procedural success in all 17 (100%) cases. The total procedural duration for these cases was 69 ± 25 minutes. None of the patients undergoing robotic-PCI experienced death or repeat revascularization prior to hospital discharge.

CONCLUSION In this small cohort of patients with acute myocardial infarction, robotic-PCI was associated with a high procedural success rate, no cases of death or repeat revascularization prior to hospital discharge, and acceptable procedural times. These preliminary observations support the performance of larger studies to determine the role of robotic-PCI in the treatment of acute myocardial infarction.

CRT-200.64

Impact of Surgical Consultation on Outcomes in Hemodynamically Supported High Risk Percutaneous Coronary Intervention: Insights From PROTECT II Randomized Study

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BACKGROUND In observational studies of patients undergoing percutaneous coronary intervention (PCI), surgical ineligibility is associated with increased mortality. Whether the use of hemodynamic support during PCI can mitigate the adverse prognostic importance of surgical ineligibility is unknown.

METHODS We sought to evaluate the association between the request for surgical consultation (presumed surgical ineligibility) prior to PCI and clinical outcomes in 427 patients with multi-vessel coronary artery disease or unprotected left main disease and severely reduced left ventricular systolic function undergoing PCI assisted by hemodynamic support (intra-aortic balloon pump or Impella) from the PROTECT II randomized trial. Patients in whom surgical consultation was requested prior to PCI (n=201) were compared to those in whom surgical consultation was not requested (n=226). The primary endpoint of this analysis was the composite of 90 day major adverse cardiac and cerebrovascular events (MACCE).

RESULTS Demographic and procedural variables were similar between patients receiving surgical consultation and patients not receiving surgical consultation with the exception that the prevalence of prior coronary artery bypass surgery was significantly higher in patients not receiving surgical consultation (42.0% vs 25.4%, p<0.001); these patients additionally had a higher proportion of lesions within a saphenous vein graft, and a greater prevalence of moderate/severe vessel calcification. MACCE at 90 days was similar in patients receiving surgical consultation compared to patients not receiving surgical consultation, 23.4% vs. 29.0%, respectively, p=0.188.

CONCLUSION In this high-risk cohort of patients undergoing hemodynamically supported PCI, clinical outcome was not associated with an antecedent request for surgical consultation (presumed surgical ineligibility). Whether the use of hemodynamically supported PCI can lessen the risk conferred by surgical ineligibility remains requires further study.

CRT-200.65

Real-world Clinical Experience With an Everolimus Eluting Platinum Chromium Stent With an Abluminal Biodegradable Polymer - A Report From the Swedish Coronary Angiography and Angioplasty Registry (SCAAR)

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BACKGROUND In unselected patients from a nationwide registry we describe the initial real-world experience with a novel everolimus eluting platinum chromium stent with biodegradable polymer (SYNERGY).

METHODS All implanted SYNERGY stents were compared to all new generation DES (n-DES) with more than 1000 implantations in Sweden between March 2013 and October 2015. The results were assessed using propensity score and Cox regression analyses. A subgroup analysis was performed in patients with acute coronary syndromes (ACS).

RESULTS A total of 7,886 of SYNERGY stents and 58,004 other n-DES (BioMatrix, N=1,953; Orsiro, N= 4,946; Promus Element Plus, N= 2,543; Promus Premier, N= 20,414; Xience Xpedition, N= 7971, Resolute/Resolute Integrity, N=19021; Ultimaster, N=1156; Resolute Onyx, N=6425) were implanted during 42,357 procedures. The baseline clinical and procedural characteristics are shown in table 1. Restenosis occurred in 525 and ST in 282 cases, respectively, in the total population up to 1 year. The cumulative rate of restenosis up to 1 year in the Synergy group was not significantly different from the other n-DES group (1.2% vs. 1.0%, adjusted HR: 1.24 95% CI: 0.88-1.75; p=0.21). The cumulative rate of ST up to 1 year in the Synergy group was low and not significantly different from the other n-DES group (0.2% vs. 0.5%, adjusted HR: 0.68; 95% CI: 0.38-1.19; p=0.17). No ST events were observed in the Synergy group after 6 months.

Similarly in ACS patients, there was no significant difference in ST rates up to 1 year between SYNERGY and other n-DES (0.3% vs. 0.7%; adjusted HR: 0.69; 95% CI: 0.37-1.37; p=0.29).

CONCLUSION In a large real-world population the SYNERGY stent appears to be safe and effective with a low rate of restenosis and ST comparable with other n-DES. The risk of ST up to 1 year is similarly low also in patients with ACS.

