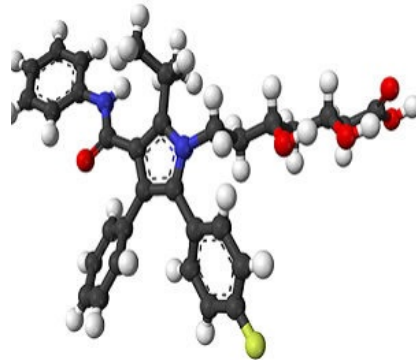




Statin Dose, Timing May Improve Heart Surgery Outcomes



Patients adhering to prescribed statin medication before heart surgery may significantly improve survival following the operation, according to new research published in *The Annals of Thoracic Surgery*. Patients stop taking certain medications before heart surgery to avoid any adverse health effects. But this study shows that patients should continue taking their statin medication all the way up to and including the day of surgery to increase their chances of survival.

Researchers examined data from 3,025 patients who underwent coronary artery bypass grafting (CABG) between July 2005 and May 2011 at the Texas Heart Institute in Houston to determine the optimal dose and timing of preoperative statin administration. For patients who were admitted to the hospital on the day of operation, the researchers reviewed preoperative medication questionnaires to determine the timing and dosage of the statin administered. For those who were inpatients, nursing administration records were reviewed.

The researchers found that for the 59 percent of patients (1,788) who had taken statins 24 hours or less before their operation, the incidence of 30-day all-cause mortality (estimate of deaths from any cause within 30 days of surgery) was 1.7 percent. That compares to 2.9 percent for those who took statins 24 to 72 hours preoperatively and 3.8 percent for those who did not take statins or whose last dose was more than 72 hours before the surgery.

Statins are a class of drugs used to manage cholesterol levels and prevent/treat heart disease. Previous research has shown that statin use before surgery is well tolerated and that the benefits often outweigh any potential negative side effects. Researchers suspect that the anti-inflammatory properties of statins that help promote blood flow may counteract some of the inflammatory reactions to prolonged anaesthesia exposure during surgery.

The investigators also assessed whether the amount of statins a patient received had a significant effect on surgery outcomes. For this part of the study, they reviewed data of 2,943 patients who underwent elective CABG surgery and who had complete statin dosage documentation. In a multivariate analysis of a propensity-matched cohort, researchers found that a preoperative dose of more than 20 mg was associated with a 68 percent reduction of 30-day all-cause mortality compared with no preoperative statin. And, a preoperative dose of up to 20 mg showed no mortality reduction.

Moving forward, the researchers want to see how perioperative statin use affects other heart surgeries.

"We hope that our future clinical research will raise more awareness that preoperative statin therapy

may be beneficial in other types of cardiac surgery," said Wei Pan, MD, a cardiovascular anaesthesiologist at the Texas Heart Institute. "We would like to perform additional studies to further clarify the role of statin therapy before surgery, and possibly bring about a modification of current guidelines. The goal is to help more people live longer, healthier lives after heart surgery."

Source: [The Annals of Thoracic Surgery](#)

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Published on : Mon, 20 Mar 2017