and urodynamics impairment. CR is compulsory in pts with SK + AH before ACEI administration.

Key Words: Hypertension; single kidney; captopril renography; determinants

K004
CAPTOPRIL RENOGRAPHY (CR) IN WOMEN WITH ESSENTIAL HYPERTENSION (EH)
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With the aim of renovascular disease (RVD) diagnostics and assessment of renal functional reserve (RFR) 25 women with moderate-severe EH were studied by means of CR. None of the pts received ACEI. 36 normal men were controls. Renal function assessed by Tc-DTPA mean parenchimal transit time before C (MPTT, sec) and after C (MPTTc, sec) from renogram deconvolution. All pts had no unilateral renovascular obstruction. RFR calculated as graph rate-severe EH were studied by means of CR. None of the pts received ACEI. 36 normal men were controls. Renal function assessed by Tc-DTPA mean parenchimal transit time before C (MPTT, sec) and after C (MPTTc, sec) from renogram deconvolution. All pts had no unilateral renovascular obstruction. RFR calculated as graphic rate-severe EH were studied by means of CR. None of the pts received ACEI. 36 normal men were controls. Renal function assessed by Tc-DTPA mean parenchimal transit time before C (MPTT, sec) and after C (MPTTc, sec) from renogram deconvolution. All pts had no unilateral renovascular obstruction. RFR calculated as graphic.

M.ptTc vs MPTT pts divided on 3 grs 1gr.-shortened MPTTc except smaller EH duration in 11gr. (10.2 0.01). In summary, basic renal function in women with moderate-severe EH was decreased. In the absence of C effect on MBP there was differential C effect on GFR;

Key Words: Hypertension; single kidney; captopril renography

K005
UPREGULATION OF HEAT SHOCK PROTEIN 47 IN THE HYPERTENSIVE KIDNEY: POSSIBLE ROLE IN NEPHROVASCULAR SCLEROTIC PROCESS
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Key events in the vascular sclerotic process include endothelial injury, with proliferation of smooth muscle cells (SMCs) and increased accumulation of extracellular matrices (particularly collagen type I, III and IV) in the arterial wall. Heat shock protein 47 (HSP47) is a collagen-specific stress protein, which has been shown to be a molecular chaperone involved in the synthesis and assembly of collagen. Several recent studies have shown a possible involvement of HSP47 in certain forms of human ( Modern Pathol 11:1183, 1998) and experimental ( J Pathol 183:24, 1997) fibrotic diseases. However, it is unclear whether HSP47 has a similar role in the vascular sclerotic process.

We have analyzed the expression and distribution of the collagen types I, III and IV and HSP47 in kidneys from hypertensive Dahl rats which exhibit thickening of blood vessels, glomerulosclerosis and interstitial fibrosis. In normotensive kidneys, a low level of HSP47 expression was observed in some endothelial and medial SMCs. In contrast, increased deposition of collagen with a high level of HSP47 expression was noted in most of the endothelial and proliferating SMCs in the thickened blood vessels in the hypertensive kidney. Increased expression of HSP47 was also seen in the sclerotic glomeruli and fibrotic interstitium in hypertensive kidneys. Immunohistochemistry demonstrated that HSP47 colocalized with phenotypically altered mesangial cells and interstitial cells (α-smooth muscle actin positive), glomerular epithelial cells (desmin positive) and tubular epithelial cells (vimentin positive) in the kidneys of hypertensive Dahl rats.

Since HSP47 is a molecular chaperone that is intimately involved in synthesizing collagen, we suggest that HSP47 may regulate the synthesis and assembly of the various collagens that contribute to the hypertensive nephrovascular sclerotic process.

Key Words: Hypertension; HSP47; collagen; sclerosis

K006
CANDESARTAN DECREASES PROTEINURIA AND IMPROVES CREATININE CLEARANCE IN HYPERTENSIVE DIABETIC PATIENTS
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Optimal antihypertensive therapy for diabetic patients should include the diminution of proteinuria, a poor prognostic indicator of nephropathy. ACE inhibitors had been shown to decrease proteinuria, but there is no study on the effect of angiotensin II receptor inhibitors (ARB) on proteinuria in diabetic patients. Therefore we studied the effects of candesartan, a long acting ARB on proteinuria and creatinine clearance (CrCl) in hypertensive diabetic patients. Candesartan 8–16 mg/d were given to 7 hypertensive diabetics (4 women, 3 men, 50–74 y) with proteinuria. Their DM were managed with gliburide (glycohemoglobin 7.2 ± 1.1%), and their blood pressure responded to candesartan monotherapy. Basal 24 h urine studies were done. Blood pressure was monitored weekly, and 24 h urine protein and CrCl were measured every 3 months. Blood pressure normalized within 3 weeks, proteinuria decreased and CrCl improved by 3 months.

<table>
<thead>
<tr>
<th></th>
<th>Basal</th>
<th>3 mo</th>
<th>6 mo</th>
<th>9 mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>PU*</td>
<td>1.24 ± 0.55</td>
<td>1.03 ± 0.39*</td>
<td>0.95 ± 0.18</td>
<td>0.82 ± 0.20 g/d</td>
</tr>
<tr>
<td>CrCl</td>
<td>40 ± 15</td>
<td>47 ± 10*</td>
<td>51 ± 16</td>
<td>58 ± 11/min</td>
</tr>
</tbody>
</table>

*Proteinuria *p < 0.01 from basal.

Thus, candesartan decreases proteinuria and improves renal function. Candesartan may be an alternative drug for hyper-