Results: The first measure SMBP were 141.6/82.4 mmHg in the morning and 137.9/76.5 mmHg in the evening. Systolic and diastolic blood pressure (SBP, DBP) significantly reduced from the first measurements to the seconds (1st–2nd BP reduction)[morning SBP/DBP: 3.9/1.4 mmHg (P<0.001), evening SBP/DBP: 3.4/1.3 mmHg (P<0.001)]. These degrees of the 1st–2nd BP reductions in the morning SBP tended to be larger than that in the evening (P=0.056), however, the correlation was significant (r=0.268, P<0.001). The 1st–2nd BP reductions were constantly reproducible for 3 days except for the first-to-third day difference of morning DBP. The highest quartile of the 1st–2nd BP reductions (6.0–41.5mmHg, mean 9.3mmHg) had older age (66.0 vs. 68.1 year, P=0.005), higher prevalence of female (55.7% vs. 66.1%, P=0.004) and use of β-blocker (19.6% vs. 26.5%, P=0.024) and lower prevalence of alcohol drinking (30.2% vs. 21.2%, P=0.008) than the lower three quartiles.

Conclusion: The first measured blood pressure is continuously higher than the second measured blood pressure, even if self-measured blood pressure is used for consecutive three days.

Key Words: Self-Measured Blood Pressure, Reproducibility,

**P-38 DETERMINANTS OF EXAGGERATED MORNING-EVENING SURGE BY SELF-MEASURED BLOOD PRESSURE MONITORING IN MEDICATED HYPERTENSIVES: THE JICHIO MORTON HYPERTENSION RESEARCH (J-MORE) STUDY**

Joji Ishikawa, Kazuomi Kario, Masato Morinari, Satoshi Hoshide, Kazuo Eguchi, Shizukiyo Ishikawa, Kazuyuki Shimada. Cardiology, Jichi Medical School, Yakushiji 3311-1, Minamikawachimachi, Tochigi, Japan; Community and Family Medicine, Jichi Medical School, Yakushiji 3311-1, Minamikawachimachi, Tochigi, Japan.

Purpose: Cardiovascular events occur more frequently in the morning and morning blood pressure (BP) and morning BP surge may play an important role. In our previous study, the morning BP surge was an independent predictor for stroke risk in hypertensive patients (Kario K, et al. Circulation 2003; 107: 1401–1406).

Methods: We studied consecutive 969 hypertensive outpatients under the same antihypertensive medication status at least for 3 months. They were recruited from 43 doctors in 32 different clinics and hospitals. Clinic BP was measured in two different days and self-measured BP monitoring was conducted consecutively twice both in the morning and evening for 3 days.

Results: Mean clinic systolic/diastolic BP (SBP, DBP) was 143.0/80.7 mmHg and morning and evening SBP/DBP was 139.8/81.7, 131.8/75.9 mmHg, respectively. Morning SBP minus Evening SBP (ME surge) was −37.3 to 53.3 mmHg (mean 7.9 mmHg). The highest quartile (Q4) of ME surge group (15.0 to 53.3 mmHg, mean 23.0 mmHg) had older age (66.2 vs. 68.0 years, P=0.009) and higher prevalence of male (39.9 vs. 48.3%, P=0.024), regular alcohol drinker (26.0 vs. 34.7%, P=0.011) and use of beta-blocker (19.9 vs. 26.9%, P=0.030) than the lower three quartiles (Q1–3), while there was no significant difference in the average of morning BPs and evening BPs between the Q4 and Q1–3 groups (Q1–3 vs. Q4: SBP 137.2 vs. 135.3 mmHg, P=0.063, DBP 78.8 vs. 78.9 mmHg, P=0.899).

Conclusion: Older age, male gender, and regular alcohol drinking are the determinant of ME surge of self-measured systolic blood pressure.

Key Words: Morning Blood Pressure Surge, Self-Measured Blood Pressure Monitoring.

P-39 DENIAL OF STRESS PERSISTENTLY ELEVATES AMBULATORY BLOOD PRESSURE AT WORK AND AT HOME OVER THE MENSTRUAL CYCLE

Gary D James, Institute for Primary and Preventative Health Care, Binghamton University, Binghamton, NY.

