561.98±21.63 ml/min, N.S. and 25.22±3.1 vs 13.31±4 mm², N.S.), while % area increase was significantly higher (13.49±6.4 vs 25.54±13.5%, p<0.01). Dilatation in response to GTN was comparable in all groups. In young subjects with early FHC and no cardiovascular disease, baseline lumen arterial size and flow seem to be lower than in normals, while endothelial dependent and independent vasodilation appear preserved in presence of an increased of NO release.

Key Words: Nitric oxide; hypercholesterolemia; vasodilation

B010
DETERMINANT VARIABLES OF PULSE WAVE VELOCITY
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Background: According to numerous published papers large artery properties correlate closely with aging and blood pressure. Nevertheless, several other variables need to be considered in regard to the analysis of pulse wave velocity (PWV), a major marker of arterial wall structure and an accurate method for measuring arterial elasticity.

Aim of the study: This study was designed to assess the independent variables of PWV in a cohort of untreated patients.

Population and methods: 326 untreated subjects, 222 women and 104 male, aged 51 ± 16 years were studied. PWV was recorded by means of the Complior®.

Results: In univariate analysis PWV correlates with: In mul-tivariate analysis PWV correlates with age, SBP, height, and heart rate (PWV = –7.98 + 0.0819 age + 0.0451 SBP + 0.0426 height + 0.0267 heart rate [r = 0.80, p<0.000001])

Conclusions: In this wide cohort of untreated patients PWV closely correlates with age, anthropometric variables, SBP and heart rate.

Key Words: Pulse wave velocity; anthropometric variables; blood pressure

B011
PULSE WAVE VELOCITY CHANGES WITH ANTIHYPERTENSIVE TREATMENT
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Background: Large artery properties can be improved by a direct action of a drug on the vessel wall and/or indirectly by the decrease in blood pressure. On the other hand pulse wave velocity (PWV) is a way to measure arterial elasticity.

Aim of the study: This study was designed to assess the PWV changes in a cohort of hypertensive patients (HT) at baseline and during the antihypertensive treatment at short and long time (2–36 months) in regard to other haemodynamic parameters.

Population and methods: 67 untreated HT (Stages I-II, JNC-VI), 70 women and 51 male, aged 53 ± 11.35 years were studied at baseline and thereafter at different times ranging from 2 to 36 months under antihypertensive treatment. PWV by means of the Complior® and blood pressure were recorded in all of them.

Results:

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>2 m</th>
<th>12 m</th>
<th>36 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (patients)</td>
<td>121</td>
<td>121</td>
<td>91</td>
<td>51</td>
</tr>
<tr>
<td>SBP (mm Hg)</td>
<td>155 ± 16a, b,c</td>
<td>140 ± 16a</td>
<td>137 ± 14a</td>
<td>137 ± 12a</td>
</tr>
<tr>
<td>DBP (mm Hg)</td>
<td>98 ± 8a, b,c</td>
<td>87 ± 8a</td>
<td>86 ± 7b</td>
<td>85 ± 8b</td>
</tr>
<tr>
<td>HR (bpm)</td>
<td>72 ± 9a</td>
<td>72 ± 8a</td>
<td>71 ± 8a</td>
<td>73 ± 8a</td>
</tr>
<tr>
<td>PWV (m/s)</td>
<td>11.77 ± 2.01a,b,c</td>
<td>10.90 ± 1.76a</td>
<td>10.73 ± 1.90a</td>
<td>10.52 ± 2.06b</td>
</tr>
</tbody>
</table>

Conclusions: PWV diminishes with short time antihypertensive treatment and remains unchanged thereafter. The improvement of PWV parallels the decrease of BP.

Key Words: Pulse wave velocity; hypertension; antihypertensive treatment

B012
REPEATED BLOOD PRESSURE MEASUREMENTS MAY PROBE DIRECTLY AN ARTERIAL PROPERTY
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In both 24h ambulatory and home blood pressure (BP) measurements the plot of systolic BP (Sys) versus diastolic BP (Dia) frequently fits well to a straight line with a slope (SLOPE) in the range of 1–2. We hypothesized that SLOPE reflects a mechanical property of the tested artery.

Objectives: To model the relation between SLOPE and arterial properties and to check its consistency in test cases.

Methods: Intra arterial pressure P is assumed to be a function of the vessel volume (see figure). Sys and Dia correspond to the value of P at volumes that differ by the expansion ΔV of the artery due to the ventricular ejection. Under this assumption the proposed linear relation Sys = SLOPE * Dia + b is satisfied by a specific non-linear dependence of the pressure on the vessel volume (see figure). This