**Conclusions:** When coadministered with SIMV, EZE provided significant incremental reductions in LDL-C and CRP.
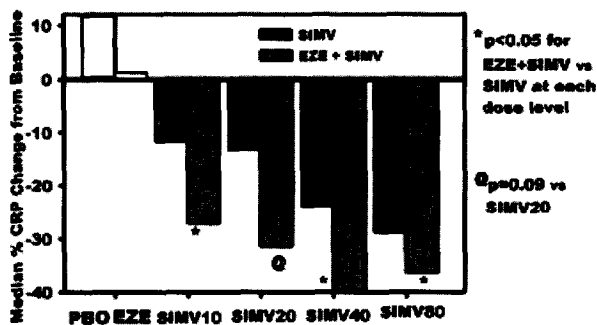


## ORAL CONTRIBUTIONS

## 886    Peripheral Arterial Disease: Detection and Risk

Wednesday, April 02, 2003, 10:30 a.m.-Noon
McCormick Place, Room S106

10:30 a.m.

### 886-1    The Relationship Between Severity of Peripheral Arterial Disease and Markers of Inflammation

Ori Preis, Joshua A. Beckman, Nader Rifai, Paul M. Ridker, Marie Gerhard-Herman, Brigham & Women's Hospital, Boston, MA, Children's Hospital, Boston, MA

Background: Elevations of markers of inflammation and thrombosis predict symptomatic atherosclerosis, including myocardial infarction and intermittent claudication. Atherosclerotic burden, as measured by the ankle-brachial index (ABI), similarly predicts cardiovascular risk. We investigated the relationship between severity of peripheral arterial disease (PAD) and markers of inflammation.

Methods: Blood levels of plasminogen activator inhibitor 1 (PAI-1), C-reactive protein (CRP), vascular cell adhesion molecule (VCAM), intracellular adhesion molecule 1 (ICAM-1), interleukin 6 (IL6), and tumor necrosis factor alpha (TNF) were measured in 110 subjects referred to the vascular laboratory for segmental Doppler pressure measurements. Correlations were determined for each factor in relation to ABI. Multivariate analyses were used to determine the relationship between marker levels and severity of PAD.

Results: Inflammatory markers, including CRP, IL6, TNF, and VCAM, correlated with burden of PAD(table), while a marker of thrombosis (PAI-1) did not. In multivariate analysis, low ABI was significantly associated with increasing levels of CRP (adjusted $R^2$ = .674, p <.001).

Conclusion: In subjects with PAD, levels of inflammatory markers significantly associated with severity of lower extremity atherosclerosis. These data suggest a possible mechanistic relationship between atherosclerotic burden and magnitude of inflammation in patients with lower extremity arterial disease.

| Marker | Pearson Correlation | p value |
|---|---|---|
| TNF | -.36 | <.001 |
| CRP | -.32 | .001 |
| IL-6 | -.29 | .002 |
| VCAM | -.22 | .025 |

10:45 a.m.

### 886-2    The Prevalence and Risk Factors of Peripheral Arterial Occlusive Disease in the Elderly Chinese Population-Wanshoulu Study

Jie Wang, Xiaoying Li, Yao He, The General Hospital of PLA, Beijing, People's Republic of China

**Background:** In order to determine the prevalence of peripheral arterial occlusive disease (PAOD) in Chinese population, we conducted an epidemiology study on elderly residents lived in the District of Wanshoulu, Beijing. Their plasma fibrinogen levels, platelet aggregation rates, and other risk factors were analyzed. **Methods:** A total of 2,124 elderly subjects (aged 60-95) were randomly selected from the area. Three diagnostic criteria for PAOD were used in this study: A) Presence of intermittent claudication (IC); b) Ankle-arm index (AAI) ≤0.9; and C) AAI≤0.85 with clinical symptoms. Risk factors, and dietary habits which might contribute to PAOD, were analyzed with logistic regression analysis using three diagnostic criteria respectively. Stepwise selection was also used in this multivariate regression analysis. Plasma fibrinogen levels and platelet aggregation rates were compared between PAOD patients (diagnosed by three different criteria) and their age, gender normalized controls. **Results:** The prevalence of PAOD diagnosed

