be considered in individuals with CVD risk factors or established CVD to identify and treat those with diabetes. The results of the NAVIGATOR trial will indicate whether treatment of those with IGT can reduce their CVD risk.

1169-52
Low Socioeconomic Status Is More Predictive of Paroxysmal Atrial Fibrillation in Women Than in Men: Observations From the NAVIGATOR Trial: Angiographic Diagnosis of Coronary Artery Disease
Sandra P. Reina, Joseph B. Muhlestein, Benjamin D. Horne, Tami L. Bier, Chloe A. Allen Maycock, Robert R. Pearson, Stephanie V. Moore, Dale G. Renlund, Jeffrey L. Anderson, LUS Hospitals, Salt Lake City, UT, University of Utah, Salt Lake City, UT
Background: Low socioeconomic status (SES) has been associated with an increased risk of coronary heart disease. We previously demonstrated that a geographic based-surrogate measure of SES, residential economic status (RES), predicts the risk of coronary events among patients with CAD. However, the impact of SES might differ by gender. 

Methods: Between 1993 and 1999, a cohort of 7,147 patients (men=5,310; average age: 64±11; women=1,837; average age: 66±12 years) with advanced, angiographically-defined CAD (>70% stenosis) was evaluated for RES and outcome by gender. 

Results: 

- In women, the median household income (1990 US Census) of each patient was used to determine tertiles of RES. Low RES was defined as at least 20 consecutive arrhythmic ventricular beats (RR-interval < 750 ms) in women versus 1.45 (95% CI 1.33-1.57) in men (p<0.0001). The interaction between gender and RES was not significant (adj p-value for interaction = 0.045).

Conclusions: Lower RES predicts incident coronary events in women as well as men. However, low RES was found to pose a greater hazard in women. Further studies, which include precise measures of RES, are now indicated to define the gender-related and other factors causing these poor outcomes in subjects with low SES.

1169-63
Effect of Ethnicity on Long-Term Outcomes Following Percutaneous Coronary Intervention in a Setting With Universal Access to Health Care
Linda L. Huffer, Robert E. Eckart, Eric A. Shy, Jose A. Derkosky, Daniel E. Simpson, Brooke Army Medical Center, Fort Sam Houston, TX

Background: We sought to examine the role of ethnicity in those undergoing percutaneous coronary interventions (PCI) in a health care system in which there is universal access to care. 

Methods: We retrospectively identified percutaneous coronary interventions performed on Caucasians, African Americans, or Hispanics from 1/1/98 to 11/1/2001 at Brooke Army Medical Center. Data in a centralized database included patient co-morbidities, angiography and intervention findings, and post-PCI pharmacologic interventions. 

Results: Overall event rates were 33.2% for women and 27.6% for men (p=0.001). A significant inverse association was observed between quarterly rates of MI and incident CAD for both women (30.8%, 32.3%, 30.8%, 29.0%, 24.3%, 24.3%, 23.6%, 22.2%, 20.2%, 19.4%, P-trend=0.001) and men (25.3%, 24.3%, 23.6%, 22.2%, 20.2%, P-trend=0.001), but the effect of low RES was amplified in women with an apparent reversal. Low RES was associated with an increased acute heart attack risk (RR of incident death/MI of 1.47 (95% CI 1.33-1.75) in women versus 1.14 (95% CI 0.99-1.27) in men. The interaction between gender and RES on death/MI was significant (adjusted p-value for interaction = 0.045).

Conclusions: Low RES was associated with an increased acute heart attack risk in women compared to men. Further studies, which include precise measures of RES, are now indicated to indicate the gender-related and other factors causing these poor outcomes in subjects with low SES.

1169-53
Value of Routine Holter Screening for the Detection of Paroxysmal Atrial Fibrillation in Patients With Cerebral Ischemic Attacks
Barth A. Scher, Thomas A. Cron, Stefan Oswald, University Hospital, Basel, Switzerland

Background: Holter-monitoring for the detection of paroxysmal atrial fibrillation (PAF) in addition to echocardiography and electric Doppler is a routine procedure after cerebral ischemic attacks (CIA), although the reported incidence of PAF is low and the value of Holter with this indication unknown. Aim of this study was to evaluate the incidence of PAF, to assess the impact of its diagnosis on drug regimen modification (DRM) and to calculate the cost-effectiveness of Holter as a screening test.