Several studies have found that situational stressors, such as having a stressful job or children at home increase work and home blood pressures (BP) of women employed in wage jobs. Denial that stress is bothersome has also been found to be an independent additive effect that increases BP at work and home in employed women as well. The purpose of this study was to evaluate whether situational stressors and stress denial have similar effects on work and home BP at different phases (follicular (F) (day7–10), luteal (L) (day 19–23)) of the menstrual cycle. The 71 women studied (age=34.9±7.7, range 18-50; average education 3.3 years of college) worked in clerical, technical and professional positions at a major medical center in New York City and all worked a day shift. Job stress questions along with age, body composition measures, coffee, alcohol and cigarette consumption, number of children, use of birth control pills and a scale of perceived stress were examined for their relationship with work and home BP in each menstrual phase using stepwise regression. The results showed that in the F phase, denial that stress is bothersome was associated with a 9 mmHg increase in SBP at work (p<0.002) and an 11 mmHg increase at home (p<0.002). Denial was also associated with a 6 mmHg increase in DBP at work (p<0.003) and home (p<0.014). Job stress was associated with higher work DBP (p<0.022) and several measures of body fat and mass also predicted increasing SBP and DBP at work but not at home. Lastly, birth control pill use was associated with a 7 mmHg increase in SBP at work. In the L phase, denial that stress is bothersome had a similar effect on SBP as in the F phase, being associated with an 8 mmHg increase in SBP at work (p<0.011) and a 10 mmHg increase at home (p<0.005). However, denial was not associated with DBP at work, but did increase home DBP by 5 mmHg (p<0.027). Unlike the F phase, job stress tended to have an increasing effect on both work (p<0.069) and home (p<0.096) SBP, but had no effect on DBP at either work or home. Finally, various body fat and mass measures were also associated with an increase in SBP and DBP at work and home. These data suggest that how stress is internalized tends to have a persistent effect on BP over the menstrual cycle in women, but that the effects of stress, particularly job stress on BP may only be transient.

Supported by NIH grant-HL47540

Key Words: Ambulatory Blood Pressure, Menstrual Cycle, Women
P-40
A CROSS SECTIONAL AND LONGITUDINAL ANALYSIS OF SYSTOLIC AND DIASTOLIC BLOOD PRESSURE CONTROL IN DIABETIC PATIENTS
Linda A Joseph, Jonathan Castro, Shahram Khorrarnzi, Geethanjali Senanialal, Pramodini Gosikonda, Munafali Deshmukh, Surendar Arora, John Makaryus, Carla Casulo, Divakar Lingam, Sandra D’Angelo, Mai Mahmoud, John J Shin, Gal Bahitvar, Anam Farag, James R Sowers, Sany I McFarlane. Medicine, Division of Endocrinology, Diabetes and Hypertension, SUNY-Downstate, Brooklyn, NY; Kings County Hospital Center, Brooklyn, NY; Veteran Administration Hospital, Brooklyn, NY; Internal Medicine, University of Missouri, Columbia, MO.

Objective: To determine the proportion of patients with diabetes who met the American Diabetes Association (ADA) clinical practice guidelines of a blood pressure (BP) goal of 130/80 mmHg

Design: Cross Sectional and longitudinal data

Settings: Outpatient clinics of a Veteran Administration (VA) hospital and a municipal hospital in Brooklyn, New York.

Materials and Methods: Outpatient records of 2,061 patients with diabetes were reviewed. Demographic, clinical and laboratory data were obtained, analyzed using descriptive statistics and presented as mean ± SEM.

Results: Of a total 2,061 outpatients with diabetes, 1,605 (78%) were also diagnosed with HTN. Of those with diabetes and HTN, 80% were males and 95% had type 2 diabetes. Mean age = 64.6 ± 0.29, body mass index (BMI) Kg/m² was 29.9 ± 0.27, HbA1c = 7.7 ± 0.05, systolic BP was 132 ± 0.46 and diastolic BP was 73 ± 0.25. A goal BP of 130/80 mmHg was achieved in 43.4% of the entire cohort, in 23.6% of patients followed at the municipal hospital and 47% of those followed at the VA clinics.

Conclusion: The diastolic BP of 80 mmHg was achieved in 81% of patients at the VA clinics and 66% of those at the municipal hospital and the systolic BP was achieved only in 50% of VA patients and 26.6% of the municipal clinic patients.

