

## CLINICAL NEPHROLOGY, PRIMARY AND SECONDARY GLOMERULONEPHRITIS - 2

### MP135 RENAL INVOLVEMENT IN HCV RELATED CIRRHOSIS EVIDENCED AS GLOMERULAR AND TUBULAR DERANGEMENT

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**Introduction and Aims:** The relation between HCV infection and glomerular damage is well recognized, with evidences of negative impact on renal function. HCV replication in renal tubular cells on kidney biopsies has been reported but very limited data are available on HCV-mediated tubular damage. The aim of the study was to assess the presence of renal involvement (RI), glomerular or tubular, in patients with HCV cirrhosis.

**Methods:** 98 patients with HCV cirrhosis Child Pugh-A were consecutively enrolled. Glomerular filtration rate (eGFR) was estimated with CKD-EPI 2009 equation. Urinary albumin/creatinine (ACR) and alpha1microglobulin/creatinine (a1MCR) ratios were calculated. Glomerular involvement was defined based on ACR>20µg/mg, tubular involvement based on a1MCR>14µg/mg plus fractional sodium excretion (FeNa)>1%. Urine concentration of Liver-type Fatty Acid-Binding Protein (L-FABP) and Kidney injury molecule-1 (KIM-1) were examined in morning midstream urine samples (ELISA) and the values normalized to urine creatinine concentration as expression of

tubular derangement.

**Results:** eGFR was  $\geq 60$  mL/min/1.73 m<sup>2</sup> in 92 patients (93.8%) and between 45-59 mL/min/1.73 m<sup>2</sup> in 6 patients (6.1%). Glomerular involvement was found in 19 patients (19.4%), tubular involvement in 31 patients (31.6%) and these co-occurred in 10 patients (p=0.034). Patients with glomerular or tubular involvement, or both, considered as patients with RI, showed significantly lower eGFR values (p=0.005) (Tab 1). A ROC curve was drafted and a cut point of 90 ml/min predicted RI (AUC: 0.700; sensitivity 63%, specificity 75%). Patients with RI were older, had higher ACR and a1MCR levels and exhibited a higher KDIGO stage (Tab 1). No association was found between RI and: HCV-RNA levels, liver stiffness and liver function tests. L-FABP and KIM-1 levels were significantly higher in patients with RI.

**Conclusions:** Tubular and/or glomerular involvement is quite frequent in HCV cirrhotic patients, despite a normal eGFR. The evidence of tubular involvement suggests an alternative localization of HCV as renal disease.

MP135 Table 1:

	Renal Involvement - N 40	No Renal Involvement -N 58	p
Age - years	66.5 (55.3-74.8)	58.0 (52.0-66.0)	0.012
eGFR mL/min/1.73 m <sup>2</sup>	89.3 (73.9-95.5)	99.0 (90.5-104.0)	0.001
KDIGO Stages 1	18 (29.5) 18 (60.0%)	43 (70.5) 12 (40.0)	0.009
(>90 mL/min/1.73 m <sup>2</sup> ) 2	4 (66.7%)	2 (33.3)	
(60-89 mL/min/1.73 m <sup>2</sup> ) 3			
(45-59 mL/min/1.73 m <sup>2</sup> )			
ACR mg/g	16.1 (4.4-38.3)	3.3 (1.9-6.4)	<0.0001
α1MCR - ng/mg	15.3 (6.7-21.8)	4.3 (3.5-7.9)	<0.0001
L-FABP/creatininuria - ng/mg	[22 patients]	[33 patients]	<0.0001
	3.5 (2.3-4.5)	1.20 (0.64-1.19)	
Kim-1/creatininuria - ng/mg	[22 patients]	[33 patients]	0.016
	2.7 (1.5-4.6)	1.61 (0.88-2.47)	

Values are expressed as number (%) or median (interquartile range) as appropriate.