P2.27: LOCAL RADIAL STRAIN OF THE COMMON CAROTID ARTERY WALL


To link to this article: https://doi.org/10.1016/j.artres.2012.09.108

Published online: 21 December 2019
There was no statistically significant correlation between raPWV and arm musculature. 3) Left handed individuals had higher raPWV than right handers, figure below. (unpaired t-test; both limbs PWV p<0.001, dominant only p<0.015, non-dominant p<0.001).

**Summary and Conclusions:** Results failed to support hypotheses 1 and 2, although differences in muscularity between the two arms were small. Intriguingly, for reasons unknown, left handers had stiffer arms than right handers. In future we will measure PWV at other sites and include racquet sport players with greater muscular disparity between each arm.

**Table** Radial strain and relative distortion between patients with and without CVA

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>SBP (mmHg)</th>
<th>DBP (mmHg)</th>
<th>Stenosis degree (%)</th>
<th>ε_m (%)</th>
<th>ε_a (%)</th>
<th>(ΔD/ΔD)_in (%)</th>
<th>(ΔD/ΔD)_out (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ipsilateral</td>
<td>14</td>
<td>136±22</td>
<td>77±12</td>
<td>38±36</td>
<td>-8.5±2.5*</td>
<td>-4.3±1.3</td>
<td>7.2±2.9</td>
<td>5.1±2.0*</td>
</tr>
<tr>
<td>Contralateral</td>
<td>15</td>
<td>145±18</td>
<td>85±10</td>
<td>27±29</td>
<td>-5.3±1.8</td>
<td>-3.5±2.5</td>
<td>5.1±2.1</td>
<td>3.6±1.4</td>
</tr>
<tr>
<td>w/o CVA</td>
<td>10</td>
<td>145±18</td>
<td>85±10</td>
<td>27±29</td>
<td>-5.3±1.8</td>
<td>-3.5±2.5</td>
<td>5.1±2.1</td>
<td>3.6±1.4</td>
</tr>
</tbody>
</table>

*significant different from patient without (w/o) CVA using Student t-test; number of CCAs (N); systolic blood pressure (SBP); diastolic blood pressure (DBP); contralat, contralateral. 1 ipsilateral CCA of patients with CVA and 2 CCAs in patients without CVA were excluded due to poor image quality.

**P2.27** LOCAL RADIAL STRAIN OF THE COMMON CAROTID ARTERY WALL

E. Hermeling 1,2, F. H. Schreuder 1, W. H. Mess 2, M. E. Kooi 1,4, A. P. G. Hoeks 3,4

**Objective:** Previous studies have shown that the pressure at the late systolic shoulder (SBP) of the radial or digital pressure waveform is a good estimate of central systolic pressure (cSBP) when waveforms are calibrated from invasive measurements. These results suggest SBP, may remain constant along the upper limb. The aim of this study was to examine the agreement between SBP at the carotid, brachial and radial arteries.

**Methods:** We compared measurements of SBP, obtained byplanation tonometry using the Sphygmocor system (Atcor Medical, Australia) at the radial (RA), brachial (BA) and carotid (CA) arteries to 45 subjects (24 men, aged 23-84 years). Waveforms were calibrated using the same mean (MAP) and diastolic blood pressure (DPB).

**Results:** There was a close agreement between SBP values measured at the different sites with a mean difference (SD) of 0.88 (5.29) mmHg for RA-BA, -2.30 (4.60) mmHg for BA-CA and -1.42 (4.34) mmHg for RA-CA.

**Conclusion:** These results suggest that SBP can be considered as constant along the arm.