contraction using speckle tracking echocardiography would enhance CRT response when compared with standard unguided treatment.

TARGET was a single-blind, prospective, randomized, controlled trial in patients with New York Heart Association (NYHA) Class III–IV, left ventricular ejection fraction <35%, and QRS width >120 ms, despite maximally tolerated doses of standard HF treatment (eg, diuretics, angiotensin-converting enzyme inhibitors, angiotensin receptor blockers, beta-blockers, and aldosterone antagonists).

Subjects were randomly assigned to receive targeted LV lead placement using speckle tracking echocardiography [Goffinet C & Vanoverschelde J-L. *Eur Cardiology* 2007] to identify the optimal site for LV lead placement (n=110; Target Group) or standard (unguided) lead placement (n=110; Control Group). All underwent the echo procedure to identify an optimal pacing site, but in the control group, the leads were positioned with blinding to the echo data. Each placement was categorized as to whether the LV lead was positioned at the optimal site.

All CRT devices were optimized using echo following implantation. The primary endpoint was a >15% reduction in left ventricular end systolic volume (LVESV) at 6 months. Secondary endpoints were a ≥1-step improvement in NYHA Class, all-cause mortality, and a combination of mortality and HF hospitalization.

Data for 207 subjects (103 subjects in the Target Group and 104 controls) were available for analysis. Subjects had a mean age of 70 years, approximately 86% were men, and about 94% of subjects were NYHA Class III/IV. More than half (56%) of subjects had underlying cardiomyopathy.

Reduction in LVESV at 6 months (the primary endpoint) was significantly higher in subjects who received targeted lead placement compared with those who received standard lead placement (70% vs 55%; p=0.031). The group who used echo guidance had had the lead placed in an optimal position significantly more often than those who did not have echo guidance (p=0.011). Subjects in the Target Group also showed significant improvements in NYHF Class (p=0.002), the 6-minute walk test (p=0.01), and improved scores on the Minnesota Living with Heart Failure questionnaire (p=0.02). There was a significant (p=0.03) difference in the combined secondary endpoint of death and HF hospitalization, favoring the Target Group. All-cause mortality did not differ.

Targeted LV lead placement using speckle tracking 2D is feasible and associated with greater LV reverse remodeling, clinical response, and freedom from death and HF-related hospitalization. Concordant LV lead placement, baseline dyssynchrony, and pacing away from areas of the scar are strongly related to improved CRT outcomes. The speckle tracking echo technique is available for clinical use, making these results applicable to a wide range of clinical centers.

Comparison of 6 and 12 Months of DAT after Implantation of a DES

Six months of dual antiplatelet therapy (DAT; aspirin and clopidogrel) was noninferior to 12 months of DAT after percutaneous coronary intervention (PCI) with implantation of a drug-eluting stent (DES). Hyeon-Cheol Gwon, MD, Sungkyunkwan University School of Medicine, Seoul, Korea, presented the findings of the EXCELLENT trial.

The Randomized Comparison of 6-Month versus 12-Month Duration of Dual Antiplatelet Therapy after Implantation of Drug-Eluting Stent: From Comparison of Everolimus- versus Sirolimus-Eluting Stents for Coronary Revascularization (EXCELLENT; NCT00698607) Trial was designed to prospectively test the hypothesis that 6 months of DAT after DES is as safe and effective as the current guideline recommendations of at least 12 months.

This open-label trial of 1443 South Korean patients with myocardial ischemia and at least 50% coronary stenosis who were undergoing PCI randomly assigned patients in a 2 × 2 factorial design to a type of DES (3:1, everolimus-eluting:sirolimus-eluting) and 1:1 to 6 versus 12 months of DAT. Subjects were stratified by the presence of diabetes and the index coronary lesion length. The primary results of the comparison of the two types of stents for in-segment late luminal loss at 9 months were presented at TCT in 2010 and showed that everolimus-eluting stents were noninferior to sirolimus-eluting stents (p for non-inferiority=0.023).

The primary endpoint for the comparison of duration of DAT was the incidence of target vessel failure (TVF) at 12 months, defined as a composite of cardiac death, myocardial infarction (MI), or target vessel revascularization (TVR). The noninferiority margin (one-sided 97.5% confidence limit) was set at a 4% absolute difference. Several secondary endpoints were evaluated, including individual components of the primary outcome, stroke, stent thrombosis, TIMI major bleeding, and a composite safety endpoint. The trial was powered, based on an estimated rate of the primary endpoint occurring in the 12-month DAT group of 10%.

