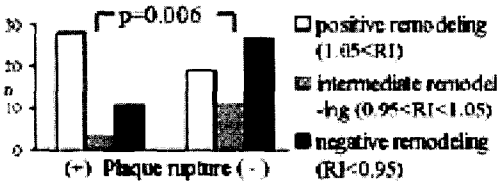
eling types (positive, intermediate and negative) was also different in lesions with and without plaque rupture.
Conclusion: In the femoro-popliteal circulation, the appearance of plaque rupture is common (43%) and is highly associated with positive remodeling.



2:15 p.m.

857-2 **Hospital Volume and Mortality in Acute Aortic Dissection: Does Low Volume Predict Worse Outcome?**

Salil J. Patel, Rajendra H. Mehta, Linda Pape, Stuart Hutchinson, Dean E. Smith, Jeanna V. Cooper, Pat O'Gara, Toru Suzuki, Eric M. Isselbacher, Christoph A. Nienaber, Kim A. Eagle, University of Michigan, Ann Arbor, MI

Background: Acute Aortic Dissection (AAD) is associated with a very high mortality. Studies have shown an increased mortality at low volume centers in coronary artery bypass and/or valve surgery. However, to our knowledge, no studies have assessed this relation in AAD. To characterize whether hospital volume correlates with mortality, we examined outcomes data in a large cohort of patients with AAD.
Methods: We evaluated 962 patients enrolled in the International Registry of Aortic Dissection (IRAD) between 1/1996 and 10/2001. Data from 15 centers in 7 countries were included. Linear regression analysis was performed correlating mortality and annual hospital volume. Centers were grouped and analyzed into tertiles based on AAD volume. Data between low and higher volume centers was compared using a Chi-square test. Further adjustment for morbidity was made by means of multivariate prediction models for predicted death both for proximal and distal AAD, creating an overall observed versus expected mortality risk for each hospital.
Results: The number of AAD cases per hospital per year ranged from 4 to 34. Overall hospital mortality for AAD was 25%. Mortality rates for all AAD were not significantly different between lowest volume and higher volume hospitals (p=0.27). Similarly, there were no significant differences in death between low and high volume centers for Type A dissection or Type A dissections managed surgically. While there was a trend for lower mortality in Type B dissection in higher volume centers (p=0.045), the confidence limits surrounding the point estimate were wide.
Conclusions: AAD continues to be associated with high in-hospital mortality rates. Our data, reflecting cases reported over recent years, did not show a convincing difference between volume and outcome for AAD, despite a large population of patients collected by multiple centers. Risk adjustment indicated that lower volume centers did not perform more poorly than higher volume institutions. It may be that volume of overall heart surgery, or perhaps aortic, aortic valve, or a combination of surgical procedures proves to be more improtant in determining mortality in AAD, not simply the number of AAD alone.

2:30 p.m.

857-3 **The Effects of Exercise on Lower Extremity Functioning in Peripheral Arterial Disease Patients Without Intermittent Claudication: A Randomized Controlled Clinical Trial**

Mary M. McDermott, Susan D. Tiukinhoy, Ty Gluckman, Shay Unterreiner, William H. Pearce, Michael H. Criqui, Kiang Liu, Jack M. Guralnik, Philip Greenland, Northwestern University Feinberg School of Medicine, Chicago, IL

BACKGROUND: Most patients with lower extremity peripheral arterial disease (PAD) do not have classical symptoms of intermittent claudication (IC). We hypothesized that supervised exercise training would improve leg functioning in patients with PAD who do not have IC. METHODS: PAD subjects were identified from a non-invasive vascular laboratory at an academic medical center. Those without IC were included. Subjects were randomly assigned to a supervised treadmill exercise intervention vs. usual care. Exercise occurred 3 times weekly for 12 weeks for up to 60 minutes each session. The six-minute walk test was our primary outcome. We also measured fastest pace walking speed over 4 meters. We used intention to treat analyses. Of 35 enrolled, 28 completed baseline and follow-up testing. Of these, 54% had no exertional leg symptoms and 46% had exertional leg symptoms other than IC. The table shows changes between baseline and follow-up. The intervention group had a significant increase in 6-minute walk performance between baseline and follow-up (p=0.02). CONCLUSION: Walking endurance improved after a supervised exercise program in PAD patients without IC. If these findings are confirmed in a larger cohort, exercise may prove to have important effects on functional performance in PAD patients without IC.

Changes in Lower Extremity Functioning in Response to Exercise

	Exercise Group (n=18)	Control group (n=10)	P Value
6-minute walk (feet)	132.0 (124)	46.2 (218)	0.265
Fast 4-meter walk (m/sec)	0.003 (0.18)	-0.053 (0.14)	0.402

2:45 p.m.