Methods: All holters and echo (TTE/TEE) of pts with CIA, referred to our clinic for the evaluation of cerebral source, were analyzed by two cardiologists. PAF was defined as at least 20 consecutive arrhythmic ventricular beats (RR-interval < 750 ms).

Results: Routine Holter (n=201) and 06/02, 308 pts (age 35 to 92y, median 68y) had a routine 24-hour-Holter after CIA (17% of all holters). PAF was diagnosed in 9 pts (3%): in 2 pts Holter before and therefore was on ASS; in 2 pts, a new diagnosis of PAF was established. In 270 pts, echocardiography was performed (144 TTE, 78 TEE, 50 TAWEE). In 86 (32%) pts a potential source of embolism was detected (significant plaques 55%, for-mane ovale 36%, other 9%). Conclusions: Our data demonstrate that PAF in CIA-patients: 1) has a low incidence 2) it is diagnosed, hardly leads to a drug modification 3) has high per-case-costs. Therefore, routine Holter screening is not recommended in pts with CIA. On the other hand, echocardiography has a much higher yield to detect possible abnormalities responsible for a CIA.

1169-55
Effect of Green Tea Intake on the Development of Coronary Artery Disease
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Background: Japanese have a low incidence of coronary artery diseases (CAD), although plasma cholesterol levels and the incidence of diabetes mellitus are not different between Japan and Western counties and the frequency of smoking is high in Japan. The daily intake of food and green tea, which contains many polyphenolic antioxidants, are considered to be the low incidence of CAD. To determine the influence of diet on CAD, we analyzed the relationship between the dietary habits and the incidence of CAD. 

Methods: This study comprised 390 patients (pts) who underwent coronary angiography (180 pts with CAD and 129 pts without CAD). Coronary risk factors, serum lipids, daily intake of green tea and red wine, vitamins (C and E) and dietary habits (vegetable, fruits, soy beans and fish), were assessed. The predictors for CAD were analyzed by multivariate logistic regression analysis.

Results: The daily intake of green tea (cup/day) was significantly higher in patients without CAD than in those with CAD (3.6±3.9 vs. 3.1±4.0, p<0.005). Independent predictors based on multivariate analysis were green tea, vegetable, male, age, diabetes mellitus (DM), hyperlipidemia (HL), and smoking.

Conclusions: The more green tea patients intake, the lesser CAD occur. Ingestion of green tea and vegetable are responsible, in part, for the low incidence of CAD in the Japanese population despite high incidences of cigarette smoking. Tea consumption may be much more useful than vegetable to prevent coronary artery disease.

Prevalence of coronary artery disease based on multivariate logistic regression analysis

<table>
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<th>Tea</th>
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<th>Age</th>
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1169-56
Gender Differences in Survival After Admission for Acutely Decompensated Heart Failure
Dorien Apcrson Darlene P. Horton, Andrew J. Burger, Rammbald Medical Center, Hafia, Israel, Beth Israel Deaconess Medical Center, Boston, MA

Introduction: Natural history studies on patients with congestive heart failure have suggested that the prognosis of women is better than that for men. However, it is not known whether female survival advantage extends to patients with severe decompensated heart failure.

Methods: We studied 500 patients (mean age 63 ± 14 years, 377 male) with a previous diagnosis of heart failure (95% with New York Heart Association functional class III or IV) who were admitted to hospital for decompensated heart failure.

Results: During a mean follow-up of 343 ± 185 days, 177 patients (35%) died. Kaplan-Meier survival curves for men and women showed a significant difference in survival (log-rank test, p < 0.005). The incidence of death stratified by gender and age was reported. Male sex was a significant risk factor for death (OR 3.97, 95% Cl = 1.2-2.3, p = 0.002).

Conclusions: The more green tea patients intake, the lesser CAD occur. Ingestion of green tea and vegetable are responsible, in part, for the low incidence of CAD in the Japanese population despite high incidences of cigarette smoking. Tea consumption may be much more useful than vegetable to prevent coronary artery disease.
Conclusion: Women admitted with decompensated heart failure appear to have better survival than men after hospital discharge. These results suggest that biological differences in the progression of heart failure are present even with advanced disease.

