Follow-up in 3 months, the incidences of MACEs in two groups showed no difference(All $P>0.05$).

CONCLUSIONS 1. Coronary microcirculation in patients with anterior STEMI was better in patients undergoing thrombolysis combined with PCI.
2. It is safe and efficacious for anterior STEMI patients receiving thrombolysis with PCI, which shares the same advantage of improving left ventricular function, without increasing bleeding complications and MACEs incidence.

GW28-e0940

Comparison of drug-coated balloon versus drug-eluting stent in patients with drug-eluting stent in-stent restenosis: Insight from randomized controlled trials

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OBJECTIVES Both drug-coated balloon (DCB) and drug-eluting stent (DES) were used for treatment of in-stent restenosis but it is unclear about their effects of magnitude. We therefore performed a meta-analysis to compare the long-term outcomes between DCB angioplasty and DES implantation for patients with coronary in-stent restenosis (ISR).

METHODS Data sources were all collected from PubMed, the Cochrane Central Register of Controlled Trials, Ovid and EMBASE on April, 1st, 2017. Only randomized controlled trials were enrolled. Data on study design, quality, patient characteristics, length of follow-up duration and outcomes were pooled and analyzed. For duplicate publications, outcomes were obtained from the publication with the longest follow-up.

RESULTS Prespecified criteria were met by 8 trials involving 1613 patients. There was no significant difference in major adverse cardiac events between groups (risk ratio, RR, 1.04, $P = 0.699$), myocardial infarction (RR = 1.17, $P = 0.598$) and target lesion revascularization (RR = 1.24, $P = 0.085$) in overall analyses. However, when analysis was done in ISR patients with DES implanted previously, the incidence of target lesion revascularization in the DCB group was much higher than those in the DES group (RR = 1.41, $P = 0.012$). No publication bias was detected.

CONCLUSIONS DES implantation is superior to DCB angioplasty in DES-ISR patients. Further studies are merited to assess these associations in greater details, especially those with endpoints of major adverse cardiac events.

GW28-e1000

Comparative efficacy of drug-eluting stents in chronic total occlusions: A report from the SCAAR

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OBJECTIVES Chronic total coronary occlusion (CTO) is a frequent finding in patients with ischemic heart disease. Our aim was to compare first and second generation DES regarding long-term risk of in-stent restenosis and stent thrombosis.

METHODS We used data from the SCAAR registry (Swedish Coronary Angiography and Angioplasty Registry) for the PCI procedures performed in patients with CTO between 2003 and 2015 for stable angina, UA/NSTEMI and STEMI. The database contains information about all procedures performed in Sweden. We compared four groups of DES: paclitaxel- (PES, n=1,557), sirolimus- (SES, n=932), zotarolimus- (ZES, n=1,699) and everolimus-eluting stents (EES, n=2499). We modelled our data with multilevel Cox proportional-hazards regression with stents as the primary observational unit while patients and hospitals were treated as random-effect variables. To adjust for differences in patient's characteristics the following variables were used: age, gender, hypertension, hyperlipidemia, smoking status, diabetes, severity of coronary artery disease, indication for PCI (stable angina, UA/NSTEMI and STEMI), stent length and stent diameter. The primary combined endpoint was time to first occurrence of either stent thrombosis or restenosis.

RESULTS The total of 6,687 DES were implanted in 1,699 CTO patients. Median follow-up was 3.3 years. The total number of events was 567 of which 112 (19.6%) were stent thromboses. At one-year, unadjusted probability of combined event was 2.6% in ZES, 1.7% in EES, 3.5% in SES and 3.2% in PES group. Treatment with PES (adjusted HR 1.50; 95% CI 1.18 - 1.91; P=0.001) and SES (adjusted HR 1.37; 95% CI 1.06 - 1.77; P=0.018) was associated with higher risk for restenosis or stent thrombosis compared to EES. Similarly, treatment with PES (adjusted HR 2.22; 95% CI 1.32 - 1.70; P=0.002) and SES (adjusted HR 2.11; 95% CI 1.17 - 3.79; P=0.012) was associated with higher risk of stent thrombosis compared to EES. We found no differences between EES and ZES nor between SES and PES.

CONCLUSIONS In this observational study, treatment of CTO with EES and ZES was associated with substantially lower risk of in-stent restenosis and stent thrombosis than PES and SES.

GW28-e1001

Pretreatment with P2Y12 receptor antagonists is not associated with improved patency of infarct related-artery in STEMI – A report from SCAAR

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OBJECTIVES Patients with STEMI are frequently pretreated with P2Y12 receptor antagonist (P2Y12) in order to increase patency of IRA and decrease the rate of ischemic events. However, there is no clear evidence from randomized clinical trials that pretreatment with P2Y12 in STEMI reduces ischemic events and improves prognosis. The aim of this study was to investigate whether pretreatment with P2Y12 improves patency of IRA at the time of primary PCI.

METHODS We used data from the SCAAR registry (Swedish Coronary Angiography and Angioplasty Registry). This database contains information about all consecutive PCI procedures that are performed in Sweden at 31 hospitals. We included all procedures between 2005 and 2015 in STEMI patients. The patients were divided into the two groups, P2Y12 pretreated and not-pretreated. We used multilevel modeling based on complete-case mixed-effects logistic regression to adjust for hierarchical database due to clustering of observations. Treated segment (IRA) was the primary observational unit while individual patients and hospitals were treated as additional levels of clustering. The following variables were used to adjust for differences in patient's characteristics: age; gender; hypertension; hyperlipidemia; smoking status; diabetes; calendar year; prior myocardial infarction, coronary by-pass surgery and/or PCI; cardiogenic shock; severity of coronary artery disease; pretreatment with ASA, heparin; type of P2Y12 agent, clopidogrel, ticagrelor, prasugrel.

RESULTS The total of 34,002 patients were included in the study of which 25,982 (76%) were pretreated with P2Y12 and 8,020 (24%) were not. Three different P2Y12 were used, clopidogrel (n=22.993, 72%), ticagrelor (n=6,657, 21%) and prasugrel (n=2,113, 7%). The number of treated segments was 64,884 of which 34,567 (53%) were occluded and 30,317 (47%) were patent prior to primary PCI. Non-patent IRA was associated with higher risk of death at 30 days (adjusted OR 1.67; 95% CI 1.47 to 1.89; P<0.000). Pretreatment with P2Y12 was not associated with higher probability for patent IRA (adjusted OR 0.95; 95% CI 0.87 to 1.04; P=0.15). We found no difference between clopidogrel, ticagrelor and prasugrel in regard to patency of IRA (P=0.13 for interaction test).

CONCLUSIONS In this observational study, non-patent IRA was associated with higher risk of death at 30-days in patients with STEMI. Pretreatment with P2Y12 was not associated with improved patency of IRA.

GW28-e1002

Ticagelor is not superior to clopidogrel in patients with acute coronary syndrome – A report from SCAAR

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OBJECTIVES The PLATO trial has shown that ticagrelor compared to clopidogrel improves survival and decreases risk for stent thrombosis in patients with acute coronary syndrome (ACS). The aim of this study was to investigate whether treatment with ticagrelor is superior to clopidogrel in patients with ACS in "real-world".

METHODS We used data from the SCAAR registry (Swedish Coronary Angiography and Angioplasty Registry) for the PCI procedures performed in Västra Götaland County in Sweden. The database contains information about all PCI procedures performed at five hospitals (~20% of all SCAAR data). All consecutive procedures between 2005 and 2015 for UA/NSTEMI and STEMI were included. We used multilevel modeling based on complete-case mixed-effects logistic regression to adjust for hierarchical database due to clustering of