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TCT-34 Reduction of Infarct Size in Anterior ST-Segment Elevation Myocardial Infarction (STEMI) With LAD Occlusion and LV Unloading Using a Micro-axial Pump for 30 Minutes Before PCI: Per-Protocol Analysis of the STEMI Door to Unload (DTU) Pilot Study

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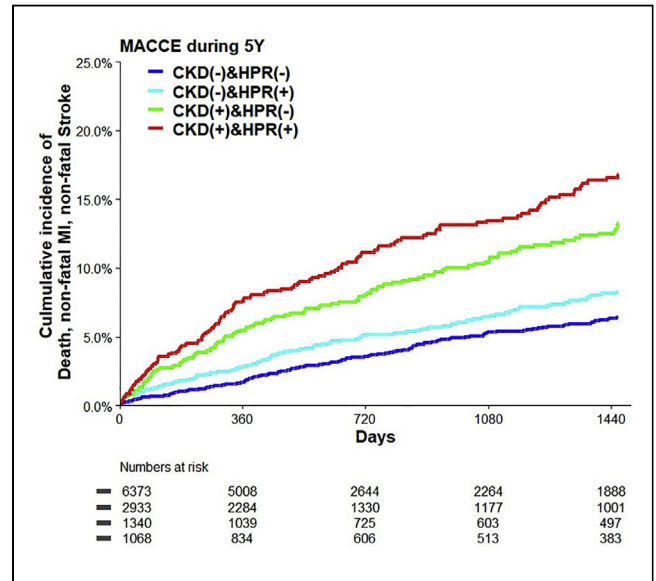
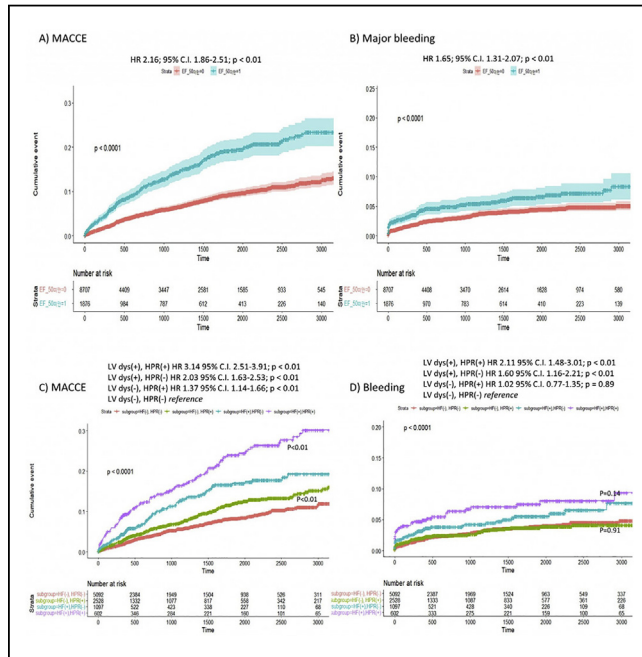
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CONCLUSION LV dysfunction is associated with increase of MACCE and major bleeding, which of MACCE was affected by HPR status in large, real-world PCI registry.

CATEGORIES CORONARY: Pharmacology/Pharmacotherapy

TCT-33

Platelet Reactivity and Clinical Outcomes After Drug-Eluting Stent Implantation in East Asian Patients With Chronic Kidney Diabetes: Results From the PTRG-DES Registry

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BACKGROUND This study aimed to investigate the association between CKD and platelet reactivity, and clinical outcomes according to CKD and high platelet reactivity (HPR)

METHODS The PTRG-DES (Platelet Function and Genotype-Related Long-Term Prognosis in DES-Treated Patients) registry is multicenter prospective registry to determine the relationship between platelet reactivity/genotyping and clinical outcomes in East Asian patients with coronary artery disease following PCI. We evaluated platelet reactivity and analyzed the effect of CKD on platelet reactivity and clinical events according to CKD and HPR.

