POSTER SESSION

1081 Peripheral Atrial Diseases: Care, Standards, and Outcomes

Monday, March 31, 2003, 9:00 a.m.-11:00 a.m.
McCormick Place, Hall A
Presentation Hour: 10:00 a.m.-11:00 a.m.

1081-117 Inaccuracy of the Rose/WHO and the Edinburgh Modification Questionnaires for Detecting Peripheral Arterial Disease in Patients With Coronary Artery Disease

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Background: Synchronous peripheral arterial disease (PAD) and coronary artery disease (CAD) is common. The Rose/WHO questionnaire and later the Edinburgh modification of this questionnaire was developed to screen for PAD. Little data are available on the sensitivity of these questionnaires in hospitalized patients with CAD. The aim of our study was to determine the accuracy of these questionnaires as screening methods for PAD in hospitalized patients with CAD.
Methods: Medically stable patients with proven CAD were invited to participate prior to hospital discharge. Data regarding cardiovascular risk factors, history of previous PAD and PAD evaluation/treatment, medication use and, physical examination were collected. The patients answered both the WHO/Rose and Edinburgh modification claudication questionnaires and had an ankle-brachial index (ABI) measured. An ABI less than or equal to 0.9 was considered to be indicative of significant PAD. Patients who had undergone previous lower extremity revascularization for PAD and had a corrected ABI greater than 0.9 were not considered for this analysis to have significant PAD.
Results: 95 patients (66 men) were recruited. By measuring the ABI, thirty five patients (25 men) were found to have significant PAD; the mean ABI was 0.70 (range: 0.0-0.90). An additional three patients who had an ABI corrected by lower extremity revascularization were excluded from the analysis. The Rose/WHO questionnaire had a sensitivity, specificity, and overall accuracy (95% C.I.) of: 14.3 % (2.7-25.9%), 96.7% (92.1-100%), 66.3% (56.8-75.8%) respectively. The Edinburgh modification of the Rose/WHO questionnaire had a sensitivity, specificity, and overall accuracy (95% C.I.) of: 28.6% (13.6-43.5%), 90.0% (82.4-97.6%), 67.4% (57.9-76.8%) respectively.
Conclusions: Despite the high incidence of synchronous PAD and CAD in hospitalized patients with CAD, traditional claudication questionnaires are insensitive to PAD detection. These results demonstrate that the ankle-brachial index should be a standard part of the examination of patients with CAD and emphasize that a better screening questionnaire is needed to detect PAD in patients with CAD.

1081-118 Quality of Care for Patients With Peripheral Vascular Disease During Acute Coronary Syndromes: Insights From the Global Registry of Acute Coronary Events (GRACE)

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Background Peripheral vascular disease (PVD) is a significant risk factor for cardiovascular events. The impact of PVD on care during acute coronary syndromes (ACS) is unknown.
Methods To study the effect of PVD on the care of patients with ACS, we evaluated 17,666 such patients enrolled in GRACE.
Results History of PVD was present in 1880 (10.6 %) ACS patients. Compared to patients without PVD, they had significantly more comorbidities and inhospital cardiovascular events. In spite of this higher risk profile, patients with PVD were less likely to undergo revascularization (OR 0.80, 95%CI 0.73-0.90, p<0.0001) or catheterization (OR 0.84, 95%CI 0.76-0.92). Patients with PVD were also less likely to receive reperfusion therapy (when indicated) (OR 0.60; 95%CI 0.46-0.77, p<0.0001), aspirin in hospital (OR 0.58, 95%CI 0.46-0.74, p<0.0001) or beta-blocker at discharge (OR 0.70, 95%CI 0.58-0.83, p<0.0001) (Table). There was a non-significant trend toward lower use of aspirin and lipid-lowering agents at discharge.

Treatment	PVD Patients	No PVD patients	P value
Reperfusion therapy*	150/261 (57.5%)	2621/3777 (69.4%)	<0.0001
Aspirin in-hospital*	1198/1279 (93.7%)	12550/13042 (96.2%)	<0.0001
Aspirin at discharge*	800/893 (89.6%)	7481/8207 (91.2%)	0.1199
Beta-blocker at discharge*	458/645 (71.0%)	5277/6774 (77.9%)	<0.0001
ACE-inhibitor at discharge*	217/291 (74.6%)	1609/2085 (77.2%)	0.3246
Lipid-lowering agent at discharge*	136/213 (63.9%)	1463/2090 (70.0%)	0.0634
Smoking cessation counseling	136/211 (64.5%)	1373/2056 (66.8%)	0.4954

*Among patients with indications, and without contraindications.
Conclusions The quality of care of patients with PVD who present with acute coronary syndromes is suboptimal in spite of their higher risk profile and poorer outcomes. Quality improvement strategies, such as those employed by the AHA-sponsored *Get with the Guidelines* and the ACC-sponsored *Guidelines Applied in Practice* programs, should target this high-risk cohort of PVD patients with ACS to improve their long-term outcomes.

