Background: Premature discontinuation of clopidogrel after drug-eluting stent (DES) implantation increases the risk of adverse cardiac events. Factors associated with premature discontinuation, however, are poorly understood.

Methods: Patients who discontinued clopidogrel before 1 year after percutaneous coronary intervention (PCI) with DES were compared to patients who continued clopidogrel for at least 1 year in this retrospective cohort study. Patients with cardiogenic shock were excluded. Reasons for discontinuation of clopidogrel were also collected. Insurance was categorized as private, Medicare, Medicaid, and uninsured. Multivariable logistic regression, stratified by age ≥65 years, was performed to identify socioeconomic and clinical factors independently associated with premature (<1 year) clopidogrel discontinuation.

Results: Among 4841 patients that received DES, 21.9% discontinued clopidogrel before 1 year. The most common reasons for clopidogrel discontinuation were physician decision (56.9%) and bleeding (16.9%). Overall, 53.8% of patients had private insurance, 42.1% Medicare, 2.9% Medicaid, and 1.2% were uninsured. Median household income by population was not associated with premature discontinuation in the overall cohort. Among the population <65 years, patients with Medicare, lack of insurance, major bleeding, and history of PCI or congestive heart failure were more likely to discontinue clopidogrel prematurely. For the population ≥65 years, patients on warfarin therapy or with history of PCI were more likely, and patients with history of hypertension or CABG were less likely, to discontinue clopidogrel prematurely (Table).

Conclusions: Premature discontinuation of clopidogrel is common among patients undergoing PCI with DES and is often secondary to physician decision rather than noncompliance. Premature discontinuation is associated with both insurance status and clinical factors.

TCT-152
Is There a Therapeutic Window For Platelet Responsiveness Among PCI Patients? Analysis from the ADAPT-DES Study
Ajay J. Kirtane1, Thomas Stuckey7, Ke Xu3, Bernhard Witzenbichler8, Gioia Weisz1, Michael J. Rinaldi1, Franz-Josef Neumann2, D. Christopher Metzger2, Timothy D. Henry4, David Coss1, Dennis Levy2, Bruce R. Budde4, Ernst L. Mazzaferri2, Ecaterina Cristea13, Helen Pareise3, Rosanna Mehran14, Gregg Stone1
1Columbia University Medical Center and the Cardiovascular Research Foundation, New York, NY
2Lebauer Cardiovascular Research Foundation, Greensboro, NC
3Cardiovascular Research Foundation, New York, NY
4Charité Campus Benjamin Franklin, Berlin, Germany
5Columbia University Medical Center, New York, NY
6Sanger Heart & Vascular Institute, Charlotte, NC
7Universitäts-Herzzentrum Freiburg - Bad Krozingen, Bad Krozingen, Germany
8Wellmont CVA Heart Institute, Kingsport, TN
9Minneapolis Heart Institute Foundation at Abbott Northwestern, Minneapolis, MN
10Lehigh Valley Health Network, Allentown, PA
11Pinehurst Cardiology, Pinehurst, NC
12Ohio State University, Dublin, OH
13Yale University, New Haven, CT
14Mount Sinai Hospital, New York, NY

Background: Patients undergoing stent implantation with high platelet reactivity (HPR) on clopidogrel have a greater incidence of adverse ischemic events. However, low HPR may increase major bleeding, which can also influence mortality.

Methods: ADAPT-DES was an 8,583 pt prospective, multicenter study of pts receiving DES; routine platelet function testing (VerifyNow) was performed following clopidogrel loading. We sought to characterize the association between HPR and stent thrombosis (ST) and major bleeding at 1 year by separating pts into quintiles of HPR. Results: The median PRU of the 5 quintiles was 75, 130, 187, 244, and 313, respectively (most to least reactive); 42.7% of patients had HPR as defined by PRU>208. HPR was associated with 1-year ST (1.3% vs. 0.5%, p=0.0001), but was also protective from major bleeding (5.6% vs. 6.7%, p=0.04); both types of events were independent predictors of 1-year mortality. There was a graded association between PRU quintiles and ST (Table), whereas for major bleeding, the highest risk occurred in the lowest PRU quintile, a finding that was significant in multivariable comparing these two agents. The aim of this study was to compare the effectiveness of eptiθine relative to abciximab in patients with STEMI treated with PCI.

Conclusions: This observational data suggests eptiθine is associated with similar outcomes to abciximab in patients with STEMI undergoing PCI.
analyses (Hazard Ratio 1.52 [1.17,1.97], p=0.002). There was no significant association between PRU quintiles and mortality.

Table. Event Rates Among Quintiles of PRU

<table>
<thead>
<tr>
<th>1-year event rates</th>
<th>Quintile 1</th>
<th>Quintile 2</th>
<th>Quintile 3</th>
<th>Quintile 4</th>
<th>Quintile 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean PRU (95%-CI)</td>
<td>(&lt;95)</td>
<td>(106-159)</td>
<td>(160-215)</td>
<td>(216-275)</td>
<td>(276-327)</td>
</tr>
<tr>
<td>Def/prob ST</td>
<td>0.49%</td>
<td>0.43%</td>
<td>0.79%</td>
<td>1.13%</td>
<td>1.33%</td>
</tr>
<tr>
<td>Major Bleeding</td>
<td>8.17%</td>
<td>8.81%</td>
<td>5.74%</td>
<td>6.27%</td>
<td>5.67%</td>
</tr>
<tr>
<td>Mortality</td>
<td>1.52%</td>
<td>1.56%</td>
<td>1.72%</td>
<td>2.37%</td>
<td>2.39%</td>
</tr>
</tbody>
</table>

Conclusions: In this large observational study, while HPR was associated with ST in a graded fashion, bleeding risk was confined to pts in the lowest PRU quintile (PRU<95). There was no demonstrable threshold effect for HPR and mortality, perhaps due to the offsetting impact of bleeding and ischemic outcomes.