The mean subject age was 63 years, one-third were women, about 40% were diabetic, and there was an even split of presentation with either stable or acute coronary syndrome. Approximately half of the patients had single-

vessel coronary artery disease, predominantly involving the LAD territory. The background cardiovascular therapy included aspirin and clopidogrel (>99%) and statins (>80%), over half were on a beta-blocker, and about one-third received an ACE inhibitor.

The primary endpoint of TVF at 12 months did not differ significantly between the two groups (4.7% for 6-month therapy vs 4.4% for 12-month therapy; risk difference +0.3%, 97.5% CI +3.6%; p=0.43 for superiority; p=0.0031 for noninferiority).

However, there was a statistically significant interaction (p<0.001) with the presence of diabetes, with diabetics having less favorable results with 6 months of DAT (HR, 3.15; p=0.005) and nondiabetics having better results with 6 months of DAT (HR, 0.42; p=0.022). There was no evidence of interaction according to stent type.

There were no differences between 12- and 6-month DAT in the primary safety composite (3.1% vs 3.4%; p=0.76), major bleeding (0.6% vs 0.7%; p=0.42), or the secondary endpoint of stent thrombosis (0.4% vs 0.8%; p=0.33), which is of particular concern with shorter durations of DAT.

Although the primary endpoint of TVF at 12 months satisfied the study's noninferiority criteria, the trial had low power due to the unexpectedly low event rate (10% predicted vs 4.4% observed) and a wide noninferiority margin (+4% absolute difference). With such a low event rate (4.4%) in the group that was randomized to 12 months of DAT, the upper bound of the event rate in the 6-month DAT group would needed to have been nearly doubled (>8.4%) for it to have been declared inferior. The data are limited further by a very low rate of hard clinical endpoints and a statistically significant interaction that was dependent upon diabetic status. Although the findings suggest that treatment with a thienopyridine (in addition to aspirin) may be discontinued at 6 months for nondiabetic patients, more data are needed from a larger, appropriately powered trial that assesses hard clinical endpoints before clinical practice should change.

No Mortality Benefit from CABG When Added to Optimal Medical Therapy in Patients with CAD and LV Dysfunction: Results from the STICH Trial

Results from the Surgical Treatment of Ischemic Heart Failure STICH trial (NCT00023595) showed no mortality benefit from coronary artery bypass grafting (CABG) in addition to intensive guideline-based medical therapy compared with medical therapy alone. Results of the trial were presented by Eric J. Velazquez, MD, Duke University, Durham, North Carolina, USA.

The STICH trial comprised 1212 patients (median age 59 years) with coronary artery disease who were amenable to CABG and had an ejection fraction <35%. Subjects were randomly assigned to medical therapy alone (n=602) or medical therapy plus CABG (n=610). The primary study outcome was all-cause mortality. Major secondary outcomes included the rates of death from cardiovascular (CV) causes and death from any cause plus hospitalization for CV causes.

After a median follow-up of 56 months, there was no significant difference in the primary endpoint of death from any cause between those who were randomized to CABG compared with those who were randomized to medical therapy only (36% vs 41%; HR, 0.86; 95% CI, 0.72 to 1.04; p=0.12). CABG was associated with an early risk of death from any cause that persisted through 2 years. A significance level of p<0.04 was required to meet statistical significance for the primary outcome in order to compensate for interim treatment comparisons.

Secondary outcomes showed fewer deaths from CV causes in the combination group versus the medical therapy-only group (28% vs 33%; HR, 0.81; 95% CI, 0.66 to 1.00; p=0.05). Death from any cause or hospitalization for CV causes was also lower in the combination group (58% vs 68%; HR, 0.74; 95% CI, 0.64 to 0.85; p<0.001; Table 1).

Table 1. Secondary Outcomes.

Outcome	Medical Therapy (n=602)	CABG (n=610)	HR with CABG (95% CI)	p value
Death from any cause within 30 days of randomization				
Logistic regression	7 (1)	22 (4)	3.19 (1.35 to 7.52)‡	0.008
Cox proportional hazards	7 (1)	22 (4)	3.12 (1.33 to 7.31)	0.006
Death from any cause or hospitalization for CV causes*	411 (68)	351 (58)	0.74 (0.64 to 0.85)	<0.001
Death or hospitalization from any cause*	422 (73)	399 (65)	0.81 (0.71 to 0.93)	0.003
Death from any cause or revascularization with PCI or CABG*	333 (55)	237 (39)	0.60 (0.51 to 0.71)	<0.001

*Full follow-up (median 56 months); ‡This value is an odds ratio rather than a hazard ratio.

Almost all (91%) of the patients who were assigned to the combination group underwent CABG, and 17% of patients in the medical therapy-only group crossed over and also underwent CABG, primarily due to progressive symptoms (40%), followed by acute decompensation (27%), patient's or family's decision (28%), and physician's decision (5%).