Fuwai Hospital, Chinese Academy of Medical Sciences in Beijing, China.

"They show that initiating high-dose statin therapy in the peri-operative period in order to avoid common post-operative complications is not warranted. They also show that, in subjects randomised to placebo, stopping statin therapy in the peri-operative period does not have a negative impact on such complications. Overall, the results of STICS do not endorse routine use of short-term statin therapy to prevent in-hospital complications in patients undergoing major surgery," he said.

However, Professor Casadei added that "starting statins for the purpose of lowering cholesterol in the medium to long term is beneficial because it reduces heart attacks and stroke. So doctors should continue to prescribe statins for this purpose even if not to prevent in-hospital complications after cardiac surgery".

The STICS trial was a collaborative project between the National Centre for Cardiovascular Diseases at the Fuwai Hospital in Beijing, and the University of Oxford. It included 1922 patients (mean age was 59.4 years) who were undergoing elective cardiac surgery. Patients were randomised to receive either rosuvastatin (20 mg daily) or placebo, starting up to eight days before surgery and continuing until the fifth postoperative day.

Compliance with the study treatment was high (98% at the end of the scheduled treatment period) and allocation to the high-dose rosuvastatin regimen rapidly produced a substantial (25%) reduction in cholesterol compared with placebo (p

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