Primary Angioplasty/Stenting
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TCT-143

The No Re-flow Phenomenon in Acute Myocardial After Coronary Angioplasty: Incidence, Predictive Factors and Outcomes

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Background: PCI is a consolidated therapeutic strategy for AMI treatment.
Methods: Since 2001 our province has had an operating network for AMI treatment based on primary PCI for all high-risk infarctions, treatimg 530 patients up to December 2005. Pre-treatment with abciximab was administrated either at admission for PCI (early administration) or immediately before the procedure in cath-lab. We retrospectively analysed the pre and post procedural ECGs at thirty minutes, comparing them with angiographic data. We obtained technically adequate angiograms to assess epicardial and myocardial perfusion rates in 530 patients. Outcomes were examined on the basis of post procedure myocardial blush being absent or minimal (grade 0/1,n = 126, 24%), reduced (grade 2, n = 54, 10%), or normal (grade 3, n = 350, 66%).
Results: MBG 0/1 patients had more diabetes compared with MBG 2 and 3 (24.4% vs 7.8% vs 11.9%, p = 0.002), more anterior infarcts (72.0% vs 37.9% vs 28.1%, p <0.0001), greater delay to mechanical reperfusion (symptom onset to first balloon,334 min vs 220 min vs139 min, p = 0.03), greater baseline mean leukocyte count (15790± 2794 *vs* 11680± 1890/mm^3 vs 9183± 583 p<0.0001), greater basiline CRP value (5± 2 *vs* 3± 9 vs 2± 4mg/dL; p<0.0001). Early administration of abciximab was of 28% in MBG 0/1 patients *vs* 38% vs 77% in MBG 2 and 3 (p<0.0001). Total intra-hospital mortality was 7% (37 pts) of which 20% (25 pts) in MBG 0/1 *vs* 14% (7 pts) in MBG 2 vs 1.4% in MBG 3 patients(p<0.0001). The correlation between MBG, TIMI flow and ST segment resolution showed that the final TIMI 3 flow was present in 30% of MBG 0/1 vs 95% and 97% in MBG 2-3 (p<0.0001). ST resolution was complete in 38% in MBG 0/1 vs 62% vs 67% of MBG 2-3 (p<0.0001). It was partial in 37% in MBG 0/1 vs 26% vs 25% in MBG 2-3 (p=0.14). It was absent in 24% in MBG 0/1 vs 9.5% vs 10% in MBG 2-3 (p<0.0001).
Conclusions: Our data show that 30% of patients with a TIMI 3 flow after primary PCI do not show signs of effective reperfusion and have a higher in-hospital mortality rate. Multivariate analysis showed that precoronary time and the phlogistic substrate are important independent predictors of no reflow. Pre-treatment with abciximab, expecially if early administrated, can prevent the no reflow.

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The Relation Between Coronary Calcification and Plaque Component for Patients with Acute Coronary Syndrome and Angina Pectoris: - An IVUS Radiofrequency Data (VH-IVUS) Analysis -

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Background: The relation between coronary calcification and plaque component for ACS and stable angina (AP) using IVUS radiofrequency data (Virtual Histology: VH-IVUS) has not been clarified.
Methods: In 189 consecutive patients, the culprit vessel was investigated through spectral analysis of VH-IVUS as well as gray scale. Diagnoses of cases were 51 ACS and 138 AP. In gray scale, average lumen, plaque and vessel area were calculated for entire lesion segment. In VH, absolute plaque value, relative component at pre-intervention and correlation among relative plaque component were measured within same segment.
Results: In gray scale, ACS lesions trended toward smaller average lumen area, plaque area and larger vessel area than AP lesions. In VH, there was no difference in any absolute plaque value between two groups. However, in relative component analysis, dense calcium and necrotic core were significantly larger in the ACS group. Dense calcium and necrotic core were modestly correlated for both groups(r=0.55 vs. 0.49, p<0.01 for ACS vs. AP). Additionally, ACS group showed closer inverse correlation with fibrous plaque than AP group (r=-0.83 vs. -0.52, p<0.01 for ACS vs. AP).

	ACS (n=51)	AP (n=138)	p
Gray Scale Analysis (mm^2)			
Lumen Area	5.1±1.4	5.4±1.8	0.09
Plaque Area	9.7±3.6	9.1±3.7	0.32
Vessel Area	14.9±4.3	14.3±4.2	0.20
VH-IVUS Analysis			
Average Absolute Plaque Value (mm^2)			
Fibrous	3.8±1.9	3.9±2.2	0.71
Fibrofatty	1.0±0.8	1.2±1.0	0.31
Dense calcium	0.4±0.3	0.3±0.4	0.13
Necrotic core	0.9±0.8	0.7±0.6	0.06
Average Relative Component (%)			
Fibrous	63.7±8.9	64.1±10.7	0.83
Fibrofatty	14.1±9.1	17.8±10.9	0.07
Dense calcium	7.8±6.7	5.1±5.0	0.03
Necrotic core	16.7±8.1	12.9±9.5	0.04

Conclusions: The mixture of dense calcium and necrotic core were frequent findings within ACS and AP lesions. The magnitude of dense calcium was inversely correlated with fibrous plaque, specifically in ACS lesions. These findings suggest the potential paradigm of atheromatous plaque rupture and/or erosion with healing and calcification.

TCT-145

Efficacy of Primary Percutaneous Coronary Intervention for Acute Myocardial Infarction Secondary to Acute Left Main Coronary Occlusion

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Background: There is a paucity of data on primary percutaneous intervention (PCI) in acute myocardial infarction (AMI) due to acute left main coronary occlusion (LMCO). We evaluated the efficacy of primary PCI for acute LMCO within our hospital which has no cardiothoracic surgical (CTS) support. To our knowledge this has not been previously described.
Methods: Twelve patients (11 male, 1 female), mean age 59.8 ± 12.6 years, who had acute PCI for AMI secondary to LMCO between January 2002 and May 2006, were identified. The electrocardiogram (EKG) in 5 patients showed pre-cordial ST elevation and in 7, generalized ST depression and ST elevation in AVR. The mean initial intra-aortic systolic pressure (SBP) was 44 ± 40 mmHg with 5 patients in pulseless electrical activity (PEA) or asystole. All patients had LMCO with distal flow of Thrombolysis in Myocardial Infarct (TIMI) 0 in 7 patients and TIMI 1 in 5 patients. Seven patients received a single stent, 3 had balloon angioplasty only and 2 received 2 or more stents. All patients required intra aortic ballon pump counterpulsation, inotropic support and mechanical ventilation during PCI. TIMI 2/3 flow was restored in 10 patients while 2 patients had TIMI 0/1 flow. Post-PCI SBP was 59 mmHg ± 41 mmHg. Five patients were transferred to a tertiary institute for further care after PCI.
Results: Of these, 2 patients underwent extracorporeal membrane oxygenation (ECMO), 1 both ECMO and bypass surgery, 1 died before ECMO initiation and 1 stabilized without further intervention. At 24 hours post-PCI, 6 (50%) patients survived and at 1 month, 3 (25%) survived, 2 of which were patients that were transferred. In multiple regression analysis, post-PCI SBP and

change in blood pressure (pre and post-procedural blood pressure) were predictive of 24 hours survival (adj R^2=0.60, p<0.01).
Conclusions: Mortality rates for patients presenting with acute LMCO and cardiogenic shock is high. Primary PCI may be a feasible revascularization strategy for LMCO or as a bridge to ECMO and/or bypass surgery, particularly in centers without on-site CTS support.

