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PREVALENCE OF HYPERTENSION AND CAROTID DAMAGE IN STROKE
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To assess the relation between changes in the carotid arterial wall, blood pressure (BP) values and stroke we studied 140 consecutive patients with stroke (confirmed on CT scan). On admission blood pressure, ECG and carotids ultrasound imaging in standard points were assessed in order to evaluate the presence of intima-media thickness (IMT) (until 1.5 mm) and atheromatous plaques (AP) (above 1.5 mm). Also were evaluated, after 12 hrs fasting period of initial symptoms, plasma uric acid, cholesterol, triglycerides, HDL-C and Lp(a). The patients sample was divided in three groups according to ultrasound carotid image, normal carotid (group A), carotid with IMT (group B) and carotid with AP (group C). The table shows the results (mean±SEM) obtained and analyzed by ANOVA and, for those expressed as percentage values, by the X2 method.

<table>
<thead>
<tr>
<th>Group</th>
<th>Patients</th>
<th>Age (ys)</th>
<th>SBP (mmHg)</th>
<th>DBP (mmHg)</th>
<th>Total Cholest. mg/dL</th>
<th>Lp(a) mg/dL</th>
<th>CT scan Ische</th>
<th>Hemor</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>24 (15 male)</td>
<td>61.25 ± 2.3 $ *</td>
<td>174.3 ± 2.3 $ *</td>
<td>98.3 ± 2.3 $</td>
<td>186 ± 6.8 *</td>
<td>24 ± 4.1</td>
<td>50 (81%)</td>
<td>16 (67%) $ *</td>
</tr>
<tr>
<td>B</td>
<td>36 (10 male)</td>
<td>70.1 ± 2.7 *</td>
<td>160.0 ± 2.7</td>
<td>92.3 ± 1.2</td>
<td>211.1 ± 2.3 $</td>
<td>44 ± 4.1</td>
<td>50 (81%)</td>
<td>12 (19%)</td>
</tr>
<tr>
<td>C</td>
<td>54 (42 male)</td>
<td>71.7 ± 0.9</td>
<td>160.3 ± 2.7</td>
<td>89.9 ± 1.5</td>
<td>232.5 ± 5.8</td>
<td>34 ± 2</td>
<td>48 (89%)</td>
<td>6 (11%)</td>
</tr>
</tbody>
</table>

P<0.05 = $ A vs B, * A vs C, $ B vs C

In the group A the stroke is prevalent hemorrhagic, it is significantly related with more elevated BP values respect to groups B and C and also it occurs in more young pts. In the group C there is a high incidence of ischemic stroke related to significant elevated cholesterol levels in the group B the Lp(a) values are significantly more elevated than the other groups.

Our data suggest than, in stroke pts, when cholesterol level is increased, atherosclerotic lesions responsible for ischemic cerebral disease, may represent the main risk factor; while, when cholesterol levels are normal, hypertension may be considered the mayor factor responsible for stroke, particularly the hemorrhagic one. Also, when Lp(a) concentration is increased can represent an early marker of carotid damage.

