

nary heart disease. This common and fatal condition is underdiagnosed and undertreated.

919-104 Gender Differences in Patients With Unexplained Syncope

Lisa A. Freed, Kim A. Eagle, Zakwan A. Mahjoub, A.J. Conrad Smith, Michael R. Gold, Patrick T. O'Gara, Sumita D. Paul. *Harvard Medical School, Boston, MA; University of Michigan Medical Center, Ann Arbor, MI*

Prior studies have not examined gender based differences in the presentation and evaluation of patients with unexplained syncope. To determine gender based differences in presentation, frequency of cardiac syncope, abnormal signal averaging (SAECG), and referral for electrophysiology (EPS), we studied 109 (48 women) patients at Massachusetts General Hospital (1989-1990). All had Holter monitoring, SAECG, and echocardiography according to study protocol. Follow-up was 100% (10 months). Events on follow-up were: recurrent syncope, MI, or sudden death.

Results:

	Men	Women	p value
Mean age (± SE):	66 ± 2 years	74 ± 2 years	< 0.01
Duration of premonitory symptoms > 3 seconds:	72%	47%	< 0.01
Left ventricular EF < 40%:	18%	0%	< 0.005
Abnormal SAECG:	32%	9%	< 0.01
Referral for EPS:	20%	6%	< 0.05
Cardiac syncope:	48%	27%	< 0.05
Events on follow-up:	21%	6%	< 0.05

Other clinical, ECG, or Holter monitoring variables did not differ.

Conclusions: 1. Men with unexplained syncope are younger and have longer premonitory symptoms. 2. Left ventricular dysfunction and abnormal signal averaging occur more frequently in men. 3. Although gender differences exist in the referral of patients for EPS, this may represent an appropriate level of care as men are more likely to have cardiac syncope and worse outcome.

919-105 Seasonal and Weekly Variations in Risk of Sudden Death

Hans-Richard Amtz, Stefan N. Willich, Thomas Brüggemann, Richard Stern, Rahul Agrawal, Klaus Kelinski, Michael Oeff, Stefan Schmidt, Heinz-Peter Schultheiss. *Department of Cardiology, Klinikum Benjamin Franklin, Free University Berlin, Germany*

Previous studies indicate a marked circadian variation of sudden cardiac death (SD). Its weekly and monthly distribution, however is unclear. We analyzed the West Berlin (2.1 Mio population) emergency medical services data bank with respect to the weekly and monthly distribution of 24,061 (54% male) consecutive patients with SD registered during the years 1987-1991. SD was defined as sudden non-traumatic out-of-hospital death with (n = 10,027) or without (n = 14,034) resuscitation attempt (RA).

Results: SD showed a weekly variation (p < 0.005), with the lowest number of events on Sundays and the highest on Mondays (relative risk-difference 19%). The weekly variation of SD in pts < 65 years (n = 8,588) was more pronounced than in pts ≥ 65 years (n = 15,473) (p < 0.02). Similarly, the weekly distribution was more pronounced in males (n = 12,941) than in females (n = 11,120) (p < 0.05). Circadian variation of SD was similar on each day of the week with a primary morning peak and a secondary afternoon peak (p < 0.001). SD showed also a seasonal variation with the lowest number of events in the summer (May-July) and the highest number during winter (November-January) (relative risk-difference 17%). The seasonal differences were more pronounced in pts ≥ 65 years (p < 0.001) and males (p < 0.05) compared to younger pts and women.

Conclusion: The marked weekly and seasonal variations in onset of SD and the age- and sex-related differences suggest a role of external triggering factors. The results may aid in investigation of underlying mechanisms of SD and in improving prevention.

919-106 Are the Blood Pressure Lowering Effects of Exercise Training and Dietary Modification Additive?

