Transfusions Raise Risk of Death in CABG

BY MITCHEL L. ZOLER

FROM THE ANNUAL MEETING OF THE AMERICAN ASSOCIATION FOR THORACIC SURGERY

PHILADELPHIA – Blood transfusions can kill surgery patients, a finding that puts the onus on surgeons to administer transfusions only when absolutely necessary, according to Dr. Gaetano Paone.

An analysis of more than 31,000 patients who had isolated coronary artery bypass grafting surgery in Michigan during January 2006–June 2010 showed that receiving one or more transfusion conferred a nearly threefold higher risk of operative mortality than did not receiving blood, Dr. Paone reported at the meeting.

"There is great variability in the rates of transfusions across institutions," noted Dr. Paone, a cardiac surgeon at Henry Ford Hospital in Detroit, in an interview. In some places, the transfusion rates of isolated CABG patients are 15%, and other places have rates of more than 90%. "That suggests it's quite discretionary."

Dr. Paone and his associates examined data on 31,818 patients who underwent isolated CABG during the study period at any one of the 33 Michigan hospitals that perform cardiac surgery. The data came from records maintained by the Michigan Society of Thoracic and Cardiovascular Surgeons Quality Collaborative.

The researchers calculated the mortality risk faced by each patient using the STS-PROM (Society of Thoracic Surgeons Predicted Risk of Mortality) model, which takes into account 30 preoperative patient variables. They stratified the patients into four risk groups based on their scores, which represent the percent risk for 30-day perioperative mortality (less than 2%, 2%-5%, 6%-10%, and more than 10%), and divided patients into the 55% who received transfusions and the 45% who did not receive any blood. Overall operative mortality in the patients studied was 2%. As expected, operative mortality was higher in patients who received a transfusion (3.3%) than in those who did not (0.6%) – a significant sixfold difference.

The analysis also showed that the significant link between increased mortality and transfusion remained fairly constant across all four risk strata in the study, ranging from a twofold increased risk in patients with an STS-PROM score of 2%-5%, to a fourfold increased risk in patients with a score of more than 10%, said Dr. Paone, who had no disclosures. ■

To see a video interview with Dr. Paone, scan this QR code using your smartphone.

Benefits of Perioperative Statins Confirmed

VITALS

Major Finding: Perioperative statin use was associated with a significant reduction of perioperative cardiovascular events (HR, 0.55) and improved long-term outcome (HR, 0.59).

Data Source: A further analysis of 497 patients in the randomized, double-blind, DECREASE III trial.

Disclosures: Dr. Schouten stated that he had nothing to disclose.

BY MARK S. LESNEY

FROM THE VASCULAR ANNUAL MEETING

CHICAGO – Results from a follow-up analysis of patients in the randomized, double-blind DECREASE III trial showed that there is an apparent "legacy" effect of perioperative statin therapy, resulting in improved long-term survival, compared with statin initiation after a patient undergoes vascular surgery.

Ischemic cardiac events are a major cause of perioperative morbidity and mortality in noncardiac surgery, with an estimated 10%-40% of perioperative deaths ascribed to myocardial infarction, according to the original report by Dr. Don Poldermans and the DECREASE (Dutch Echocardiographic Cardiac Risk Evaluation Applying Stress Echocardiography) III researchers. Results of the original DECREASE III study showed that in high-

risk patients who undergo major vascular surgery, fluvastatin XL reduced myocardial ischemia and the combined end point of cardiovascular death and MI.

Dr. Olaf Schouten from the Erasmus University Medical Center, Rotterdam, the Netherlands, and colleagues further analyzed the DECREASE III population, examining 497 patients who were randomized to placebo (247 patients) or fluvastatin (250) in the double-blinded trial.

The patients had been started on treatment a median of 34 days prior to surgery. At the end of the DECREASE III study period (30 days after surgery), all patients were prescribed lifelong statins as recommended by current guidelines. The current study relied on all-cause death data obtained from a civil service registry for a median follow-up of 4.8 years, during which time 129 patients died.

Perioperative statin use was linked with a significant reduction of perioperative cardiovascular events (hazard ratio, 0.55), Dr. Schouten said at the meeting. In a multivariate analysis that adjusted for possible confounders including cardiovascular risk factors, type and site of vascular surgery, and age, preoperative statin initiation was still significantly associated with an improved long-term outcome (HR, 0.59).

Patients eligible for statin therapy should get statins at the first, preoperative, and outpatient clinic visit.

DR. SCHOUTEN

"This 'legacy' effect might be due to the prevention of perioperative myocardial damage, as patients with myocardial damage had a significantly higher risk of death during follow-up," Dr. Schouten said.

"The main message of our study is that all vascular surgery patients eligible for statin therapy [with no contraindications] should be prescribed statins at the first, preoperative, and outpatient clinic visit," said Dr. Schouten in an interview. He pointed out that statin therapy is safe in the perioperative period, with no significant side effects; it improves perioperative cardiac outcome; and it is associated with a long-term survival benefit. ■