1081-119 Chronotropic Response to Exercise in Patients With Peripheral Arterial Disease Without Classical Symptoms of Intermittent Claudication

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There is little information on clinical abnormalities in patients with peripheral arterial disease (PAD) without classical symptoms of intermittent claudication (IC). Although these patients have functional limitations similar to PAD patients with IC, they are often not targeted for aggressive preventive care. We aimed to identify parameters that can be used to assess cardiovascular risk in these patients. Chronotropic incompetence is an independent predictor of death and incident coronary events in other patient groups. We hypothesized that patients with PAD without IC are a high-risk group, and will have abnormal chronotropic response to exercise. Methods: Patients with ankle-brachial index (ABI)<0.9 without classical symptoms of IC were recruited for the study. Patients with significant limitations to exercise were excluded. A symptom-limited walking treadmill test was performed. Chronotropic incompetence was assessed using the chronotropic index (CI) defined as (HRpeak-HRbaseline)/(220-age-HRbaseline), and the heart rate recovery (HRR) defined as the difference between peak HR and HR at 1 min into recovery. Validated functional measures such as the 6-min walk distance, 4-mile velocity, and summary performance score were also assessed. Results: 35 consecutive patients were included. Mean age was 70 ± 9 years (54% male). Mean exercise time was 7 ± 4 minutes, (6 METS). 89% failed to reach target HR. Mean CI was 0.52 ± 0.19, with only 3 patients (8%) having a normal index of >0.8. Mean HRR was 14 ± 9 bpm, with 48% having an abnormal HRR of ≤12 bpm. HRR and CI did not correlate with PAD severity nor any of the measures of functional disability, after controlling for age, sex, treadmill time, beta-blocker use, and presence of diabetes. Conclusion: In these patients with PAD without classical symptoms of IC, we have demonstrated abnormal exercise parameters consistent with chronotropic incompetence. CI and HRR are simple exercise parameters that predict increased risk. These measures are independent of markers of functional disability and PAD severity, and can perhaps be used to identify high-risk patients among this cohort that should be targeted for aggressive risk factor modification.

1081-152 Lipid-Lowering and Secondary Prevention of Cardiovascular Disease in Vascular Surgical In-Patients

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Background: HMG-CoA reductase inhibitors (statins), are effective secondary prevention for cardiovascular disease. Few studies have examined the adherence with, and predictors of, statin use in patients referred for surgical care of peripheral artery disease (PAD). **Methods:** We prospectively evaluated 355 consecutive PAD patients admitted for vascular surgical procedures. We documented history, current medications, and risk factor status. We surveyed a subset of 108 consecutive patients regarding risk factors. Univariate associations with statin use were tested by chisquare, and a multivariate regression analysis evaluated independence of associations.
Results: Only 53% of subjects were taking statins, of whom only 55% were at LDL goal. Only 41% of all patients were at LDL goal. History of coronary artery disease (CAD) predicted statin use:.

Predictor	Statin Use With	Satin Use Without	p
Hx CABG	64%	49%	0.02
Hx MI	73%	46%	<0.001
Hx CAD	63%	37%	<0.001
Hx PAD only	40%	59%	0.001
Beta-blocker use	62%	43%	<0.001
ACE-I use	63%	47%	0.003
Anti-platelet use	61%	39%	<0.001

A history PAD without CAD was associated with lower statin usage (40% vs. 59%, p=0.001). Only 30% of subjects had received dietary counseling, and only 27% knew their LDL level. On regression modeling, only a history of CAD, and the use of antiplatelet agents, and ACE-Inhibitors predicted statin use. **Conclusions:** Statin use and attainment of LDL treatment goals were disappointing even in patients with severe PAD. Previous history of CAD, though not PAD, was associated with increased statin use. These data suggest that patients with PAD are not receiving adequate secondary prevention, and their treatment is inferior to that received by patients with CAD.