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COMPARISON OF AMBULATORY BLOOD PRESSURE MEASUREMENT, CLINIC, AND MORNING AND EVENING HOME BLOOD PRESSURES IN A COHORT OF MIDDLE AGED WOMEN

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Measurement of home blood pressure by hypertensive individuals is gaining acceptance as a supplement to office readings, although guidelines for the timing of home blood pressure (HBP) monitoring is contradictory. We compared morning and evening home blood pressure measurements at the beginning(proximal/day1-5) and end(distal, day 25-30) of a one month monitoring period with an ambulatory blood pressure monitor(ABPM) performed within that month to ascertain the optimal timing for home measurements in a middle aged cohort of women taken from the MAP study. The cohort includes both african american(n=42)and caucasian(n=58) women. Data for HBP readings were retrieved from weekly mailed-in reports provided by women on treatment for hypertension who were recruited for a larger study on cognition and adherence, the MAP trial.

Results: Cohort Mean ABPM: SBP=132,SD=13; DBP=76,SD=9.3;clinic blood pressure(CBP) mean(avg. of two readings)SBP=132,SD=20.30;DBP=80,SD=10.97. Correlation between 24 hour ABPM mean and CBP readings was moderate(r=.59,p<.005 for SBP; r=.62,p<.005 for DBP). Comparing correlation results for 24 hour ABPM mean and proximal and distal HBP(day and evening)readings revealed moderately strong associations: r=.67,62,71,60,p<.005 for SBP, and r=.62,66,65,54,p<.005 for DBP, respectively. Daytime proximal HBP DBP readings showed the greatest correlation difference between CBP according to age(r=.58 for younger(30-60) and r=.70 for older(60-80)). Evening proximal HBP DBP were different for caucasian women(r=.72;p=.005) vs. African American(r=.54,p=.000). A significantly weaker correlation was shown between CBP and evening proximal HBP DBP readings in subjects with higher education than for those with less (r=.75, p=.05 versus r=.27,p=.125). Based on correlations with ABPM, these results support research that electronic devices provide reliable measures for home readings. The lack of correlation with clinic blood pressures and home readings in those with higher educational levels will need to be confirmed in larger studies. These findings also suggest need for analyses to explore other situational factors impacting on proximal and distal home blood pressure. Larger studies are needed to explore the optimal timing of HBP in women, and better define optimal timing in relation to ethnicity and age, as well as correlates of home blood pressure to morbidity and mortality.

Key Words: Home Blood Pressure Measurement, Ambulatory Blood Pressure Measurement, Womens Health

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VERY LOW REDUCTION OF DAILY SODIUM INTAKE: ABPM EVALUATION OF BP DECREASE IN 200 TREATED HYPERTENSIVE PATIENTS

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The latest editions of international guidelines report great attention to low sodium / low saturated fat approach to hypertension treatment. Recent studies confirm the effectiveness of both low sodium and low saturated fat diets in decreasing blood pressure. Complex diets such as the DASH diet are able to induce (alone or in combination with a low sodium approach) an impressive reduction of blood pressure values in hypertensive patients. Many patients are not able, nevertheless, to comply with these complex diets. Our purpose was to study the effects, if any, of very low changes of sodium and saturated fat content in the daily diet (i.e. in our mediterranean diet we abolished cheese and salt-preserved meat/pork). We asked 205 consecutive, mild hypertensive patients under active treatment to follow a mild reduction in daily sodium consumption. As a general rule we advised patients to avoid sodium excess, cheese and salty meats. All patients underwent baseline biochemical assessment, including 24 hour urinary sodium excretion, and ABPM. Patients repeated a second biochemical and ABPM assessment 2 months later when on diet.