TCT-146

Acute Effects on Left Ventricular Pressure-Volume Relations During Ischemia with ST-elevation in Elective Angioplasty

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Background: The instantaneous effect of percutaneous coronary intervention (PCI) on left ventricular (LV) function (LVF) has been studied limitedly. Both echocardiographical and nuclear techniques are useful tools to assess LVF, but these techniques are not readily available in the catheterization lab. It would be interesting to know the acute LVF changes during ischemia in angioplasty, and whether the technique of pressure-volume (PV) loop measurements is useful for on-line measurements during PCI. Therefore, we studied the acute effects on LVF during ischemia by coronary occlusion, estimated by PV-loops.
Methods: Ten patients were studied (5 males, mean age 63±11 years), who underwent an elective PCI procedure of a stenosis of the left anterior descending (n=6) or right coronary artery (n=4). LV hemodynamics were continuously registered using a conductance catheter to measure LV pressure and volume. The measurements were performed before balloon coronary occlusion (BCO), during BCO until transmural ischemia with ST-elevation was achieved and after deflation. The LV ejection fraction decreased significantly during BCO (55±9% to 48±10%, p=0.004). End-systolic volume (67±35ml to 81±40ml, p=0.006) and end-diastolic volume (145±48ml to 157±53ml, p=0.002) increased with a concomitant increase in end-systolic pressure (132±26mm Hg to 145±22mm Hg, p=0.04) and end-diastolic pressure (12±4mm Hg to 20±7mm Hg, p=0.01).
Results: Diastolic function decreased, as indicated by a significantly increased Tau, the active relaxation time constant (34±4ms to 41±7ms, p=0.01). The dP/dt significantly decreased during BCO of the left anterior descending (1507±112mm Hg/s to 1341±78mm Hg/s, p<0.05).
Conclusions: On-line pressure-volume measurements in human subjects by conductance catheter showed that coronary occlusion directly increased LV volume and pressure. Furthermore, during coronary occlusion, LV ejection fraction, contractility and diastolic function decreased.

TCT-147

Feasibility of Percutaneous Interventions in Early Post Coronary Artery Bypass Graft Occlusion

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Background: With the advances in percutaneous interventions (PCI) for coronary artery disease (CAD) in experienced centers, only patients with complex coronary anatomy are generally referred for coronary artery bypass graft (CABG) surgery. Because of the complex anatomy, these patients have higher risk of early CABG occlusion. The feasibility of PCI in the treatment of early graft occlusion is not well established.
Methods: Retrospective chart review of patients presenting with recurrent ischemia within three months post CABG.
Results: Forty-six patients (average age 64.8+/- 10.4 years, 22 female, and 24 male), with one hundred and fifty-six (156) grafts (102 SVG, 40 left internal mammary artery (LIMA), 1 right internal mammary artery (RIMA) and 13 radial arteries), were identified. Three presented with ST segment elevation MI, 21 with non-ST segment elevation MI, 21 with unstable angina, and 1 with CHF. These patients presented within (46.2 +/- 22) days of CABG.
Sixty-three grafts were occluded (52 SVG, 6 LIMA, 1 RIMA and 4 radial arteries). Forty-six percent (29 grafts) of the grafts in 25 patients were not amenable to PCI. The other 54%(34 grafts) in 21 patients underwent successful PCIs; Seventeen PCIs were performed to native arteries, 13 to SVG's, 3 to radial artery, one to LIMA, and none to RIMA.
At one-year follow up, 6 of 21 patients in the PCI group were readmitted with ischemia; 5 vessels (15%) in 4 patients had restenosed. There were no deaths. In the group with no PCI, 12 of 25 patients were readmitted with ischemia with one death.
Conclusions: PCI for early post-CABG occlusion is feasible in 54% of target vessels. PCI was performed upon native vessels and occluded grafts with equal frequency. After initial PCI success, clinical target vessel restenosis rate is 15% at one-year follow-up.

TCT-148

Percutaneous Coronary Intervention for Acute Myocardial Infarction in the Elderly: Comparison on Clinical Outcome Between Younger Patients, Septuagenarians and Octogenarians: Multicenter Registry in Asia

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Background: Previous studies have suggested that the elderly patients have worse outcomes of percutaneous coronary interventions (PCI). However, contemporary outcomes of PCI in those patients with acute myocardial infarction (AMI) are still unclear.
Methods: We studied clinical, angiographical results of 430 consecutive octogenarians (mean age 84.6 years, 56.7% male), 672 septuagenarians (mean age 75.4 years, 64.0% male) and 2,100 younger patients (mean age 58.8 years, 74.0% male) undergoing emergent PCI for AMI from Apr. 1999 to Mar. 2004. The octogenarians had a higher incidence of cardiogenic shock and congestive heart failure.
Results: See table.

		Younger patients (<70 years)	Septuagenarians (70-79 years)	Octogenarians (≥80 years)	p
Number of patients		2,100	672	430	-
Clinical success (%)		98.5	96.7	94.2	NS
In-hospital	Cardiogenic shock (%)	8.0	9.8	16.7**	0.01
	Death (%)	0.6	1.9	4.9*	0.05
12-month	Re-infarction (%)	6.9	7.9	12.8*	0.05
	Re-heart failure (%)	8.0	7.9	14.0*	0.05
	Death (%)	0.2	0.7	3.5*	0.05
	TLR: re-PCI (%)	18.1	18.9	18.8	NS
Any events (%)		24.6	27.2	40.0*	0.05

Conclusions: In octogenarians, emergent PCI in patients with AMI can be performed with high success rate, albeit with high incidence of in-hospital and long-term mortality, and adverse clinical events.

