Title

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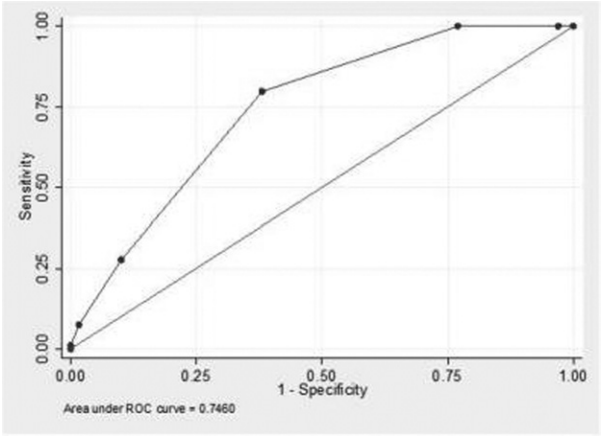

Conclusions: BLEEDRS – an adapted simplification of HASBLED score predicts major bleeding events after PCI.

TCT-555

Release of Bioactive Lipids During Percutaneous Coronary, and Peripheral Arterial Interventions in Humans: Lipidomic analysis of Distal Embolic Protection Devices

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Background: Oxidation of lipoproteins generates multiple bioactive oxidized lipids that affect atherothrombosis and endothelial dysfunction, but direct evidence of their role during therapeutic procedures is lacking. Liberated oxidized lipids may result in no-reflow phenomenon, myocardial infarction and stroke. To assess whether oxidized vasoactive lipids are released downstream from atherosclerotic plaques following percutaneous coronary and peripheral interventions we undertook a lipidomic analysis of material recovered from distal embolic protection devices from different vascular beds.
Methods: The presence of specific oxidized lipids was assessed in embolized material captured by distal embolic protection devices during saphenous vein graft, carotid, renal, and superficial femoral artery interventions. Following lipid extraction, specific oxidized phospholipids (OxPL) and cholesterol esters (OxCE) were quantified in 12 filters using liquid chromatography, tandem mass spectrometry.
Results: Phosphatidylcholine (PC) containing OxPL, including 1-palmitoyl-2-(5-oxovaleroyl)-sn-glycero-3-phosphocholine (POVPC), C9 aldehyde PC, E2 and F2 isoprostane PC, and hydroperoxy PC were identified in the extracted lipid portion. The major oxidized PC by mass was the C9 aldehyde PC, representing 38% of all oxidized PL. Several species of OxCE, such as aldehyde, hydroperoxide, oxide and epoxy cholesterol ester derivatives from cholesteryl linoleate and cholesteryl arachidonate, were also present. The pattern of OxPL and OxCE within filters correlated well with molecules found in various forms of oxidized LDL and did not differ significantly in different vascular beds. The presence of OxPL was also confirmed using ELISA and immunohistochemistry.
Conclusions: This is the first documentation of the presence and direct release of oxidized lipids from atherosclerotic plaques during percutaneous interventions from multiple vascular beds in humans. The release of such oxidized lipids into the microcirculation may mediate some of the adverse clinical outcomes that result during these intravascular interventions.

TCT-556

The Incidence and outcome of devices "stuck" in the coronary artery during percutaneous coronary intervention - A Toyohashi Experience -

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Background: An intra-coronary device becoming ″stuck″ is a very uncommon complication that may lead to tragic consequences such as occlusion of the artery and systemic embolism.
Methods: Of 14,198 lesions in 13,188 patients who underwent PCI between 1999 and 2011, 40 ″device stuck″ (0.28%) incidents occurred during PCI procedures. The incidence, outcomes and management of these ″device stuck″ occurrences were evaluated.
Results: The overall procedural success rate was 97.8% (13,884/14,198). The stuck devices included stents (n=20; 50%), wires (n=14; 35%), balloons (n=4; 10%), intra-vascular ultrasound (n=1; 2.5%), and rotablator burrs (n=1; 2.5%), respectively. Management of the complication and acute/long-term outcomes are shown in the table. Of 54 instances of ″device stuck,″ 15 (37.5%) were retrieved successfully, and 7 (18%) resulted in rupture and were left in the coronary artery. Thirty-seven patients recovered in the cath-lab and the rest (N=3) were referred to emergency CABG. At 1-year follow-up, all patients were alive, although the segment of the coronary artery where the ″device stuck″ occurred was occluded in 2 cases on agiographic findings.
Conclusions: Although the rate of this complication during PCI was very low, all cases were solved with optimal treatment and all patients survived at 1-year follow-up. A safe procedure with careful device manipulation should be required for PCI, with appropriate management leading to better outcomes.

Device stuck		N (total 40)	Treatment (N)		Angiographical Patency (N)	MACE (TVR, MI, Death)
Stent		20	Dilation of segment with stuck device (12)	Retrieve (8)	20 (100%)	3
Wire	Rota-wire	9	Observation (7)	Retrieve (2)	7 (78%)	3
	Conventional Wire	2	Stent deployed (2)		2 (100%)	0
	Guard wire	2	Retrieve (2)		2 (100%)	1
	Filter wire	1	Retrieve (1)		1 (100%)	0
Balloon		4	Emergency CABG (2)	Retrieve (2)	4 (100%)	0
IVUS		1	Emergency CABG (1)		1 (100%)	0
Rota-Burr		1	Stent deployed (1)		1 (100%)	0

Abbreviations: Rota : rotablator, MI: myocardial infarction; TVR: total vessel revascularization

TCT-557

The Risk of In-Hospital Bleeding and Long-Term Mortality in Patients with ST Elevation Myocardial Infarction Treated with Primary Percutaneous Coronary Intervention

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Background: Recent advances in antithrombotic therapy for STEMI are accompanied by an increased risk of bleeding. So far, the CRUSADE score for bleeding risk has only been validated in NSTEMI.
Methods: The risk of in-hospital major CRUSADE bleeding and 1-year mortality after primary PCI for STEMI was studied in consecutive patients who received upfront abciximab, periprocedural heparin and loading doses of aspirin and clopidogrel.
Results: In total, 965 STEMI patients (61±12 yrs, 76% men) were stratified according to the CRUSADE bleeding risk score (Table). Median CRUSADE score was 21 (14-29). Bleeding was common (21%) ranging from 11% in the very low risk group up to 69% in the very high risk group. Most common bleeding site was the femoral access site. In 3 patients, bleeding most likely led to death. Survival analysis demonstrated 1-year mortality rates of 9.2% in bleeders vs. 2.5% in non-bleeders (p<0.001, Figure). Assessment of the CRUSADE risk score by ROC curve resulted in an area under the curve of only 0.68 (0.64-0.73, p<0.001).

CRUSADE bleeding risk score	Non-bleeders	Bleeders
Very low risk	399 (88.9%)	50 (11.1%)
Low risk	230 (75.9%)	73 (24.1%)
Moderate risk	95 (69.3%)	42 (30.7%)
High risk	39 (65.0%)	21 (35.0%)
Very high risk	5 (31.3%)	11 (68.8%)
In-hospital major bleeding in CRUSADE bleeding risk score categories		

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