significantly lowered BP by 11/7 mm Hg (146/87 to 135/80 mm Hg, p<0.001); BP was unchanged in the control shops (146/87 vs. 144/88 mmHg, p=ns). The success of the intervention hinged on two factors, referral to care and improved care. Among the untreated hypertensives, 65% (17/26) entered medical treatment from the intervention shop vs. 17% (3/18) from the control shops (p<0.01). Among the treated hypertensives, BP fell by only 3/2 mm Hg in the control shops (n=18 men) but by 15/8 mm Hg in the intervention shop (n=25 men, p<0.01). An intensification of the medical regimen was documented in half the cases in which treated BP improved, indicating that our intervention also impacted the prescribing behavior of our customers’ physicians. In conclusion, these pilot data suggest that this barbershop-based intervention constitutes a powerful strategy to increase both the treatment and control of hypertension in African American men.

Key Words: Barbershop, African American, Blood Pressure

P-452
IMPACT OF SMOKING AND HYPERTENSION ON PLASMA HOMOCYSTEINE LEVEL IN A COMMUNITY-DWELLING JAPANESE POPULATION
Satoshi Hoshide, Kazuomi Kario, Kazuo Eguchi, Joji Ishikawa, Kazuyuki Shimada. Department of Cardiology, Jichi Medical School, Minamikawachi, Tochigi-ken, Japan.

Plasma homocysteine level is known to be a risk factor for cardiovascular disease. The effects of smoking and hypertension on homocysteine remained unclear in Japanese.

Plasma homocysteine levels were measured by high-performance liquid chromatography. To exclude white-coat hypertension, ambulatory BP monitoring was performed in 133 community-dwelling Japanese. Hypertension was defined as >130 mmHg/80 mmHg 24-hr ambulatory BPs.

Plasma homocysteine was significantly higher in current smokers (n=39) than in non-smokers (n=94) (9.85±5.6 vs. 7.26±2.3 nmol/ml, p<0.001), and tended to also be higher in hypertensives (n=65) than in normotensives (n=68) (8.62±4.9 vs. 7.45±2.07 nmol/ml, p<0.1). When total subjects were subclassified into 4 groups by smoking and hypertension status, hypertensive smokers had the highest homocysteine levels (Figure). Smoking and hypertension have a synergistic effect on plasma homocysteine in Japanese. Smoking cessation would achieve a more fruitful benefit than antihypertensive medication in hypertensive smokers.

Key Words: Homocysteine, Smoking, Hypertension

P-453
INVESTIGATION AND ANALYSIS ON PSYCHOLOGICAL HEALTH STATUS IN PATIENTS WITH ISOLATED SARS AND WITH SARS AND OTHER DISEASES
Jian Zhang, Qi Hua, Xuewen Li. Department of Cardiology, Beijing Xuanwu Hospital, Beijing, Beijing, China.

To investigate the psychological health status in patients with isolated SARS and with SARS and other diseases (80% were hypertension).

SDS was adopted to measure the personality depression in 120 patients with SARS. There are 60 patients with isolated SARS and 60 patients with SARS and other diseases. 100 healthy subjects to be control.

The mean grade of SARS patients was less than the compare group. The mean grade of depression index in SARS patients was more than the compare group. The patients with other disease were 85% in depression status. There were significant differences between patients with isolated SARS and with SARS and other diseases.

The psychological healthy level in patients is lower than that in healthy subjects, especially in the patients with SARS and other disease patients. The mental intervention is good to recovery from SARS.

Key Words: SARS, SDS, SDS

P-454
TWO DECADES OF PREVALENCE OF HYPERTENSION AND ISOLATED SYSTOLIC HYPERTENSION IN JAPANESE POPULATION
Shizukiko Ishikawa, Yoshikazu Nakamura, Kazuomi Kario, Joji Ishikawa, Kazuo Eguchi, Eiji Kajii, Kazuyuki Shimada. Department of Community and Family Medicine, Jichi Medical School, Minamikawachi, Tochigi, Japan; Department of Public Health, Jichi Medical School, Minamikawachi, Tochigi, Japan; Department of Cardiology, Jichi Medical School, Minamikawachi, Tochigi, Japan.

Background: The National Nutrition Survey in Japan was held annually since 1952. Hypertension (HT) is one of the most popular diseases in Japan like other industrialized countries. We overviewed prevalence of HT and isolated systolic hypertension (ISH) in two decades.

