K037

CLUSTERING OF CARDIOVASCULAR RISK FACTORS IN YOUNG ADULTS

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Aim: To determine clustering of high body mass index (BMI), high systolic blood pressure (BP) as well as low physical fitness in young adults. Furthermore to compare the distributions of s-tropin, s-insulin, ambulatory BP and FEVI in relation to cluster status.

Methods: The study is an epidemiological longitudinal examination of a population of 1369 subjects first examined in 1985. A follow-up examination was performed in 1996-97 when the subjects were 19 to 21 years old. Clustering was defined as having both systolic BP in the upper quartile, BMI in the upper quartile and physical fitness in the lower quartile. All remaining subjects from the population were classified as non-clustering. Chi-square analysis was used to test if the observed frequencies of clustering were higher than expected.

Results: A significant clustering of risk factors was observed in 58 subjects (6.4%) compared with an expected number of 14 subjects (1.6%) if the risk factors were randomly distributed. Subjects with clustering had a significantly higher systolic ambulatory BP when compared to subjects without clustering of risk factors. The mean difference (95%CI) was 5.4 mmHg (1.0-9.3) for daytime, 6.4 mmHg (1.5-11.3) for nighttime. They also had lower HDL-cholesterol, higher LDL-cholesterol, and higher total cholesterol levels; a significant difference was however only found for total-cholesterol with a mean difference of 0.3 mmol/L (0.0-0.6). Significantly higher s-insulin and significantly lower FEVI were also found in subjects who had clustering of cardiovascular risk factors.

Conclusion: The study has showed a significant clustering of high systolic BP, high BMI and low physical fitness. Subjects with these risk factors had significantly higher levels of systolic ambulatory BP, total cholesterol, s-insulin and a significantly lower FEVI.

Key Words: Clustering, cardiovascular risk factors, epidemiology

K038

BIRTH WEIGHT AND CARDIOVASCULAR RISK FACTORS IN JAPANESE YOUNG ADULTS.

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Several studies have recently shown significant inverse relationship between birth weight (BP) and birth weight, though the finding is not consistent. So far, few investigations have been done as to whether this relationship exists in Japanese young adults. We investigated the influence of birth weight on BP and several metabolic variables in Japanese young adults. The data of 298 medical students of our university (206 men and 92 women; mean age: 23 years) who participated in the medical check-up in 1998 were analyzed. Birth variables were obtained from the child’s health record booklet. BP was measured twice in the sitting position using the cuff oscillometric device. There was highly significant correlation between current BMI and BP in both sexes. The subjects with a family history of hypertension (FH) had significantly higher BP than those without a FH in both sexes. Although birth weight was not significantly correlated with BP in the young adults examined in this study, male birth weight was inversely correlated with serum triglyceride concentrations in young adulthood (R=-0.15, P<0.05). These results partly support the hypothesis that low birth weight might be one of risk factors of the onset of cardiovascular disease.

Key Words: birth pressure, birth weight, adulthood, trypglicerides, cardiovascular risk factors.

K039

PREVALENCE, AWARENESS, TREATMENT AND CONTROL OF HYPERTENSION IN GREECE: THE DIDIMA STUDY.

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There are only very few data on the prevalence of hypertension in Greece and no information on the levels of hypertension control. A cross-sectional study of the total population aged >18 years of the village Didima in southern Greece was conducted in order to assess the prevalence and the levels of awareness, treatment and control of hypertension. The survey included an interview and blood pressure (BP) measurement on 2 clinic visits (triplicate sitting BP measurements per visit, mercury sphygmomanometer). Hypertension was defined as systolic BP ≥140 mmHg and/or diastolic BP ≥90 mmHg (average of 2nd and 3rd BP measurements of the 2nd clinic visit) or current treatment with antihypertensive drugs. The same BP threshold was used for the assessment of hypertension control.

A total of 604 inhabitants participated (response rate 78.4%) and 665 were analyzed (mean age ± SEM = 54.1 ± 7.0 years, 41.6% men). The prevalence of hypertension was 28.4% (men 30.2%, women 27.1%). Fifty percent of subjects aged 65 years or older had hypertension.

Although 73% of the participants were measuring their BP at least once a year, overall 39.2% of the hypertensives were unaware of the diagnosis (men 60%, women 30.9%), 6.3% were aware but not treated (men 4.8%, women 7.6%), 27.5% were treated but not controlled (men 22.8%, women 31.4%) and 27% were treated and controlled (men 22.6%, women 30.6%).

These results suggest that in the rural population of Greece hypertension is a common risk factor with considerable potential for improvement in the levels of control.

Key Words: hypertension, prevalence, awareness, treatment, control, Greece

K040

ROLE OF AGE ON THE EFFECTS OF BLOOD PRESSURE, HEART RATE AND CHOLESTEROL ON CARDIOVASCULAR MORTALITY


The purpose of this analysis was to study the effect of systolic blood pressure (SBP), heart rate (HR), and total cholesterol (Tch) on cardiovascular (CVD) mortality in men according to age. We included 125,513 males (aged 20 to 95 years; mean 42 y.o.) who had a standard health check-up at the IPC center. Three groups of age were analysed: ≤50, 51-65, ≥65 years. Mortality for the first 6 years of follow-up was considered for this analysis (n=1991). Risk ratios (RR) were calculated using a Cox regression analysis (adjusted for age and other cardiovascular risk factors). The table shows the RR (95% confidence interval) for CVD mortality corresponding to an increase of 10 mmHg of SBP, 1 mmol/L of Tch and 20 beats/min of HR.

<table>
<thead>
<tr>
<th>AGE</th>
<th>≤50 years</th>
<th>51-65 years</th>
<th>≥65 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBP</td>
<td>1.27 (1.23-1.32)</td>
<td>1.20 (1.12-1.28)</td>
<td>1.12 (1.01-1.23)</td>
</tr>
<tr>
<td>HR</td>
<td>1.36 (0.99-1.80)</td>
<td>1.20 (0.98-1.48)</td>
<td>1.57 (1.20-2.06)</td>
</tr>
<tr>
<td>Tch</td>
<td>1.43 (1.57-1.68)</td>
<td>1.59 (1.46-1.75)</td>
<td>1.67 (1.46-1.90)</td>
</tr>
</tbody>
</table>

SBP was an independent factor for CVD mortality in all age groups, whereas Tch was negatively associated with CVD mortality in older subjects. HR was positively associated with CVD mortality in all age groups. The effect of SBP and HR on CVD mortality was observed in all age groups. In contrast, the effect of cholesterol is reversed in older subjects.

Key Words: cardiovascular mortality, cholesterol, blood pressure, heart rate.