TCT-149

Myocardial Ischemia Produces Detectable Temperature Changes in the Swine Myocardium

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Background: Myocardial ischemia is characterized by a mismatch between myocardial oxygen supply and demand, leading to complex mechanical, metabolic and electrophysiologic changes locally. However, the influence of ischemia on local myocardial temperature (T) is unknown. We sought to determine the effect of experimental coronary occlusion on myocardial T in a swine model of myocardial ischemia.
Methods: Five pigs (n=5) underwent standard median sternotomy. The pericardium was opened. Core body T was recorded with a right intraatrial probe. Myocardial T was measured by 23-gauge thermistor probes implanted approximately 4 mm intramyocardially (one-half the typical mural thickness) in the right ventricular outflow tract, anterior and posterolateral surfaces of the left ventricle, corresponding to the areas supplied by the right, left anterior descending (LAD) and left circumflex (LCX) coronary arteries respectively. T gradient between core body and separate intramyocardial temperatures, and standard 12-lead electrocardiographic monitoring were performed throughout the procedure. All data processing was performed by cardiac functional data software. After chest closure and equilibration, serial balloon occlusions, each lasting 1, 5 and 10 minutes were performed at 3 minute intervals in the proximal portions of the right, LAD and LCX coronary arteries.
Results: Nonischemic myocardial T was stable at a mean of 37.6°C with a standard deviation (SD) of ±0.05°C. In all five pigs, we observed a mean T gradient of 0.1°C after the 1 and 10 minute right and LCX coronary occlusions, with a SD of ±0.02°C. The mean T gradient was more pronounced (0.15°C) after the 5 minute LAD occlusion, with a SD of ±0.03°C. In all instances, a T gradient was observed within 1 minute of coronary occlusion ($p<0.01$). T gradients preceded electrocardiographic changes of ischemia by a mean duration of 2 minutes. No T gradient was observed in non-ischemic regions of the myocardium.
Conclusions: Experimental coronary occlusion produces a detectable temperature drop in the swine myocardium that precedes electrocardiographic changes. Myocardial temperature may serve as a novel marker for early deteciton of ischemia.

TCT-150

Impact of Early Abciximab Administration before Primary Percutaneous Coronary Interventions in Anterior Myocardial Infarction on Left Ventricular Function Assessed in Cardiac Magnetic Resonance at 1 Year Follow-Up

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Background: Early abciximab administration before primary percutaneous coronary intervention (PPCI) for ST-segment elevation myocardial infarction (STEMI) provides promising results. However, there is no data about impact of this strategy on left ventricular function in long term follow up.
Aim: To analyze the effect of early abciximab administration on left ventricular function assessed in cardiac magnetic resonance in patients with first anterior wall STEMI at 1 year follow up.
Methods: A total of 59 non-shock patients with STEMI <12h admitted to remote hospitals with anticipated delay to PPCI < 90 min were randomly assigned to two study groups - 27 patients received abciximab before transfer to cath lab (early=group EA) and 32 patients in cath lab immediately before PPCI (late=group LA). All patients received aspirin and heparin (70U/kg) before transfer to cath lab. Cardiac magnetic resonance sub-study (delayed enhancement infarct size, left ventricular function) was performed in 28 patients (14 patients in each study group) at 1 year.
Results: We have previously presented angiographic, ECG and echocardiographic results favoring EA group. Cardiac magnetic resonance revealed a significant difference in 1 year left ventricular end-systolic volume index ($p=0.003$), end-diastolic volume index ($p=0.009$) and in ejection fraction ($p<0.05$) favoring EA group. A trend towards a lower delayed enhancement infarct size ($p=0.2$) was also observed in EA group.
Conclusions: Early abciximab administration prior to transfer for PPCI in patients with first anterior wall STEMI results in lower degree of left ventricular remodeling and better ejection fraction at 1 year follow up compared to abciximab administration during PPCI.

TCT-151

Role of Distal Protection in Primary Angioplasty Among Different Subgroups

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Background: Several trials have failed to prove a beneficial role of the routine use of distal protection devices among patients with acute ST-segment elevation myocardial infarction (STEMI) undergoing angioplasty. The aim of this study was to determine the efficacy of distal protection during primary angioplasty (PCI) among different subgroups.
Methods: In the PREMIAR trial (Protection of Distal Embolization in High-Risk Patients with STEMI), 140 patients with STEMI within 12 hours of symptom onset at high-embolic risk (including only baseline TIMI 0-2-flow) were randomized to PCI with or without distal protection using the SpideRX, ev3.
Results: The primary endpoint was the rate of complete ST-segment resolution (>70%) at 60-minutes by the independent analysis of continuous monitoring.

Rate of Complete ST-Segment Resolution (>70%) at 60 minutes				
	Distal Protection(n = 70)	Control(n = 70)	Difference	p value
All patients (%)	61.2	60.3	0.9	0.91
LAD no-LAD	44.4 TCT-80.6	39.5 TCT-86.6	4.9 - 6	0.66 0.52
Male Female	57.9 TCT-80.0	59.6 TCT-62.5	-1.7 TCT-17.5	0.85 0.34
Time <150m Time >150m	57.6 TCT-65.6	64.5 TCT-58.8	-6.9 TCT-6.8	0.57 0.56
Diabetes non-Diabetes	46.1 TCT-64.8	50.0 TCT-62.9	-3.9 TCT-1.9	0.56 0.84
Thrombosis No-Thrombosis	60.0 TCT-100	59.6 TCT-83.3	0.4 TCT-16.7	0.96 0.53
TIMI 0/1 TIMI 2	63.4 TCT-50.0	63.3 TCT-55.5	0.1 -5.5	0.98 0.80
GPIIbIIIa No-GPIIbIIIa	81.3 TCT-54.9	60.0 TCT-60.4	21.3 - 5.5	0.19 0.57
Smokers No-Smokers	81.8 TCT-51.1	72.7 TCT-48.6	9.1 TCT-2.5	0.43 0.82

Conclusions: The adjunctive use of the SpideRX device during PCI in high-risk patients with STEMI does not result into an improvement in myocardial reperfusion. Furthermore, no subgroup was identified in which the ST-segment resolution was more profound with distal protection compared to the control group

TCT-152

Application of the CADILLAC Risk Core in the "Real-World" of Primary Angioplasty

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Background: Accurate risk stratification after primary percutaneous coronary intervention (PCI) is important. The CADILLAC risk score was developed using the database from the original randomized trial, but "real-world" unselected patient populations seem to differ from those enrolled in clinical trials. In fact, those studies seem to under-represent some of the most important sub-groups of patients, such as elderly patients or with renal failure. We sought to assess the applicability of the CADILLAC risk score in unselected patients population with AMI treated by primary PCI.
Methods: We used our clinical database consisting of all pts treated using emergent PCI for AMI between 1/2000 and 6/2005. Clinical, procedural and angiographic results and 30 days mortality were analyzed. The study group included 633 patients without cardiogenic shock treated using primary PCI within 12 h of onset of MI. The patients were grouped according to the CADILLAC risk score to low, intermediate ah high risk class. The CADILLAC risk score is calculated according to age, killip class, baseline anemia, renal insufficiency, triple vessel disease, and LVEF and post-PCI TIMI flow grade.
Results: Results distinguished by the CADILLAC score is shown in Table:

Risk Class	LOW	Intermediate	High	p-value
#pts	202	192	239	
Age	55±10	57±11	67±12	0.0001
Male	86%	84%	70%	0.001
GFR <GFR (<60 mL/min/1.73 m^2)	0%	10%	31%	0.0001
Ant AMI	35%	50%	64%	0.001
30 days death				
Expected	**0.1%**	**1.9%**	**8%**	
Found	**0.5%**	**1.04%**	**8.4%**	**0.001**

Conclusions: Our data suggest that in the setting of "real world" primary PCI for AMI the CADILLAC risk score can be used to predict one month mortality

