CONCLUSIONS PMI may not be associated with increased cardiac mortality after coronary revascularization in patients with stable CTO.

CATEGORIES CORONARY: PCI Outcomes

KEYWORDS Chronic total occlusion, Peri-procedural MI, Revascularization

TCT-462 Utility of the Syntax Score in Long-Term Outcomes after Newer-Generation Drug Eluting Stents in a Real-World Hiroyuki Jinnouchi,1 Shoichi Kuramitsu,2 Yohei Kobayashi,2 Takashi Hironoma,3 Takashi Morinaga,3 Kenji Ando3 1Kokura Memorial Hospital, Kitakyusyu, Fukuoka; 2Kokura Memorial Hospital, Kitakyusyu, Japan

BACKGROUND The ability of the SYNTAX score (SS) for long-term outcomes after newer-generation drug eluting stents (DES) has not been fully investigated. The aim of this study was to investigate the ability of the SS for long-term outcomes of patients treated with newer-generation DES.

METHODS The SS was collected consecutive 2247 patients treated with only newer-generation DES. Post hoc analysis was performed by stratifying clinical outcomes at 3-year follow-up, according to one of three SS tertiles. Tertiles for SS were defined as low-SS < 8 (n=734), 8 ≤ mid-SS < 15 (n=681), high-SS ≥15 (n=832).

RESULTS Clinical follow-up information at 3-year was obtained as cardiac death, myocardial infarction (MI), and clinically-major adverse cardiac and cerebrovascular event; PMI was peri-procedural MI. Adjusted covariates include LVEF (%), bridge collaterals, and multivessel disease.

<table>
<thead>
<tr>
<th>Total population (n=2247)</th>
<th>No PMI</th>
<th>PMI</th>
<th>Unadjusted HR (95% CI) p value</th>
<th>Adjusted HR (95% CI) p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac death</td>
<td>35 (4.3)</td>
<td>5 (4.2)</td>
<td>1.02 (0.40-2.61) 0.96</td>
<td>0.57 (0.20-1.62) 0.29</td>
</tr>
<tr>
<td>All-cause death</td>
<td>76 (8.4)</td>
<td>14 (11.9)</td>
<td>1.30 (0.73-2.29) 0.37</td>
<td>0.95 (0.52-1.70) 0.86</td>
</tr>
<tr>
<td>Spontaneous MI</td>
<td>3 (0.4)</td>
<td>3 (2.5)</td>
<td>7.14 (1.44-35.38) 0.02</td>
<td>4.76 (0.95-23.07) 0.06</td>
</tr>
<tr>
<td>Cardiac death or MI</td>
<td>35 (4.3)</td>
<td>7 (5.3)</td>
<td>1.45 (0.64-3.27) 0.37</td>
<td>0.90 (0.37-2.15) 0.81</td>
</tr>
<tr>
<td>CVA</td>
<td>40 (4.9)</td>
<td>6 (5.1)</td>
<td>1.08 (0.46-2.54) 0.87</td>
<td>0.63 (0.25-1.60) 0.33</td>
</tr>
<tr>
<td>Repeat revascularization</td>
<td>69 (8.5)</td>
<td>7 (5.9)</td>
<td>0.73 (0.33-1.58) 0.42</td>
<td>0.62 (0.27-1.44) 0.26</td>
</tr>
<tr>
<td>MACCE</td>
<td>158 (19.5)</td>
<td>26 (22.0)</td>
<td>1.19 (0.78-1.80) 0.42</td>
<td>0.97 (0.63-1.49) 0.88</td>
</tr>
</tbody>
</table>

CONCLUSIONS The SS was applicable to unrestricted use of newer-generation DES in predicting the risk of long-term outcomes. The SS is a useful angiographic predictive tool after newer-generation DES.

CATEGORIES CORONARY: PCI Outcomes

KEYWORDS DES, PCI, Syntax score

TCT-463 Percutaneous Coronary Intervention Versus Coronary Artery Bypass Grafting In Left Main Coronary Artery Disease: Long-Term Follow-Up Meta-Analysis Of 6156 Patients Akash Garg,1 Marco G. Mennuni,2 Kleanthis Theodoropoulos,3 Abhishek Sharma,4 John Kostis,5 Giulio G. Stefanini6 1Saint Peter's University Hospital/Rutgers- RWJMS, New Brunswick, NJ; 2Humanitas Research Hospital, Rozzano, Milan, Italy; 3James J Peters VA Hospital/Icahn school of medicine at Mount Sinai, Bronx, NY; 4SUNY Downstate University, Brooklyn, NY; 5CVI & RWJMS, UMDNJ, New Brunswick, NJ

BACKGROUND Coronary artery bypass grafting (CABG) has long been the preferred revascularization approach in patients with left main (LM) disease. However, evolving percutaneous coronary intervention (PCI) techniques with DES implantation have shown comparable short-term efficacy and safety during the last decade. Concurrently, ACC/AHA guidelines have made a Class IIa recommendation for PCI in patients with LM stenosis and favorable anatomy. However, concerns persist regarding long-term prognosis of PCI with DES in high risk LM disease. Therefore, we aimed to investigate the cumulative evidence for long-term outcomes of PCI with DES versus CABG in patients with LM stenosis

METHODS A systematic review of randomized control trials and observational studies in MEDLINE, EMBASE, EBSCO, CINAHL, Web of Science and Cochrane databases comparing PCI with DES to CABG for LM disease was performed. Only studies with a median follow-up of at least 4 years were included. Pre-specified outcomes of interest were all-cause mortality, cardiovascular mortality, myocardial infarction (MI), stroke, and repeat revascularization. Random-effects meta-analyses were performed, using risk ratios as the metric of choice.

