

Among 31 subjects with headache, 21 cases were classified as vascular headache. Between the subjects with or without headache, no significant association was observed in age (67 ± 5 vs. 68 ± 6 y.o., $p=0.885$), gender (12.7 vs. 9.7% of male, $p=0.467$), systolic blood pressure (134 ± 15 vs. 138 ± 30 mmHg, $p=0.377$), and pulse pressure (72 ± 8 vs. 73 ± 9 mmHg, $p=0.628$). However AIx was significantly higher in subjects with headache (93 ± 12 vs. 86 ± 12 %, $p=0.020$), especially in subjects with vascular headache (95 ± 13 %, $p=0.031$).

These results indicate that the headache, especially vascular headache, could be a potent predictor of advanced arterial stiffness.

Key Words: Aaugmentation Index, Arterial Stiffness, Headache

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PREVALENCE AND SEVERITY OF UNCONTROLLED HYPERTENSION IN PATIENTS REFERRED FOR CORONARY ANGIOGRAPHY DUE TO SUSPECTED MYOCARDIAL ISCHEMIA

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Purpose: To evaluate the prevalence and severity of uncontrolled hypertension (HTN) in patients referred to the cardiac catheterization laboratory for suspected coronary artery disease in an inner city teaching hospital.

Methods: Intra-arterial blood pressure measurements obtained during cardiac catheterization using WITT Biomedical™ system in the 3425 consecutive patients (mean age = 60, females = 52%, African american = 67%, hispanic = 19%, caucasian = 11%) over a 3 year period were analysed. Uncontrolled HTN was defined as BP > 140/90 mmHg. Patients were divided into 2 groups: Group I (Patients with known history of hypertension, n=2541, 74%) and Group II (Patients without known history of hypertension, N=884, 26%).

Results: Of the 3425 patients evaluated, 1533 (44.8%) had a blood pressure greater than 140/90 mmHg and 847 patients (24.7%) had a blood pressure greater than 160/100mmHg (See Table).

Conclusion: In a predominantly African American group of patients with suspected coronary artery disease that underwent cardiac catheterization,

- 1) Almost half of all patients had uncontrolled HTN (n=1533/3425, 44.7%).
- 2) Of the patients with known and "presumably" treated hypertension, 51% had BP > 140/90 (Group I).
- 3) Almost 5% of all patients presenting to the cardiac cath lab had a BP > 200/120 mmHg
- 4) The blood pressure control in female patients tended to be worse than the male patients

Intra-arterial blood pressure recordings of patients referred for cardiac catheterization

Blood Pressure	All patients	Group I	Group II	Males	Females
		(known history of HTN)	(No known history of HTN)		
In mmHg	No. (%)	No.(%)	No.(%)	No.(%)	No.(%)
<139/89	1892 (55.3%)	1245 (49%)	647 (73.2%)	1065(64.9%)	828 (46.4%)
140/90-159/99	686 (20%)	553 (21.7%)	133 (15.1%)	306 (18.6%)	380 (21.3%)
160/100-179/109	432 (12.6%)	368 (14.5%)	64 (7.2%)	152 (9.3%)	280 (15.7%)
180/110-199/109	260 (7.6%)	244 (9.6%)	16 (1.8%)	87 (5.3%)	173 (9.7%)
>200/120	155 (4.5%)	131 (5.2%)	24 (2.7%)	31 (1.9%)	123 (6.9%)
Total	3425	2541	884	1641	1784

Key Words: Coronary Artery Disease, Uncontrolled Hypertension

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SCREENING OF ADOLESCENT HYPERTENSION, AND EVALUATION OF TARGET ORGAN DAMAGES. RESULTS FROM THE DEBRECEN HYPERTENSION STUDY

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We performed a cross-sectional, population-based survey in Debrecen. All high school attending youths (a total sample of 10359, average age was 16.2 ± 1.0 years) participated in the study. Following a 10 minute rest, 3 repeated BP measurements were taken by a validated OMRON M4 devices. Subjects completed a demographic and lifestyle survey as well. The 50th, 90th and 95th percentile value of the BP were defined by dividing the adolescent population into age-, gender- and height-specific subgroups. In comparison with US guidelines, in our sample, the systolic BP of boys in the different subgroups was 6 to 11 mmHg higher, while this difference was less marked for girls (1 to 5 mmHg). There were no marked differences in diastolic BP. With the help of a multiplex regression model we analyzed factors influencing BP. At systolic BP gender ($\beta=0.373$) and BMI($\beta=0.261$) had a largest relative weight, while age ($\beta=0.043$), father's hypertension ($\beta=0.042$) and mother's hypertension ($\beta=0.38$) had a smaller, but also significant importance. BMI ($\beta=0.264$), gender ($\beta=0.097$), age ($\beta=0.052$), father's HTN ($\beta=0.041$) and mother's HTN ($\beta=0.038$) were predictive of diastolic BP. Adjusted R² was 0.281 at systolic, and 0.181 at diastolic BP. Systolic and/or diastolic BP exceeded the age, gender and height adjusted 90th percentile of 1614 (15.84%) adolescents. Performing 2x3 extra measurements on this sample, 2.34% of the subjects had confirmed HTN. Target organ damage was observed in numerous cases: left ventricular hypertrophy in 13%, retinopathy in 12% and microalbuminuria in 10% of hypertensives. IMT in the common carotid artery was higher in hypertensive adolescents (means \pm SD: 0.55 ± 0.11 mm) than in healthy control subjects (0.48 ± 0.08 mm, $p<0.001$). Similar to this, a higher LVMI was measured in hypertensive (102.7 ± 30.5 g/m²), than in healthy teenagers (91.1 ± 25.2 g/m², $p<0.01$). The screening of high blood pressure is important in adolescence also, because of the prevalence and the target organ damages. Early diagnosis of hypertension and follow-up may lead to the prevention of target organ damages.

Key Words: Adolescent Hypertension, Screening, Target Organ Damage

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BASELINE HEART RATE AND HEART RATE CHANGES OVER TIME PREDICT THE PROGRESSION TO MORE SEVERE HYPERTENSION IN YOUNG SUBJECTS WITH MILD HYPERTENSION

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Resting heart rate has been shown to predict the development of hypertension in general population studies. The purpose of this study was to investigate the relationship between heart rate and long-term changes in heart rate with changes in blood pressure in a cohort of young subjects with mild hypertension.

The study was carried out in 1095 subjects who took part in the multicenter HARVEST study. Subjects 18 to 45 years old with diastolic blood pressure (BP) from 90 to 99 mm Hg and/or systolic BP between 140 and 159 mm Hg, who never took antihypertensive therapy, were enrolled. Ambulatory 24h BP was measured at baseline. Urinary epi-