Annexin II was found on the surface of mesangial cells and in the mesangial matrix, co-localising with electron-dense deposits.

Conclusions Our data demonstrated an association between annexin II-binding IgG level and clinical/histological disease activity in proliferative lupus nephritis. Co-localization of annexin II with electron-dense deposits suggests a pathogenic role for annexin II.

Background and aims Heparan sulfate in glomerular basement membrane is crucial for charge-selective filtration. Heparanase, an endoglycosidase that cleave heparan sulphate, is reported to be up-regulated in several proteinuric diseases. We investigated the association of urinary heparanase level with renal indices in patients with systemic lupus erythematosus (SLE).

Methods Urinary samples were collected from 76 patients with lupus nephritis (LN; 51 active and 25 inactive), 63 SLE patients without renal involvement and 28 healthy individuals (HC). Heparanase levels were measured by ELISA and normalised by urinary creatinine level (mU/mg).

Results Urinary heparanase levels were increased in SLE patients than HC (p<0.001). Patients with active LN had significantly higher urinary heparanase levels compared to patients with inactive LN and without renal involvement (both p<0.001), however, there was no difference between latter groups. Urinary heparanase levels positively correlated with proteinuria (measured by spot urine protein/creatinine ratio) and renal SLEDAI (γ=0.514, p<0.001 and γ=0.365, p=0.004, respectively), but inversely with serum C3 (γ=−0.432, p<0.001), C4 (γ=−0.279, p=0.013), and CH50 levels (γ=−0.336, p=0.003). In 39 patients with active LN whose samples were obtained at the time of kidney biopsy, urinary heparanase levels showed positive correlation with activity index (γ=0.409, p=0.011), but not with chronicity index (p=0.05). A cut-off value of 444 mU/mg predicted presence of active LN with sensitivity of 74.5% and specificity of 67.1%.

Conclusions Urinary heparanase levels are increased in patients with active LN and reflect the activity of nephritis, indicating that urinary heparanase can serve as useful biomarker for active LN.