

**P0414 URINARY HEPCIDIN AS A BIOMARKER OF NEPHRITIS IN SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS**

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**Background and Aims:** Lupus nephritis (LN) is a common complication of systemic lupus erythematosus (SLE) that is associated with poor prognosis. The current available urinary biomarkers are neither sensitive nor specific for diagnosing LN. This study was undertaken to investigate whether urinary hepcidin represents a marker of nephritis in SLE patients.

**Method:** A cross-sectional study was conducted with 3 study groups comprising 30 patients with biopsy proven LN, 30 patients with non-nephritis SLE and 20 healthy control. Spot urinary samples were collected from all participants and the levels of hepcidin in urine were measured by ELISA, 24 h urinary proteins, urinary and serum creatinine were measured.

**Results:** Urinary hepcidin was significantly higher in LN patients than in non-nephritis SLE and control (470, 258, 43.0 ng/mg creatinine respectively) ( $P < 0.001$ ) as shown in figure 1. Urinary hepcidin was significantly correlated with serum creatinine ( $P 0.017$ ) and 24 hours urinary proteins ( $P 0.003$ ). ROC curve cut-off values of urinary hepcidin were 4.3000, Area under curve (AUC) of hepcidin was 0.553, with sensitivity (SN) of 63.3%, specificity (SP) of 60%, Positive predictive value (PPV) 70.4, negative predictive value (NPV) 52.2 in SLE patients as shown in table 1 and figure 2.

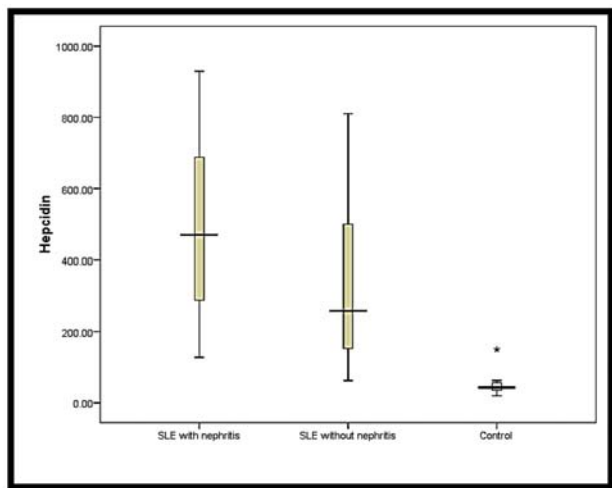
**Conclusion:** Although urinary hepcidin level was significantly higher in LN patients than in non-nephritis SLE and control, it failed to discriminate patients with LN from those without. Further studies are still needed before considering urinary hepcidin as a non-invasive diagnostic marker of LN.

**Table 1:** Validity of Hepcidin in differentiating LN patients from non-nephritis group.

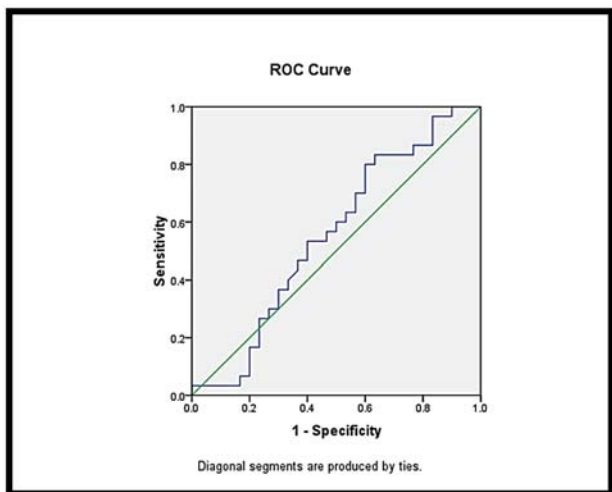
	AUC (95% CI)	Cut off point	SN	SP	PPV	NPV	Accuracy
hepcidin	0.553 (0.404-0.701)	4.3000	63.3	60.0	70.4	52.2	62.0

**Table 2:** Correlation between hepcidin and other laboratory results in studied SLE patients.

Urinary Hepcidin	P-value	Coefficient	
	0.017*	0.31	<b>Serum creatinine</b>
	0.028*	-0.28	<b>Urinary creatinine</b>
	0.003**	0.37	<b>24 -hour proteinuria</b>
	0.003**	0.38	<b>Erythrocyte sedimentation rate</b>
	0.31	-0.133	<b>White blood cells</b>
	0.03*	-0.275	<b>Lymphocytes</b>
	0.004**	-0.37	<b>Hemoglobin</b>
	0.27	-0.142	<b>Platelet</b>



**Figure 1:** The median value of urinary Hepcidin in SLE patients with nephritis in comparison to non-nephritis and control group.



**Figure 2:** ROC curve for urinary hepcidin in differentiating LN and non-nephritis patients.