TCT-153

Comparison of effect that ticagrelor and triple antplatelet therapy affect platelet reactivity

Seong IL Choe1, Jeung Hyeam Kim2, Soon-Gil Kim3, Jinho Shin4
1Hanyang University Kuri Hospital, Kuri City, Korea, Republic of, 2Hanyang University, Seoul, Korea, Republic of, 3Hanyang University Kuri Hospital, Kuri city, Korea, Republic of, 4Hanyang University, Seoul, Korea, Republic of

Background: High platelet reactivity (HPR) is associated with poor prognosis in coronary artery disease. Recently PLATO subgroup analysis showed that ticagrelor is better clinical outcome than clopidogrel, which was related with low HPR. Also many studies reported that adjunctive cilostazol to dual antplatelet therapy (DAPT) (so called triple antplatelet therapy; TAT) is better clinical outcome than DAPT, which was associated with a greater antiplatelet effect at 30 days. Thus, this study was designed to compare the effect of ticagrelor and TAT on platelet reactivity with PRU and ARU values.

Methods: This study was composed of total 65 patients underwent the coronary stenting. All patients received a 600-mg loading dose of clopidogrel or a 180-mg loading dose of ticagrelor and concomitant aspirin therapy.

Results: For 1 year. CCB were prescribed at the discretion of treating physicians.

Conclusions: The ticagrelor and TAT therapy had the lower PRU level than DAPT and especially, ticagrelor showed the lowest incidence of HPR. This indicates that ticagrelor is more effective in HPR treatment than TAT.

TCT-154

Platelet inhibition after a loading dose of three different antplatelet drugs in patients with STEMI/NSTEMI: Comparison between a loading dose of Prasugrel, Ticagrelor and Clopidogrel

PrATICO LD Study

Alessio Mattesini1, Rossella Marucci2, Marco Chiostri3, Mary Zucchini1, Giora Weisz1, Ajay J. Kirtane2, Rosanna Abbate1, Gian Franco Gensini1, Serafina Valente1, Ernesto L. Mazzaferri13, Helen Furtace2, Rosana Mehran14, Gregg Stone12, Benjamin Franklin, Berlin, Germany, 12LeBauer CV Research Foundation, Greensboro, NC, 13Charité Campus Benjamin Franklin, Berlin, Germany, 14Associate Professor of Medicine, UNC Chapel Hill, Charlotte, NC, 15Universitäts-Herzzentrum Freiburg - Bad Krozingen, Bad Krozingen, Germany, 16Wellmont CVA Heart Institute, Kingstown, TN, 17Minneapolis Heart Institute Foundation at Abbott Northwestern Hospital, Minneapolis, United States, 18Lehigh Valley Health Network, Allentown, PA, 19Pinehurst Cardiology, Pinehurst, NC, 20LeBauer CV Research Foundation, Greensboro, NC, 21Ohio State University, Dublin, OH, 22Cardiovascular Research Foundation, New York, New York, 23Mount Sinai Hospital, New York, NY, 24Columbia University Medical Center and the Cardiovascular Research Foundation, New York, United States

Background: In patients undergoing PCI for STEMI/NSTEMI, a loading dose (LD) of the new potent P2Y12 inhibitors, thanks to their early onset of platelet inhibition, can be administered immediately after the diagnostic coronary angiography. However, there are no data about the level of platelet inhibition they provide during and immediately after the PCI with this timing of administration. We sought to assess and compare the action of prasugrel, ticagrelor and clopidogrel during and immediately after the PCI with this timing of administration.

Methods: Seventy-two patients with STEMI/NSTEMI undergoing urgent PCI with bare metal coronary stent implantation were randomized after the routine coronary angiogram to receive 60 mg prasugrel LD (n=24) or ticagrelor 180 mg (n=24) or clopidogrel 600 mg (n=24).

Results: Platelet reactivity analyses (PRU) 30 min after the LD were 305 (±70), 286 (±59) and 280 (±70) in the prasugrel, ticagrelor and clopidogrel group, respectively (p=NS). PRU 120 min after the LD were 220 (±100), 210 (±88) and 163 (±101), respectively (overall p<0.1). At 120 min PRU post hoc analysis only clopidogrel Vs ticagrelor were significantly different (p=0.03). Furthermore, residual high platelet reactivity (HRPR) (PRU>240) was found in 52%, 28% and 58% of patients in the prasugrel, ticagrelor and clopidogrel group, respectively (p=0.12). No case of HRPR (defined as LTA assessed residual platelet activity >65%) were found in the prasugrel and ticagrelor group while 55% of patients showed HRPR in the clopidogrel group (p=0.01). At multivariate analysis no independent predictors of HRPR at 120 min were found.

Conclusions: None of the drugs studied achieved an effective platelet inhibition during the PCI when administered immediately after the coronary angiogram in patients with STEMI/NSTEMI. At 120 min only ticagrelor achieved a significantly higher inhibition of platelet reactivity when compared to clopidogrel. A high percentage of HRPR both at 30 min and 120 min was present in all groups.