CONCLUSION Although the guidelines recommended a DTBT of within 90 min in PCI for STEMI patients, patients treated with DTBT within 30 min showed significantly better clinical outcomes than did patients treated with DTBT from 30 to 90 min. The effort to achieve a shorter DTBT contributed to lower in-hospital mortality in patients with STEMI, especially when the DTBT was ≤30 min.

CATEGORIES CORONARY: Acute Myocardial Infarction

TCT-170

Clinical Outcome After Myocardial Infarction Treated With Resolute Integrity and Promus Element Stents: Insights From DUTCH PEERS (TWENTE II) Randomized Trial

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BACKGROUND In acute myocardial infarction (MI), novel highly deliverable drug-eluting stents may be particularly valuable as their flexible stent designs might reduce device-induced traumas to culprit lesion. The aim of the study was to assess the safety and efficacy of percutaneous coronary interventions with two novel durable polymer-coated drug-eluting stents in patients with acute MI.

METHODS The randomized DUTCH PEERS (TWENTE II) multicenter trial compares zotarolimus-eluting Resolute Integrity and everolimus-eluting Promus Element stents in 1,811 all-comer patients, of whom 817 (45.1%) were treated for ST-elevation myocardial infarction (STEMI) or non-STEMI. 2-year clinical outcome is available in 99.9%. Primary clinical endpoint is target vessel failure (TVF), a composite of cardiac death, target vessel-related MI, or target vessel revascularization.

RESULTS Of all 817 patients treated for acute MI, 421 (51.5%) were treated with Resolute Integrity and 396 (48.5%) with Promus Element stents. At 2-year follow-up, the rates of TVF (7.4% vs. 6.1%; p=0.45), target lesion revascularization (3.1% vs. 2.8%; p=0.79), and definite stent thrombosis (1.0% vs. 0.5%; p=0.69) were low for both stent groups. Consistent with these findings in all patients with acute MI, outcomes for the two drug-eluting stents were favorable and similar in both, 370 patients with STEMI (TVF 5.1% vs. 4.9%; p=0.81) and 447 patients with non-STEMI (TVF: 9.0% vs. 7.5%; p=0.56).

CONCLUSION Resolute Integrity and Promus Element stents were both safe and efficacious in treating patients with acute MI. The present 2-year follow-up data underline the safety of using these devices in this particular setting.

CATEGORIES CORONARY: Acute Myocardial Infarction

TCT-171

Effect of Ticagrelor Compared with Clopidogrel on Myocardial Infarct Size in Patients Undergoing Primary Percutaneous Coronary Intervention

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BACKGROUND Ticagrelor compared with clopidogrel improves clinical outcomes in patients with acute coronary syndromes. However, the mechanism of ticagrelor's beneficial effect is not fully elucidated. This study sought to compare the effects of ticagrelor with clopidogrel on myocardial infarct size in patients with ST-segment myocardial infarction (STEMI) undergoing primary percutaneous coronary intervention (PCI).

METHODS We performed a 2-center, prospective, randomized, open-label, blinded end-point trial. A total of 109 patients with STEMI undergoing primary PCI were randomly assigned to the ticagrelor group (180 mg loading does, 90 mg twice daily thereafter) or to the clopidogrel group (600 mg loading dose, 75 mg daily thereafter) in a 1:1 ratio. The primary end point was myocardial infarct size assessed by cardiac magnetic resonance imaging (CMR).

RESULTS Evaluable CMRs were available in 45 and 50 patients of the ticagrelor group and the clopidogrel group, respectively. Myocardial infarct size was significantly smaller in the ticagrelor group than in the clopidogrel group (21.5±10.9% versus 26.5±11.3%, p=0.032). The extent of microvascular obstruction was also significantly smaller and myocardial salvage index tended to be greater in the ticagrelor group than in clopidogrel group (3.9±4.1% versus 6.4±6.3%, p=0.018 and 41.9±10.8% versus 38.3±8.7%, p=0.077, respectively). There was a significant difference in a peak creatine kinase-MB level between the 2 groups (170.4 [80.5-267.4] ng/ml versus 232.7 [117.1-310.2] ng/ml, p=0.040). However, there was no significant difference in residual platelet reactivity at the time of PCI between both groups (P2Y12 reaction units by VerifyNow; 216.1±83.6 versus 231.0±64.0, p=0.336).

CONCLUSION Ticagrelor was superior to clopidogrel in reducing myocardial infarct size in patients undergoing primary PCI. Our results suggest that benefit of ticagrelor may result from reducing infarct size as well as prevention of recurrent vascular events.

CATEGORIES CORONARY: Acute Myocardial Infarction

TCT-172

The Effect of Obstructive Sleep Apnea on Outcomes in Patients with STEMI: An Age Stratified Analysis of Nationally Representative Data

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BACKGROUND Obstructive sleep apnea (OSA) is a precursor for many cardiovascular conditions such as congestive heart failure, atrial fibrillation, hypertension, myocardial infarctions (MI) and stroke. However data is limited in patients who are admitted with ST elevation myocardial infarction (STEMI) and have a co-existing diagnosis of OSA.

METHODS We used the National Inpatient Sample (NIS) database to find patients with a primary discharge diagnosis of STEMI beween 2003 and 2011. Multivariate logistic regression analysis was used to compare in-hospital mortality between patients with and without OSA.

RESULTS We identified 1,850,625 patients with a primary discharge diagnosis of STEMI between 2003-2011 and 1% of these patients also had OSA. Patients with OSA were younger, and were more likely to have a history of previous MI, previous coronary artery bypass surgery (CABG), dyslipidemia, previous percutaneous intervention (PCI) (p<0.001 for all).They had a significantly decreased in-hospital mortality (aOR 0.65, p<0.001) as compared to patients without OSA. They had higher rates of revascularization (CABG and PCI) and a shorter duration of hospitalization (p<0.001 for all). When stratified for age,