TCT-153

Elective Stenting of Non-Infarct-Related Coronary Arteries Early After Primary Angioplasty in Patients Presenting with ST-Segment Elevation Myocardial Infarction and Multivessel Coronary Artery Disease: In-Hospital Outcomes and Medium-Term Follow Up

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Background: multivessel coronary artery disease (CAD) occurs in about 40-60% of patients with ST-segment elevation myocardial infarction (STEMI). According to current international guidelines, percutaneous coronary intervention (PCI) on non-infarct-related arteries (nIRAs) should not be performed at the time of primary PCI, but the optimal treatment strategy of nIRA disease after the acute phase remains controversial. Two options can be identified: performing staged, in-hospital PCI of the nIRA(s) or deferring the intervention looking for objective evidence of residual ischemia at follow up.
Methods: between January 2004 and April 2006 we performed staged, in-hospital PCI of the nIRA(s) in 56 patients presenting with STEMI and treated by primary PCI. We retrospectively evaluated the incidence of in-hospital and long term major adverse cardiovascular events (MACEs): death, myocardial infarction, re-hospitalization, target lesion revascularization (TLR).
Results: mean age was 64 ± 11 years, 82% were males. The STEMI was anterior in 43%, inferior in 48%, lateral or posterior in 9% of patients. All patients had multivessel CAD. Primary PCI was performed with stenting in 98% of cases and abciximab was used in 96%; angiographic success rate was 93%. After an interval of 6 ± 3 days, PCI of nIRA(s) was performed (single-vessel PCI in 91% of patients and multivessel PCI in 9%), with an overall rate of complete revascularization of 78%. In-hospital mortality was 0%; after the second procedure the incidence of peri-procedural myocardial infarction (CKMB >2x upper normal limit) was 22%. Clinical follow up (281 ± 222 days after discharge) was obtained in 96% of patients; the overall incidence of MACEs was 7% (1 death, 3 TLR).
Conclusions: Our data suggest that in-hospital, staged percutaneous revascularization of the nIRAs after primary PCI in patients presenting with STEMI and multivessel disease is a safe and effective strategy, with a low incidence of MACEs at follow up. Nevertheless, we observed a high incidence of peri-procedural myocardial necrosis after the second, elective procedure. Further studies are needed in order to clarify these findings and to define the best treatment strategy.

TCT-154

Primary Percutaneous Coronary Angioplasty in Elderly Patients

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Background: This study examines differences in presentation and outcome between elderly, very elderly and younger patients hospitalized for acute myocardial infarction (AMI). The elderly constitute an increasingly important sector of patients with AMI but have been underrepresented in many therapeutic trials. Current evidence suggests that primary percutaneous coronary intervention (PCI) in the setting of ST-segment elevation myocardial infarction (STEMI) reduces the incidence of death, myocardial infarction, or angina.
Methods: We complied a registry of 678 consecutive patients with STEMI. A group of 621 patients treated by primary PCI were analyzed.
Results: Early (30 days) and late (12 months) outcomes were evaluated in 3 age groups: < 65 years, 65 to 74 years and >75 years.

	Results			
	< 65 years (n = 391)	65 to 75 years (n = 161)	> 75 years (n = 69)	p
Age [years±SD]	53.5 ± 0.5	69.8 ± 0.8	77.9 ± 1.2	<0.001
Previous MI	15.4%	21.4%	25%	NS
Time from symptom onset [min±SD]	292 ± 16.7	284 ± 27	280.3 ± 42	NS
Killip Class [med±SD]	1.5 ± 0.07	1.7 ± 0.1	1.8 ± 0.2	NS
Shock	4.4%	5.4%	8.3%	0.01
Max CPK [U/l±SD]	2526.1 ± 178.3	1933.1 ± 227.8	1465 ± 435.2	0.03
30-days mortality	1.6%	3.7%	12.75%	< 0.01
1 year mortality	6.5%	8.6%	22.1%	< 0.01
1 year MACCE	27.4%	33.5%	42.1%	< 0.01

Conclusions: Our results suggest that primary PCI is safe and effective in elderly patients with STEMI. Despite comparable time from symptom onset to PCI, similar abciximab administration, smaller maximal marker level and risk factors characteristics the total mortality and MACCE increase with patient's age.

TCT-155

Right Ventricular Infarction in the Cath-Lab: Independent Risk Factor For Increased Mortality, Which May be Improved by "Complete Revascularization" of the Right Coronary Artery

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Background: Right ventricular (RV) involvement during acute inferior myocardial infarction (MI) is associated with increased early morbidity and mortality. With recent improvement in percutaneous coronary intervention (PCI) techniques it is unclear which factors may improve the outcomes of these patients. We sought to assess the prognostic significance of the presence of RV-MI in patients undergoing primary PCI and explore factors associated with improved outcomes using a large data base representing the "real-life" of patients with acute MI treated by primary PCI.
Methods: we analyzed our data base of acute MI patients undergoing primary PCI within 12 hours of chest pain between 1/2000 and 6/2005 excluding patients with cardiogenic shock.
Results: Of the 666 consecutive patients with MI fulfilling our inclusion criteria 329 had anterior wall MI, 264 inferior [230 inferior + 34 lateral] wall MI and 73 were found to have RV-MI. Mortality at hospital discharge, 30 days and 6 months was highest in patients with RV-MI involvement (5.5%, 9.6% and 12.3%, respectively) intermediate in patients anterior MI (2.4%, 4.6% and 7.3%, respectively), and lowest in patients without RV myocardial involvement (0.8%, 1.1% and 3%, respectively) [P<0.05 for hospital discharge and 30 days, p=0.1 for six months]. After adjustment for the CADILLAC score, odds ratio for 30 days morbidity was 5.2 [95% CI, 1.6-17; P=0.005) for patients with RV-MI vs. those without RV-MI. Within the group of patients with RV-MI, complete revascularization of the right coronary artery including the major RV branch was associated with improved 30 days mortality (OR =0.4; 95% CI: 0.1-1.05; P=0.06).
Conclusions: Right ventricular infarction is an independent risk factor for increased mortality even in these days of primary PCI. Complete revascularization including the restoration of blood flow into the right coronary artery including the major RV branch may improve clinical outcomes.

