POSTERS

TCT-672

Impact of Angiographical Lesion Complexity Score and In-Hospital Outcome after Percutaneous Coronary Intervention: Analysis from Japanese Multicenter Registry

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Background: Although the applicability of percutaneous coronary intervention (PCI) to patients with coronary artery disease (CAD) continues to expand, lesion complexity is associated with high risk of in-hospital complication. We sought to generate modern PCI scoring system based on angiographical lesion complexity and assess its effect on in-hospital compilations for precise risk prediction.
Methods: Data from 3692 PCI patients from September 2008 to August 2011 at 16 hospitals was analyzed. Patients were scored based on lesion complexity defined by bifurcation, chronic total occlusion (CTO), type C, and left main lesion, along with presence of acute thrombus in ST-segment elevation myocardial infarction (STEMI) presentation (1 point for each variable).
Results: In this cohort, the mean age was 67.49±10.76 years and 79.5% were male. About half of the patients (1857, 50.3%) presented with acute coronary syndrome (ACS) and 2218 (60.1%) underwent PCI for at least one of the complex lesions. The patients in higher risk score groups were older ($p<0.001$). Importantly, patients with higher risk score group had significantly higher in-hospital event rate for death, heart failure and cardiogenic shock (from 0 to 4 risk score; 1.7%, 4.5%, 6.3%, 7.1%, 40%, $p<0.001$), bleeding (2.5%, 3.4%, 6.8%, 6.6%, 20%, $p<0.001$), post operative myocardial infarction (1.5%, 3.1%, 3.8%, 3.8%, 10%, $p=0.04$) and reduced- or no-reflow pattern after PCI (2.0%, 4.5%, 7.4%, 7.1%, 20%, $p<0.001$). Notably, the complexity scoring system was associated with adverse outcomes after adjustment for known clinical predictors (OR 1.72; $p<0.001$).
Conclusions: The complexity score was cumulatively associated with in-hospital complication rate and may be used for event prediction in PCI patients. The operator need to special attention to perform successful PCI for these complex lesions.

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Drug-eluting stents versus bare metal stents for saphenous vein graft lesions: meta-analysis of randomized trials

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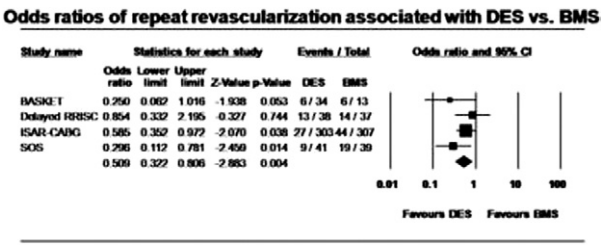
Background: Percutaneous coronary interventions in saphenous vein graft lesions are associated with less favorable outcomes. Drug-eluting stents have been shown superior to bare metal stents in many patients and lesion subsets. Evidence from studies evaluating drug-eluting stents in saphenous vein graft lesions has been conflicting.
Methods: We performed e meta-analysis of randomized trials comparing drug-eluting stents (DES) with bare metal stents (BMS) in patients undergoing stent implantation in saphenous vein graft lesions. Four trials with a total population of 812 patients were identified: 416 were treated with DES and 396 were treated with BMS. Clinical follow-up varied from 12 to 36 months. Primary end point was need for repeat revascularization. Other endpoints were mortality, myocardial infarction and stent thrombosis.
Results: Patients undergoing implantation of DES had lower odds of requiring repeat revascularization procedures (OR 0.51, 95% CI: 0.32 to 0.81, $p=0.004$). On the other hand, there were no differences between patients treated with DES vs. BMS regarding the odds of death (OR 0.1.44, 95% CI: 0.38 to 5.46), myocardial infarction (OR 0.81, 95% CI: 0.26 to 2.52) and stent thrombosis (OR 0.73, 95% CI: 0.11 to 4.83).
Conclusions: In patients undergoing stenting in saphenous vein graft lesions, DES reduce the need for repeat revascularization procedures while maintaining a comparable safety profile with BMS.



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Implication of peri-procedural biomarker elevation after stent implantation: analysis from the pooled XIENCE V trials

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Background: The clinical relevance of biomarker elevation after PCI with contemporary stents is controversial. We therefore examined the 2-year rates of mortality after stenting from a large pooled experience with the Xience V everolimus-eluting stent (EES) in randomized trials and registry studies.
Methods: All EES studies were included from which biomarker data (either troponin or CKMB) were collected routinely within 48 hours post-PCI normalized to the local hospital reference. Two-year mortality was examined according to peak post-PCI biomarker.
Results: From the SPIRIT III, SPIRIT IV, XIENCE V USA, XIENCE V India, SPIRIT V Registry and SPIRIT Women Registry (N=14897), post-PCI CKMB and/or troponin data were available in 8,491 and 3,788 pts respectively. Any post-PCI CKMB or troponin elevation > the upper limits of normal (ULN) occurred in 24.2% and 42.7% of pts respectively. In the 2 cohorts mortality at 2 years occurred in 245 (2.9%) and 129 (3.4%) of pts respectively. There was no relationship between any level of CK-MB or troponin elevation and 2-year mortality (Table). Among the CK-MB cohort, by protocol definition a peri-procedural Q-wave MI infarction was diagnosed in 19 pts, whereas a non-Q-wave MI occurred in 209 pts with elevated CKMB level (>1x normal). Mortality at 2 years was markedly increased in pts with Q-wave compared to non-Q-wave MI (21.1% vs. 4.8% respectively, $p=0.02$).
Conclusions: In this large experience with DES implantation, peri-procedural biomarker elevation was common after stent implantation but was not associated with 2-year mortality, unless a new Q-wave MI developed.

Bifurcation Stenting

Hall D

Tuesday, October 23, 2012, 8:00 AM–10:00 AM

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TCT-675

Prolonged ischemia, detected by intracoronary electrocardiography, after coronary bifurcation stenting predicts adverse events during mid-term follow-up

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Background: There is uncertainty about influence of periprocedural ischemia and myonecrosis on long-term results of coronary artery bifurcation stenting (PCI). The aim of the study is to explore the influence of end-procedural ischemia (detected with intracoronary electrocardiography (icECG)) and post-procedural myonecrosis (troponin and CK-MB elevation) on revascularization rates (TLR) and cumulative MACEs at 9-12 months after PCI.
Methods: After placement of intracoronary guidewires in main branch (MB) and side branch (SB) an uninsulated proximal ends of wires were connected to unipolar V leads. Intracoronary unipolar ECGs (icECG) were recorded before, during and after stent placement and at the end of procedure. The maximal ST-segment elevation during intervention and 5 min after the procedure was recorded in SB and MB. The patient population consists from 86 patients with stable/unstable angina. Provisional T-stenting was a default strategy.
Results: 67 patients were followed for more than 9 month. 72% were males, age 66±8, diabetics 34%; 43% had previous myocardial infarction, 41% previous PCI. 58% had multivessel disease. The main treated vessel was LAD (72%). True bifurcation lesions (Medina xx1) were 58%. On icECG the maximal ST-segment elevation was 12±9 mm in MB and 8±7 mm in SB ($p=.044$). At the end procedure 44 patients had residual ST-segment changes (66%): 7(13%) SB only, 11(21%) MB only, 16(27%) in both, 8(12%) ST depression in SB or MB, 1(1.5%) was with SB ST-depression and MB ST-elevation, 1(1.5%) with ST-depression in both branches. Changes on icECG have 78% sensitivity, 97% specificity for detection of post-procedural troponin elevation (32, 48%). At 10±4 months are presented in table.