

## CLINICAL ABSTRACTS

### Endoscopic versus direct vision for saphenous vein graft harvesting in coronary artery bypass surgery

Ad N, Henry L, Hunt S, Holmes S, Burton N, Massimiano P, Rhee J, Rongione A, Speir A, Collazo L

Inova Heart and Vascular Institute,  
Falls Church, Virginia, USA

**Objective:** Recent reports have suggested harvesting of the greater saphenous vein for coronary artery bypass (CABG) using endoscopic techniques (endoscopic) results in early graft closure, higher rates of myocardial infarction (MI) and death. We explored the impact of this technique performed by experienced operators on postoperative morbidities, MI and death in our CABG patients.

**Methods:** All non-emergent patients presenting for first time CABG surgery from 2006 to June 2009 were included. Data pertaining to surgery, readmissions, cardiac catheterization and interventions during long term follow-up were extracted from our local STS and ACC registries. Linear and logistic regressions with clinical covariates were conducted to determine if vein harvest technique group predicted the major outcomes. Propensity score matching (PSM) was completed to simulate randomization and improve covariate balance across the endoscopic and direct vision groups.

**Results:** One thousand nine hundred and eighty-eight (N = 1988) patients were evaluated in this study (N = 1734 endoscopic group and N = 254 direct vision group). The perioperative major adverse outcomes (mortality within 30 days, stroke, reoperation for bleeding, prolonged ventilation and readmission within 30 days) were 17.8% in the endoscopic group and 25.2% in the direct vision group. The rate of leg infections was 0.3% for the endoscopic group and 1.6% for the direct vision group. After adjustment for covariates, the direct vision group had significantly greater risk for prolonged ventilation (P = 0.03), MACE (P = 0.02) and mortality within 30 days (P = 0.01), but only marginally greater risk for leg infections (P = 0.052). In the isolated CABG patients, operative death was 1% for the endoscopic group and 1.7% in the direct vision group (P = 0.62). After PSM the endoscopic group was similar on all outcomes except for having fewer MACE (P = 0.04). In a mean follow-up of 22.1 ± 10.5 months, there were no significant differences in the overall rate and time to event for repeat

revascularization, death and myocardial infarction. With maximum follow up of 39.6 months, 84 deaths were documented (N = 67 endoscopic and N = 17 direct vision).

**Conclusion:** The outcomes captured by the number of postoperative morbidities, incidence of myocardial infarction and/or the rate of death for the endoscopic technique were

comparable to patients in whom the open techniques was used. There was a trend towards a decrease in leg infections with the use of the endoscopic device. Based on this study we consider the device safe and effective with experienced operators.

*Journal of Cardiovascular Surgery (Torino). 2011;52:739–748.*