A029
24H SYSTOLIC BLOOD PRESSURE LOAD IS AN INDEPENDENT PREDICTOR OF LEFT VENTRICULAR MIDDLE DYSFUNCTION
Istituto di Clinica Medica e Malattie Cardiovascolari, University of Palermo, Italy.

Some investigators have used blood pressure load (BPL), the percentage of systolic/diastolic blood pressures exceeding 140/90 mmHg, while awake and 120/80 mmHg during sleep, to correlate ambulatory blood pressure with target organ damage in arterial hypertension. However, BPL is tightly related to the average level of blood pressure.

In order to analyze the relationship between 24-h BPL and some indexes of hypertensive target organ involvement, independently of the mean level of 24-h BP (MBP), 51 patients with mild-to-moderate hypertension underwent 24-h ambulatory blood pressure monitoring (ABPM), fundus oculi examination, albumin excretion rate (AER) and 2-D guided M-mode echocardiography.

The study population was divided in subgroups according to systolic and diastolic 24-h BPL values predicted from the regression equation relating 24-h BP with 24-h MBP. The subjects with an observed BPL above this predicted value were included in the high BPL groups, the remaining were included in the low BPL groups.

Results: The 2 groups with high (n= 26) and low (n= 25) 24-h systolic BPL, but similar mean of 24-h systolic BP, did not differ with respect to left ventricular mass index (LVMI) (123.5 ± 12 vs 129.5 ± 5.5 g/m²), presence of hypertensive retinopathy (31.5% vs 47.8%) and AER (11.4 ± 1.2 vs 12.0 ± 0.5 µg/m²). The systolic BPL group was also characterized by a lower LVMI, lower frequency of hypertensive retinopathy and AER.

Conclusion: These results seem to suggest that, in mild-to-moderate arterial hypertension, 24-h systolic blood pressure load is a predictor of left ventricular middle dysfunction independently of the average level of 24-h blood pressure.

Key Words: ABPM · Blood Pressure Load · LV Middle Function

A030
BLOOD PRESSURE CONTROL, AND DRUG PRESCRIPTION PATTERNS IN TWO CLINICAL POPULATIONS.
Ashok Khan, B. Tilley, S. Herrod, G. Makena, R. Paravaranum, W. Kermeg, G. Krol, B. Zarowitz, S. Steigerwan.* Henry Ford Hospital, Detroit, MI.

We studied a large HMO population affiliated with a health care system to assess the degree of blood pressure control in internal medicine clinic patients with the diagnosis of primary hypertension who had been followed for > 1 year.

- we chose one urban, predominantly African American Clinic, and one suburban clinic (both General Internal Medicine)
- "Control" was defined as the last two blood pressure readings on the patient less than 140/90 mm Hg
- 68 charts were sampled at the urban clinic, 50 at the suburban clinic.

Data listed below

<table>
<thead>
<tr>
<th>Urban r r r r</th>
<th>Suburban r r r r</th>
</tr>
</thead>
<tbody>
<tr>
<td>African</td>
<td>Non-African</td>
</tr>
<tr>
<td>American</td>
<td>American</td>
</tr>
</tbody>
</table>

Patients at the urban clinic appeared to have better controlled blood pressure. There was also a higher use of diuretics urban vs. suburban. We believe this data suggests that a regimen including diuretics results in better control of blood pressure.

Key Words: Diuretics, Blood Pressure Control, Outcomes

A031
MEDIUM AND LONG-TERM REPRODUCIBILITY OF AMBULATORY BLOOD PRESSURE.
Institute of Clinical Medicine IV, University of Florence, Italy.

To evaluate ambulatory blood pressure (ABP) reproducibility, 68 subjects, 22 females and 46 males, mean age 42.3 ± 15 years (range 18-67 years), were studied. Thirty-two subjects had clinic diastolic BP of < 90 mmHg or less. All subjects successfully completed two 24-h ambulatory BP monitoring sessions (time interval: 1 to 71 months).

Relative length of day and night periods was individually established on the basis of patient's diary. Reproducibility of 24-hour, day and night systolic (SBP) and diastolic (DBP) BP means was assessed by computing the index of reproducibility (twice the standard deviation of the differences between individual means). Mean differences and indexes of reproducibility (within brackets) of ambulatory BP, according to time interval between observations, are reported in the Table.

<table>
<thead>
<tr>
<th>Interval between observations</th>
<th>&lt; 4 months</th>
<th>4-11 months</th>
<th>&gt; 11 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>24-hour SBP</td>
<td>-1.38 (-7.9)</td>
<td>1.17 (-12.5)</td>
<td>0.53 (18.4)</td>
</tr>
<tr>
<td>DBP</td>
<td>-0.86 (-7.8)</td>
<td>0.58 (-7.2)</td>
<td>0.48 (10.0)</td>
</tr>
<tr>
<td>Day</td>
<td>-2.22 (-8.4)</td>
<td>2.15 (-12.5)</td>
<td>0.11 (-22.4)</td>
</tr>
<tr>
<td>SBP</td>
<td>-3.98 (-8.1)</td>
<td>1.09 (-7.5)</td>
<td>0.25 (12.8)</td>
</tr>
<tr>
<td>Night</td>
<td>1.10 (12.3)</td>
<td>0.06 (11.5)</td>
<td>2.12 (16.3)</td>
</tr>
<tr>
<td>SBP</td>
<td>0.92 (8.1)</td>
<td>0.16 (9.4)</td>
<td>2.00 (10.0)</td>
</tr>
</tbody>
</table>

Time interval between observations, body weight changes, age and BP level at admission emerged as a multiparametric regression analysis to evaluate their ability to influence observed BP changes. In the whole population, 24-hour DBP difference was significantly influenced by clinic DBP at admission and body weight change (R² = 0.39, p<0.001). 24-hour SBP variation was closely associated with body weight change only (R² = 0.22, p<0.001). Because of BP variation, 3 hypertensive and 4 normotensive subjects had to be reclassified at the second observation. Our results suggest a cautious use of mean BP values computed on a single 24-hour monitoring period to classify blood pressure characteristics in individual subjects, especially when these values are close to reference limits of normality.

Key Words: Blood pressure, reproducibility, ambulatory monitoring

A032
AMBULATORY BLOOD PRESSURE MONITORING (ABPM) DEVICES EVALUATED IN ROUTINE USE.

The aim of this study was to establish if two commercial devices, used routinely in 24h ABPM, with the characteristics of the oscillographic profile evaluated in this study, are still consistent with the same benchmark (OESOng LV-1111, CSI). The devices showed variations of their performance during a longterm period utilization. Since 4th May 1995 to 8th May 1998 the devices, signed with registrar’s number 5941006 (A) and 5941002 (B), were utilized in 318 and 326 subjects. 24384 measurements for A and 23786 measurements for B have been recorded and to nocturnal blood pressure reduction. We have recognized four subject classes: hypertensive dippers (HVD 233), hypertensive non-dippers (HYNV 132), normotensive dippers (ND 144), normotensive non-dippers (NND 133). Furthermore, on this dataset we have evaluated the percent of artificial measurements (4.77% HVD, 4.20% HYNV, 5.91% ND, 4.84% NND) and its profile during the entire period (see graph).

Considering that this is the first study that evaluated the "performance in use" of ABPM devices and a good performance seems to strongly related to function routine controls at least every 6 months.

Key Words: Ambulatory blood pressure, validation, longterm use.