TCT-156

Impact of Renal Insufficiency in Patients Undergoing Primary Angioplasty for Acute Myocardial Infarction: Predictors of Increased Mortality

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Background: Renal failure portends a worsened prognosis for acute myocardial infarction [AMI] patients. Patients with chronic renal failure receive less aggressive treatment than patients with normal renal function. We analyzed the outcomes in AMI patients with renal failure disease treated by primary PCI, to determine factors associated with increased mortality risk.
Methods: This study included 558 consecutive AMI patients treated by primary PCI for the period of Jan-2001-Jun-2005. We compared results according to glomerular filtration rate (GFR). Serum creatinine concentration in mg/dL on first blood test performed before PCI. Patients were grouped as follows: normal (90 mL/min/1.73 m^2), mildly impaired (60-89 mL/min/1.73 m^2), and moderately to severely impaired GFR (<60 mL/min/1.73 m^2).
Results: There was a stepwise increase in mortality among patients with normal, mildly, and severely impaired renal function: 30 days mortality was 2.1% in the normal renal function, 3.7% mild, 8.2% moderate and 22.2% in the severely impaired renal function [p=0.004]. Seventeen out of the 324 with any degree of renal failure died within one month [5.3%]. Nine patients [53%] died due to cardiac cause. By univariate correlation factors associated with an increased risk of one month mortality included age>75year, LVEF<35%, lower GFR, killip class>1, two or three vessel coronary artery disease, failure to achieve TIMI flow 3 at the end of procedure, the occurrence of no-reflow phenomenon, the need of IABP, and if anti GP 2B/3A was not used. The amount of contrast media used during the procedure [mL/Kg] as well as renal function deterioration was associated with increased mortality.
Conclusions: Clinical and angiographic parameters routinely collected and readily available at baseline or procedural completion can be used to predict 30-day mortality. Our findings indicate that in the setting of contemporary catheter-based reperfusion therapy for AMI, the extent of coronary artery disease, failure to achieve final TIMI flow 3, amount of contrast media used during PCI and deterioration of renal function after the procedure is significant factors related to mortality.

TCT-157

Rescue PCI for Failed Thrombolysis: Findings from the National Registry of Myocardial Infarction

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Background: Approximately 30% of patients receiving thrombolytic therapy for acute STEMI fail to have clinical reperfusion. Previous randomized trials of rescue PCI for failed thrombolysis yielding conflicting results. The goal of this study was to evaluate the outcome of a heterogenous group of unselected patients undergoing rescue PCI in the community.
Methods: Among a total population of 25,158 patients with STEMI from the National Registry of Myocardial Infarction 5 database, 1,092 patients undergoing rescue PCI for failed thrombolysis were identified. Angiographic findings and in-hospital events of bleeding complications, recurrent angina or ischemia, recurrent MI, CHF, and death were evaluated. The effect of GPIIb/IIIa inhibitors on bleeding complications and clinical outcome was evaluated.
Results: Characteristics of patients receiving rescue PCI were 75% male, 48% hypertension, 14% previous MI, 14% previous PCI, 17% diabetes mellitus, 47% PAMI high risk, 56% TIMI high risk and 34% anterior MI. Symptom onset to rescue PCI (mean$\pm$standard deviation) was 7.3$\pm$7.8 hours. Initial angiographic findings were TIMI 0 grade flow in 44% and patency in 36%. Final angiographic findings were TIMI 3 grade flow in 94% and patency in 99%. For the entire cohort (n=1,092), bleeding complications requiring intervention occurred in 8%, transfusion 6.9%, recurrent angina or ischemia in 18%, recurrent MI in 4%, CHF in 10% and death 2.3%. The use of GPIIb/IIIa inhibitors was associated with significantly increased bleeding events requiring intervention, increased transfusions and no significant reduction in recurrent angina or ischemia, recurrent MI or death.
Conclusions: This large, observational study of contemporary rescue PCI for failed thrombolysis found high angiographic success, low in-hospital complications and an overall mortality of 2.3%. The use of GPIIb/IIIa inhibitors was associated with increased bleeding events without an improvement in clinical outcome.

TCT-158

Impact of Non-Culprit Chronic Total Occlusion on Treatment Strategy and Clinical Outcome in Patients with Non-ST segment Elevation Acute Coronary Syndrome

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Background: Treatment of chronic total occlusions (CTO) is a remaining problem especially in patients who require emergent revascularization. We investigated the prognostic significance of non-culprit CTO in patient who presents non-ST segment elevation acute coronary syndrome (NSTE-ACS).
Methods: A total of 293 patients with NSTE-ACS (Single vessel disease

(SVD) 134, / multi-vessel disease without CTO (MVD) 121, / multi-vessel disease with CTO in non-culprit vessel(s) (CTO) 38) who had been undergone emergent coronary angiography (CAG) and emergent revascularization between 2002 and 2005 were recruited. Those with left main trunk disease and history of bypass surgery (CABG) were excluded. In hospital clinical outcomes were then evaluated.
Results: Ejection fraction (EF) in CTO was significantly lower than in SVD (P<0.01) and MVD (P<0.05). The number of patients with CKMB elevation before CAG were significantly greater in CTO than in SVD (P<0.05). Furthermore, prevalence of additional CKMB elevation after revascularization procedure is significantly greater in CTO than SVD (P<0.01) and MVD (P<0.01). Ratio of CABG treatment was significantly greater in MVD-CTO compared with SVD or MVD. In-hospital mortality in MVD-CTO was also significantly higher than in SVD (P<0.05) or in MVD (P<0.05).

	SVD	MVD	CTO
EF	52.2±10.2	51.1±10.2	45.2±10.7
CKMB elevation before CAG (%)	28+	28+	45
CKMB elevation after procedure (%)	37*	37*	58
CABG (%)	0*	6*	37
In-hospital mortality	0.7*	1.7*	7.9
+P<0.05, *P<0.01 vs. CTO			

Conclusions: Non-culprit CTO in NSTE-ACS is associated with large amount of myocardial damage before or during revascularization and frequent abandonment of PCI. It also predicts poor in-hospital mortality.

TCT-159

The Efficacy Of Distal Protection Device on Ventricular Remodeling and Microvascular Obstruction in ST Elevation Acute Myocardial Infarction

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Background: This prospective randomized study was designed to validate the efficacy of Percusurge guardwire on infarct size, ventricular remodeling and micorvascular obstruction.
Methods: ST elevation acute myocardial infarction (STEMI) patients with onet time of 12hr were randomly assigned into Percusurge guardwire group (group P), no Percusurge guardwire group (group N). Primary PCI was performed with standard method. Drug eluting stents were implanted in all patients. Immediate after PCI, antegrade flow and myocardial perfusion were evaluated according to TIMI, TMP grading, respectively. QCA (quantitative coronary angiography) analysis, at the time of immediate post PCI and 6 months follow up, and clinical outcome during follow up period. Before the discharge, Cardiac MRI imagings were obtained, including adenosine, dobutamine stress imaging. Microvascular obstruction (MVO) was graded in perfusion imaging. Grade III means severe degree of MVO showing no evidence of microperfusion after 10 minutes of contrast injection.
Results: 63 patients were enrolled and among them, 34 patients including 2 mortality cased finished 6 months follow up. No difference was found in demographic characteristics and major risk factors.. stent was longer in group P (27.25±4.63mm vs 24.28mm, p=0.03) and similar in diameter (3.22±0.45mm vs 3.09±0.50mm, p=0.29). QCA analysis showed no difference in post PCI reference diameter, late loss (0.33mm vs 0.05mm, p=0.18), post PCI and follow up diameter stenosis (12.22±7.28m vs 11.03±6.17mm, p=0.48; 24±21% vs 14±20, p=0.13), restenosis rate (11% vs 21%, p=0.24) End systolic and end diastolic volume was smaller in group P, (52±14cc vs 75±34cc, p=0.05; 120±25cc vs 144±28cc, p=0.03) however it became similar at 6 months follow up. (53±21cc vs 66±48cc, p=0.46; 131±21cc vs 146±43, p=0.35). Echocardiographic and MRI ejection fraction had no difference both at baseline and 6 months follow up. TMP Grade III was 39% in group P, 29% in group N,(p=0.09) MVO Grade0/I was 27% in group P, 35% in group N immediately after PCI
Conclusions: Distal protection device seems not to have benefit for the prevention of coronary microembolization, ventricular remodeling and dysfunction.