Methods: We used data about age, sex blood pressure in 1977, 1987 and 1997 using the National Nutrition Survey in Japan. Blood pressure was measured once with manual sphygomanometer after 5 minutes rest in sitting position. HT was defined as systolic blood pressure (SBP) [gr] 140 mmHg and/or diastolic blood pressure (DBP) ≥ 90 mmHg, and ISH was as SBP ≥140 and DBP < 90 mmHg.

Results: 10,533 males and females in 1977, 10,018 in 1987 and 7,030 in 1997 were measured blood pressure aged 20 years and over in 3 times in two decades. Prevalence of HT was higher for males than females (Males: 42% and Females: 35% in 1977, 43% and 35% in 1987 and 48% and 33% in 1997) but prevalence of ISH was similar among males and females (Males: 17% and Females: 15% in 1977, 17% and 16% in 1987, 19% and 18% in 1997). For males, prevalence of HT was lower in 1997 among aged 70s and over than in 1976 in both males and females (70s:...
77% for males and 80% for females, 80s and over: 83% and 82% in 1977, 70s: 67% and 65%, 73% and 75% in 1997). Prevalence of ISH was more than 35% in aged 70s and 80s and over in both males and females in all three surveys.

**Conclusion:** Although prevalence of HT was higher in males than in females in all two decades, prevalence of ISH was similar in both males and females. Prevalence of ISH was more than 35% in aged 70s and over.

**Key Words:** Hypertension, Prevalence, Japanese

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**P-455**

**STRESS INDUCED CHANGES IN PRESSURE-NATRIURESI S CONTRIBUTE TO LEFT VENTRICAL FILLING IN YOUTH**

*Gaston K. Kapuku, Gregory A. Harshfield, Edmond Lesley, Lynne Mackey, Deloris Gillis, Corner Evans, Larry Hook, Sarita Vemalapalli, Martha Wilson. Pediatrics, Medical College of Georgia/Georgia Prevention Institute, Augusta, GA.*

**Background:** Impaired pressure-natriuresis is an established mechanism of hypertension. However, the relationship between pressure-natriuresis and cardiac function (i.e., diastolic function) is not completely understood in youth. The purpose of this study was to determine the relationship between stress-induced changes in blood pressure, natriuresis and left ventricular (LV) filling in youth with normal cardiac structure and function.

**Methods:** We studied 49 normotensive individuals (30 boys, 19 girls) aged 15 to 18 years who underwent a stress protocol after being brought into similar levels of sodium balance (4,000±200 mg/day). The protocol consisted of a 2 hour baseline period, followed by a one hour period of competitive video games and a two hour recovery period. Blood pressure was obtained at 15 minutes intervals and urine samples were collected every hour. Left ventricular mass (LVM/Ht<sup>2.7</sup>) and LV early (E) and late (A) filling waves were captured using ultrasound technique.

**Results:** All individuals had normal cardiac structure and LV filling profile. Stress induced higher levels of blood pressure was associated with a greater A (r from .25 to .36, P<0.05) and lower E/A ratio (r from -.25 to -.34; P<0.05). In addition, greater diastolic blood pressure was related to an increased LVM/Ht<sup>2.7</sup> (r = .25, p<.05) that showed a trend toward an association with lower E (r = -.18, p>0.5). At last, a greater change in blood pressure was related to greater sodium excretion (r = .26, p=0.04).

**Conclusion:** These results suggest that behavioral stress induced impaired pressure-natriuresis may contribute to abnormal LV structure and filling.

**Key Words:** Diastolic Function, Stress, Youth

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**P-456**

**INCREASED CARDIOVASCULAR RISK IN WHITE COAT HYPERTENSIVES WITH OFFICE ISOLATED SYSTOLIC HYPERTENSION**

*E. A. Karpanou, G. P. Vyssoulis, C. A. Chryssohou, D. A. Papadogiannnis, C. I. Stefanidis, D. V. Kokkinos. 1st Cardiology Department, Onassis Cardiac Surgery Center, Athens, Greece; 1st Cardiology Department of Athens University, Hippokration Hospital, Athens, Greece.*

White coat hypertension (WCH) is accompanied by increased cardiac risk, while isolated systolic hypertension (ISH) is often burdened with target-organ damage. The effect of office ISH in patients with WCH has not been elucidated.

We studied 280 consecutive patients with WCH, defined as daytime BP<135/85 mmHg in 24-hour ambulatory BP monitoring. Office ISH (SBP>140 and DBP<90 mmHg) was documented in 95 patients (34 men and 61 women, 67.7±5.5 years old), who were compared to 185 gender- and age-matched patients (75 men and 110 women, 67.6±5.3 years old) with office systolic/diastolic (>140/90 mmHg) hypertension.