Table 1

Stent	SYNERGY	n-DES	p
N	4247	38110	<0.01
Age, years, mean	68.0 ± 10.8	67.6 ± 10.8	0.02
Women (%)	1191 (28.0)	9697 (25.4)	<0.01
Diabetes (%)	981 (23.1)	8346 (21.9)	<0.01
NSTEMI (%)	14384 (37.2)	14384 (37.7)	NS
STEMI (%)	1017 (23.9)	9261 (24.3)	NS
SA (%)	1031 (24.3)	9300 (24.4)	NS
UA (%)	412 (9.7)	3751 (9.8)	NS

CRT-200.66

Biomechanical and Geometric Analysis of Left Coronary Artery Bifurcation Motion and Compliance: Implications for Stent Development and Evaluation

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BACKGROUND Coronary bifurcation stenting is associated with an increased risk of adverse coronary events compared to other regions stented. The purpose of this study was to quantify the motion of the left coronary artery bifurcations over the cardiac cycle and determine differences in vascular geometry, motion and compliance between swine and humans.

METHODS Gated-CT angiograms of left coronary arteries of swine and adult males were segmented across the cardiac cycle (end systole vs. end diastole) (Mimics, Materialise, Leuven, Belgium). The cross sectional area, angle, tortuosity and ellipticity were measured at three bifurcations: B1=LCX/LAD; B2=LAD/D1; and B3=LCX/M1 (Figure 1A). Pulse pressures used to calculate vascular compliance were based on literature reports of average pressures.

RESULTS A significant change in human and swine cross sectional area was noted in all bifurcations over the cardiac cycle. A compliance difference was observed at B2 in humans with the D1 having 50% lower compliance compared to the proximal LAD. Figure 1 presents the bifurcation angles in each species over the cardiac cycle. The bifurcation angles significantly increased from end systole to end diastole at B1 and B3 in humans (14.3%; 9.6%) and swine (11.3%;

28.9%). The bifurcation angle at B2 was significantly greater in swine compared to humans in end systole and end diastole (32.8%; 39.5%).

CONCLUSION A significant change in bifurcation angle and cross sectional area was observed over the cardiac cycle, however few compliance differences were noted across each bifurcation. These data illustrate that the coronary artery bifurcations are a dynamic environment in both humans and swine, which presents a challenge in pre-clinical modeling and stent design.

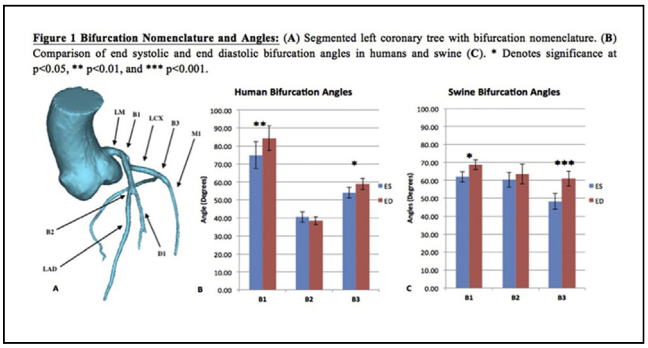

Figure 1 Bifurcation Nomenclature and Angles: (A) Segmented left coronary tree with bifurcation nomenclature. (B) Comparison of end systolic and end diastolic bifurcation angles in humans and swine (C). * Denotes significance at p<0.05, ** p<0.01, and *** p<0.001.

CRT-200.67

Gender Disparities in the Vanderbilt Stemi Network: Insights From a Five Year Experience (2009-2014)

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BACKGROUND Gender disparities have been observed in ST elevation myocardial infarction (STEMI) patients with women experiencing lengthier reperfusion times. There is limited data about persistence of these discrepancies in the current era in a real world setting.

METHODS A retrospective analysis of our institutional STEMI network database was done to include all patients with complete metrics from January 2009 to July 2015 who were transferred to our center with STEMI. Multiple imputation was used to account for any missing data. Patients were stratified based on gender to compare patient characteristics, outcomes, and quality measures.

