Association between endoscopic versus open vein-graft harvesting and mortality, wound complications, and cardiovascular events in patients undergoing CABG surgery

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Context: The safety and durability of endoscopic vein graft harvest in coronary artery bypass graft (CABG) surgery has recently been called into question.

Objective: To compare the long-term outcomes of endoscopic versus open vein-graft harvesting for Medicare patients undergoing CABG surgery in the United States.

Design, Setting, and Patients: An observational study of 235,394 Medicare patients undergoing isolated CABG surgery between 2003 and 2008 at 934 surgical centers participating in the Society of Thoracic Surgeons (STS) national database. The STS records were linked to Medicare files to allow longitudinal assessment (median 3-year follow-up) through December 31, 2008.

Main Outcome Measures: All-cause mortality. Secondary outcome measures included wound complications and the composite of death, myocardial infarction, and revascularization.

Results: Based on Medicare Part B coding, 52% of patients received endoscopic vein-graft harvesting during CABG surgery. After propensity score adjustment for clinical characteristics, there were no significant differences between long-term mortality rates (13.2% [12,429 events] versus 13.4% [13,096 events]) and the composite of death, myocardial infarction, and revascularization (19.5% [18,419 events] versus 19.7% [19,232 events]). Time-to-event analysis for those patients receiving endoscopic versus open vein-graft harvesting revealed adjusted hazard ratios [HRs] of 1.00 (95% CI, 0.97–1.04) for mortality and 1.00 (95% CI, 0.98–1.05) for the composite outcome. Endoscopic vein-graft harvesting was associated with lower harvest site wound complications relative to open vein-graft harvesting (3.0% [3654/122,899 events] versus 3.6% [4047/112,495 events]; adjusted HR, 0.83; 95% CI, 0.77–0.89; $P < .001$).

Conclusion: Among patients undergoing CABG surgery, the use of endoscopic vein-graft harvesting compared with open vein-graft harvesting was not associated with increased mortality.

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