TCT-160

Combined Interventional Therapy of Acute Myocardial Infarction Complicated with Ventricular Septum Rupture in 8 Patients

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Background: Ventricular septum rupture (VSR) is one of the most severe complications of acute myocardial infarction (AMI). Surgical closure of VSR is still unsatisfactory for a high in-hospital mortality rate of ≥50%. The aim of this study was to evaluate the feasibility, safety and efficacy of combined percutaneous coronary intervention (PCI) and transcatheter closure for treating patients with AMI complicated VSR.
Methods: Between February 2002 and October 2005, a total of 8 patients with AMI complicated VSR were treated with PCI and transcatheter closure. Among them, 6 were complicated acute left heart failure and were treated by adjunctive intra aortic balloon pump and intensive medicine. VSR was diagnosed by echocardiogram with diameters ranged from 5mm to 18mm (mean 11±6mm). The intervals between onset of AMI and interventional therapy ranged 3 days to 2 months (mean 24±18d).
Results: Successful transcatheter closures of VSR were achieved in 6 patients (75%) using Amplatzer occluder device. Other 2 patients were transferred to emergent coronary artery bypass and surgical closure after procedure failure. PCI were performed in all 6 patients 3 to 7 days after successful transcatheter closure of VSR. The PCI procedure success rate was 100%. Five out of 6 patients underwent successful combined interventions were survival at discharge with significantly improved heart function. One patient with triple coronary artery diseases and hypertension died 18 days after PCI due to stroke. After a mean period of 23 months (ranged 6 to 50 months) follow-up, left ventricular end-diastolic diameter of the 5 patients decreased from 61±5mm to 53±5mm (p<0.05) and left ventricular ejection fraction improved from 0.38±0.06 to 0.56 ±0.01 (p<0.05). No death or myocardial infarction occurred during follow-up period.
Conclusions: Combined PCI and transcatheter closure in treating patients with AMI complicated VSR is feasible, safe and efficient to achieve better long-term outcomes.

TCT-161

Meta-analysis of The Long Term Outcomes of Primary Percutaneous Coronary Intervention Versus Fibrinolytic Therapy for ST-Elevation Myocardial Infarction

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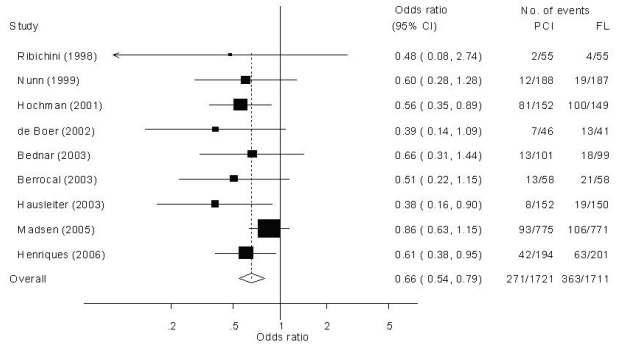
Background: Prior meta-analyses have documented the survival benefit of primary percutaneous coronary intervention (PCI) over fibrinloytics (FL) in ST-Elevation Myocardial Infarction (STEMI) up to 1 year. Whether these benefits are sustained in the long-term is unclear. We performed a meta-analysis of randomized controlled trials (RCT) directly comparing PCI vs. FL that reported mortality outcomes ≥ 1 year.
Methods: We identified RCT of PCI vs. FL involving STEMI patients through keyword search of MEDLINE, the Cochrane databases, and cited references. All-cause mortality and re-infarction outcomes were extracted as counts from the total study population.
Results: Nine trials met our inclusion criteria (Total number of patients=3432,

Median follow-up= 3 years, Range=1-8 years). Primary PCI was associated with a significant reduction in long-term mortality compared to FL (OR 0.66, 95% CI 0.54 to 0.79, p <0.0001, figure) and an even more significant reduction in non-fatal re-infarction (OR 0.46, 95% CI 0.32 to 0.64, p <0.0001). Tests for heterogeneity between included studies for both endpoints were not significant (I^2=5.1%, Heterogeneity χ^2 = 8.43, p=0.393). Using meta-regression, the length of follow-up did not affect the OR for mortality reduction in the PCI arm (p=0.722). No significant publication bias was detected using trim and fill method.



Conclusions: In patients presenting with STEMI, Primary PCI provides a sustained reduction in all-cause mortality and re-infarction over fibrinolytics.

TCT-162

Impact of Clinical Risk and Prehospital Delay on 1 year outcome in STEMI patients treated with reperfusion therapy in a context of interhospital network.

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Background: Prehospital delay and clinical risk are major predictors of outcome in STEMI pts treated with primary angioplasty (pPCI) or thrombolytic therapy (TT). The impact of prehospital delay-risk interaction to the effectiveness of pPCI in decreasing 1 year death/MI compared to TT is little known.
Methods: We analyzed the data of consecutive STEMI prospectically recordered over a 6-month period (Dec/2002-May/2003) in the VENEto acute myocardial infarction Registry (VENERE). The registry was shared by cardiology departments in Veneto region to assess the outcome of pts with STEMI as function of the therapeutic strategy applied. Data were managed according to the intention to treat principle.
TCT-999 STEMI pts with symptom onset < 12 hours were admitted to 28 participating hospitals: 860 were treated on site and 139 were transferred from the admitting hospital to and interventional center for pPCI.
Results: Overall, 81% of pts were treated with reperfusion therapy: 512 (median age 65 years, interquartile range [IQR] 54, 74 years) were treated with pPCI, 302 (median age 64 years, IQR 54, 75) with TT. The median TIMI risk index (heart rate x [age/10]^2/systolic blood pressure) was 25 in both pPCI and TT groups. High risk pts (TIMI risk index ≥30) were 28% in pPCI gruop and 25% in TT group.
Prehospital delay (Sx onset to hospital admission) was 90 (IQR 55, 180) in TT group and 97 (IQR 54, 185) in TT group (p 0.2). Median time from admission to needle was 31 (19, 57); median time from admission to balloon was 71 (45, 112) (p<0.01). The covariate-adjusted odds ratio (OR) for the 1 year death/MI after TT relative to pPCI was: 2.2 (95% CI 1.1-2.8) for high risk pts; 1.5 (95% CI 0.8-2.8) for low risk pts; 2.2 (95% CI 1.2-4) for pts with prehospital delay <121 minutes, 1.3 (95% CI 0.6-2.5) for those with delay ≥121 minutes.
The adjusted more favourable interaction between risk-delay and the effectiveness of pPCI in decreasing 1-year death/MI compared to TT was observed in STEMI pts at high risk, with prehospital delay <121 minutes (OR 0.25; 95% CI 0.1-0.7).
Conclusions: In the VENERE registry, a strategy of pPCI seems to be particularly effective in reducing 1-year death/MI compared to TT in high risk patients with prehospital delay less than 2 hours.

