POSTER SESSION

# 1005 Innovative Technologies With Coronary Intervention

Sunday, March 30, 2003, 9:00 a.m.-11:00 a.m.
McCormick Place, Hall A
Presentation Hour: 9:00 a.m.-10:00 a.m.

## 1005-187 Intracoronary Thermography Provides On-Line Imaging of the Temperature Heterogeneity of Atherosclerotic Plaques in Human Beings

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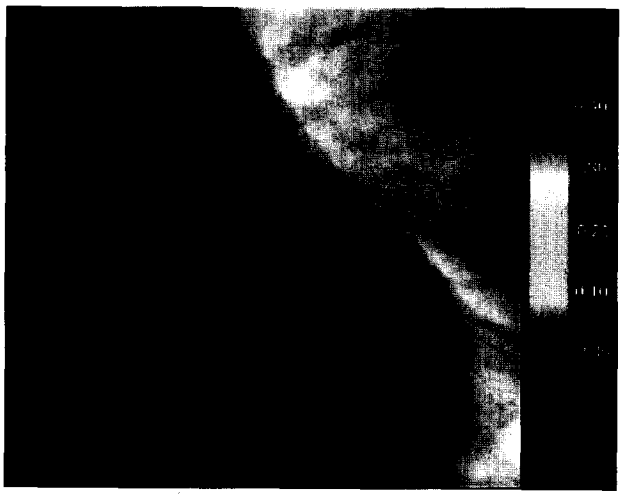
**Background**: Intracoronary thermography has been suggested as a novel method to detect thermal heterogeneity inside coronary arteries. It has been suggested in the literature that heat might be linked to events, due to plaque rupture. To ease the visibility of these thermal maps, we assessed the feasibility of collating temperature data on coronary angiograms. thus facilitating interpretation by the interventional cardiologist.
**Methods**: Intracoronary thermography was performed on 42 patients, using the Thermosense thermography catheter (Thermocore Medical Systems, Merelbeke, Belgium). Immediately after performing an automated pullback through the region of interest, the temperature data recorded by the thermography-specific hardware, were automatically collated –using dedicated software- upon the angiogram.
**Results**: 19 patients had unstable coronary syndromes, 23 were stable. There was no correlation between thermal heterogeneity and clinical syndrome. No events occurred during hospital stay following, nor during the 14-day follow-up period. The correlation between the absolute temperature data and the final picture provided by the system was believed to be representative.
**Conclusion**: Temperature data can easily be collated on the coronary angiogram. This may represent an easy feature for the interventional cardiologist to interpret thermal heterogeneity inside coronary arteries, and, if future investigations warrant this, provide an easy basis for rapid treatment.



## 1005-188 Unstable Versus Stable Angina in the Current Era: Comparison of Percutaneous Coronary Intervention Outcomes in the NHLBI Dynamic Registry

Srihari S. Naidu, Robert L. Wilensky, Faith Selzer, Warren Laskey, Alice K. Jacobs, Janet M. Johnston, Katherine Detre, David O. Williams, Hospital of the University of Pennsylvania, Philadelphia, PA, University of Pittsburgh, Pittsburgh, PA

**Background**: Percutaneous coronary intervention (PCI) for unstable angina (UA) has been associated with worse procedural and in-hospital outcome than PCI for stable angina (SA). With improvements in technology, operator experience and medical therapy, it is unclear whether PCI for UA continues to result in inferior outcomes. The NHLBI Dynamic Registry was specifically designed to examine temporal changes in the practice of PCI. **Methods**: The incidences of death, myocardial infarction (MI), coronary artery bypass grafting (CABG), repeat PCI, and repeat revascularization were prospectively collected on 3,192 consecutive patients who underwent PCI in 17 centers between July, 1997 and February, 1998 and February and June, 1999. UA was defined as pain at rest, of new onset, or increasing in frequency or severity (n=2,139). SA was defined as pain on exertion that is relieved by rest or medication (n=1,053). Outcomes in patients with UA were compared to patients with SA. **Results**: UA patients were more likely older, smokers, female, non-white, and to have diabetes, reduced ejection fraction, prior myocardial infarction and heart failure during the index hospitalization. Rates of stenting between UA and SA patients (71.8% vs. 69.4%, p=NS) and total angiographic success rates (92.6% vs. 91.2%, p=NS) were similar. Glycoprotein IIb/IIIa receptor antagonists were used in 24.9% of UA patients and 19.0% of SA patients (p<0.001). There was no significant difference in in-hospital or one-year mortality between those with UA and SA (in-hospital 0.7% vs. 0.3% and one-year 4.5% vs. 3.1%, p=NS for both). After adjusting for clinical, demographic, and angiographic differences, UA had no effect on mortality, either in-hospital (OR 2.04, 95% CI 0.58-7.19) or at one-year (RR 1.32, 95% CI 0.85-2.04). Likewise, there was no statistical difference in the combined endpoints of death/MI and death/MI/CABG between groups at either time point. **Conclusion:** Despite the high risk features associated with UA and the increased co-morbidities present, procedural, in-hospital and one-year outcomes are similar to patients with SA. These observations reflect advances in current procedural approaches to the management of UA.

