serious cardiac and non-cardiac disease, their in-hospital clinical outcomes were considerably better than those pts treated earlier. Greater selectivity in lesion revascularization coupled with technical advances such as stents may contribute to these more favorable results in this important pt population with CAD.

1062-48   Blood Glucose Level Predicts Severity of Renal and Myocardial Injury in Diabetic Patients Undergoing Coronary Interventions

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Background: Patients with diabetes mellitus (DM) having percutaneous coronary interventions (PCI) are at increased risk for both contrast nephropathy and adverse cardiac events. Theoretical considerations suggest glucose itself may mediate these risks by synergizing with radiocontrast to initiate oxidative injury.
Methods: To test the hypothesis that pre-PCI serum glucose levels predict renal and myocardial injury, we analyzed 558 DM patients who underwent PCI at our institution from 1998 to 2002. We stratified 165 patients who had both a 48-hour peak serum creatinine (a marker of renal microvascular injury) and a 24-hour peak serum creatine phosphokinase (a marker of myocardial microvascular injury) into low glucose (<200 mg/dl, n=88) and high glucose (>200 mg/dl, n=77) groups. The groups were similar in age (64+/-14 versus (vs.) 65+/-12 years), gender (43% vs. 46% female), procedure (all balloon +/- stent), contrast volume received (217+/-100 vs. 239+/-87 ml, p=0.16), and contrast type.
Results: Despite a trend toward better renal function in the high glucose group (creatinine=1.2+/-0.9 vs. 1.4+/-1.1 mg/dl, p=0.14), high glucose patients exhibited a greater post-PCI rise in creatinine (0.26+/-0.5 vs. 0.17+/-0.5 mg/dl, p=0.15), a greater percent increase in creatinine (21+/-39% vs. 12+/-27%, p=0.03), and a 5-fold higher chance of suffering a >50% increase in creatinine (10% vs. 2%). High glucose patients were twice as likely to have a non-Q wave myocardial infarction (40% vs. 21%) with a higher absolute post-PCI CPK than low glucose patients (2666+/-390 vs. 1908+/-368 IU, p=0.07). Even among patients without a non-Q wave myocardial infarction, high glucose patients exhibited significantly greater post-PCI peak CPK's (223+/-220 vs. 153+/-117 IU, p=0.02).
Conclusion: Almost one-half of DM patients at our institution have blood glucoses >200 mg/dl at the time of PCI. Compared to matched patients with glucose <200 mg/dl, elevated glucose patients exhibit a greater degree of both renal and myocardial injury after PCI. Because correcting hyperglycemia prior to PCI is easy and inexpensive, the hypothesis that euglycemia might improve outcomes from PCI in DM should be tested in a clinical trial.

1062-49   Clinical Outcome Following Percutaneous Coronary Intervention in Patients With End-Stage Renal Disease

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Cardiovascular(CV) mortality remains high in end-stage renal disease(ESRD) with coronary artery disease. Current developments of percutaneous coronary intervention (PCI) devices may improve immediate and long term outcome in these high risk patients but data were limited. **Methods** From the total of 1010 patients (age<80, 1500 lesions) who underwent PCI between April 2000 to July 2002, we identified 100 patients (179 lesions) with chronic dialysis. These were followed for one-year and compared with 100 age and sex matched patients selected from control group. **Results:** In ESRD, lesions were more extended (the number of diseased vessels: 1.9 vs. 1.7, p=0.01) and calcification was more common (52% vs. 10%, p<0.001). The characteristics of procedure in ESRF were more frequent use of rotablator (43% vs. 8%, p<0.001) and high utilization rate of stent (74% vs. 73%, NS). In ESRF, the rates of procedural success (97% vs. 98% NS) and one-year target lesion revascularization(TLR) (26% vs. 21%, NS) were similar in both groups. However, in hospital death (5% vs. 1% p=0.001), new lesion development which needed revascularization (27% vs. 10%, p=0.005), and one-year CV mortality rate (15% vs. 2%, p<0.001) were markedly high in ESRD. In ESRD, factors concerning one-year CV mortality were elevated CRP, diabetes, and AMI. Multivariate analysis showed elevated CRP was the strongest predictor of CV mortality (RR2.7 per tertile of CRP, 95%CI 1.3-5.8). **CONCLUSION:** The utilization of current PCI devices, such as stent and rotablator, contributed to high procedural successful rate and acceptable restenosis rate in ESRD. However, ESRF showed progressive development of new coronary artery lesions and high mortality rate in short and long term. Elevated CRP was related to the poor prognosis.

POSTER SESSION

1063

Coronary Stent: Adjunctive Strategies

Monday, March 08, 2004, 9:00 a.m.-11:00 a.m.
Morial Convention Center, Hall G
Presentation Hour: 9:00 a.m.-10:00 a.m.