857-4 **Effects of Avasimibe in Claudicants With Peripheral Arterial Disease**

William R. Hiatt, Ellen Klepack, Mark Nehler, James Imus, Judith Regensteiner, Michael Criqui, University of Colorado Health Sciences Center, Denver, CO, Pfizer Global Research and Development, Ann Arbor, MI

Background: Avasimibe, an inhibitor of acyl coenzyme A-cholesterol acyltransferase (ACAT), was assessed for symptomatic improvement in moderate to severe claudication.
Methods: Patients with chronic, stable, claudication symptoms secondary to PAD (ankle-brachial index ≤ 0.90 at rest with a 20% reduction post-exercise) were enrolled. Primary endpoint, change from baseline in absolute claudication distance (ACD) compared to placebo after 52 weeks of treatment of avasimibe 50 mg, 250 mg, or 750 mg daily using a graded treadmill protocol (2 mph, 2% grade every 2 minutes).
Results: Treadmill results are shown in the table. Avasimibe 50 mg, although not statistically significant after adjusting for multiple comparisons, demonstrated the greatest improvement in ACD compared to placebo (difference = 0.76 min, p=0.027). This finding was supported by change in initial claudication distance (ICD) (difference = 0.5 min, p=0.026) and walking distance as measured by the Walking Impairment Questionnaire (WIQ) (difference = 5.5%, p=0.058).
Conclusion: The observed increase in ACD at the 50 mg dose, although not statistically significant, may suggest a symptomatic benefit with chronic oral avasimibe in claudication.
Least-Squares Mean Change in Time to ACD From Baseline at Week 52, Mean (SE)

Time to ACD (minutes)	Placebo	Avasimibe		
		50 mg	250 mg	750 mg
N	92	90	101	90
Change[1]	0.66 (0.26)	1.42 (0.26)[2]	0.96 (0.25)	0.83 (0.26)

N=number of patients
[1] ANCOVA model
[2] P=0.027 (P<0.0245 required for statistical significance)

3:00 p.m.

857-5 **Cilostazol in Raynaud s Disease: A Double-Blind Placebo Controlled Clinical Trial**

Sanjay Rajagopalan, Dana Pfenninger, Christine Kehrer, Emily Somers, Anjan Chakraborti, William J. McCune, Debabrata Mukherjee, Robert D. Brook, Mariana Kaplan, University of Michigan, Ann Arbor, MI

Background: Raynaud's syndrome (RS) is characterized by recurrent episodes of vasospasm occuring in isolation (primary, 1.RS) or in association with rheumatologic states (secondary, 2.RS). We investigated the effect of the phosphodiesterase III inhibitor cilostazol in this disorder.
Methods: Subjects with moderate-severe RS were stratified by diagnosis (1 or 2.RS) and randomized to receive placebo or cilostazol 100 mg/day bid for 6 weeks in a double-blind manner. Brachial artery vasoreactivity to assess conduit vessel function, laser Doppler fluxmetry to assess microvascular flow, and cold pressor testing (CPT) were performed at study entry and exit. Symptoms were assessed throughout the 6-week duration using validated attack scores.
Results: A total of 19 patients with 1.RS and 21 patients with 2.RS matched for age, vascular risk factors, and symptom severity completed the study. Cilostazol, but not placebo, resulted in an increase in brachial artery diameter at 6 weeks, with a 16% and 17% increase in 1.RS and 2.RS, respectively (P <0.05 for both). There was no change in median flow-mediated dilation (FMD) (4.06 [25th-75th percentile, 2.5-6.1] to –0.77 [–2.42-3.45]) in 1ü or 2ü RS (2.23 [0.05 to 6.27] to 2.95 [1.69 to 7.4]). Nitroglycerin-mediated dilation, microvascular flow indices, and symptom severity were unchanged in both cohorts. Cilostazol in 1.RS, but not in 2.RS, resulted in a positive change in the slope of brachial responsiveness to CPT, which translated to an increase of 0.32 mm/min compared with placebo (P = 0.002). Cilostazol treatment remained significantly associated with increased brachial artery diameter when controlled for body mass index, age, cholesterol, triglycerides, cholesterol/high-density lipoprotein ratio, and systolic blood pressure (P = 0.018).
Conclusion: Cilostazol increases conduit vessel diameter in RS. There was a favorable impact on conduit vessel responsiveness to cold in 1.RS without impacting microvascular flow or symptoms at 6 weeks. A longer duration of treatment or higher doses may be required to see a benefit in these parameters in RS. These results provide important insights for designing future pharmacotherapeutic interventions in RS.

3:15 p.m.

857-6 **A Prospective Case-Control Study of Tobacco Dependence in Thromboangiitis Obliterans (Buerger s Disease)**

Leslie T. Cooper, Stavonnie S. Henderson, Kenneth P. Offord, Tak Sun Tse, David R. Holmes, Richard D. Hurt, Mayo Clinic and Foundation, Rochester, MN

Background: Thromboangiitis Obliterans (TAO) is often cited as an extreme phenotype of vasculopathy and tobacco dependence. Although tobacco exposure is essential to progression of arterial ischemia in TAO, expert opinion differs regarding the degree of tobacco dependence in this population. We designed a prospective, case-control study