## 1005-189 Renal Insufficiency Is an Independent Predictor of Mortality After Percutaneous Coronary Intervention: Current Results From the NHLBI Dynamic Registry

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**Background**: Interventional cardiologists are performing percutaneous coronary interventions (PCI) on an increasing number of patients with significant co-morbidities. This multi-center study utilizing the NHLBI Dynamic Registry was designed to evaluate whether the current practice of PCI in patients with severe renal disease (RD) is associated with increased morbidity and mortality compared to PCI in patients without renal disease (NRD). **Methods**: The incidences of death, myocardial infarction (MI), coronary artery bypass grafting (CABG), repeat PCI, and repeat revascularization were prospectively collected on 4,602 consecutive patients who underwent PCI in 17 centers between July, 1997 and February, 1998 and February and June, 1999. RD was defined as a history or presence of renal failure treated with low protein diet or dialysis. Outcomes in RD patients (n=192) were compared to NRD patients (n=4,410). **Results**: RD patients were older and more likely to have diabetes, heart failure, reduced ejection fraction, known coronary disease, and multi-vessel disease. Rates of stenting were equivalent between RD and NRD patients (68.2% vs. 73.0%, respectively, p=NS); however, RD patients had a lower angiographic success rate (84.9% vs. 92.8%, p<0.001). Patients with renal disease had a higher mortality rate, both in-hospital (5.7% vs. 1.2%, p<0.001) and at one year (19.7% vs. 4.4%, p<0.001). After adjusting for clinical, demographic, and angiographic differences, renal disease remained an independent predictor of in-hospital (OR 3.81, 95% CI 1.70-8.58, p<0.01) and one-year (RR 2.46, 95% CI 1.64-3.68, p<0.001) mortality. Further, in subgroup analyses of patients aged over 65, diabetics, those with heart failure, reduced ejection fraction or multi-vessel disease, as well as those presenting with acute MI or unstable angina, renal disease remained a predictor of worse one-year mortality (p<0.01 for all). **Conclusion:** Patients undergoing PCI with severe renal disease frequently have more co-morbidities than patients without renal disease. After adjusting for these co-morbidities, renal disease remains a strong, independent predictor of increased in-hospital and 1-year mortality.

## 1005-190 Magnitude and Impact of After Hours Treatment Delay in Patients Undergoing Primary Angioplasty for Acute Myocardial Infarction: The CADILLAC Trial

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Background: Hospital staffing is reduced after hours compared to daytime, potentially delaying access to primary angioplasty. Whether this results in treatment delays and worse outcomes are unknown. Methods: In the CADILLAC trial, in which 2,082 pts of any age with AMI within 12 hrs onset without cardiogenic shock were randomized to different reperfusion strategies, we compared the outcomes for pts presenting at 3 time periods (08:00-16:00, n=1043 (51%); 16:00-24:00, n=520 (25%); 24:00-08:00, n=473 (24%). Results: Baseline characteristics were similar, except that LVEF was slightly lower in pts presenting later in the day (59% vs 57% vs 55% respectively, p <0.005). Time from symptom onset to ER arrival (102 vs. 108 vs. 119 minutes, p=0.09) and from ER arrival to first balloon inflation (112 vs. 122 vs. 134 minutes, p <0.0001) were increasingly longer later in the day. Procedure failure (residual stenosis >50%, <TIMI-3, or MACE within 7 days) rates were also progressively more frequent in the later hours (7.3% vs 8.8% vs 11.8%, p<0.05). Conclusions: Pts with AMI occurring in the off-hours have delayed hospital presentation (with associated baseline left ventricular dysfunction), modest delays to treatment, and reduced procedural success. Nonetheless, pts without cardiogenic shock undergoing primary angioplasty for AMI with contemporary techniques have excellent clinical outcomes regardless of time of day.

Outcomes, p=ns for all comparisons

| | 08:00-16:00 | 16:00-24:00 | 24:00-08:00 |
|---|---|---|---|
| 30-d Death (%) | 1.9 | 1.7 | 2.6 |
| 30-d MACE (%) | 5.6 | 5.2 | 7.0 |
| 1-year Death (%) | 4.5 | 2.9 | 4.9 |
| 1-year MACE (%) | 17.7 | 15.0 | 19.5 |