In the EXCEL trial, led by Gregg W. Stone, MD (NewYork-Presbyterian Hospital/Columbia University Medical Center, New York, NY), and published online in the New England Journal of Medicine, patients with low- or intermediate-SYNTAX scores treated with an everolimus-eluting metallic stent (Xience, Abbott Vascular) had comparable rates of death, stroke, or MI at 3 years when compared with patients treated with CABG surgery. Investigators also saw more periprocedural MI and STEMI in the CABG-treated patients at 30 days.

Speaking during the late-breaking clinical trial session at TCT 2016, Stone said he believes that “in these selected groups of patients, PCI is an acceptable, perhaps even preferred alternative [to CABG],” because there was an “early” and “profound” advantage for PCI in terms of primary endpoint events, specifically a lower risk of MI. In addition, there was also a significant early benefit in terms of other major adverse events, such as TIMI major/minor bleeding, renal failure, infection, and major arrhythmia, among others.

“However, this is a decision that should be made by the heart team,” said Stone. “Some eligible patients will prefer surgery, and some eligible patients will prefer PCI.”

In the EXCEL study, investigators randomized 948 patients with left main coronary artery disease to PCI with Xience and 957 patients to CABG. The primary endpoint—a composite that included all-cause mortality, stroke, or MI at 3 years—occurred in 15.4% of patients treated with PCI and 14.7% of patients treated with CABG (P = 0.02 for noninferiority).

The researchers also analyzed data at 30 days, a secondary endpoint. The rate of death, stroke, or MI was significantly higher among the CABG-treated patients (4.9% vs 7.9%; HR 0.61; 95% CI 0.42-0.88), and this difference was driven by a significantly increased risk of MI (3.9% vs 6.2%; HR 0.63; 95% CI 0.42-0.95). In particular, there was a significantly increased risk of “large” periprocedural MIs with CABG, which was defined as CK-MB more than 10 times the upper limit of normal (or 5 times the upper limit of normal plus other evidence of myocardial infarction).

Stone, on the other hand, argued that there is a “big difference” in procedural adverse events between CABG and PCI in EXCEL and that the significantly higher rate of periprocedural MIs at 30 days observed with CABG—5.9% vs 3.6% for PCI—are “prognostically important.” He also noted that rates of STEMI at 30 days were significantly higher in patients treated with CABG.

“What you learn from the [EXCEL] trial is probably what you learned from SYNTAX, and that is in patients with a low or intermediate SYNTAX score, PCI is noninferior and has clearly has advantages in the first 30 days,” said Simon. With a functioning heart team, if a patient with left main disease is a candidate for PCI and a candidate for cardiac surgery, he would tell the patient PCI is a very reasonable approach.

“It improves short-term outcomes, and there is some catch-up of events out to 3 years but for my patients, the take-home is pretty obvious—if there is no difference in mortality at 3 years, then this is really going to be a ‘preference’ conversation,” said Simon.

For Eugene Braunwald, MD (Brigham and Women’s Hospital, Boston, MA), who wrote an editorial accompanying EXCEL, the take-home message “is that the majority of patients with unprotected left main coronary artery disease, which was a very serious, life-shortening, and disabling condition early in my professional lifetime, can now be managed equally by means of two strategies of revascularization if carried out by expert, experienced teams such as those participating in the EXCEL trial.”