Neil F. Gordon, Christopher B. Scott, Benjamin D. Levine. *Institute for Exercise and Environmental Medicine, Presbyterian Hospital of Dallas, TX; Savannah Cardiology, Savannah, GA*

The Fifth Report of the Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure (BP) recommends exercise training and dietary modification as definitive or adjunctive therapy for hypertension. Although exercise training and dietary modification have been shown to individually lower elevated BP, it is currently not known whether their combined use produces an additive effect. In this study, we therefore compared the

effect on resting BP of exercise training only or dietary modification only with that of exercise training plus dietary modification in 48 sedentary, overweight subjects (age = 49 ± 9 yr) with high normal or stage 1 or 2 hypertension. After baseline testing, subjects were randomly assigned to 1 of 3 groups: exercise training (ET: aerobic exercise, 30-45 min, 3-5 d/wk, 60-85% maximum heart rate) only (n = 14); dietary modification (DM: restriction of calories, fat, sodium, and alcohol) only (n = 15); or ET plus DM (n = 19). After 12 weeks of intervention, results were:

Characteristic	Change from Baseline		
	ET only	DM only	ET plus DM
Weight (kg)	-1.0 ± 1.8	-5.8 ± 3.9**	-7.1 ± 2.9**
VO ₂ max (ml/kg/min)	2.5 ± 2.6*	1.9 ± 2.0*	4.3 ± 2.6*†
Systolic BP (mm Hg)	-9.9 ± 6.4*	-11.3 ± 12.1*	-12.5 ± 6.3*
Diastolic BP (mm Hg)	-5.9 ± 4.6*	-7.5 ± 4.3*	-7.9 ± 4.3*

*p ≤ for change from baseline; **p ≤ 0.05 versus ET only; †p ≤ 0.05 versus DM only

These data indicate that the BP lowering effects of exercise training and dietary modification are not additive in overweight persons with high normal or stage 1 or 2 hypertension.

919-107 Changing Pattern of Etiologic Microorganisms in Infective Endocarditis: A Prospective Study of 1337 Patients With Septicemia

Felix H. Lee, Mona Mahal, Henry D. Wu, Lynette M. Mendoza, Phyllis Della-Latta, Marco R. Di Tullio, Glenda J. Garvey, Shunichi Homma. *Columbia University, New York, NY*

Traditionally, Streptococci, Staphylococci, and Enterococci have accounted for the vast majority of etiologic microorganisms responsible for infective endocarditis (IE). Recently, a trend demonstrating a decreasing percentage of Streptococcal IE cases due to a relative rise in Staphylococcal and Enterococcal IE cases has been reported, but not confirmed prospectively. Therefore, we conducted a 13 month prospective evaluation of 3258 episodes of bacteremia and fungemia in 1337 patients. A total of 51 cases of IE were identified by satisfying Von Reyn clinical criteria. The results are as follows:

	Strep	Staph	Enterococ	Fungal	Other
Pooled, n (%)	1180 (50)	584 (25)	143 (6)	24 (1)	416 (18)
Columbia, n (%)	14 (27)	22 (42)*	7 (13)*	2 (4)	7 (14)

*p < 0.05

Despite the predominance of Staphylococcal isolates, only 4/22 (18.2%) had a history of intravenous drug abuse (IVDA) and only 3/22 (13.6%) were due to nosocomial Staphylococcal bacteremia. These findings: 1) suggest that community-acquired Staphylococci, rather than Streptococci, are currently the predominant etiologic microorganisms in IE 2) concur with the reported trend toward a relative rise in Staphylococcal and Enterococcal IE.

919-108 Racial Differences in Women With Chest Pain and Normal Coronary Angiograms

Qahtan Al-Malki, Adnan Atzal, Abbas S. Ali, Syed M. Jafri, Sidney Goldstein, Fareed Khaja. *Henry Ford Heart and Vascular Institute Detroit MI*

In order to assess racial differences between Black (B) and White (W) women with chest pain and normal coronary angiograms we analyzed historical and non-invasive test data in 233 such patients catheterized for suspected coronary syndromes. Specific attention was paid to clinical features & follow-up (Table). No difference existed between B&W for history of myocardial infarction & stroke.

Conclusion: Black women with normal coronary angiograms 1) have a history more characteristic for unstable angina and baseline EKG and Echo abnormalities of LVH. 2) More re-admissions to hospital for chest pain.

	B (N = 107)	W (N = 126)
Age	59	60
Hypertension	69%	64%
Diabetes	22%	24%
Smoking	28%	27%
High Cholesterol	18%	24%
Prior Angina Admission	27%*	15%
Pain at rest	59%*	45%
Duration > 20 minutes	35%*	2%
Accelerating pain	62%*	19%
Repeat Angina Adm.	12%*	3%
Non Specific ST-T	67%*	44%
Echo LVH	22%*	12%
Positive Stress Test	33%	32%

*p < 0.05