Key Words: Stroke, Hypertension, Vascular injury

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MICROALBUMINURIA AND SUBCLINICAL CEREBROVASCULAR DAMAGE IN ESSENTIAL HYPERTENSION
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Microalbuminuria (Mi) is a marker of hypertensive and atherosclerotic organ damage in essential hypertension (EH) and has been reported to have a powerful prognostic value for cerebral and cardiovascular morbidity and mortality. An association between carotid intima-media thickness (IMT) and increased urinary albumin excretion (UAES) has been reported in patients with EH suggesting the linkage between Mi and premature cerebrovascular damage(s). We therefore investigated the relationship between Mi, carotid artery changes and asymptomatic cerebrovascular damage in two groups of untreated essential hypertensive patients, with (HTAlb+, n=11) and without (HTAlb-, n=11) Mi. The study groups, selected among participants in a large epidemiological trial, were carefully matched for several potentially confounding variables and were free from neurologic abnormalities. Albuminuria was measured as albumin to creatinine ratio (ACR) in three non consecutive first morning urine samples. Persistent Mi (HTAlb+) was defined as an average ACR between 2.38-19 (males) and 2.96-20 (females). Carotid IMT was assessed by high resolution US scan, cerebral lacunar lesions by magnetic resonance imaging (NMR), left ventricular mass index (LVMI) by M-B mode echocardiography (LV hypertrophy LVH= LVMI ≥ 125/67 mg2), and retinal vascular changes by direct ophthalmoscopy. Office as well as 24-h ambulatory pressure monitoring (ABPM, Takeda 2430) were also evaluated. There were no differences between the two groups as for office and ABPM, lipid profile and smoking habits. HT Alb+ patients showed higher prevalence of cerebral ischemic lacunae (82 vs 27%; P=0.03, OR=12, CI 1.58-9.13) as well as increased carotid IMT (0.9±0.05 vs 0.75±0.06; P=0.03) as compared to HT Alb- patients. No difference was found in LVM (HTAlb+, 145 ±6 vs HTAlb-, 128± 7 g/m2; NS by ANOVA) and prevalence of LVH (HTAlb+, 82 vs HTAlb- 54 %; NS) and retinal vascular changes (HTAlb+, 82 vs HTAlb- 22 %; NS). Furthermore patients with ischemic lacunae showed higher prevalence of Mi (75 vs 20%; P=0.03, OR=12, CI 1.58-9.13) and increased UACR (6.9±1.8 vs 1.3± 0.6 mg/mmol, P=0.01) as compared to patients with normal NMR. In conclusion, Mi is an early marker of preclinical brain damage in EH and therefore can be useful to identify patients at higher risk of cerebral and cardiovascular events for whom preventive therapeutic measures are advisable.

Key Words: essential hypertension, microalbuminuria, cerebrovascular disease

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THE EFFECT OF BLOOD PRESSURE CONTROL ON COGNITIVE FUNCTION (THE FOCUS STUDY)
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Dementia affects hundreds of thousands of patients with potential to affect millions as the population ages. Vascular causes represent 40% of patients with dementia. We sought to determine whether patients with mild to moderate hypertension, multiple white matter infarctions and clinical evidence of cognitive impairment would improve their cognitive status when treated to recommended blood pressure goals. We performed a PROBE (prospective, randomized, open-label, end-point blinded) design trial of 66 patients; 24 females, 42 males. Subjects were between the ages of 65-80, with previously untreated or poorly controlled hypertension (systolic blood pressure of 140-180 mm Hg and/or diastolic blood pressure of 90-110 mm Hg). All had multiple white matter infarctions by magnetic resonance imaging (MRI), cognitive dysfunction determined by psychometric testing and absence of stroke. Subjects were randomly assigned to felodipine or enalapril and underwent treatment for 24 weeks with doses titrated as necessary to achieve goal blood pressure of <140/90 mm Hg. There was no significant difference between the two groups with regard to age, sex, education or marital status. A battery of neuropsychological tests assessing attention and mental control, information processing speed, verbal memory, visuo-spatial skills, executive skills, and motor functioning, was performed at randomization (following a two placebo week washout period), 12 weeks and 24 weeks. Both groups showed statistically significant improvement in overall cognitive function at 12 weeks without regard to treatment arm (p<0.001). There was significant improvement within the specific cognitive domains of information processing (p<0.001), visuo-spatial skills (p<0.001), executive skills (p=0.004), and motor functioning (p<0.001). Improvement in overall cognitive function at 24 weeks remained significantly better than baseline (p<0.0056) but not different than that seen at 12 weeks. We believe this is the first study to suggest that rigorous control of blood pressure to currently recommended treatment goals of <140/90 mm Hg is associated with overall, as well as specific domain cognitive improvement in hypertensive patients with impaired cognitive function.