RESULTS Between July 9, 2003, and Aug. 7, 2018, 13,160 patients were enrolled at 17 academic hospitals and the result of the VerifyNow P2Y12 assay was available in 11,714 patients. The platelet reactivity of patients with CKD was significantly higher than that of non-CKD patients (CKD vs non-CKD: 236.4 ± 81.3 vs 212.9 ± 77.3 PRU, $P < 0.001$). In clinical outcomes, the highest rate of major adverse cardiac and cerebrovascular events (MACCE) was found in patients with CKD and HPR (adjusted hazard ratio 1.818, P value < 0.001 , 95% confidence interval 1.421-2.324) during the 5year follow-up. The rate of bleeding events was higher in patients with CKD and HPR (adjusted hazard ratio 1.300, P value < 0.137 , 95% confidence interval 0.920-1.838) but without statistical significance. Multivariate analysis revealed CKD with HPR was independent risk factors associated with MACCE.

CONCLUSION Platelet reactivity was enhanced in patients with CKD, and HPR was an independent risk factor for MACCE in patients with CKD.

CATEGORIES CORONARY: Pharmacology/Pharmacotherapy

STEMI STRATEGIES AND OUTCOMES I

Abstract nos: 34-38

TCT-34

Reduction of Infarct Size in Anterior ST-Segment Elevation Myocardial Infarction (STEMI) With LAD Occlusion and LV Unloading Using a Micro-axial Pump for 30 Minutes Before PCI: Per-Protocol Analysis of the STEMI Door to Unload (DTU) Pilot Study



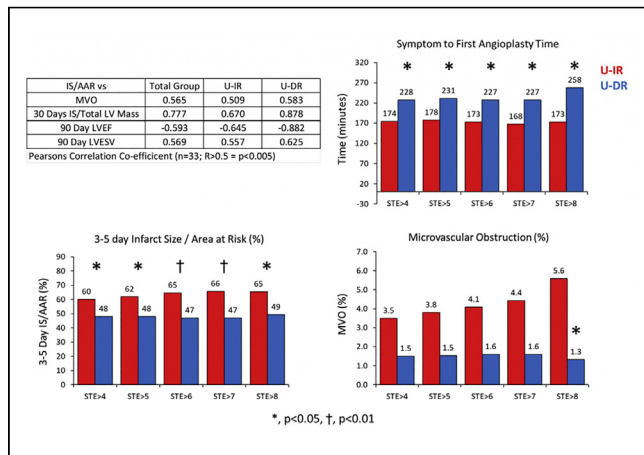
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BACKGROUND The STEMI-DTU pilot trial identified that LV unloading before PCI is safe and feasible in anterior STEMI without shock. We now report findings from patients who met all protocol inclusion and exclusion criteria.

METHODS In a multicenter, randomized safety and feasibility trial, 50 patients with anterior STEMI were unloaded using the Impella CP followed by immediate (U-IR) or delayed PCI after 30 minutes of unloading (U-DR). Cardiac magnetic resonance (CMR) imaging assessed infarct size 3-5 days after PCI. Patients without CMR at 3-5 days (n = 10; 5/arm), without PCI of a culprit LAD lesion (n = 2; 1/arm) and without STEMI (n = 5; 4 U-IR, 1 U-DR) were not per protocol and thus excluded.

RESULTS 33 patients met all inclusion and exclusion criteria (U-IR n = 15, U-DR n = 18) with respective door-to-balloon times of 75 ± 26 and 89 ± 23 minutes ($P = 0.10$) and mean unload-to-balloon times of 10 ± 5

and 34 ± 3 ($P < 0.01$). In the total cohort 2-5 day IS was significantly associated with microvascular obstruction (MVO), 30-day IS normalized to total LV mass, 90 day LVEF, and 90 day LV end systolic volume with or without delayed reperfusion (Table) ($R > 0.5$, $P < 0.005$ for all). Despite longer symptom to balloon times in the U-DR arm (174 ± 59 vs 228 ± 78 , $P < 0.01$) IS/AAR was lower in the U-DR arm (62 ± 16 vs 48 ± 16 , $P = 0.04$) and remained lower irrespective of STE magnitude. MVO was lower in the U-DR arm among patients with the highest STE (Figure).



CONCLUSION A per-protocol analysis of the STEMI-DTU Pilot trial identified reduced infarct size with unloading and delayed reperfusion. These findings are under investigation in the STEMI-DTU Pivotal trial.