In baseline free-echo cardiographic examination, ISH patients had higher (p<0.0001) LV mass index values (136 vs 127 g/m<sup>2</sup>) and LV hypertrophy incidence (51.6 vs 22.2%), with both eccentric (27.4 vs 10.8% P=0.0004) and concentric geometry (24.2 vs 11.4% p=0.005). In 24-hour urine collection, ISH patients had higher (p<0.0001) microalbumin and α<sub>1</sub> microglobulin excretion (33 vs 20 and 8.3 vs 6.6 mg/L), with higher incidence of elevated urinary albumin/creatinine ratio (32.6 vs 8.6% p<0.0001).

It is concluded that in patients with WCH the presence of office ISH signifies increased cardiovascular risk with higher incidence and severity of target-organ damage.

**Key Words:** Hypertension, Treatment and Control, Cardiovascular Disease

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**P-457**

**EPIDEMIOLOGY OF HYPERTENSION IN THE OLD OLD: DATA FROM THE COMMUNITY IN THE 1990S**

*Donald M Lloyd-Jones, Jane C Evans, Daniel Levy. NHLBI’s Framingham Heart Study, Framingham, MA.*

We sought to examine the epidemiology of hypertension (HTN) among the oldest old compared with younger people in a community-based sample in the 1990s. We pooled all exams attended by members of the original and offspring cohorts of the Framingham Heart Study between 1/1990 and 12/31/99 and stratified them into 3 age groups: <60, 60–79, and ≥80 years. We determined the prevalence of JNC 7 blood pressure categories, rates of treatment and control, and risk for CVD outcomes. Hazards ratios were estimated using pooled Cox models. There were 14,087 person-exams overall, with 6533 hypertensive and 4302 treated hypertensive person-exams. Prevalence of HTN increased substantially with increasing age. The percentage of subjects with Stage 2 (or treated) HTN, Stage 1 HTN, preHTN, and optimal BP, respectively, were: 57.8, 13.1, 19.6, 9.5 for age ≥80; 45.7, 13.2, 25.1, and 16.0 for age 60–79; and 17.5, 9.4, 29.5, 43.6 for <60. Drug treatment rates increased with advancing age from 57.2% to 71.6% to 72.9%, respectively. In all age groups, ~2/3 of treated HTN subjects were on 1 drug, ~25% were on 2 drugs, and ~8% were on 3 or more. Control rates to <140/90 among all HTN subjects decreased substantially with advancing age, especially in women: 38%, 36% and 32%, respectively, in men and 40%, 31% and 24% in women. Diuretic use increased with age, but only 32% of women and 22% of men aged ≥80 were receiving one. The Table shows the Stage 2 for CVD associated with HTN in each age group, compared with BP <140/90 mm Hg. Relative risks did not decline with age, and absolute risks increased. These results indicate that: over 70% of the old old have HTN; current rates of HTN control among the old old are unacceptably low. In light of the substantial excess risk associated with HTN in the old old and the known benefits of treatment, we must make HTN control in the elderly a national priority.

**Hazards Ratio**<sup*(95% CI)*</sup> for CVD Outcomes

<table>
<thead>
<tr>
<th>Age</th>
<th>&lt;60</th>
<th>60–79</th>
<th>≥80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major CVD</td>
<td>2.7 (1.2–6.2)</td>
<td>2.1 (1.2–3.7)</td>
<td>3.9 (1.5–10)</td>
</tr>
<tr>
<td>Stage 1</td>
<td>3.4 (1.7–7.0)</td>
<td>3.0 (1.8–5.0)</td>
<td>4.4 (1.8–11)</td>
</tr>
<tr>
<td>Stage 2</td>
<td>1.7 (0.6–4.8)</td>
<td>3.0 (1.3–7.1)</td>
<td>4.4 (0.6–35)</td>
</tr>
<tr>
<td>Major CHD</td>
<td>2.6 (1.1–5.9)</td>
<td>4.1 (1.9–8.9)</td>
<td>8.8 (1.2–64)</td>
</tr>
<tr>
<td>Hospitalized CHF</td>
<td>-</td>
<td>1.2 (0.4–3.2)</td>
<td>1.5 (0.5–4.9)</td>
</tr>
<tr>
<td>Stage 1</td>
<td>-</td>
<td>2.6 (1.2–5.8)</td>
<td>2.9 (1.1–7.9)</td>
</tr>
</tbody>
</table>

<sup*(Adjusted for age and sex. Subjects with BP <140/<90 mmHg are the referent for each age group.)*</sup>

**Key Words:** Hypertension, Treatment and Control, Cardiovascular Disease