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Glomerular disease

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Serum endocan level and prognosis of IgA nephropathy

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Background: Endocan, previously called endothelial cell-specific molecule-1, is a soluble proteoglycan that is secreted from vascular endothelial cells. Elevated plasma endocan levels were shown to be associated with poor cardiovascular outcomes in patients with chronic kidney disease. We investigated the clinical relevance of plasma and urine endocan levels in patients with IgA nephropathy (IgAN).

Methods: Sixty-four patients with IgAN and twenty healthy controls were enrolled in this study. Plasma and urine endocan levels were measured. Clinical parameters, pathologic grades and renal outcomes were compared among subgroups with different plasma and urine endocan levels.

Results: Plasma endocan levels were similar in patients with IgAN and controls (99.2 [interquartile range (IQR) 54.5-150.8] vs. 117.9 [IQR 56.6-158.9] pg/mL, p=0.571). In contrast, urine endocan levels were significantly higher in patients with IgAN than in controls (182.6 [IQR 1.5-909.3] vs. 0 [IQR 0-24.2] pg/gCr, p<0.001). Patients with high plasma endocan levels (4th quartile) showed high serum CRP, severe proteinuria, and rapid decline in renal function. Both plasma and urine endocan levels were higher in patients with advanced pathologic grades. Urine endocan levels were elevated in patients with poor renal function, but the levels were not significantly associated to renal outcome. Cox proportional hazard models showed that high plasma endocan was an independent risk factor for CKD progression after adjusting for the well-known predictors of outcome in patients with IgAN.

Conclusion: This study suggested that plasma endocan showed potential as a prognostic factor in patients with IgAN.

Keywords: endocan, endothelial cell-specific molecule-1, IgA nephropathy