CATEGORIES CORONARY: Acute Myocardial Infarction

TCT-35

Effects of Complete Revascularization According to Age in Patients With ST-Segment Elevation Myocardial Infarction and Multivessel: Insights From the COMPLETE Trial

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BACKGROUND In ST-segment elevation myocardial infarction (STEMI), complete revascularization with percutaneous coronary intervention (PCI) reduces major cardiovascular events compared with culprit-lesion-only PCI. Whether age influences these results remains largely unknown.

METHODS COMPLETE was a multinational, randomized trial evaluating a strategy of complete revascularization, consisting of angiography-guided PCI of all suitable non-culprit-lesions vs a strategy of culprit-lesion-only PCI (guideline-directed medical therapy alone). In this pre-specified subgroup analysis, treatment effect according to age (≥ 65 years vs < 65 years) was determined for the first co-primary outcome of cardiovascular (CV) death or new myocardial infarction (MI) and the second co-primary outcome of CV death, new MI, or

ischemia-driven revascularization (IDR). Median follow-up was 35.8 months (IQR 27.6 to 44.3 months).

RESULTS Of 4,041 patients in COMPLETE, 1,613 were 65 years and older in age (39.9%). Complete revascularization consistently reduced the first co-primary outcome in patients ≥ 65 years (3.5% vs 4.5%, HR 0.77, 95% CI 0.58-1.04) and < 65 years (2.2% vs 3.1%, HR 0.72, 95% CI 0.54-0.96), with no evidence of a differential treatment effect (interaction $P = 0.74$). Similarly, reductions were seen for the second co-primary outcome with no differential treatment effect (interaction $P = 0.37$) with complete revascularization in patients ≥ 65 years (3.8% vs 6.9%, HR 0.56, 95% CI 0.43-0.74) and < 65 years (2.7% vs 5.7%, HR 0.48, 95% CI 0.37-0.61).

CONCLUSION In patients with STEMI and multivessel CAD, complete revascularization compared with culprit-lesion-only PCI reduces major cardiovascular events consistently in older and younger patients without evidence of a differential treatment effect according to age.

CATEGORIES CORONARY: Acute Myocardial Infarction

TCT-36

Complete Revascularization Versus Culprit Lesion-Only PCI in Patients With Diabetes Mellitus and Multivessel Coronary Artery Disease: A Subgroup Analysis of the COMPLETE Trial

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BACKGROUND Complete revascularization is superior to culprit-lesion-only percutaneous coronary intervention (PCI) in reducing risk of cardiovascular death or myocardial infarction in patients presenting with ST-segment elevation myocardial infarction (STEMI) and multivessel coronary artery disease. Patients with diabetes mellitus have a worse prognosis following STEMI. We evaluated the consistency of the benefit with complete revascularization in patients with and without diabetes mellitus.

METHODS COMPLETE was a multinational, randomized trial evaluating a strategy of complete revascularization, consisting of angiography-guided PCI of all suitable non-culprit-lesions vs a strategy of culprit-lesion-only PCI (optimal medical therapy alone). In pre-specified analyses, treatment effects were determined in patients with and without diabetes on the first coprimary outcome of cardiovascular death or new myocardial infarction and the second coprimary outcome of cardiovascular death, new myocardial infarction, or ischemia-driven revascularization. Interaction P values were calculated to evaluate whether there was a differential treatment effect in patients with and without diabetes.

RESULTS Of the 4,041 patients enrolled in the COMPLETE trial, 787 patients (19.5%) had diabetes. Complete revascularization consistently reduced the first coprimary outcome in patients with diabetes (11.9% vs 14.2%, HR 0.87, 95% CI 0.59-1.29) and without diabetes (6.9% vs 9.6%, HR 0.70, 95% CI 0.55-0.89), with no evidence of a differential treatment effect (interaction $P = 0.35$). Similarly, for the second coprimary outcome, no differential treatment effect (interaction $P = 0.27$) of complete revascularization was found in patients with diabetes (12.7% vs 20.9%, HR 0.61, 95% CI 0.43-0.87) and without diabetes (8% vs 15.7%, HR 0.48, 95% CI 0.39-0.60).

CONCLUSION In patients presenting with STEMI and multivessel coronary artery disease, the benefit of complete revascularization over a culprit-lesion-only PCI strategy was consistent regardless of the presence or absence of diabetes.

CATEGORIES CORONARY: Acute Coronary Syndromes