bifurcation lesions due to an increased late clinical restenosis, thus future DAPT study focusing on personalized medicine is warranted. (ClinicalTrials.gov Identifier: NCT01681381)

**CATEGORIES CORONARY:** Pharmacology/Pharmacotherapy

**KEYWORDS** Bifurcation lesion, Biodegradable polymer, Dual antiplatelet therapy

**TCT-77** Risk and benefits of triple therapy in patients undergoing percutaneous coronary stent implantation requiring chronic oral anticoagulation: a meta-analysis of 12 trials

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**BACKGROUND** Patients with coronary artery disease who undergo stent implantation and have concomitant indication for long term oral anticoagulation represent a considerable percentage of the overall population. To date there is still no consensus about the optimal anticoagulation regimen. To date there is still no consensus about the optimal anticoagulation regimen. Antithrombotic therapy in patients undergoing percutaneous coronary stent implantation, requiring long term oral anticoagulation.

**METHODS** We performed formal searches of PubMed, EMBASE, Cochrane controlled register of controlled trials and major international scientific session abstracts from January 1990 to September 2014 regarding the use of triple antithrombotic therapy versus dual antithrombotic therapy in patients undergoing percutaneous coronary stent implantation that required chronic oral anticoagulation. Data regarding study design, inclusion/exclusion criteria, number of patients, and selected endpoints was extracted by 2 investigators. Disagreements were resolved by consensus.

**RESULTS** Twelve trials, with a total of 7838 patients undergoing stent implantation with indication to long term oral anticoagulation were finally included. A total of 2586 patients were treated with triple therapy whereas 5252 patients received dual antithrombotic therapy alone. The follow-up period ranged from 270 to 2000 days. Mortality occurred in 10.8% of patients receiving triple therapy versus 16.7% of patients in dual therapy (OR [95% CI] = 0.80 [0.69-0.94], p = 0.005; phet = 0.0003). By meta-regression analysis no relationship was observed between reduction in mortality and the risk of bleedings (p = 0.10). Data regarding secondary endpoints showed a significant association between triple therapy and an increased risk of bleedings (12.3% versus 9.9%) (OR [95% CI] = 1.37 [1.16-1.62], p = 0.0002; phet = 0.20), while we did not find any significant difference in terms of recurrence of myocardial infarction (p = 0.39), stent thrombosis (p = 0.46) or stroke (p = 0.15).

**CONCLUSIONS** This meta-analysis showed that among patients undergoing coronary stent implantation, requiring chronic oral anticoagulation, the use of a triple antithrombotic therapy is associated with a significant reduction in mortality that largely outweighed the higher risk of major bleeding complications associated with triple therapy.

**CATEGORIES CORONARY:** Pharmacology/Pharmacotherapy

**KEYWORDS** Anticoagulation, Antiplatelet therapy

**TCT-78** Efficacy of Long-Term Ticagrelor in Stented Patients in PEGASUS-TIMI 54

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1TIMI Study Group, Brigham and Women’s Hospital, Harvard Medical School, Boston, MA; 2Hopital Bichat, Paris, France, Paris, France; 3Grochowski Hospital, Warsaw, Poland; 4Icahn School of Medicine at Mount Sinai, New York, NY; 5University of Sheffield, Sheffield, UK; 6CZW, Nijmegen, Netherlands; 7Russian Cardiology Research Center, Moscow, Russian Federation; 8Kerckhoff Heart Center, Bad Nauheim, Germany; 9Medical Faculty of Masaryk University and University Hospital Brno, Brno, Czech Republic; 10Egeal across a branch cross-section of patient PCI. Whether this is true in patients with simple and complex coronary anatomy is unknown.

**BACKGROUND** Ticagrelor in patients with prior MI reduced the incidence of CV death, MI, or stroke by 15%-16% in PEGASUS-TIMI 54. We investigated the efficacy of ticagrelor in patients based on the presence and type of stent.

**METHODS** Details of each patient’s most recent PCI were collected at randomization. Stent thrombosis (ST) was prospectively adjudicated according to ARC definitions with angiographic confirmation when available.

**RESULTS** In PEGASUS-TIMI 54, 4271 patients had no history of stenting (20%), 8597 had a bare metal stent (BMS, 41%), and 8294 had a drug-eluting stent (DES, 39%). The median time from PCI to randomization was 1.7 yrs (IQR 1.2-2.3; 95% >1 year from PCI). Of the patients with DES, 52% had received either everolimus or zotarolimus-eluting stents (EES or ZES), 27% had received sirolimus or paclitaxel-eluting stents (SES or PES), and stent type was not specified in the remainder. Among patients with stents randomized to placebo, over a median of 38 months of follow-up, recurrent MI was most frequent ischemic event (5.2%), followed by CV death (2.3%) and stroke (1.7%), whereas ARC definite ST was rare (0.7%). Ticagrelor consistently reduced CV death, MI, or stroke regardless of stenting or stent type (pooled ticagrelor vs placebo; Fig Left) with similar magnitude of benefit for each dose and for each of the components. Rates of definite ST were 0.38% with BMS, 1.01% with SES or PES, and 0.65% with EES or ZES. Ticagrelor 90 mg bid significantly reduced ST whereas there was a trend with ticagrelor 60 mg bid (Fig Right). The effect was even more pronounced for both doses when patients were on study drug: HR 0.30 (0.14-0.65) & HR 0.66 (0.37-1.17), respectively.

