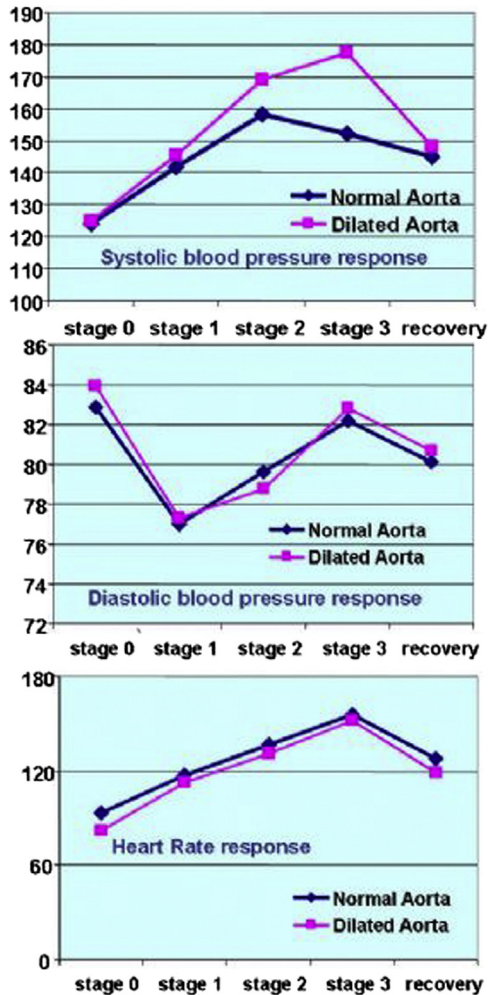


**Conclusion:** Imaging of ascending aorta is clinically essential for guiding the anti-hypertensive therapy in pre-hypertensive subjects. Exaggerated systolic blood pressure response during TT may probably be responsible for that aortic dilatation in those subjects. Our findings may be a rationale for initiation of an anti-hypertensive therapy preferentially the beta blocking drug in pre-hypertensive subjects with aortic dilatation.



Pre-hypertensive subjects with			
	normal aorta (n=28)	dilated aorta (n=30)	p
Age	41.25±4.3	41.60±3.9	0.74
Aortic root	32.8±1.49	32.9±1.27	0.69
Ascending aorta	34.5±0.96	35.9±1.0	0.00
<b>Systolic blood pressure</b>			
Supine	124.2±2.8	125.1±2.9	0.34
Stage I	141.9±19.3	145.6±16.9	0.44
Stage II	158.1±28.2	169.2±19.01	0.08
Stage III	152.4±9.1	177.3±12.2	0.00
Recovery	145.1±11.7	148.1±15.1	0.40
<b>Diastolic Blood Pressure</b>			
Supine	82.8±3.1	83.9±3.2	0.21
Stage I	77.2±6.8	77.3±7.4	0.86
Stage II	79.6±10.7	78.7±7.4	0.70
Stage III	82.2±6.6	82.7±6.0	0.73
Recovery	80.1±6.0	80.6±8.5	0.77
<b>Heart rate</b>			
Supine	93.6±16.8	82.2±13.9	0.00
Stage I	117.6±11.1	112.4±9.4	0.59
Stage II	136.2±11.6	131.2±13.0	0.13
Stage III	156.1±12.6	151.6±13.0	0.19
Recovery	80.1±6.0	80.6±8.5	0.77

PP-042

**Acute Sleep Deprivation is Associated with Increased Arterial Stiffness in Healthy Young Adults**

Murat Sunbul, Batur Gonenc Kanar, Erdal Durmus, Tarik Kivrak, Ibrahim Sari Marmara University Faculty of Medicine Department of Cardiology, Istanbul

**Background:** Arterial stiffness and its hemodynamic consequences are known to be associated with increased cardiovascular morbidity and mortality. Pulse wave velocity (PWV) and augmentation index (AIx) are non-invasive indicators of the arterial stiffness and wave reflection. Sleep deprivation (SD) is known to be associated with increased incidence of adverse cardiovascular events. The aim of this study was to investigate whether there is an association between acute SD and arterial stiffness parameters in healthy adults, which has not been studied previously.

**Methods:** The study population was consisted of 42 healthy volunteers (18 male, mean age: 30.0 ± 4.5 years). Measurements of arterial stiffness were carried out by using a Mobil-O-Graph arteriograph system. Arterial stiffness measurements were obtained both after a night with regular sleep (RS) and after a night with SD.

**Results:** Mean sleep time was significantly lower after the night of SD when compared after RS (0.73 ± 1.39 hr versus 7.33 ± 0.52 hr, p<0.001). Peripheral systolic blood pressure, peripheral pulse pressure, and cardiac output were significantly higher after SD when compared after RS (p=0.032, 0.007 and 0.003 respectively). PWV was significantly higher (5.33 ± 0.46 m/s versus 5.15 ± 0.26 m/s, p=0.001), and AIx was significantly lower (20.5 ± 11.9 % versus 26.0 ± 8.4 %, p=0.008) after the night of SD when compared after the RS. While PWV was significantly higher (p=0.008), and AIx was significantly lower (p=0.039) in male subjects, only PWV was significantly higher (p=0.009) in female subjects. Sleep time correlated with AIx (p:0.034; r:0.233) and inversely correlated with PWV (p:0.044; r:-0.222).

**Conclusion:** In the present study we demonstrated that even one night of SD is associated with increased arterial stiffness in healthy adults. The present findings suggest that adverse effects of SD on cardiovascular system might be at least in part due to increased arterial stiffness which needs to be tested with large scale studies and in the chronic SD setting.