RESULTS Nine studies comprising two RCTs and seven observational studies, with a total of 6156 patients were included. Median duration of follow-up was 56 months. Overall, there were no significant differences between PCI with DES and CABG in terms of all-cause mortality [RR 0.81, 95% CI 0.63-1.04; I2=66.8%] and cardiovascular mortality [RR 0.92, 95% CI 0.54-1.58; I2=72.1%]. Compared with CABG, PCI was associated with a significant increase in the risk of MI [RR 1.59, 95% CI 1.07-2.36; I2=38.2%] and repeat revascularization [RR 2.68, 95% CI 1.98-3.62; I2=70%]. Whereas, a numerically lower risk of stroke with PCI as compared to CABG [RR 0.59, 95% CI 0.31-1.13; I2=51.3%] was observed. The results were consistent between RCTs and observational studies for each outcome.
CONCLUSIONS The findings of this meta-analysis suggest that for the treatment of LM disease, PCI with DES and CABG have comparable mortality (all cause and cardiovascular) during long-term follow-up. PCI with DES appears to be associated with increased risks of MI and repeat revascularization.

CATEGORIES CORONARY: PCI Outcomes
KEYWORDS PCI outcomes

TCT-464 Long-Term Mortality Of Percutaneous Coronary Intervention With Drug-Eluting Stents Compared To Bypass Surgery In Patients With Left Main Disease Stratified By The SYNTAX Score: Comprehensive Systematic Review And Meta-Analysis Of 3372 Patients

Kleantthis Theodoropoulos,1 Marco G. Mennuni,2 Aakash Garg,3 Review And Meta-Analysis Of 3372 Patients

BACKGROUND According to the most recent guidelines, percutaneous coronary intervention (PCI) with drug eluting stents (DES) should be considered safe and effective alternative to coronary artery bypass grafting (CABG) for the treatment of left main (LM) disease in patients with favorable anatomy (SYNTAX score ≤32). Conversely in those with more complex coronary disease (SYNTAX >32) CABG is favored mainly due to lower rates of revascularization and myocardial infarction. However, whether the latter is translated into long-term mortality benefit it is not clear and merits further investigation.

METHODS A systematic review of the MEDLINE, EMBASE, EBSCO, CINAHL, Web of Science and COCHRANE databases was conducted in May 2015. Studies reporting long-term outcomes (at least 4 years) were included. Of the included 402 cases, average age was 70.4 ± 11.2, 91.8% were ST elevated myocardial infarction and 55.7% were male. 81.3% of death occurred during the first week after the emergency procedure.

RESULTS The study included 19905 acute myocardial infarction patients (attack to visiting time <72h) of 52 centers in Beijing area from Jan, 2010 to Dec 31, 2013. Total in-hospital mortality was 2.30% (total 458 dead cases, 56 cases excluded). Of the included 402 cases, average age was 70.4±11.2, 91.8% were ST elevated myocardial infarction and 55.7% were male. 81.3% of death occurred during the first week after the emergency procedure. 58.5% had anterior wall involved, and 41.5% located in inferior, posterior wall or right ventricle. Average attack to visiting time was 7 hour 32 minutes. Of all causes of death, the severity itself (178, 69.2%) were the primary factors, including cardiogenic shock (464, 36.3%), mechanical complications (113, 28.1%), and others (19, 4.7%); Followed by the procedure factors, including early stent thrombosis (36, 9.0%), no reflow (30, 7.5%), acute thrombosis or embolism(6, 1.5%), perforation or dissection (4, 1.0%), retroperitoneal hematoma(3, 0.7%) and acute side branch closure(2, 0.5%); The third was the comorbidity factors (29, 7.2%), including septic shock(11, 2.7%), cerebral infarction(10, 2.5%), pulmonary embolism(5,1.2%) and multiple organ failure(3, 0.7%); The last was medicine factors (14, 3.5%), including intracranial hemorrhage(8, 2.0%), massive gastrointestinal hemorrhage(5, 1.2%) and anaphylactic shock (1, 0.2%). 47.3% (190) of the dead cases had some sort of medical defects, including gastrointestinal hemorrhage(5, 1.2%) and anaphylactic shock (1, 0.2%).

CONCLUSIONS Patients with LM disease appear to have similar risks of mortality after PCI with DES or CABG regardless of coronary artery disease burden or complexity during long term follow up.