URINARY PODOCYTE-DERIVED MICROPARTICLES ARE POTENTIAL BIOMARKERS FOR PODOCYTE DAMAGE OF IGA NEPHROPATHY PATIENTS

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INTRODUCTION AND AIMS: Glomerular podocyte damage plays an important role in the pathogenesis and progression of IgA nephropathy (IgAN). This study evaluated whether the podocyte-derived microparticles (MPs) were novel biomarkers of clinical and histological features in IgAN patients.

METHODS: A cross-sectional study, including 19 IgAN patients and 10 healthy volunteers, was designed. Urinary annexin V- podocalyxin+ MPs of all participants were quantified by flow cytometry. The correlation of podocyte-derived MPs with clinical and pathological parameters of IgAN patients was analysed.

RESULTS: The number of annexin V- podocalyxin+ MPs from urine samples were significantly increased in patients with IgAN. Furthermore, the level of urinary podocyte-derived MPs was positively correlated with proteinuria and the level of N-Acetyl-β-D-Glucosaminidase. Conversely, it was negatively correlated with age.

CONCLUSIONS: IgAN patients showed increased podocyte-derived MP excretion into the urine. These findings suggest that the change in urinary podocyte-derived MP levels could be useful for evaluating and monitoring podocyte injury in IgAN.