

CORONARY ARTERY DISEASE

Cost-effectiveness of CABG surgery versus PCI in complex CAD

For most patients with complex coronary artery disease (CAD), CABG surgery is economically attractive compared with percutaneous coronary intervention (PCI). This finding comes from a cost-effectiveness analysis using data from the SYNTAX trial, which showed that CABG surgery was also the clinically preferred revascularization strategy in these patients.

The SYNTAX trial involved 1,800 patients with multivessel or left-main CAD who were randomly allocated to CABG surgery or PCI with a drug-eluting stent. SYNTAX was a multinational trial, but the cost-effectiveness analysis was performed from the perspective of the US health-care system. Data from the 5-year trial were extrapolated to estimate lifetime outcomes.

Despite a longer procedural duration with CABG surgery, initial procedural costs were higher with PCI. Hospital costs after the procedure were higher with CABG surgery, so that total hospitalization costs were

US\$10,036 per patient higher with CABG surgery than with PCI. However, costs over the next 5 years were higher with PCI than with CABG surgery.

Over a patient's lifetime, CABG surgery was associated with both increased costs (\$5,081) and a gain in quality-adjusted life expectancy (0.307 years) versus PCI. The incremental cost-effectiveness ratio for CABG surgery versus PCI was \$16,537 per quality-adjusted life-year gained, which is considered favourable in terms of the US health-care system. This balance might shift as the costs of stents and generic clopidogrel decline.

Gregory B. Lim

Original article Cohen, D. J. *et al.* Cost-effectiveness of percutaneous coronary intervention with drug-eluting stents vs. bypass surgery for patients with 3-vessel or left main coronary artery disease: final results from the SYNTAX trial. *Circulation* doi:10.1161/CIRCULATIONAHA.114.009985