Compared to the data from the same institutions for the year 2000 and 2001, there has been an increase in 2003 in the percentage of patients who achieved a goal BP of 130/80; for the municipal clinics an increase from 16% (2001) to 20% (2002) to 23.6% (2003) and for the VA clinics an increase from 36% (2001) to 39.6% (2002) to 47% (2003).

Key Words: White Coat Hypertension, Blood Pressure Variation, Centenarian

P-41
WHITE COAT EFFECT AND BLOOD PRESSURE VARIATION IN CENTENARIAN
Medet Jumabay, Yukio Ozawa, Satoshi Saito, Yoichi Izumi, Yugi Kasamaki, Hiroshi Kawamura, Yitong Ma. 2nd Department of Medicine, Nihon University School of Medicine, Tokyo, Japan; Department of Medicine, Nippon Dental University, School of Dentistry at Tokyo, Tokyo, Japan; Department of Cardiovascular, Department of Internal Medicine, First Affiliated Hospital, Xinjiang Medical University, Urumqi, China.

Cross-sectional surveillance was carried out on Uyghur nationality, a longevity populations in the China. The purpose of this study was to investigate the white coat effect (WCE) and blood pressure (BP) variations in centenarians (age, 100 years or above) in comparison with elderly subjects (age, 65–70 years).

The office, daytime, nighttime, 24-h mean, standard deviation (SD), variation coefficient (VC) of the BP was extracted from the 24-h blood pressure monitoring (ABPM). The office BP was determined as the mean of three monitor readings, comprising two initial readings in the first hour and one final reading in the last hour of the ABPM measurement. We defined the WCE as the difference between the mean office reading and mean daytime reading. In results, average office BP was 126±20/74±12 in elderly group and 138±23/83±12 in centenarian group; average daytime ambulatory BP was 124±17/72±7.2 in elderly group and 129±22/74±11 in centenarians.

The centenarians demonstrated higher incidence of white coat hypertension compared to the elderly group (15% vs. 5% in elderly subjects). The WCE was also greater in centenarians and that was more marked for the systolic blood pressure than for the diastolic blood pressure and pulse rate. Multivariate analysis demonstrated that the WCE of SBP and DBP strongest associated with the office SBP and the office DBP, but not with the daytime SBP and the daytime DBP in both elderly and centenarian groups.

The WCE of SBP was also positively associated with the SD and the VC of 24-h SBP in centenarians, but not in other’s. In conclusion, the white coat effect of BP was dominant in the centenarians and that was found to be associated with variation of the ambulatory BP.

Key Words: White Coat Hypertension, Blood Pressure Variation, Centenarian

P-42
AUGMENTED MORNING SYMPATHETIC ACTIVATION IN HYPERTENSIVE SMOKERS: THE JAPANESE HALT STUDY
Kazuumi Kario, Thomas G Pickering, Masato Morinari, Joji Ishikawa, Shizukiyo Ishikawa, Kazuo Eguchi, Satoshi Hoshide, Kazuyuki Shinoda. Division of Cardiovascular Medicine, Department of Cardiology, Jichi Medical School, Tochigi, Japan; Behavioral Cardiovascular Health and Hypertension Program, Columbia University College of Physicians and Surgeons, New York, NY; Department of Family Practice and Community Medicine, Jichi Medical School, Tochigi, Japan.

Background: The morning blood pressure (BP) surge (MBPS) is a cardiovascular risk, associated with sympathetic activity. We studied the effect of α1-blocker doxazosin on morning BP surge in hypertensives with different smoking status.

Methods: We conducted ambulatory BP monitoring three times (twice at baseline and after bedtime dosing of the α1-blocker doxazosin) in 98 older hypertensives.

Results: MBPS andMorning and awake BPs were reduced more extensively in the smokers than in the non-smokers (Figure). While there was no difference in the baseline BP levels between the 2 groups, there was no significant difference in the baseline values and the reduction of 24-h BP levels between the 2 groups.

Conclusion: Augmented morning sympathetic activation would be associated with cardiovascular risk in the morning. bedtime α1-blocker dosing is specific treatment for morning BP surge in hypertensive smokers.

Key Words: Morning Blood Pressure Surge, Smoking, Sympathetic Nervous Activity