ABPM procedures were carried out by means of some SpaceLabs 90207 monitors. Cuffs were appropriated to the arm circumference (non dominant arm). BP monitorings followed standardized criteria: >85% successful readings in the 24 hour period, 4 readings/h (day), 2 readings/h (night). Day and night subperiods were from 07 AM to 11PM and from 11 PM to 07 AM, respectively. Our patients complied sufficiently with the
dietary approach (Na U decreased significantly - P < 0.03, ANOVA). This was followed by a significant decrease (P < 0.001, ANOVA) of both systolic and diastolic blood pressure. The decrease was significant during both the day and night subperiods. The blood pressure decrease was significantly related to the decrease in urinary sodium.

Finally, a relatively small decrease in sodium consumption induced an increase in the number of responder patients from 48% (basal) to 73% during the diet.

<table>
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<tr>
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<th>Na (U)</th>
<th>PAS 24h</th>
<th>PAD 24h</th>
<th>MAP 24h</th>
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<tr>
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<td>136</td>
<td>84</td>
<td>102</td>
</tr>
<tr>
<td>On Diet</td>
<td>129</td>
<td>128</td>
<td>78</td>
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Key Words: Low Sodium, Diet, Treatment

P-170
NORMAL VALUES FOR EXERCISE BLOOD PRESSURE IN THE ELDERLY IN VIEW OF THE 1999 WHO BLOOD PRESSURE CLASSIFICATION
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The World Health Organisation (WHO) has published a new classification of blood pressure (BP) in 1999. BP values between 130/85 and 140/90 mmHg are classified as normal high for all age groups. In contrast to the resting BP normal values, there are still different age-related normal values for exercise BP in the literature. In the present study, 1200 subjects (age 12-88 years) underwent a bicycle exercise test. The percentile of the resting systolic BP distribution at 140 mmHg was calculated for all age groups and the corresponding exercise BP value (100 watts) at this percentile is proposed as normal value (as shown in the table).

Thus, a systolic exercise BP value of approximately 180 mmHg is independently of the age group at the same percentile as a resting BP of 140 mmHg. Using the percentile-method we propose 180 mmHg as normal value for a systolic exercise BP at 100 watts.

<table>
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<tr>
<td>2001</td>
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</tbody>
</table>

Key Words: HEDIS, Digit Preference, Hypertension Clinic

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LACK OF PERFORMANCE-RELATED BIAS IN BLOOD PRESSURE MEASUREMENTS IN A HYPERTENSION CLINIC

Blood pressure measurements are being increasingly used as quality indicators for medical care delivery. Since 1999, the Healthplan Employer Data Information Set (HEDIS) has been using blood pressure control at < 140/90 mm Hg as one definition of “quality medical care.” We gathered data to address the hypothesis that, as awareness of HEDIS guidelines increased, physicians would more commonly record blood pressures with a terminal digit of “8,” thus more commonly indicating controlled hypertension. The charts of 656 hypertensive patients visiting the RUSH Hypertension Center were abstracted for supine or seated and standing BP readings at the most recent visit. Readings were stratified by year of recording: 1998 and before (i.e. before HEDIS), 1999, 2000, and 2001. Data were compared using chi-square methods.

Overall, there was a significant difference across all years in terminal digit preference (see table below, reporting number of observations for each terminal digit, P < 0.01). This was not, however, due to an overabundance of “8s” in the years 1999, 2000, and 2001, as hypothesized, but instead there was a significant shift to use more “0s” in the last two years. When the data from each year were analyzed separately for terminal digit preference, there was no significant difference across terminal digits in either the < 1998 or the 1999 readings, but in both 2000 and 2001, zeros were significantly more common (P < 0.001 for each). When comparing the observed proportion of each terminal digit across time, there was no significant change from < 1998 through 2001, even when the data from < 1998 and 1999 were combined. These data suggest that, at least in this clinic, physicians, the majority of whom are certified hypertension specialists, did not modify their records of blood pressure readings to conform to norms promulgated by quality assurance groups, and may not have been biased by expectations of later data review.

Key Words: BP Monitoring, Immunoreactive Insulin, Indapamid