

Methods: 581 subjects (49.7% males), a random sample of the general Olmsted County population aged 45 y and above, underwent transesophageal echocardiography (TEE) with color-Doppler imaging and contrast injection, as part of the Stroke Prevention: Assessment of Risk in a Community (SPARC) study. The echocardiographic finding of PFO was compared between SPARC subjects and patients undergoing TEE at the Mayo Clinic during the same time period, for various clinical indications: a) Search of a source of cerebral embolism (Stroke group, n = 1259); b) Other miscellaneous, non-embolic indications (Misc. group, n = 2203).

Results: The proportions (%) of subjects with PFO (number of subjects in each group in parentheses) are presented in the table:

Age	45-54 y	55-64 y	65-74 y	75-84 y	≥85 y
SPARC	28.0 (140)	26.3 (186)	28.3 (113)	21.1 (95)	20.0 (77)
Stroke	22.0 (189)	17.7 (272)	20.4 (460)	19.9 (317)	11.8 (61)
Misc.	8.7 (321)	10.1 (487)	9.1 (832)	10.3 (487)	9.2 (78)

Age and gender-adjusted odds ratios of PFO were 0.71 (95% confidence interval 0.58-0.89) for the Stroke group and 0.30 (0.24-0.38) for the Misc. group, compared to the SPARC cohort.

Conclusions: The frequency of PFO was surprisingly higher in the general population (SPARC) than in the Stroke group, possibly relating to a more systematic search for PFO in SPARC, a stroke-oriented study. Similarly, the relatively low frequency of PFO in the non-stroke (Misc.) group may be due to a less meticulous search for PFO in pts not evaluated for stroke. The results of our study question the role of PFO as a risk factor for cerebral embolism.

3:00

899-5 Increased Left Atrial Size as a Risk Factor for Ischemic Stroke in a Multiethnic Population

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Background: Left atrial enlargement (LAE) has been shown to be associated with ischemic stroke (IS), but only in predominantly white populations. The risk of IS associated with LAE in non-white subjects is therefore unestablished.

Methods: As a part of the Northern Manhattan Stroke Study, we performed trans thoracic echocardiography in 433 patients with acute IS (200 F, 233 M, mean age 68.9 ± 12.3 years) and in 451 community control subjects matched for age, gender and race-ethnicity. LA antero-posterior diameter was measured and indexed by body surface area. Odds ratio (OR) with 95% confidence intervals (CI) for increasing LA size and IS were calculated in the overall group and by race-ethnic subgroups using conditional logistic regression.

Results: LAE was associated with IS in the overall group (OR 2.0 for each 10 mm increase in LA index; CI 1.5-2.5). The risk of IS was similar in whites (OR 2.0, CI 1.2-3.4), blacks (OR 1.6, CI 1.02-2.4) and Hispanics (OR 2.3, CI 1.6-3.4). The association between LAE and IS was independent of arterial hypertension, diabetes mellitus, cigarette smoking, atrial fibrillation, coronary artery disease and echocardiographically determined left ventricular hypertrophy in the overall group (adjusted OR 1.5, CI 1.2-2.0) and in all race-ethnic subgroups (adjusted ORs ranging from 1.5 to 1.6).

Conclusions: 1) LAE is an independent risk factor for IS. 2) The increase in risk is similar across various race-ethnic subgroups.

3:15

899-6 Atrial Fibrillation Is Associated With a Thrombophilic State - The Chin-Shan Community Cardiovascular Cohort Study

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Background: The precise mechanisms of increased thromboembolic risk in patients with atrial fibrillation (AF) have not been fully elucidated, though embolism of thrombi from the left atrium has been thought to be the main pathogenetic mechanism. The purpose of this study was to determine whether AF is associated with abnormalities in plasma fibrino-coagulation factors indicative of a prothrombotic state, which might in part account for the increased thromboembolic risk in AF.