RESULTS A total of 632 patients (132 women) were included in the analysis. Women were older (62.5 $\pm$ 13.5 vs. 59.3 $\pm$ 12.3 years, $p < 0.05$) but there was no difference in other demographics and pre-existing co-morbidities. Women were transferred over longer distances (43.2 $\pm$ 22.3 vs. 38.8 $\pm$ 23.9 miles, $p = 0.05$). Female gender was associated with a higher time to activation of cardiac catheterization laboratory (53.1 vs. 37.2 minutes, $p < 0.05$), but there was no difference in door-to-(electrocardiogram) EKG-time (17.1 vs. 13.5 minutes, $p > 0.05$), door-in door-out (DIDO) time (110 vs. 91 minutes, $p > 0.05$), transportation time (36.2 vs. 32.9 minutes, $p > 0.05$), first medical contact to balloon time (182.6 vs. 159.3 minutes, $p > 0.05$) or total procedure time (36.2 vs. 35.8 minutes, $p > 0.05$). Women were more likely to present with systolic blood pressure < 100 mmHg (6% vs. 3%, $p = 0.05$), femoral access was used more often in women (39.3% vs. 20%, $p < 0.001$), norepinephrine was used more frequently in women (9% vs. 4%, $p < 0.05$) but there was no difference in the use of other vasopressors, inotropes or mechanical circulatory support. On univariate analysis, in hospital mortality was higher in women (10% vs. 5%, $p < 0.05$) but after adjusting for confounders, gender was no longer associated with higher mortality (adjusted odds ratio, 1.3; 95% CI, 0.6-2.9, $p > 0.05$). On linear regression, female gender, longer door-to-EKG time, longer transfer distance and longer DIDO time were the independent predictors of longer time to activation of catheterization laboratory (R^2=0.79, $p < 0.0001$).

CONCLUSION Data from a single STEMI network suggests that in the current era in a real world setting, women transferred for STEMI may have longer time to activation of cardiac catheterization laboratory than men. There is a need to further streamline systems and improve quality measures in STEMI networks, especially for women.

CRT-200.68

Sheathless Transradial Approach Using Large Bore Catheters vs Other Vascular Access for Chronic Total Occlusions Percutaneous Coronary Intervention: The Quebec CTO Program Experience

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BACKGROUND The use of the transradial approach (TRA) in percutaneous coronary intervention (PCI) of chronic total occlusions (CTO) is still limited. We describe one of the largest single-center experiences, which evolved from 6F to a novel sheathless technique (ST) with regular 8F antegrade guides. We evaluated the safety of this technique.

METHODS We compared our earlier experience (EE) using 6-7F catheters to the latest one (LE), introduced in March 2013 favoring the use of 8F, either from the radial or the femoral (TFA). We then compared ST vs. standard TRA or TFA. The in-hospital outcomes of interest were technical success, contrast, radiation, procedure time, and the incidence of major vascular or bleeding complications. In a sub-sample, we examined radial patency using Doppler at 3-6 months.

RESULTS From 01.2010 to 03.2015, a total of 409 CTO PCIs were performed: 223 during the EE, whereas 186 in LE favoring 8F catheters. Despite an increase of the proportion of patients with very difficult lesions (J-CTO score $\geq$ 3) in LE (from 39% to 51%, p=0.02), we did not observe any difference with regards to success, procedure time, or in the incidence of major complications. However, contrast use was higher in LE (355$\pm$152 ml vs. 292$\pm$124 ml, p<0.0001). Over the 2 years of LE, 92 patients underwent their CTO PCI with a ST and 94 without a ST. Patients not treated with a ST were more likely to be females (33% vs 5% in ST group, p<0.0001), diabetic (51% vs 36%, p=0.04) and to undergo their CTO PCI with at least one TFA. Again, we did not observe any difference with regards to success, procedure time, or in the incidence of major vascular or bleeding complications, which were very low in both groups. The ST did not increase procedure time (143 min vs 154 min with the sheath, p=NS). The mid-term radial Doppler evaluation of 28 patients demonstrated 7.1% radial occlusions with the 8F ST, while 3.6% with 6F in the contralateral radial artery (control).

CONCLUSION A liberal use of the TRA with selected TFA for CTO PCI is associated with low complication rates. Our 8F sheathless technique for TRA in CTO PCI is feasible and safe when compared to the use of 6F standard PCI and provides unlimited spectrum of CTO PCI technique available to transfemoral CTO operators.

CRT-200.70

Abstract Withdrawn

CRT-200.71

Initial Commercial Experience With Orbital Atherectomy in Calcified Coronary Artery Disease

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BACKGROUND Severely calcified lesions present many challenges to PCI. Orbital Atherectomy System (OAS) is a device which allows for vessel preparation and treatment of severely calcified coronary lesions. This study evaluated clinical safety and results of the initial commercial experience of OAS in a real world setting.

METHODS A retrospective analysis was completed on all coronary OAS cases at our institutions that occurred between April 2014 thru August 31, 2015 (n=112). In-hospital and 30 day outcomes were assessed for procedure success, complications and device related events. Statistical analysis was performed using SPSS (IBM V.22).

RESULTS Baseline and procedural characteristics are described in the table below. Perforation occurred in 0.9% (n=1), dissection occurred in 1.8% (n=2), and no-reflow phenomenon occurred in 0.9% of cases (n=1). There were no cases of bleeding complications, emergent