A Targeted Approach to Reducing Radiation Exposure in the Cardiac Catheterization Laboratory

Sarah V. Gummaraju, Venkateshwaran Srinivasan, Leslie Butler, Holly Jensen, Alan Gradman, The Western Pennsylvania Hospital, Pittsburgh, PA

Background: Exposure to ionizing radiation is an inevitable consequence of therapeutic procedures performed in the catheterization laboratory. The risk of radiation-induced injury is dose-dependent and numerous injuries secondary to lengthy fluoroscopic times are reported annually to the Food and Drug Administration. In July 2001, we implemented a multifaceted program designed to reduce radiation exposure.

Methods: Physicians and staff were required to demonstrate proficiency with a mandatory radiation-safety curriculum. In addition, fluoroscopic exposure time was documented and tracked during each procedure. Operators were informed at ten-minute intervals beginning after 30 minutes of exposure and were given a pre-determined threshold (60 minutes) associated with documented risk of radiation-induced skin injury. To determine the effectiveness of the program, we compared fluoroscopic times in 1,067 patients undergoing interventional procedures during the six-month interval before (n=569) and after (n=518) program implementation.

Results: Average fluoroscopic exposure time decreased from 14.5±3 to 9.7±3.7 minutes (p<0.005), a reduction of 31%. Furthermore, there was a 25% reduction in the number of patients sustaining prolonged fluoroscopic exposure (40 minutes). There was no statistical difference in baseline characteristics of the two groups or in the percentage of patients in whom factors expected to prolong fluoroscopic exposure time (multi- vessel intervention, intravascular ultrasound, measurement of fractional flow reserve or brachytherapy) were present.

Conclusion: Didactic education and real time feedback to physicians during interventional procedures reduced average fluoroscopic exposure times and the number of patients exposed to prolonged irradiation by approximately one-third. Easily replicable, this simple program could significantly reduce the dangers of radiation exposure during interventional cardiology procedures.

Beta Carotene Increases All-Cause Mortality and Cardiovascular Death: A Pooled Analysis of Randomized Trials

Deepak P. Vivekananthan, Marc S. Penn, Shelly S. Sapp, Eric J. Topol, The Cleveland Clinic Foundation, Cleveland, OH

Background: Beta carotene supplementation has been previously found to be associated with adverse outcomes in patients at high-risk for lung cancer. However, the impact of beta carotene treatment on mortality in patients with advanced cardiovascular disease has not been well-studied. Therefore, we performed a pooled analysis of randomized trials of beta carotene therapy in both low-risk and high-risk patients.

Methods: We pooled the results of four trials which randomized patients to either beta carotene or control therapy. Only trials which included 1000 or more patients were included in the analysis. The dose of beta carotene ranged from 12 to 50 mg/d.

Results: Four trials, enrolling 92,061 patients, fulfilled the inclusion criteria. The pooled all-cause mortality rate was 10.5% in the beta-carotene arm and 9.9% in the control arm. The odds ratio of death for patients treated with beta carotene was 1.07 (1.02-1.12, P=0.003). The risk of death from cardiovascular death was 4.9% in the beta-caro- tene group and 4.5% in the control group. The odds ratio for cardiovascular death with beta carotene therapy was 1.2 (1.03-1.17, P=0.003). There were no significant differences in rate of nonischemic cardiac death between patients treated with beta carotene and those treated with control therapy (4.1% vs. 4.2%, respectively, P=0.59).

Conclusion: Supplementation with beta carotene is associated with a significant increase in all-cause mortality and cardiovascular death in patients at risk for coronary disease. The risk of death from beta carotene therapy appears strongest in smokers. However, a trend towards harm with beta carotene treatment was found even in low-risk patients. The adverse effect of beta carotene treatment on all-cause mortality was found at dosages used in standard preparations of over-the-counter multivitamins. Therefore, the addition of beta carotene to multivitamin preparations should cease and the routine use of these multivitamins by consumers should be discouraged.

POSTER SESSION

1193 Outcomes of Acute Coronary Syndromes

Tuesday, April 01, 2003, Noon-2:00 p.m.
McCormick Place, Hall A
Presentation Hour: Noon-1:00 p.m.