Methods: In an attempt to conduct an investigation of cardiovascular disease in Taiwan, a prospective, population-based study entitled "Chin-Shan Community Cardiovascular Cohort Study" was begun in 1990 with a cohort of 3,602 people aged ≥ 35 years old. A total of 2,598 participants have been biennially followed up for 4 years, in whom there were 35 subjects having AF, with a prevalence of 1.4%. Four fibrino-coagulation markers: fibrinogen, factor VIII coagulant activity, tissue plasminogen activator (tPA),

and plasminogen activator inhibitor 1 (PAI-1), from peripheral venous blood were carefully evaluated in these participants.

Results: By univariate analysis, the plasma levels of factor VIII activity and tPA in patients with AF were significantly higher than those in non-AF participants (factor VIII, 175.9 ± 54.8 vs $144.1 \pm 62.8\%$ [mean \pm SD], $p < 0.01$; tPA, 11.8 ± 5.2 vs 8.9 ± 4.6 ng/ml, $p < 0.01$; respectively). The differences in plasma fibrinogen and PAI-1 levels between AF and non-AF subjects were not statistically significant. Multivariate analysis showed that AF was independently associated with an increased plasma tPA level ($p < 0.008$) but not factor VIII activity. There were no significant differences in plasma fibrinogen, factor VIII, tPA, and PAI-1 levels between patients with chronic and paroxysmal AF.

Conclusion: This study has shown that plasma tPA levels were increased in patients with AF. This result suggests that a thrombophilic state may contribute to the increased risk of thromboembolism in patients with AF.

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Variation in Therapy of Acute Myocardial Infarction: Highlighted Abstract Session

Wednesday, April 1, 1998, 2:00 p.m.-3:30 p.m.
Georgia World Congress Center, Auditorium

2:00

900-1

Coronary Revascularization Is Under-utilized in Medicaid Patients With Acute Myocardial Infarction

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Background: Treatment biases have been reported in the management of myocardial infarction (MI).

Methods: Using the comprehensive NY State Department of Health hospital administrative data set (SPARCS), we identified all patients (pts) admitted with MI in NY State in 1995. Clinical data, procedure rates and hospital mortality were compared between Medicaid (N = 2584), HMO (N = 2814) and Indemnity insurance pts (N = 8215).

Results: Medicaid pts, older and more likely female, had a higher incidence of diabetes (35.5 vs 22 vs 22%), CHF (32.2 vs 18.3 vs 19%) and a higher comorbidity index (table). Despite these high-risk characteristics, Medicaid pts underwent fewer invasive diagnostic and revascularization procedures and their mortality was nearly 2 fold greater.

	Medicaid	HMO	Indemnity
Age (Years) [†]	59.4 \pm 12.9	55.8 \pm 10.5	56.7 \pm 10.0
Female Gender [†]	46.4%	26.2%	25.4%
Comorbidity Index [†]	2.4 \pm 1.6	1.8 \pm 1.2	1.8 \pm 1.2
Catheterization [†]	34.2%	50.4%	40.1%
Revascularization [†]	14.2%	26.0%	18.9%
Mortality [†]	8.1%	4.3%	3.9%

[†] $p < 0.05$ for comparisons across all 3 groups

Conclusions: 1) Medicaid pts with MI have a higher in-hospital mortality than HMO or Indemnity pts. 2) Coronary angiography and revascularization are under utilized in higher-risk Medicaid pts. The effect of patient characteristics or treatment bias on this observed mortality difference deserves further study.

2:15

900-2

Geographic Variation in Treatment of Acute Myocardial Infarction: Results From the HCFA Cooperative Cardiovascular Project

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Background: Clinical consensus on the treatment of acute myocardial infarction (AMI) has led to the development of quality indicators for pharmacologic therapy, thrombolysis, and smoking advice. The purpose of these analyses was to study geographic variation in the correspondence between these indicators and the clinical care provided.

Methods: The zip codes of Medicare beneficiaries were used to create 3,436 empirically derived Hospital Service Areas (HSA) which were further classified into 306 Hospital Referral Regions (HRR) each containing the hospital(s) providing cardiac surgery and other tertiary care services to an aggregation of HSAs. Data from the Cooperative Cardiovascular Project were mapped to these areas. This analysis data set contained records of 224,377 patients treated for AMI; 194,927 (86.9%) were confirmed by clinical, laboratory and/or EKG criteria. Analyses for quality indicators related