P-wave dispersion and also by assessing the brain natriuretic peptide (BNP) plasma levels.

Towards this end, we studied 30 hypertensive patients with a history of PAF (group A) and 30 without a history of PAF (group B). The P-wave was recorded and studied by the 24h ECG-monitoring (Holter). We measured 24h-Pmin, 24h-Pmax, 24h-P dispersion (=Pmax−Pmin). We measured also the plasma levels of BNP. An echocardiogram was also done assessing left ventricular (LV) and left atrial (LA) dimensions.

There were no differences among the two groups regarding the clinical and demographic data (age: 58 ± 12 years, sex: 65% vs 60% males, body mass index: 27.57 ± 3.2 vs 27.38 ± 4.4 kg/m², office blood pressure: 147 ± 12/91 ± 7 vs 141 ± 11/90 ± 9 mmHg, duration of hypertension: 4.2 ± 2.1 vs 3.9 ± 2.3 years, lipidemic profile: 240 ± 35 vs 235 ± 33 mg/dl, p = NS for all cases).

The 24h-P dispersion and 24h-Pmax were significantly longer in group A than group B (76 ± 19 ms vs 35 ± 9 ms and 135 vs 110 ms, p < 0.001 for both cases). In contrast, Pmin was significantly shorter in group A (59 vs 75 ms, p < 0.001). In addition, left ventricular mass index and left atrial dimensions were significantly higher in group A compared to group B (115 ± 27 vs 85 ± 19 g/m² and 3.77 ± 0.3 vs 3.51 ± 0.4 cm, p < 0.001 and p < 0.05 respectively). There was also no difference in ejection fraction (65 vs 67%, p = NS). However, BNP plasma levels were significantly higher in group A (49.04 ± 53.8 vs 12.24 ± 14.21 pg/dl, p = 0.006).

In conclusion, P-wave dispersion as it was defined on the 24h ECG-recording and high plasma levels of BNP consist two reliable predictors for the development of PAF in essential hypertensive subjects.

Key Words: P-Wave Dispersion, Paroxysmal Atrial Fibrillation, BNP

PAROXYSMAL ATRIAL FIBRILLATION IN SUBJECTS WITH ESSENTIAL HYPERTENSION?

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Increased brain natriuretic peptide (BNP) plasma levels may reflect diastolic dysfunction and therefore is correlated with the initiation of atrial fibrillation in hypertensive patients. Whether an association exists between BNP plasma levels and left atrial size in hypertensive patients at risk for PAF is not well investigated.

Towards this end, we measured plasma levels of BNP in 60 hypertensive patients, 30 with a history of paroxysmal atrial fibrillation (PAF) (group A) and 30 without a history of PAF (group B). Also our patients underwent an echocardiographic study for determination of left atrial (LA) dimensions, left ventricular mass index and left ventricular ejection fraction (EF).

There were no differences between the two groups, A and B, regarding the clinical data (age: 58 ± 12 vs 57.5 ± 10 years, males: 65% vs 60%, body mass index: 27.57 ± 3.2 vs 27.38 ± 4.4 kg/m², office blood pressure: 147 ± 12/91 ± 7 vs 143 ± 11/90 ± 9 mmHg, duration of hypertension: 4.2 ± 2.1 vs 3.9 ± 2.3 years, p = NS for all cases). Patients on group A had increased both left ventricular mass index and LA dimension compared to group B (115 ± 27 vs 85 ± 19 g/m² and 3.77 ± 0.3 vs 3.51 ± 0.4 cm, respectively, p < 0.05 for both cases) while the left ventricular EF did not differ (65% vs 67%). BNP plasma levels were significantly higher in group A (49.04 ± 53.8 vs 12.24 ± 14.21 pg/dl, p = 0.006). By multiple regression analysis and analysis of variance, it was revealed that high BNP plasma levels was a significant and independent predictor for development of PAF.

In conclusion, BNP plasma levels could be a significant and reliable predictive index for the detection of hypertensive subjects in sinus rhythm who are at risk for PAF. The left atrial dimension does not have the same prognostic value.

Key Words: Left Atrial Dimension, Brain Natriuretic Peptide, Paroxysmal Atrial Fibrillation

CARDIOVASCULAR DISEASE EDUCATION AND COMMUNITY AWARENESS: TRAINING HIGH SCHOOL STUDENTS AS HEALTH PROMOTERS

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Among young people, chronic diseases such as hypertension, diabetes, obesity, and dyslipidemia are increasing at alarming rates. Increasing cardiovascular health awareness among high school students is imperative because of the very early onset of risk factors, particularly obesity. In many rural Mississippi homes, these young people are often the highest functioning member of the family and an appropriate target for improving overall family health. Training high school students as health promoters is an effective way to increase health awareness both within the family and within the community. This presentation will describe development of this program and initial results.

Thirty-eight students from a rural Mississippi high school were selected to participate in this year-long project. Students completed classroom instruction at their school on cardiovascular disease risk factors with an emphasis on obesity. Students then came to the UMMC for further training. Each student completed a prospective assessment of health awareness/behaviors. Blood pressure, glucose, lipids, BMI, and body fat analysis were assessed and discussed with each student. Stroke and heart attack warning signs and symptoms were reviewed and students were supplied with AHA community education kits. Students received a tour and review of basic science and animal research. An interactive education program, Who Wants to be a Heart Healthy Millionaire, was developed and presented to the students with plans for them to modify and use within their communities.

Initially, 95% of students did not know what a healthy BMI should be, compared with 5% on post-assessment. Of males, 56% actually had a BMI above 25 compared to 40% of females. Blood pressures, glucose, and total cholesterol were all significantly less in those students with a BMI below 25 compared to those with a BMI above 25. In the pre-intervention question, 100% of participants missed at least one question period while 21% missed at least one question in the post-intervention question period. Students have been responsible for providing work-based, faith-based, and community-wide education programs, writing newspaper articles, and supporting other cardiovascular reduction programs. This presentation will highlight results of these community interventions as well as student health awareness.

Key Words: Risk Factors, Adolescents, Health Awareness

CARDIOVASCULAR HEALTH AWARENESS AMONG RURAL MISSISSIPPI HIGH SCHOOL STUDENTS: SCHOOL-WIDE VERSUS HIGH ACHIEVERS

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Health awareness is imperative for high school students because of the very early onset of cardiovascular disease risk factors in rural Mississippi. Increasing awareness is the first step in promoting cardiovascular health and prevention.

A prospective assessment of health awareness was performed school-wide at Morton High School and among selected high-achieving students at Weir Attendance Center, both of which are rural, racially diverse community schools. Students at both high schools were asked to complete the “Do You Know Your Numbers?” questionnaire which consisted of five questions that assessed body mass index, blood sugar, blood cholesterol, and blood pressure awareness. Outcome measures included