

3-year MACE model Variable	HR (CI 95%)	1-year Angina model Variable	HR (CI 95%)
Age (50-59) vs (less than 50)	0.76 (0.45 - 1.28)	Age (per 10 years)	0.87 (0.75 - 1.00)
Age (60-69) vs (less than 50)	0.95 (0.58 - 1.56)		
Age (70 and above) vs (less than 50)	1.31 (0.79 - 2.17)		
Smoking	1.30 (1.00 - 1.68)	Male	0.78 (0.57 - 1.06)
History of myocardial infarction	1.43 (1.11 - 1.85)	Presentation as acute coronary syndrome	0.77 (0.57 - 1.02)
History of stroke	2.04 (1.29 - 3.22)	Hemoglobin (+1 g/dL)	0.94 (0.86 - 1.02)
On Insulin	1.63 (1.27 - 2.07)	Daily/Weekly angina at baseline vs (no angina)	3.11 (2.10 - 4.60)
eGFR (+10 mL/min per 1.73 m ²)	0.81 (0.76 - 0.87)	Monthly angina at baseline vs (no angina)	1.87 (1.26 - 2.78)
LVEF (<5%) (when PCI is performed)	1.15 (1.08 - 1.23)	SYNTAX SCORE (>22) (when PCI is performed)	1.25 (0.86 - 1.80)
LVEF (<5%) (when CABG is performed)	1.07 (1.00 - 1.16)		
SYNTAX SCORE (>22) (when PCI is performed)	1.41 (0.98 - 2.03)	SYNTAX SCORE (>22) (when CABG is performed)	0.69 (0.47 - 1.02)
SYNTAX SCORE (>22) (when CABG is performed)	0.88 (0.61 - 1.28)		

For the MACE model the variables included the following: age, sex, race, body mass index, smoking history, history of myocardial infarction, history of stroke, history of PCI, history of chronic obstructive lung disease, history of peripheral vascular disease, insulin use, reason for revascularization [acute coronary syndrome vs stable CAD], creatinine clearance, hemoglobin, LVEF, SYNTAX score and significant interaction terms (all above variables * treatment modality [PCI vs CABG] was tested). For the angina model, the variables included the following: age, sex, race, body mass index, smoking history, history of myocardial infarction, history of stroke, history of PCI, history of chronic obstructive lung disease, history of peripheral vascular disease, reason for revascularization [acute coronary syndrome vs stable CAD], creatinine clearance, hemoglobin, LVEF, SYNTAX score, baseline angina using SAQ Angina Frequency scale (categorized as daily/weekly, monthly and no angina), number of anti-anginal medications at baseline and significant interaction terms (all above variables * treatment modality [PCI vs CABG] was tested).

CONCLUSION We created a personalized risk prediction tool for patients with diabetes and multi-vessel CAD that could be used to help guide decision making for CABG vs PCI. These personalized decision making tools suggests that while CABG is preferred for the vast majority of patients, some diabetic patients may experience comparable outcomes with PCI.

CATEGORIES CORONARY: PCI Outcomes

TCT-669

A Prognostic Utility of Indoxyl Sulfate in Patients with Acute Coronary Syndrome



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BACKGROUND This study sought to evaluate if indoxyl sulfate (IS), a protein bound uremic toxin predicts prognosis after acute coronary syndrome (ACS).

METHODS We prospectively enrolled 98 patients who underwent primary percutaneous coronary intervention for ACS. Patients on hemodialysis were excluded. The endpoint of this study was 6-months composite events including death, non-fatal myocardial infarction, heart failure requiring hospitalization and major bleeding. The independent predictors were identified by a multivariate logistic regression analysis. The incremental prognostic value of biomarkers added to GRACE risk score was assessed by receiver operating characteristic (ROC), net reclassification improvement (NRI) and integrated discrimination improvement (IDI).

