Results are shown in the table. CVRref was 3.2 ± 0.7 before intervention and 3.1 ± 0.8 after 6 months.

Conclusion: Guidance of CVRd by CVRref instead of fixed cut-off levels allows to identify pts with a low incidence of restenosis after coronary stent implantation.

4:45

903-4 Multicenter Aspirin and Ticlopidine Trial After Intracoronary Stenting in High Risk Patients

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Background: The association of ticlopidine (T) and aspirin (A) has been shown to be superior to antivitamin-K agents (AVK) and aspirin following coronary stent implantation in low risk patients, but AVK + A remains an unproven reference regimen for high risk patients.

Method: 350 high risk patients from 31 hospitals were centrally randomized within 6 hours after stent implantation to receive either A250 mg + T 500 mg/day or A 250 mg/day + AVK (INR 2.5–3) for 1 month (open label). The primary composite end-point was defined as the occurrence of death, AMI, CABG or repeat intervention at 30 days. The secondary endpoint was the incidence of major vascular and bleeding complications. Patients were eligible after stent implantation if one or several of the following were present: 1) stent(s) implanted to treat abrupt closure after PTCA; 2) angiography after stenting suboptimal; 3) ≥3 stents used, or length of the stented segment ≥45 mm; 4) nominal diameter of largest balloon inflated in the stent ≤2.5 mm.

Results: The primary endpoint was reached for 10 patients (5.6%) in the A + T and 19 (11%) in the A + AVK group, (RR 1.9, CI 0.9–4.1, p = 0.07). The secondary endpoint was more frequent in the A + AVK group (12 patients, 6.9%), than in the A + T group (3 patients, 1.7% (RR 4.1, CI 1.2–14.3, p < 0.02).

Conclusions: high risk patients following coronary stent implantation should be treated with A + T rather than A + AVK since the bleeding and vascular complications are significantly reduced and there is a marked trend suggesting a decrease in cardiac events at 30 days.

904 Predictors of Outcome in Cardiogenic Shock

Wednesday, April 1, 1998, 4:00 p.m.–5:00 p.m.
Georgia World Congress Center, Room 267W

4:00

904-1 Outcomes With Pulmonary Artery Catheterization in Cardiogenic Shock

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Pulmonary Artery catheterization (PAC) has been associated with increased mortality but its use in Cardiogenic Shock (CS) is widespread. The SHOCK Registry is a prospective database of patients with suspected CS following AMI. To evaluate the impact of PAC, baseline variables, hemodynamics and outcomes in 567 patients who received PAC were compared to 263 patients managed without PAC. A 'propensity score' for PAC placement was derived from a logistic regression model using baseline variables and adjusted mortality rates were compared. Patients receiving PAC were significantly younger (67.5 ± 11.4 vs 71.5 ± 11.6 yrs, p < 0.0001), were more likely to be transfers (46% vs 27%, p < 0.0001), had less prior MI (35 vs 48%, p = 0.008) and developed CS later (7.8 vs 4.5 median hrs, p = 0.005). Although lowest SBP (69 ± 18 vs 69 ± 19 mm, p = 0.816) and MI location were similar, patients with PAC had increased HR (99 ± 25 vs 89 ± 28, p = 0.0001), SBP (92 ± 21 vs 77 ± 20 mm, p = < 0.0001) and DBP (55 ± 15 vs 45 ± 20 mm, p = 0.0001) with more inotrope use and were more likely to undergo cath, PTCA, IABP and CABG (p < 0.0001) with decreased in hospital mortality (56 vs 79%, p < 0.0001) but no impact on LOS. Even after adjusting for baseline variables (PAC propensity) patients receiving PAC had lowered mortality (OR 0.458 95% CI 0.31–0.67, Chi-square 15.4, p = 0.0001).

Conclusion: PAC use in suspected CS is associated with aggressive therapy and a lower in hospital mortality. Selection bias is evident but no harm associated with PAC was demonstrated.

4:15

904-2 Assessment of Potential for Weaning From Mechanical Left Ventricular Support Using Quantitative Echocardiography

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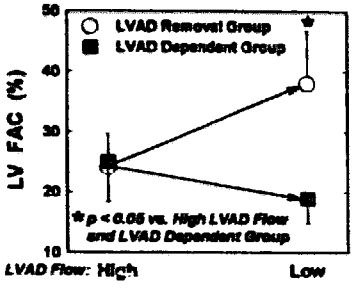
Profound myocardial dysfunction may be reversible. Assessment of functional recovery after placement of an LV assist device (LVAD) for cardiogenic shock remains clinically challenging. To determine the potential for weaning from LVAD support using quantitative echo, 12 pts, aged 46 ± 18 yrs were studied. Diseases were: post-cardiotomy shock in 8 (coronary bypass 5, heart transplant 2, valve replacement 1), viral myocarditis in 2, post infarction shock in 1, and peripartum cardiomyopathy in 1. LVADs placed: Biomedicus 5, Abiomed 4, Thoratec 2, and Novacor 1. Duration of support was 15 ± 21 days. Measures of mid-LV short axis end-diastolic area (EDA), end-systolic area (ESA), and fractional area change [FAC = (EDA − ESA)/EDA] were made during high LVAD flow: 4.6 ± 0.4 L/min and during weaning to low LVAD flow: 1.9 ± 0.9 L/min. Seven pts had successful removal of LVAD (including Thoratec removal in 1) and survived to hospital discharge. Five pts remained LVAD dependent: 4 died within 7 days, 1 was transplanted. Baseline LV FAC >20% or improvement in LV FAC % Δ >20% from high to low LVAD flow was predictive of successful LVAD removal (p < 0.05). All LVAD dependent pts could not increase FAC >15% with low LVAD flow.



Conclusion: Quantitative echo may be useful to assess myocardial recovery in pts on LVAD support and aid in the clinical decision for LVAD removal.

4:30

904-3 Gender and Other Predictors of Intraaortic Balloon Pump Complications: Prospective Study of 1,119 Consecutive Patients at Single High Volume, Tertiary Care Center

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Background: This prospective study examined the complications associated with intraaortic balloon (IAB) counterpulsation and the role of gender in the current era.

Methods: We evaluated 1,119 consecutive percutaneous IAB insertions at Allegheny University Hospitals, Hahnemann Division from January 1993 to June 1997. All patients were followed prospectively with a daily clinical evaluation. Major complications were defined as balloon rupture, embolism or limb ischemia requiring surgery, bleeding requiring transfusion, systemic infection, or death due to one of the above.

Results: There were 727 men and 392 women (age, 65 ± 11 yrs.); incidence of diabetes (27%), hypertension (52%), or peripheral vascular disease (8%). A total of 166 complications occurred and a major complication occurred in 126 of 1,119 patients (11%). Multivariate logistic regression analysis of age, cardiac index, body surface area (BSA), gender, diabetes, and peripheral vascular disease (PVD) as covariates, identified PVD (relative risk, RR = 4.1), female gender (RR = 2.3), and BSA (RR = 0.26 per m^2) as independent predictors of a major complication. Defining "high risk", as women or patients with BSA < 1.8 m^2, cardiac index < 2.2, diabetes or PVD, predicted 150 complications among 818 patients (*18%*) compared to 16 complications among 301 "low risk" patients (*5%*) (p < 0.0001).

Conclusion: Despite reductions in sizes of IAB and sheath, the current complication rate associated with intraaortic counterpulsation remains high. Advances in IAB technology need to focus on the "high risk" subset of patients that include women, or smaller patients, and those with PVD.