**CONCLUSIONS** Patients with a history of MI more than 1 year from PCI remain at heightened risk for ischemic events, predominantly MI, CV death, and stroke, with stent thrombosis being rare. Long-term ticagrelor reduces CVD/MI/Stroke regardless of stenting history and reduces stent thrombosis in patients with stents.

**CATEGORIES CORONARY:** PCI Outcomes

**KEYWORDS** Antiplatelet therapy

**TCT-79** Efficacy of Cangrelor in Lesions with High-Risk and Low-Risk Angiographic Characteristics: The CHAMPION PHOENIX trial

Gregg W. Stone,1 Philippe Genereux,2 Harvey D. White,3 C. Michael Gibson,4 Christian Hamm,5 Kenneth Mahaffey,6 Marc P. Bonaca,1 Deepak L. Bhatt,1 Robert Harrington,2 Deepak L. Bhatt3
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**BACKGROUND** In the CHAMPION PHOENIX trial, the potent, rapidly acting, intravenous ADP antagonist cangrelor reduced the 48-hour incidence of major adverse cardiac events (MACE; death, MI, stent thrombosis, or repeat ischemia-driven revascularization) compared to a loading dose of clopidogrel in patients undergoing PCI. Whether this is true in patients with simple and complex coronary anatomy is unknown.

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METHODS Blinded angiographic core laboratory analysis was completed in 10,939 of 10,942 randomized patients in PHOENIX. 48-hour outcomes were analyzed according to the number of angiographic high-risk lesion characteristics present (bifurcation, left main, thrombus, angulated, tortuous, eccentric, calcified, long (>20 mm), or multi-lesion PCI), in all patients and separately in those with acute coronary syndromes (ACS; non-ST-segment elevation MI and STEMI) and stable ischemic heart disease (SIHD).

RESULTS Among all 10,939 patients, cangrelor reduced the 48-hour rate of MACE by 21% (4.7% vs. 5.9%, OR [95%CI] = 0.79 [0.67, 0.93], P=0.006) as compared to clopidogrel. 1,904 (17.4%) patients had 0 lesions with any high-risk PCI lesion characteristics, while 3,440 (31.4%), 3,064 (28.0%), and 2,531 (23.1%) patients had lesions with 1, 2 and ≥3 high-risk PCI characteristics, respectively. The 48-hour MACE rate increased progressively with lesion complexity (from 2.5% to 4.1% to 6.6% to 7.5% in patients with lesions with 0, 1, 2 and ≥3 high-risk PCI characteristics (P=0.0001). The reduction in 48-hour MACE with cangrelor compared to clopidogrel was present and consistent regardless of PCI lesion complexity, in all patients and in those with ACS and SIHD (Figure). In a logistic regression model, the number of high-risk PCI characteristics (adjOR [95%CI] = 1.31 [1.23, 1.39], P<0.0001), SIHD vs. ACS (adjOR [95%CI] = 1.69 [1.41, 2.02], P<0.0001), and cangrelor vs. clopidogrel randomization (adjOR [95%CI] = 0.78 [0.66, 0.92], P=0.004) were independent predictors of 48-hour MACE.

CONCLUSIONS Compared to a loading dose of clopidogrel, the potent, rapidly acting, intravenous ADP antagonist cangrelor reduces 48-hour MACE regardless of baseline lesion complexity and clinical presentation.

METHODS 218 DES-treated patients who received statin therapy were examined with serial follow-up OCT. First and second follow-up OCT evaluations were performed approximately 6 and 18 months after the index procedure. According to the level of low-density lipoprotein cholesterol (LDL-C) measured at the second follow-up, patients were divided into two groups. The optimal lipid-lowering group (n=121) had an LDL-C reduction of ≥50%, or an LDL-C level <70mg/dL, and the conventional group (n=97). Neointimal characteristics were qualitatively categorized as homogeneous vs. non-homogeneous (heterogeneous or layered) patterns using OCT. The qualitative changes of neointimal tissue characteristics between the first and second follow-up OCT examinations were assessed.

RESULTS Between the first and second follow-up OCT procedures, the neointimal cross-sectional area increased more substantially in the conventional group (0.4mm2 vs. 0.2mm2 in the optimal lipid-lowering group, p=0.01). The neointimal pattern changed from homogeneous to non-homogeneous less often in the optimal lipid-lowering group (1.3%, 3h i g h - risk PCI characteristics) as compared to clopidogrel (15.3%, 11/72, p=0.44). Optimal LDL-C reduction was an independent predictor for the prevention of neointimal tissue pattern change from homogeneous to non-homogeneous (odds ratio: 0.04, 95% confidence interval: 0.01–0.41, p=0.006).

CONCLUSIONS In conclusion, this serial OCT study suggests that an intensive reduction of LDL-C could prevent the non-homogeneous change of the neointima and the increase in neointimal cross-sectional area compared with the conventional LDL-C control.

CATEGORIES IMAGING: Intravascular

KEYWORDS Drug-eluting stent, Low density lipoprotein cholesterol, Optical coherence tomography