according to three criteria were 12.2 (Male 8.0, Female 15.6), 15.9 (M 11.8, F19.2), and 8.6 % (M 5.8, F10.8) respectively. In the logistic regression analysis, age, female gender, history of hypertension, diabetes, and stroke, obesity and high level of LDL were independent risk factors contributing to PAOD in criteria A group; age, female gender, history of hypertension, and diabetes were independent risk factors in criteria B group; age, female gender, history of hypertension, stroke, diabetes, hypercholesterolemia, and smoking were independent risk factors in criteria C group. The plasma fibrinogen levels in PAOD pts were significantly higher compared to their controls in all three groups (p=0.001). Platelet aggregation rate at 3 minutes was higher in PAOD pts than controls (48.76±23.90 vs 43.50±26.76, %, P=0.012). **Conclusions:** The prevalence of PAOD in Chinese population is similar to that in western countries. It was higher in female gender and increased with advanced age. PAOD pts had significantly higher plasma fibrinogen levels and platelet aggregation rate than controls. The study provides important information for PAOD treatment and prevention.

11:00 a.m.

### 886-3    The Association Between Carotid Artery Intima-Media Thickness and Framingham Risk Score in Healthy Young Adults: The Bogalusa Heart Study

Lyn Kieltyka, Carsie Nyirenda, Elaine M. Urbina, Rong Tang, M. G. Bond, Sathanur R. Srinivasan, Gerald S. Berenson, Tulane University, New Orleans, LA, Wake Forest University School of Medicine, Winston-Salem, NC

**Background:** The extent to which multiple cardiovascular risk factors impact intima-media thickness (IMT) in different segments of the carotid artery in healthy, young adults is not well understood. **Methods:** This aspect was examined by applying the risk equations developed by the Framingham Heart Study group to a population-based sample of 517 healthy, young subjects aged 20-37 years (71% white, 39% male) enrolled in the Bogalusa Heart Study. Age, gender, systolic blood pressure, total cholesterol to HDL cholesterol ratio, and cigarette smoking habits were used to calculate individual 10-year risk scores. Mean IMT was compared by race- and gender-specific tertiles of risk score. Linear regression was used to assess the independent contribution of risk score, race, family history of coronary heart disease, triglycerides, and BMI to carotid IMT. **Results:** Mean 10-year risk score was lowest for black females (0.4%) and highest for white males (2%). As expected, males had higher risk scores than females irrespective of race (p<0.0001); mean scores for whites and blacks were similar. A significant, positive linear relationship between Framingham risk score and carotid IMT was present in all carotid artery sites. Risk tertile as bottom, middle, top (p for trend): common carotid 0.64,0.67,0.69(p<0.0001); carotid bulb 0.81,0.86,0.91(p < 0.0001); internal carotid 0.66,0.68,0.70(p<0.001). Results of multivariate analyses indicated that the risk score was positively associated with IMT of all three carotid segments (p<0.0001 for all). That the Framingham risk score contributed 9% of the variance in carotid bulb IMT versus 5% and 3% for the common and internal carotid, respectively, suggests that this site may be more susceptible to multiple risk factors and related early atherosclerotic changes.**Conclusion:** These findings underscore the adverse effects of multiple risk factors on the arterial wall and support the necessity of focusing on multiple rather than single risk factors beginning early in life.

11:15 a.m.

### 886-4    Potential Limitation of Resting Ankle-Brachial Index Measurement: Post-Exercise Ankle-Brachial Index and All-Cause Mortality

Mobeen A. Sheikh, Ahmed A. Latif, Mutaphasahim Shaaroui, John R. Bartholomew, Linda Graham, The Cleveland Clinic Foundation, Cleveland, OH

**Background:** Peripheral arterial disease (PAD) is a strong independent marker of cardiovascular morbidity and mortality. The prevalence of PAD in most epidemiological studies is based on abnormal resting ABI measurements. In some cases however the ABI may be normal at rest but may only become abnormal after exercise. We hypothesized that these patients may represent a high-mortality risk group. **Methods:** Patients undergoing ABI measurement with exercise during 1990-1997 were included for analysis. The difference in mortality between patients who had an ABI of ≥ 0.85 bilaterally both at rest and after exercise and those who had normal ABI bilaterally at rest but < 0.85 in either lower extremity after symptom/protocol limited treadmill exercise were assessed. Mortality data were obtained from the Social Security Death Index. **Results:** A total of 2502 patients were assessed (mean age 66.2 yrs SD±10.7, 60.5% males), 2055 patients who had ABI≥ 0.85 both at rest and with exercise constituted the controls and 447 patients had abnormal ABIs only after exercise. Survival analysis demonstrated a significant difference between the 2 groups [log rank chi square = 4.14, p<0.05]. Additional adjustments for the presence of risk factors (smoking, hypertension, hyperlipidemia, diabetes, prior stroke and prior coronary artery disease) did not change