Early application of treatment to patients with IgA nephropathy who were supposed to have steroid regimen predicts good renal outcome

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Objectives : Popular traditional approach for patients with rapid deterioration of renal function is the immunosuppressive treatment with steroid, which efficacy is still remained in debate.

Methods : Among 472 adult patients with IgA nephropathy diagnosed by renal biopsy during 2003-2017 in a tertiary hospital, we selected 86 patients with initiation of steroid treatment for more than 1 months and with dose of more than 1000 mg of prednisolone after renal biopsy. We analyzed the factors related to renal outcome.

Results : At admission for renal biopsy, estimated GFR by CKD-EPI 2009 equation was 68.5 ± 33.3 ml/min/1.73 m2 and urine protein to creatinine ratio (UPCR) was 2.81 ± 2.23 g/g creatinine (no missing data). The renin-angiotensin-aldosterone inhibitor was used in 80 patients (93.0 %) after renal biopsy. Steroid was started at 8.4 ± 23.1 months after renal biopsy. Majority of patients (63 patients) had been prescribed steroid medication within 2 months after renal biopsy. Total dose of steroid was 13.5 ± 13.1 g. During 63.6 ± 48.8 months of follow-up period after renal biopsy, there were 39 patients (45.3 %) developed the renal outcome. With Cox's hazard proportional model, the independent factors to predict the renal outcome were eGFR before steroid treatment or eGFR at renal biopsy, immunosuppressive medication other than steroid, pathologic finding of C3 deposition, and period of starting steroid treatment. Hazard ratio to estimate the renal outcome (HR) was 1.025 (95% CI: 1.010-1.039, p=0.001) for one-month delay of starting steroid medication after renal biopsy. The HR for the renal outcome in patients started steroid medication at 2 months after renal biopsy was 2.353 (95% CI: 1.140-4.856, P=0.021) compared to patients started steroid within 2 months after renal biopsy.

Conclusions : For the patients supposed to have indications for steroid treatment at renal biopsy, early initiation of steroid treatment would indicate better renal outcome.