1193-51 Treatment and Outcomes of Eastern European Patients With Acute Coronary Syndromes in a Multinational Randomized Clinical Trial

Oks S. Guryev, Gena Bukhtim, Sabina Murphy, Christopher P. Cannon, the OUPUS-TIMI 16 Investigators, Ukrainian Institute of Cardiology, Kiev, Ukraine. Brigham and Women's Hospital, Boston, MA

Background: Registries and clinical trials have offered limited evidence on the translation of non-ST segment elevation acute coronary syndrome (ACS) trial findings into local practices in Eastern Europe (EE). We examined differences in ACS treatment and outcomes between EE and other regions in OPUS-TIMI-16, a randomized trial of prolonged oral glycoprotein IIb/IIIa inhibition.

Methods: The OPUS-TIMI 16 trial included 10,286 ACS patients at 750 sites in 25 countries. Of these patients, 1248 (12.1%) came from 62 sites in the EE countries of the Czech Republic, Hungary, Poland, and Russia. Patients received adjuvant treatments at physician discretion. We compared variation in baseline characteristics, treatment, and outcomes of patients in EE and other regions of the world (RW).

Results: We found that EE patients in OPUS-TIMI 16 had more high-risk features at presentation. We identified significant variation between EE and other regions in use of adjuvant therapies during hospitalization. While only 22.5% of EE patients received hypolipidemics versus 39.9% of patients in RW (P<0.001), we observed more extensive use of angiotensin converting enzyme inhibitors (76.1% vs 76.7% in RW), beta-blockers (65.3% vs 48.6% in RW), calcium-channel blockers (82.2% vs 39.2% in RW), and nitrates (69.4% vs 28.6% in RW) in EE. EE patients also underwent fewer concomitant coronary interventions (PCI) 11.86% versus 29.06% in RW (P<0.001). Patients in EE had worse outcomes at 30 days. After adjustment for baseline characteristics and revascularization rates, EE patients had higher rates of death (hazard ratio (HR) 1.82 (P<0.005)), and myocardial infarction (HR 1.84 (P<0.001)). These trends persisted at 10 months.

Conclusion: Despite similarities in ACS management guidelines, this study revealed disparities in use of hypolipidemic agents and PCI between EE sites and RW in a large multinational clinical trial. Given the higher rates of adjusted mortality and myocardial infarction among EE patients, these findings indicate the need for studies to address the sources of treatment and outcome variation, and strategies for improving access to effective cardiovascular therapies in EE.

1193-52 Troponin I Elevation Following Percutaneous Coronary Intervention Does Not Predict Future Adverse Outcomes

J. William Ireton, Hassan Samady, Linda Snyder, Howard H. Christenson, Jennifer Gibson, David E. Bruns, Sharon Sayre, Lawrence W. Gimple, Michael Rastogi, Eric R. Powers, Ian J. Sarembock, University of Virginia, Charlottesville, VA

Background: The importance of troponin I (cTnI) elevation following percutaneous coronary interventions (PCI) has not been evaluated as extensively as cTnI. This study evaluated the prognostic significance of cTnI elevation following PCI on MACE (death, MI, TVR) at three years.

Methods: We prospectively studied 320 consecutive patients without acute MI who underwent successful PCI (mean age 62±12, males 64%, diabetes 32%, prior MI 43%, CHF 12%, stent use 76%). All patients had blood drawn before and 12-24 hours after PCI for cTnI assay on a Dimension ® R. Serial follow-up by phone and questionnaire occurred at six months, one, two and three years.

Results: Periprocedural cTnI elevation occurred in 192/320 (60%) patients using cTnI ≥ 0.1 ng/mL. Using cTnI ≥ 1.5 ng/mL elevation occurred in 70/320 (22%), a rate similar to other studies with CK-MB. Patients with periprocedural elevation of cTnI > 0.1 ng/mL had similar rates of death (5% versus 12%, p=NS), death and MI (13% versus 18%, p=NS) or any MACE (33% versus 32%, p=NS) at 3 years. After controlling for other variables, by multivariable logistic regression analysis, cTnI as a continuous variable after PCI was not a significant predictor of death (β=−2.2, p=0.10), death and MI (β=−1.9, p=0.17), or death, MI, and TVR (β=0.0, p=0.06) at three years.

Conclusion: After control for common variables, cTnI elevation following PCI does not add prognostic information about future MACE for up to 3 years post-PCI. This may be because of the higher sensitivity of cTnI to detect small amounts of myocardial injury that are not associated with worse long-term outcomes. This has important implications for the design of clinical trials and suggests against the use of cTnI elevation following PCI as a primary endpoint.