TCT-163

Time-related Impact of Distal Embolization on Myocardial Reperfusion after Direct Angioplasty

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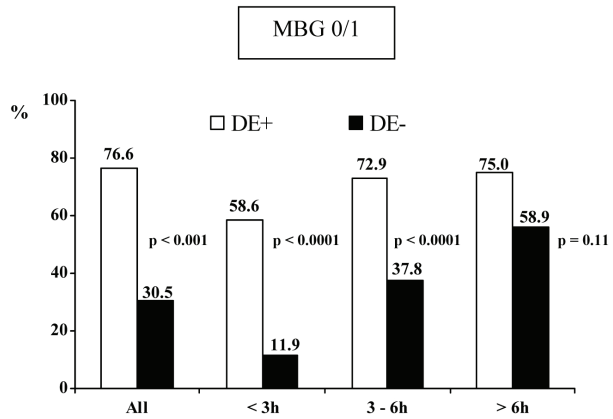
Background: Distal embolization (DE) occurs in up to 15% of patients treated with direct angioplasty, and may lead to worse myocardial reperfusion. However, myocardial reperfusion seems mainly affected by time-to-treatment, with microvascular damage increasing with duration of ischemia. The aim of this study was to instigate the impact of DE on myocardial reperfusion according to time-to-treatment.
Methods: 400 consecutive patients who underwent direct angioplasty for ST-elevation myocardial infarction patients were divided in three groups according to pain-to-balloon time: group 1) pain-to-balloon < 180 min; group 2) ≥ 180 ≤ 360 min; group 3) > 360 min. Myocardial reperfusion was prospectively assessed by Myocardial Blush Grade (MBG). DE was defined as distal filling defect with an abrupt "cut-off" in one or more peripheral coronary branch of infarct related artery.
Results: DE occurred in 64 (16%) of 400 patients and did not change with time: 17.7% in group 1, 15.3% in group 2, 15% in group 3 (p = ns). The rate of MBG 0/1 was higher in patients exhibiting DE than in patients without DE. However when time-to-treatment was > 6 hours the rate of MBG 0/1 was not different between patients with and without DE (Figure).



Conclusions: Distal embolization occurring during direct angioplasty reduces the effectiveness of myocardial reperfusion in the first 6 hours after symptom onset, afterward it seems do not affect myocardial reperfusion.

ELECTRONIC ABSTRACTS

TCT-164

Renal Stent for the Treatment of Renovascular Hypertension (RESTORE) Trial: Final Results and Comparison to other Multicenter Renal Stenting Trials

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Background: The RESTORE trial was a multicenter, prospective, nonrandomized study evaluating the IntraStent DoubleStrut (IDS) XS renal stent (ev3, Inc., Plymouth, MN) for treatment of ostial atherosclerotic renal artery stentosis (RAS) following suboptimal PTA results. The ASPIRE-2 trial, using the Palmaz stent (Cordis, Warren, NJ), reported a 9-month restenosis rate of 17.4% and 24-month MACE rate of 19.7%. The SOAR trial, using the Bridge ES stent (Medtronic AVE, Santa Rosa, CA) reported a 9-12 month restenosis rate of 16.8% and MACE rate of 16.0%. Two recent multicenter trials reported the RX HERCULINK-14 stent (Guidant, Indianapolis, IN) restenosis rate of 19.4% and Express SD stent (Boston Scientific, Natick, MA) restenosis rate of 21.3%, and MACE rate of 10.5%. All four trials demonstrated a significant improvement in blood pressure control, but no change in serum creatinine.
Methods: In the RESTORE trial, 230 renal arteries were stented in 204 patients with severe hypertension and >70% RAS from 19 investigational sites. The endpoints were 9-12 month restenosis as defined by quantitative angiography or duplex scan, and cumulative 30-day and 9-month MACE. Secondary endpoints included blood pressure control and serum creatinine, measured at baseline and at 9 months.
Results: The percent of stented renal arteries with angiographic or duplex data between 9-12 months was 71.3% (164/230). The 9-12 month restenosis rate was 12.8% (21/164 arteries). Systolic/diastolic blood pressure significantly decreased from 159 ± 22 / 77 ± 13 mm Hg at baseline to 144 ± 22 / 75 ± 12 mm Hg at 9 months (SBP $p<0.0001$, DBP $p<0.05$). 20% of patients had no reduction in their number of blood pressure medications and/or dosages. Serum creatinine levels had similar values at baseline, 30 days, and nine months (1.3 ± 0.5, 1.3 ± 0.6, and 1.4 ± 0.9 mg/dL). The 30-day MACE was 7.4%, and 9-month MACE was 11.8%.
Conclusions: The IDS Renal Stent was safe and effective in the treatment of RAS. When compared to four other multicenter trials, the IDS renal stent demonstrated a low restenosis rate. Clinical success with improvement in blood pressure control and preservation of renal function was comparable to results found in the other trials.

TCT-165

Clopidogrel Treatment Prior to Primary PCI in Patients with STEMI

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Background: Aggressive platelet inhibition is crucial to reduce myocardial injury and early cardiac events after coronary intervention. As compared with the conventional 300-mg dose, pretreatment with a 600-mg loading dose of clopidogrel significantly reduced periprocedural (myocardial infarction (MI) in patients undergoing percutaneous coronary intervention (PCI). We investigated that the advantage of the 600-mg dose in inhibiting platelet aggregation more rapidly than the 300-mg dose may actually have special value for STEMI patients.
Methods: From 2004 to 2005, a total of 165 patients with STEMI underwent primary percutaneous coronary stenting. A 600-mg (n=67) or 300-mg (n=98) loading regimen of clopidogrel was given before the procedure. We followed all patients clinically for 30 days after coronary intervention. The primary end point was the 30-day occurrence of death, myocardial infarction, urgent revascularization, or stroke.
Results: The primary end point occurred in 3% (2/67) of patients in the high dose versus 11% (11/98) of those in the conventional loading dose group ($p=0.044$) and was due entirely to urgent revascularization ($p=0.021$). Death, recurrent MI, and stroke were lower in patients treated with the high dose of clopidogrel compared with conventional dose without significance. Safety end points were similar in the 2 groups.
Conclusions: Pretreatment with a 600-mg loading dose of clopidogrel before the procedure is safe and, as compared with the conventional 300-mg, significantly reduced urgent revascularization in patients with primary PCI.

