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BLOOD PRESSURE CONTROL AND RISK OF INCIDENT ATRIAL FIBRILLATION. *M C Thomas, MS, MPH, S Dublin MD, PhD, R C Kaplan, PhD, N L Glazer, PhD, T Lumley, PhD, W T Longstreth, Jr, MD, MPH, N L Smith, PhD, B M Psaty, MD, PhD, D S Siscovick, MD, MPH, S R Heckbert, MD, PhD (Departments of Epidemiology, Group Health Center for Health Studies, University of Washington, Seattle, WA)

Objectives: We sought to determine whether the risk of incident atrial fibrillation (AF) among patients treated for hypertension differs by the degree of blood pressure control. Methods: A population based, case-control study of 434 patients with incident AF and 899 controls was conducted to investigate the relationship between average achieved systolic (SBP) and diastolic blood pressure (DBP) and risk of AF. Medical records were reviewed to confirm the diagnosis of AF and to collect information on medical conditions, health behaviors, and measured blood pressures. Average achieved SBP and DBP were calculated from the three most recent outpatient blood pressure measurements. Results: Compared with the reference level of 120–129 mm Hg, for categories of average achieved SBP of ≤120, 130–139, 140–149, 150–159, 160–169 and ≥170 mm Hg, the odds ratios (95% confidence interval [CI]) for incident AF were 1.99 (1.10, 3.62), 1.20 (0.79, 1.83), 1.40 (0.93, 2.09), 2.02 (1.30, 3.15), 2.27 (1.31, 3.93) and 1.84 (0.89, 3.79), respectively. We estimated that, among patients with treated hypertension, 16.9% (95% CI 4.0%, 28.1%) of incident AF was attributable to an average achieved SBP ≥140 mmHg. Conclusion: Compared with controlled SBP, uncontrolled SBP is associated with an increased risk of incident AF, among patients treated for hypertension.

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PHYSICAL ACTIVITY AND METABOLIC SYNDROME IN POLICE OFFICERS. *E C McCanlies, T A Hartley, J E Slaven, C M Burchfiel, M E Andrew, L E Charles, J M Violanti (National Institute for Occupational Safety and Health, Morgantown, WV 26505)

The aim of this study was to evaluate if physical activity in police officers was associated with the mean number of metabolic syndrome (MS) components. In 1999, 115 officers from Buffalo, NY were randomly selected to participate in a cross-sectional study. Complete data were available for 102 officers (41 women, 61 men). MS components included elevated waist circumference, elevated triglycerides, low HDL cholesterol, elevated glucose or treatment for diabetes, and elevated blood pressure or treatment for hypertension. Data on duration, intensity, and type (work, sport, home) of physical activity for the past seven days were collected. A physical activity score was calculated by multiplying the intensity score (1 = low, 2 = hard, 3 = very hard) by duration. Comparisons of the mean number of MS components across physical activity score tertile (Low = 0–3; Medium = 3.1–11.9; High = 12+) were performed using analysis of covariance. In unadjusted models, as physical activity increased, the mean number of MS components decreased (1.49, 1.24, and 0.88 respectively; p for trend = 0.057). Adjustment for age, education, smoking, and alcohol attenuated this trend slightly (1.47, 1.07, 1.02; p for trend = 0.163), with level of education principally responsible for this attenuation. These trends were similar in men and women. In sum, physical activity was inversely associated with the number of MS components; this association was partially explained by education. Although this study was limited by sample size and its cross sectional design, further examination of this association in a large prospective study would be of interest.

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CARDIOVASCULAR DISEASE IN HISPANIC POPULATIONS: COUNTRY OF ORIGIN AND ACCULTURATION. *M Franco, M Lazo, R Durazo-Arvizu and R Cooper (Johns Hopkins University, Department of Epidemiology, Baltimore, MD 21205)

To describe the patterns of cardiovascular disease (CVD) mortality in the three major Hispanic populations in the US (Mexicans, Puerto Ricans and Cubans) as compared to CVD mortality in their country of origin. We studied the degree of acculturation of these populations in the US as a potential determinant of CVD mortality. We used vital statistics from the US, Mexico, Cuba and Puerto Rico during 2000 to estimate CVD age-adjusted mortality. We used census data to measure the degree of acculturation defined as: % born in the US, and % speaking English at home. US-Mexicans have 6% higher CVD mortality than in Mexico. Puerto Ricans in the mainland have 17% higher CVD mortality than in the island. Cubans in the US have 29% lower CVD mortality than in the island. Degree of acculturation is high for US-Mexicans, with 62% being born in the US and 23% speaking English at home. Puerto Ricans in the mainland have an even higher degree of acculturation, with half of the population living in the US and 24% speaking English at home. Cubans in the US present a low degree of acculturation with only 38% being born in the US and just 8% speaking English at home. Each of the studied Hispanic populations presents a unique degree of acculturation and a CVD mortality pattern. High degrees of acculturation were found in Mexican and Puerto Rican immigrants along with higher CVD burden than in their country of origin. On the contrary, Cubans in the US present a low degree of acculturation and lower CVD burden than in Cuba. The degree of acculturation may be one of several dimensions determining CVD mortality in immigrant populations.

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RISK OF STROKE AND MYOCARDIAL INFARCTION FOLLOWING REDUCTION OR CESSATION OF CIGARETTE SMOKING: A COHORT STUDY IN KOREAN MEN. *Y-M Song, *H-J Cho (SungKyunKwan University School of Medicine, Seoul, Korea, 135-710)

The effect of smoking reduction on cardiovascular disease outcomes has not been studied in Asian populations. A total of 475,734 Korean men aged 30 to 58 years, stratified into nine groups based on smoking status at two different time points (1990 and 1992), were followed from 1992 to 2001 for the occurrence of stroke or myocardial infarction (MI) events. Compared with non-reducing heavy smokers (≥20 cigarettes/day), those who quit smoking showed significantly lower risks of ischemic stroke, subarachnoid hemorrhage, and MI with hazard ratios (95% confidence intervals (CI)) of 0.66 (0.55–0.79), 0.58(0.38–0.90), and 0.43(0.34–0.53), respectively. For hemorrhagic stroke, quitters showed lower risk compared with heavy smokers, but the difference was not statistically significant (hazard ratio 0.82, 95% CI: 0.64–1.06). Compared with non-reducing heavy smokers, the risks of all stroke combined and MI among reducers tended to decrease, although the reductions were not statistically significant. The risks of subarachnoid hemorrhage and MI in those who reduced from moderate to light smoking tended to be lower than in non-reducing moderate (10–19 cigarettes/day) smokers. The association between the reduction of smoking level and the risk of stroke and MI did not change significantly when the analysis was limited to those whose smoking status in 1992 was maintained up to 1994. Smoking cessation was associated with a decrease in the risks of ischemic stroke, subarachnoid hemorrhage, and MI. More studies are needed to verify the likely health benefits of reducing smoking.

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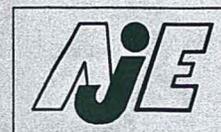
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