1063-51   Clopidogrel Resistance Is Associated With Cytochrome 3A Polymorphism

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Background: Recent reports indicate that there are clopidogrel non-responders in the population. Clopidogrel is transformed to its active metabolite by cytochrome P450 3A. A single-nucleotide polymorphism (A6986G) in the CYP3A5 gene distinguishes an expressor (A) and a reduced-expressor (G) allele and largely predicts CYP3A5 content in liver and intestine. We postulate that clopidogrel resistance is associated with CYP3A5 polymorphism and investigated the relationship. Methods & Results: Patients (n=175) treated clopidogrel after stenting were investigated. We analyzed single nucleotide polymorphism (A6986G) by polymerase chain reaction (PCR) and restriction enzyme digestion. The genotype frequency was GG (97): AG (62): AA (16). The frequency of the GG genotype was 0.56, lower than that of Caucasians. But in nine patients who have developed major adverse cardiac events within 3 months, the frequency of GG genotype was 0.89(GG: AG:AA=8:1:0). In the multivariate analysis including clinical and angiographic characteristics, the GG genotype was a significant predictor of early MACE(MI, stroke, SAT, death) after stenting (p=0.044). Follow up angiography was done at 6month (n=140). The GG genotype was not significant predictor of in-stent restenosis. In order to confirm the functional significance of the CYP3A5 polymorphism, we administered clopidogrel (300mg loading and 75mg qd for 7days) to nine normal volunteers of AA, AG, genotype (n=3 for each type). We performed platelet aggregation test (baseline, 4hr, 24hr and 7days). There were tendency that platelet aggregation was more inhibited in the AA type than non-AA type (AG+GG).Conclusion: CYP 3A5 polymorphism seems to be associated with pharmacokinetics of clopidogrel and is associated with the early major adverse cardiac event after coronary stenting . This polymorphism may explain the individual difference in clopidogrel resistance.

1063-52   Lack of Efficacy of Clopidogrel Pretreatment in the Prevention of Myocardial Damage After Elective Stent Implantation

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Background - Non-randomized studies on pre-treatment with ADP receptor blockers of patients undergoing urgent stent implantation have suggested a reduction in myocardial damage with pretreatment. In elective stenting the effect of pre-treatment with clopidogrel has not yet been studied.
Methods - In a randomised trial 3 days pre-treatment with clopidogrel was compared to standard post-procedural treatment, in addition to aspirin and heparin, in 203 patients with stable coronary syndromes undergoing elective stentplacement. Primary endpoint was a rise in troponin I and CK-MB 6 or 24 hours after stentplacement. Secondary endpoints were clinical endpoints at 24 hours, 1 month and 6 months after PCI and a composite endpoint.
Results - No difference was found between not pre-treated and pre-treated patients in the occurrence of elevation of CK-MB (respectively 6 (6.3%) vs. 7 (7.4%); p=0.78) or troponin I (respectively 42 (43.3%) vs. 48 (51.1%); p=0.31). Adjustment for baseline values and possible confounding factors did not change these findings. The composite endpoint occurred in 47 (46.1%) of the not pre-treated patients and in 55 (54.5%) of the pre-treated patients (p=0.26). Follow up showed no significant difference between the treatment groups in the clinical endpoints.
Conclusion - In this randomized study no beneficial effect of pre-treatment with clopidogrel on the elevation of troponin I, CK-MB or adverse cardiac events after 1 and 6 months could be demonstrated. Therefore we conclude that among patients with stable coronary syndromes in whom stenting of coronary arteries is planned pre-treatment is not mandatory in reducing early myocardial damage.

1063-53   A Rational Approach to Coronary Stenting Prior to Noncardiac Surgery

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Background: The optimal timing of noncardiac surgery (NCS) after coronary stenting has not been determined. Earlier studies showed a high mortality rate due to stent thrombosis and perioperative hemorrhage when NCS is performed within two weeks of PCI. Based on the known temporal course of stent reendothelization we devised the following four step strategy: 1) A four-week course of clopidogrel post PCI 2) Deferral of elective NCS for 5 to 12 weeks post stenting 3) Discontinuation of clopidogrel for a minimum of 5 days prior to surgery and 4) Use of heparin coated stents in high-risk patients. The purpose of this study was to validate the clinical efficacy of this therapeutic strategy.
Methods: Forty six patients with significant CAD underwent PCI prior to planned NCS. NCS was performed at a median of 48 (range: 39-89) days post PCI. All NCS were done under general anesthesia and consisted of the following: Abdominal 35%, orthopedic 24%, vascular 15%, carotid 13%, thoracic 9% and miscellaneous 4%. In- hospital out-