

HEPCIDIN LEVELS SIGNIFICANTLY CORRELATES WITH CRP IN PATIENTS ON HEMODIALYSIS AND PERITONEAL DIALYSIS

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BACKGROUND:

Hepcidin is a small peptide produced by liver, which plays a significant role in the regulation of iron levels in plasma. It has been suggested that apart from anemia and iron metabolism, hepcidin levels can be affected by inflammation. In this study, hepcidin levels were assessed in serum of hemodialysis (HD) and peritoneal dialysis (PD) patients in comparison to healthy individuals (NC) and their correlation with C-reactive protein (CRP) was evaluated.

METHODS:

Sixty patients with chronic kidney disease on hemodialysis (15M/15F, 60±14 years) and on peritoneal dialysis (17M /15 F, 59 ±15 years) without clinical manifestations of inflammation as well as twenty-nine healthy controls (10M /19 F, 66±16 years) were recruited. Serum hepcidin levels were measured by competitive ELISA method and high-sensitivity CRP by nephelometry.

RESULTS:

In PD patients, hepcidin levels were significantly higher than in NC (313.7±32.7 vs. 131.4±55.9 ng/ml, mean ±SD, p<0.001), but did not differ from those of HD patients (300.1±38.6). CRP concentrations were significantly higher (p<0.001) in patients than in NC (1.35±1.04 mg/l vs. 4.28±3.70 in HD and 4.89±3.69 in PD). Hepcidin in HD and PD patients was positively correlated to CRP (HD group: r=0.513, p=0.038 and PD group: r=0.384, p=0.0482).

	Peritoneal patients	Hemodialysis patients	Healthy controls	
Number of individuals	32	30	29	
Hepcidin	313.7±32.7	300.1±38.6	131.4±55.9	p<0.001
CRP	4.89±3.69	4.28±3.70	1.35±1.04	p<0.001
Hepcidin/CRP correlation	r=0.384, p=0.0482	r=0.513, p=0.038		

CONCLUSIONS:

Elevated hepcidin concentration in serum of peritoneal and hemodialysis patients may be associated to inflammation.

