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Conclusion: In women with chest pain, mild renal insufficiency is an independent predictor of significant angiographic CAD. Impaired creatinine clearance may be a marker for unmeasured pro-atherogenic factors.

1003-115 Randomized Comparison of Fenoldopam and N-Acetylcysteine to Saline in the Prevention of Radio-Contrast Induced Nephropathy

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Introduction: 5% of patients undergoing cardiac angiography experience radio-contrast induced nephropathy (RIN). This risk triples in patients with renal insufficiency. The currently accepted prophylaxis is intravenous hydration (IVF) with 0.45 NS. Emerging evidence suggest N-acetylcysteine (NAC) and fenoldopam (FEN) may also have a protective role.

Methods: Patients with creatinine (Cr) > 1.5 mg/dL who had a cardiac angiogram were randomized to one of three treatment groups: 1) IVF with 0.45 NS at 1 cc/kg/hr pre and post procedure, 2) IVF as above plus 600-mg BID of NAC the day prior to and on the day of procedure, 3) IVF as above plus FEN at 0.1 mcg/kg/min starting 30 min prior to and continuing for 4 hrs post procedure. Cr levels were drawn prior to the angiogram and at 5-7 days after the procedure. The primary end-point of the study was an increase in Cr of 0.5 mg/dL or a 25% increase from baseline. **Results:** 68 patients with a mean age 67±10 (24% females, 76% males) and a mean Cr level of 1.92±0.34 mg/dL were randomized into the three treatment groups of IVF only, NAC, and FEN. Baseline characteristics for the groups were similar. A statistically greater number of patients in the NAC group had an increase in baseline Cr > 25% as compared to the other two treatment groups (see Table 1). **Conclusion:** In patients with renal insufficiency, hydration with 0.45NS alone is as effective as FEN plus hydration in preventing RIN. The combination of NAC and IVF was the least effective regimen.

Table 1: Patients with an increase in Cr at 5-7 days.

	Hydration (n=23)	NAC (n=24)	Fenoldopam (n=21)	p-value
Increase in Cr > 0.5 mg/dL	3	6	1	0.155
Increase in Cr > 25%	2	8	2	0.043

1003-116 A Simple Clinical Score Is an Accurate Prognostic Indicator in a Community-Based Population

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Introduction: Clinical scoring systems have been developed for initial assessment of patients with coronary artery disease (CAD) but are not widely applied due to their complexity and lack of validation. The purpose of this study was to validate a simple clinical prognostic score, originally developed in a cohort of patients referred to our nuclear cardiology laboratory, in a "less-selected" community-based population.

Methods: The score was designed specifically to use a limited number of clinical variables and an integer system to simplify calculation and recall: 1 point each for male gender, typical angina, diabetes, insulin use, history of myocardial infarction (MI), and 1 point for each decade of age beginning at age 40 (40-49=1, 50-59=2, etc) (range of score 0 to 9). The score was applied to all residents of Olmsted County, MN undergoing an initial exercise test between January 1987 and December 1990 (n=3566).

Results: Clinical characteristics included: age 50±15, male 64%, typical angina 8%, diabetes 5%, insulin use 3%, history of MI 10%. Follow-up was 7.6±2.7 yrs. Annual event rates were strongly associated with the score: overall mortality χ^2=525, p<0.001; cardiac death χ^2=192, p<0.001; cardiac death or MI χ^2=274, p<0.001 (see table).

Conclusion: This simple prognostic score was highly accurate for risk-stratifying this community population, supporting a more wide-spread application of this score in patients with CAD.

Score	Patients	Overall Mortality	Cardiac Death	Cardiac Death/MI
≤ 4	3076 (86%)	0.6%	0.2%	1.0%
5	275 (8%)	2.4%	0.8%	2.0%
≥ 6	215 (6%)	6.2%	2.8%	4.2%

POSTER SESSION

1004 Innovative Experimental Surgical Revascularization Methods

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.

1004-92 Paclitaxel Reduces Neointimal Formation In Vitro and in a Porcine Model of Saphenous Vein Interposition Grafting

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Background: Following early thrombosis, 10-15% of coronary vein grafts fail over the next 5 years due to intimal thickening. Paclitaxel is a potent inhibitor of cell proliferation by inducing a sustained block of mitosis at the metaphase/anaphase boundary. The aim of this study was to investigate the effect of paclitaxel pre-treatment in a porcine model of Saphenous vein to carotid artery interposition grafting. **Methods:** In-vitro evaluation of the effect of short-term paclitaxel exposure on neointimal proliferation involved saphenous vein pre-treatment, by suspension in Paclitaxel (10 μmol/L) or vehicle control, for 1 hour, prior to plating and 14 day culture. Samples were histologically analysed. Subsequently, ten Large White pigs (25-33.5 kg) underwent bilateral saphenous vein to carotid artery interposition grafting. Each animal received a Paclitaxel treated and a vehicle control graft. Animals were sacrificed at 29 days, vein grafts were harvested and pressure fixed prior to histological/morphometric analysis. **Results:** In-vitro Paclitaxel exposure resulted in a significant reduction in neointimal thickness, compared with vehicle control; 77.80+/-48.80μm vs 148.35+/-82.73μm (p=0.008). Only patent grafts were included in the in-vivo analysis (see table).

Parameter	Control (n=8)	Treated (n=8)	P value
Luminal Area (mm^2)	32.08±15.45	25.26±15.53	0.017
Neointimal Area (mm^2)	2.43±1.35	1.59±0.95	0.0004
Medial Area (mm^2)	6.83±2.57	6.18±5.84	0.25
Neointimal/Medial Ratio	0.37±0.18	0.299±0.16	0.029

Conclusion: Our data demonstrates that Paclitaxel pre-treatment reduces neointima formation, in-vitro and in-vivo. Paclitaxel may be a highly attractive candidate for prevention of late vein graft failure.

1004-94 Functional Myocardial Angiogenesis Resulting From Persistent Systolic Perfusion

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Background: The effects of systolic perfusion on distal coronary bed myocardium were studied by using a device that creates a permanent transmyocardial flow channel between the left ventricle and a coronary artery (Ventriculocoronary Artery Bypass (VCAB) procedure). **Methods:** The stent-like direct revascularization device (DRD), an L-shaped titanium tube with a meshed distal tip, was implanted between the left ventricular cavity and the mid left anterior descending coronary artery (LAD) in 15 juvenile domestic pigs using a beating heart approach. The LAD was ligated proximal to the device. Patency was assessed via retrograde angiography at explant for surviving animals at 12 weeks (n=12). Morphometry of blood vessels (150 fields total) was assessed in the subendocardium using PAX-It™ software. Hearts retrieved acutely from pigs were used as controls.

Results: 3/15 animals died within 24 hours related to procedural complications. At 12 weeks, patency was achieved in 11/12 pigs. Morphometric assessment of the target myocardium showed a significant increase in number of small (25-200 μm), medium (200-400μm) and large (>400μm) arterioles compared to the control in the subendocardial region (see graph). **Conclusions:** This study demonstrates persistent patency of a