

**Stent Specific Temporal Pattern of Coverage and Malapposition as Detected by OCT**

Stent		Time (min)												
		-1m	1m	2m	3-5m	6-8m	9-11m	12-15m	16-20m	21-30m	31-40m	41-60m	61-60m	
BMS (%)	Unc	13.7	3.5		0.1	0.5	0.7	1.1	1.2				0.3	
	Mal	12.1	1.2		1.1	0.1		0.1	0.0				0.0	
DES (%)	Unc				4.9	4.8	4.8	6.5	3.1			10.8	1.0	
	Mal				2.5	1.8	1.3	1.0				13.8	0.7	
SES (%)	Unc				15.0	13.4	10.1	10.3	10.5	5.0	4.1	1.8	1.5	
	Mal				15.5	3.0	2.8	3.6	3.0	4.3	0.3	3.9	1.2	
ZES-E (%)	Unc	90.6	37.3	10.8	0.4	0.4	1.7	3.0	0.2	0.1				
	Mal	0.9	0.3	0.2	0.1	0.2	0.1	1.7	0.2					
ZES-R (%)	Unc				6.2	7.4		7.4						
	Mal				0.7	1.5		1.8						
EES (%)	Unc	62.5	62.6	21.5	3.6	4.9	2.2	0.4						
	Mal	0.5	1.0	0.8	1.0	1.3	0.6	0.1						

**TCT-848**

**Impact on Mortality of Non-Infarct Related Artery Coronary Chronic Total Occlusion in Patients Presenting With ST-Segment Elevation Myocardial Infarction: A Systematic Review and Meta-Analysis**

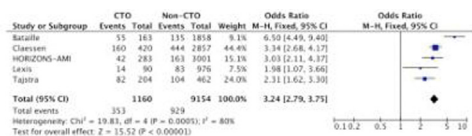
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**Background:** To evaluate the impact of the presence of a chronic total occlusion (CTO) on short and long term mortality after primary percutaneous coronary intervention (PPCI).

**Methods:** We performed MEDLINE, Cochrane Controlled Trials Registry and EMBASE database searches for published articles using predefined terms. Studies that reported data on the incidence of all-cause mortality in STEMI patients with single- or multivessel disease (SVD, MVD) with and without CTO were included. Of the 189 studies identified, 5 articles met the inclusion criteria: 3 observational studies and 2 post-hoc analyses of randomized controlled trials (RCTs).

**Results:** A total of 10,314 patients were included in the meta-analysis with overall 1160 (11%) patients with CTO. The global analysis demonstrated that CTO was associated with an over 3-fold increased incidence of mortality at a median follow up of 36 months compared to patients non-CTO patients (30.4% vs 10.1% OR: 3.24; 95% confidence interval [CI]: 2.79 to 3.75; p 0.0001) (Figure). This finding was consistent in a sub-analysis of studies that reported 30-day follow up (17.6% vs 4.2 OR: 4.3; 95% CI: 3.4 to 5.4 p=0.001). Cardiac mortality and MACE were also higher in patients with CTO (14.7% vs 3.7% OR: 4.42; 95% confidence interval [CI]: 3.18 to 6.15; p <0.0001 and 33.5% vs 20.4% OR: 1.97; 95% confidence interval [CI]: 1.56 to 2.47; p <0.0001 respectively).

**Conclusions:** Coronary chronic total occlusion in the non-culprit artery in patients presenting with STEMI is associated with poor long-term mortality.



**TCT-849**

**Pre-Treatment With High Dose Statin Decreases Cardiovascular Events In Unstable Patients Undergoing Percutaneous Coronary Intervention: A Meta-Analysis Of Randomized Controlled Trials**

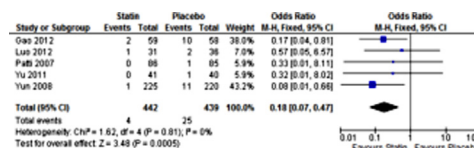
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**Background:** Statin loading prior to percutaneous coronary intervention (PCI) has been shown to decrease peri-procedural myocardial infarction but less is known regarding the clinical benefit of pre-procedural statin loading. We aimed to investigate this hypothesis in stable patients and among patients with Non ST elevation acute coronary syndromes(NSTE-ACS).