RESULTS Serum IS was significantly higher in subjects who developed composite events (0.06 vs 0.14 mg/dl, p<0.001). After adjustment by confounding factors, multivariate analysis found IS (OR:41.4, 95% CI:1.26-1360, p<0.05), hemoglobin (OR:0.52, 95% CI: 0.31-0.86, p<0.05), loop diuretics (OR: 67.6, 95% CI: 4.04-1130, p<0.01) and atrial fibrillation (OR: 23.4, 95% CI: 1.60-342.0, p<0.05) were independent predictive factors. Although neither IS nor hemoglobin was independently associated with the improvement of risk stratification, their combination significantly conferred an additive value to GRACE risk score for predicting the incidence of composite events (area under the curve :0.765 vs 0.841; Z = -2.1577, p-value = 0.03, NRI :0.8905; p< 0.001 and IDI 0.1958: p=0.02).

CONCLUSION IS was a prognostic factor after ACS. The Combination of IS and hemoglobin improved the risk stratification in addition to

GRACE risk score, suggesting IS may play an important role in the interaction between impaired renal function and anemia in patients with ACS.

CATEGORIES CORONARY: PCI Outcomes

TCT-670

Treating LAD Disease with a Long Stent may be Associated with Increased Cardiac Mortality Independent of Other Ischemic Events



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BACKGROUND Whether treatment of diffuse coronary artery disease with long stents has deleterious consequences independent of adverse events such as MI, stent thrombosis and restenosis is unknown.

METHODS We combined data from 19 large-scale randomized trials evaluating BMS or DES into a single pt-level database (n=25,032). After excluding pts presenting with STEMI, those undergoing multi-lesion treatment, and all those in whom a MI, stent thrombosis, or target lesion revascularization (TLR) occurred during 5-yr follow-up, 8,612 pts with a single treated lesion remained. Implanted total stent length was categorized as ≤25mm, 25-50mm, or >50mm, with ≤25mm used as the reference. The primary endpoint was cardiac death at 5 yrs; outcomes were adjusted for age, sex, diabetes, current smoking, hypertension, hyperlipidemia, prior CABG, prior PCI, prior MI, ACS presentation, and use of 2nd generation DES.

RESULTS 3,707 pts had a single treated LAD lesion and 4,905 pts had a single treated non-LAD lesion. A >50 mm long stent was implanted in 230 (6.2%) LAD lesions and 311 (6.3%) non-LAD lesions. 5-yr cardiac mortality in LAD-stented pts was 2.4% (stent length ≤25mm: 2.4%; 25-50mm: 1.8%; >50mm: 4.6%, p=0.10). 5-yr cardiac mortality in pts with a non-LAD stent was 3.1% (≤25mm: 3.2%; 25-50mm: 2.8%; >50mm: 3.3%, p=0.50). By multivariable analysis a >50mm long stent in an LAD (but not in a non-LAD location) was an independent predictor for cardiac death at 5 yrs (Table).

Covariate	LAD (n=3707)		Non-LAD (n=4905)	
	HR (95% CI)	p-value	HR (95% CI)	p-value
Stent length				
25-50mm vs ≤25mm	0.92 (0.51, 1.67)	0.78	0.92 (0.59, 1.42)	0.69
>50mm vs ≤25mm	2.28 (1.04, 5.01)	0.04	1.42 (0.72, 2.78)	0.31
Age (per 10 yrs)	2.16 (1.64, 2.83)	<0.0001	1.80 (1.46, 2.21)	<0.0001
Diabetes	2.11 (1.20, 3.71)	0.01	1.89 (1.22, 2.92)	0.004
Current smoking	2.03 (1.10, 3.75)	0.02	1.42 (0.88, 2.26)	0.15
Prior CABG	2.25 (1.03, 4.90)	0.04	1.08 (0.60, 1.92)	0.80
Prior MI	1.74 (0.99, 3.04)	0.05	1.60 (1.06, 2.41)	0.03

CONCLUSION Implanting a long stent (>50mm) in the LAD may be associated with increased mortality at 5 yrs, even in pts without clinically evident myonecrosis, stent thrombosis or TLR. Further studies are required to confirm and evaluate the mechanism of this observation.

CATEGORIES CORONARY: PCI Outcomes

TCT-671

Clinical impact of periprocedural myocardial infarction according to various definitions in patients underwent percutaneous coronary intervention with drug eluting stent



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