P25: 24-_HOUR AORTIC AMBULATORY BLOOD PRESSURE IS BETTER ASSOCIATED WITH COMMON CAROTID ARTERY HYPERTROPHY THAN 24-_HOUR BRACHIAL PRESSURE – THE SAFAR STUDY

Antonios Argyris, Evaggelia Aissopou, Efthymia Nasothymiou, Theodoros Papaioannou, Jacques Blacher, Michel Safar, Petros Sfikakis, Athanase Protogerou


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removal) to aortic mean and diastolic BP. For MoG, central pressure was derived through standard systolic-diastolic calibration (MoGC1) as well as mean-diastolic calibration (MoGC2).

Results: Mean±SD differences between device and intra-arterial BP are presented in the Table. There was moderate correlation between device and intra-arterial brachial systolic BP (R = 0.58 XCEL, R = 0.47 MoG, P < 0.01) and central systolic BP (R = 0.69 XCEL, R = 0.64 MoGC1, R = 0.43 MoGC2, P < 0.01). Intra-arterial central-to-brachial pulse amplification factor was 1.17 (range 0.88 to 1.55), but there was no correlation between device and intra-arterial amplification (R = 0.07 XCEL, R = 0.07 MoGC1, R = 0.19 MoGC2, P > 0.18). Results in sub-groups >13 and <13 years were similar.

Conclusion: Both oscillometric devices overestimated brachial and central systolic/pulse BP, exceeding the validation criteria of 5 ± 8 mmHg, and there was no correlation between intra-arterial and device-derived central-to-brachial pulse amplification. Diastolic BP was acceptable.

Table: Mean±SD of the difference (mmHg) between device and intra-arterial measurements.

<table>
<thead>
<tr>
<th>Variable</th>
<th>XCEL</th>
<th>MoG</th>
<th>MoGC1</th>
<th>MoGC2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systolic</td>
<td>11.2 ± 8.9</td>
<td>12.9 ± 11.7</td>
<td>8.8 ± 5.6</td>
<td>7.7 ± 10.3</td>
</tr>
<tr>
<td>Diastolic</td>
<td>1.7 ± 6.0</td>
<td>4.7 ± 5.4</td>
<td>2.1 ± 2.2</td>
<td>3.1 ± 6.1</td>
</tr>
<tr>
<td>Pulse</td>
<td>13.0 ± 10.1</td>
<td>17.9 ± 11.4</td>
<td>9.0 ± 7.7</td>
<td>16.0 ± 11.6</td>
</tr>
</tbody>
</table>

P25

24-HOUR AORTIC AMBULATORY BLOOD PRESSURE IS BETTER ASSOCIATED WITH COMMON CAROTID ARTERY HYPERTROPHY THAN 24-HOUR BRACHIAL PRESSURE – THE SAFAR STUDY

Antonios Argyris 1, Evaggelia Aissopou 1, Efthymia Nasothymiou 1, Theodoros Papadionannou 1, Jacques Blacher 3, Michel Safar 3, Petros Styliakis 1, Athanasia Protopopou 1, 1Cardiovascular Prevention and Research Unit, Pathophysiology Department, “Laiko” Hospital, National and Kapodistrian University of Athens, Athens, Greece
2Biomedical Engineering Unit, 1st Department of Cardiology, “Hippokration” Hospital, Medical School, National and Kapodistrian University of Athens, Athens, Greece
3Department of Clinical Pharmacology, AP-Hôpital, Diagnosis and Therapeutic Center, Hôtel-Dieu, Paris, France
41st Department of Propaedeutic Medicine, “Laiko” Hospital, Medical School, National and Kapodistrian University of Athens, Athens, Greece

Objective: Evidence suggests the superiority of office aortic pressure over brachial on the evaluation of vascular damage and prognosis of cardiovascular disease (CVD); 24-hour ambulatory blood pressure monitoring (ABPM) is regarded the optimal method for assessing blood pressure (BP) profile. The non-invasive 24-hour aortic ABPM is feasible and superior to 24-hour brachial regarding the association with left ventricular hypertrophy and diastolic dysfunction. The aim of our study was to examine the association of 24-hour aortic and brachial ABPM with common carotid artery (CCA) hypertrophy.

Methods: Consecutive subjects referred for CVD risk assessment underwent 24-hour aortic and brachial ABPM using a validated oscillometric brachial cuff-based device (Mobil-O-Graph). CCA hypertrophy was assessed by high-resolution ultrasound (assessment of intima media thickness - IMT).

Results: 497 subjects (aged 54 ± 13 years, 57% men, 80% hypertensives) were examined. Using Hotelling’s-Williams test it was shown that 24-hour aortic BP was significantly better correlated with IMT as compared with brachial BP (r: 0.254 vs. r: 0.202 for right IMT, r: 0.244 vs. r: 0.207 for left IMT, p < 0.05).

Conclusions: Non-invasively assessed 24-hour aortic pressure is more strongly associated with CCA IMT and provides a higher discriminatory ability for the detection of CCA hypertrophy.