**Methods:** We performed a PubMed and Scopus databases search from 1966 through March 2013 of trials of stable patients and patients with NSTE-ACS treated with high dose statins prior to PCI. We evaluated the incidence of major cardiac events including death, spontaneous MI, target vessel revascularization and stent thrombosis. We used fixed effect analysis when the I2 was up to 40% and the P at least 0.10, otherwise we used random effect.

**Results:** Out of 1188 articles, 15 randomized controlled trials were included in this meta-analysis. Among 3529 patients, 1783 patients were randomized to a loading dose of statin pre PCI and 1746 patients were given statin therapy initiated only after the PCI. There was a 43% reduction in clinical events in followup in the group of patients treated with pre-procedural statin loading, (OR: 0.57, 95%, 0.37-0.89, p=0.01) When stratified according to clinical presentation, this result was only significant for those patients with NSTE-ACS, (OR: 0.18, 95% CI 0.07-0.47, p=0.0005) (figure) and was not noted in the group of patients who underwent PCI for stable angina (OR: 1.0, 95% CI 0.58-1.72, p=NS)

**Conclusions:** Pre-treatment with high dose statins prior to PCI in patients with NSTE-ACS is associated with a major reduction in clinical events.



**TCT-850**

**Intravascular Ultrasound-Guided Versus Angiography-Guided Drug-Eluting Stent Implantation: Meta-analysis of 3 Randomized Trials and 14 Observational Studies Involving 26,503 Patients**

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**Methods:** An unadjusted random-effects meta-analysis was performed in 3 randomized and 14 observational studies involving 26,503 patients.

**Results:** IVUS-guided PCI was significantly associated with a longer and bigger stent implantation and a larger post procedure angiographic minimum lumen diameter (MLD). The mean difference was 0.18 mm (95% confidence interval [CI] 0.06 to 0.29, P=0.003), 0.29 mm (95% CI 0.20 to 0.39, P<0.001), 0.33 mm (95% CI 0.25 to 0.50, P<0.001) for stent length, stent diameter, and MLD, respectively. Regarding the clinical outcomes, IVUS-guided PCI was associated with a significantly lower risk of major adverse cardiac events (MACE) (odds ratio [OR] 0.79, 95% CI 0.67 to 0.94, P=0.007), death (OR 0.65, 95% CI 0.52 to 0.82, P<0.001), myocardial infarction (OR 0.55, 95% CI 0.40 to 0.74, P<0.001), repeat revascularization (OR 0.84, 95% CI 0.71 to 0.99, P=0.04), and stent thrombosis (OR 0.59, 95% CI 0.45 to 0.78, P<0.001).

**Conclusions:** IVUS-guided PCI was associated with lower risks of adverse clinical outcomes including the reduction of MACE, death, myocardial infarction, repeat revascularization, and stent thrombosis. This meta-analysis may encourage the use of IVUS for PCI in patients undergoing DES implantation.

**TCT-851**

**Outcomes with first- vs. second- generation drug-eluting stents in coronary chronic total occlusions (CTOs): systematic review and meta-analysis**

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**Background:** To perform a systematic review and meta-analysis of studies reporting outcomes after first- and second- generation drug-eluting stent (DES) implantation in chronic total occlusions (CTOs).

**Methods:** As of May 2013, 31 published studies reported outcomes after DES implantation in CTOs: 13 uncontrolled studies (3161 patients), 3 randomized (220 patients) and 10 non-randomized (2150 patients) comparative studies with bare-metal stents (BMS), and 2 non-randomized (685 patients) and 3 randomized (489 patients) comparative studies between first and second generation DES. Data were pooled using random-effects meta-analysis models.

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