TCT-166

Direct Ambulance Admission to the Catheter Laboratory Significantly Reduces Door-to-Balloon Times in Primary Angioplasty

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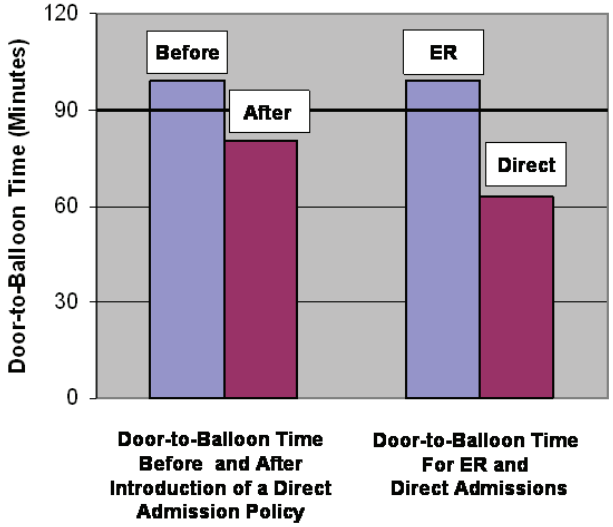
Background: Primary PCI is the preferred treatment for STEMI provided it can be delivered within 90 minutes of hospital admission. In clinical practice this target is difficult to achieve. Door-to-balloon times may be reduced by direct admissions from the ambulance to the catheter laboratory. However, this has not been prospectively evaluated.
Methods: Since April 2005 our centre has provided 24/7 primary PCI for a population of 800,000. Up to Jan 2006 all patients were admitted via the emergency room (ER). From Feb 2006, after training of paramedic crews, direct ambulance admissions were accepted. Door-to-balloon times were recorded for all patients, and are quoted as medians.
Results: 274 patients (68% male, age 63±7 years) were treated by primary PCI. After Feb 2006, 41/90 (46%) were admitted directly to the cardiac catheter lab; 37/41 (90.2%) were considered appropriate for primary PCI. Following the introduction of direct ambulance transfers there was a significant reduction in overall door-to-balloon time (80 vs 99 mins, $p<0.001$ (Figure). The 90 minute target was achieved in 4/4 months, vs 0/10 previous months. Door-to-balloon times were significantly lower for direct admissions compared to admissions via the ER (63 vs 99 mins, $p<0.001$) (Figure).



ELECTRONIC ABSTRACTS

Conclusions: Direct admission of patients with suspected STEMI from the ambulance service to the catheter laboratory is feasible, and significantly reduces door-to-balloon times, enabling the 90 minute target to be reliably achieved.

TCT-167

What Is The Clinical Impact Of A Negative Residual Stenosis After Coronary Stenting In Patients With Unstable Angina?

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Background: A negative residual stenosis (RS) after coronary stent implantation has been associated with worse antegrade flow and increased mortality in patients (pts) with acute myocardial infarction. Its influence on outcomes in pts with unstable angina is unknown.
Methods: All pts included had unstable angina, defined as rest chest pain in the last 48 hours of hospital admission and ST segment deviation and/or increased serum biomarkers. Coronary stenting procedures were performed by experienced operators at a high-volume centre (>2000 PCIs/year). Technical aspects of the procedures, such as use of larger balloons or high implantation pressures, were left at the discretion of the operators. All pts were treated with bare metal stents and aspirin, thyenopiridines and heparin. RS and coronary flow were assessed immediately after stent implantation. Pts with a negative RS were compared to a control group with angiographically successful procedures and RS 0-30%. In-hospital and one-year MACE rates were compared. Control angiography was done only for suspected myocardial ischemia.
Results: Mean age was 60.7±11.1, and 70% of the pts were male. Baseline clinical characteristics were similar in the group with a negative RS (n=94) and in the control group (n=298). The mean residual stenosis was -10.3±6.4 in the negative RS group and 2.14±5.2 in controls (p<0,001). Patients with negative RS had smaller vessels (3.11±0.46 vs 3.37±0.42; p<0.001) and were treated with a higher balloon-to-artery ratio (1.05±0.09 vs 0.99±0.06). These variables were independent predictors of the occurrence of negative RS. Clinical procedural success rates (100% vs 98,7%) and coronary TIMI 3 flow rates (100% vs 99,3%) were similar in both groups. In-hospital MACE (0% vs 0,6%) and subacute thrombosis rates (1,1% vs 0,3%) were not statistically different. One-year target vessel revascularization rates (8,9% vs 7,9%) and one-year MACE rates (10% vs 10%) were also similar.
Conclusions: A negative residual stenosis after coronary stenting in unstable angina patients was associated with smaller vessels and higher balloon-to-artery ratios, but not with worse coronary flow or higher rates of adverse cardiovascular events.

TCT-168

Invasive Therapeutic Strategies in Acute Myocardial Infarction

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Background: The most important therapeutic goals in the management of AMI are early restoration of epicardial and myocardial blood flow. We assessed the hypothesis that are there any differences between PCI strategies with or without prior thrombolytics and GPIIb-IIIa administration on angiographic TIMI Flow, TIMI FC and TIMI MPG in patients with STEMI.
Methods: 1000 patients with post procedural TIMI Flow ≥2 in IRA were enrolled in this study. Patients were divided into three groups as primary PCI=500 pts, peri procedural GP IIb-IIIa inhibitors + PCI=210 pts, and prior low dose thrombolytics with GP IIb-IIIa inhibitors + immediate PCI=290 pts.
Results: Although, the occurrence of pre procedural TIMI Grade Flow 3, TIMI FC and TIMI MPG rates were significantly higher in patients with prior drug therapy (p= 0.000 for all), the only significant angiographic difference was the post procedural rate of TIMI MPG 3 (p=0.01, favors prior drug therapy + PCI). Incidence of TIMI Grade Flow and TIMI FC were equal in all groups.

	Primary PCI TCT-500 pts	PCI+GP Iib-IIIa Inh TCT-210 pts	Prior Drugs+PCI TCT-290 pts	p value
Pre TMPG 0	419 (83.80%)	184 (87.62%)	148 (51.03%)	0.000
Pre TMPG 1	13 (2.60%)	7 (3.33%)	30 (10.34%)	0.000
Pre TMPG 2	43 (8.60%)	14 (6.67%)	60 (20.69%)	0.000
Pre TMPG 3	25 (5.00%)	5 (2.38%)	52 (17.93%)	0.000
Pre TIMI 3	84 (16.80%)	27 (12.86%)	159 (54.83%)	0.000
Post TIMI 3	389 (77.80%)	161 (76.67%)	213 (73.44%)	NS
Post TMPG 3	119 (24.49%)	46 (22.77%)	90 (31.69%)	0.010
TFC before (mean)	85.52±28.90	88.27±25.57	50.31±34.92	0.0001
TFC after (mean)	26.68±18.50	28.42±17.72	28.03±18.13	NS

Conclusion: of our study prior thrombolytic and GP IIb-IIIa inhibitor with immediate PCI was superior to primary PCI alone and adjunctive peri-procedural GP IIb-IIIa inhibitors to PCI. This therapeutic strategy deserves a second look, but large and randomized studies are necessary to confirm our results.