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DIURNAL PATTERNS OF BP IN AFRICAN AMERICANS WITH HYPERTENSIVE KIDNEY DISEASE: RESULTS FROM THE AASK COHORT STUDY
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African Americans are 6 times more likely to develop end-stage renal disease (ESRD) than whites. While observational studies show a direct relationship between the level of casual (office) BP and renal disease progression, level of casual BP can not account for the excess ESRD in African Americans. The primary objective of the AASK (African American Study of Kidney Disease and Hypertension) Cohort Study is to determine prospectively the course of kidney function and risk factors for kidney disease progression in African Americans with hypertensive kidney disease who receive recommended antihypertensive therapy that includes ramipril (JAMA, 2002;288:2421-2431). We hypothesize that abnormal diurnal patterns of BP, specifically, lack of a nocturnal decline in BP, may contribute to kidney disease progression in African Americans. In year 1 of the cohort phase of AASK, we performed ambulatory BP monitoring in 438 subjects. We defined daytime BP as the mean BP between 06:01-24:00 hours and nighttime BP as the mean BP between 00:01-06:00. Nocturnal fall of SBP was calculated as (daytime SBP - nighttime SBP)/daytime SBP. Based on the nocturnal fall in SBP we classified subjects into 5 categories: extreme dippers (>20%), dippers (10%-20%), non-dippers (<10%), reverse dippers as 0 to -10% and extreme reverse dippers as >-10%. Mean daytime BP was 136/81 mm Hg and nighttime BP was 133/76 mm Hg. The distribution of nocturnal BP patterns is shown below:

<table>
<thead>
<tr>
<th>Nocturnal BP Category</th>
<th># Subjects</th>
<th>% Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extreme Dippers</td>
<td>6</td>
<td>1.4</td>
</tr>
<tr>
<td>Dippers</td>
<td>78</td>
<td>17.8</td>
</tr>
<tr>
<td>Non-Dippers</td>
<td>182</td>
<td>41.6</td>
</tr>
<tr>
<td>Reverse Dippers</td>
<td>135</td>
<td>30.8</td>
</tr>
<tr>
<td>Extreme Reverse Dippers</td>
<td>37</td>
<td>8.4</td>
</tr>
</tbody>
</table>

These results are remarkable for a preponderance of abnormal nocturnal BP patterns. Normal dippers accounted for only 17.8% of subjects while non or reverse dippers constituted 81% of participants. Whether a sustained elevation of nighttime BP, i.e. a lack of nocturnal decline in BP, is associated with rapid progression of kidney disease will be evaluated over the next 5 years. If present, such a relationship might eventually lead to new anti-hypertensive strategies that target nighttime BP.

Key Words: Ambulatory blood pressure, nocturnal blood pressure, African Americans

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DOPPLER RESISTIVITY INDEX: A PREDICTIVE TOOL FOR CLINICAL OUTCOME AFTER REVASCULARIZATION OF RENAL ARTERY STENOSIS?
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In this study we evaluated the role of resistivity index (RI) in predicting the outcome (6-12-month follow up) of blood pressure (BP) and renal function (RF) in 104 hypertensive patients (95 males) with renovascular disease (78 atherosclerotic and 41 fibrodysplastic) submitted to successful percutaneous renal artery stenosis revascularization.

HP underwent trans-lumbar duplex Ultrasound. RI was derived from the interlobular arteries and a referral cut-off value of 0.65 was determined by ROC curves. After revascularization, HP were considered not improved, if BP was unchanged cured if BP decreased <140-90 mmHg without drug treatment and improved if BP decreased >10% with drug treatment or any decrement with reduced drug treatment as compared to baseline.

Pre-procedure RI values were different (p=0.001) for atherosclerotic (0.64 ± 0.12) and fibrodysplasic (0.54 ± 0.11) stenoses. In atherosclerotic HP, despite no difference in drug treatment, baseline RI resulted significantly (p=0.001) lower in cured or improved as compared to not improved (RI 0.62 ± 0.11 vs 0.69 ± 0.12, respectively) HP. Moreover, among atherosclerotic HP with RI<0.65 (31/65, 48%), 22 resulted cured/improved (71%) while among those with RI>0.65 (34/65, 52%) 18 were cured/improved (53%; p<0.005 vs HP with RI<0.65). In contrast, baseline RI was similar in cured or improved (0.53±0.11) as compared to not improved (0.59±0.12) HP with fibrodysplastic stenosis. No different outcome was observed in fibrodysplasic HP with RI≤0.65 (29/39, 74%) or RI>0.65 (10/39, 26%) [cured or improved: 83% vs 80%, respectively]. For BP outcome, RI positive and negative predictive values were 71% and 47%, respectively, for atherosclerotic stenoses, and 83% and 20%, respectively, for fibrodysplasic lesions.

At baseline RI was impaired in 20 out of 65 (31%) atherosclerotic HP. In HP with RI<0.65 (8/20), plasma Creatinine (pl Cr) decreased (more than 20%) or was unchanged in 7 (88%) HP, whereas in HP with RI≥0.65 (12/20), pl Cr decreased or was unchanged in 5 (42%) HP. The difference is not statistically significant. For RF outcome, RI positive and negative predictive values were 97% and 23%.

These data indicate that duplex sonographic measurement of intrarenal flow patterns by RI with a referral cut-off value of 0.65 provide a limited prognostic information for HP undergoing renal artery stenosis revascularization.

Key Words: Renal artery stenosis, Doppler resistivity index, renovascular hypertension

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LERCANIDIPINE IN CHRONIC RENAL FAILURE (CRF)
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To evaluate the safety use of a new calcium channel blocker, lercanidipine, in CRF patients treated with ACE inhibitors.

The study recruited 203 CRF patients (creatinine >1.4 mg/dl for males, creatinine >1.2 mg/dl for females, or creatinine clearance <70 ml/min). All patients were receiving ACE inhibitors (63.4%) or angiotensin II antagonist (36.6%) therapy but they had higher blood pressure than recommended for CRF (130/85 mmHg). No patients were under diuretic treatment. Patients were clinically evaluated 1, 3 and 6 months after starting treatment with lercanidipine. Samples for urine and blood examination were taken during the examination. When needed, a third drug was added to treatment, excluding diuretics. Creatinina clearance was measured using 24 h urine collection.

175 patients rendered evaluable for the study (age 63.9±11.9 years, 52.9% males and 47.1 females). BP significantly decrease from 162±17/93±8.3 mmHg to 132±12/78±2 mmHg. 89.2% patients showed a significant BP reduction and 58.1% gets optimal BP control (< 130/85