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## **Association between the progression of IgA nephropathy and controlled status of hypertension in the first year after diagnosis**

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**Objectives:** Hypertension is known as a risk factor in IgA nephropathy. However, after the diagnosis of IgA nephropathy (IgAN), the relationship between the early blood pressure control and renal prognosis is still ambiguous. The purpose of this study is to analyze the association between prognosis of IgAN patients and the controlled status of hypertension within the first year of diagnosis.

**Methods:** We retrospectively analyzed 2945 patients diagnosed with IgAN by renal biopsy. The patients were divided into normal, new-onset, well-controlled and poor-controlled groups through consecutive two measurement of blood pressure for a year. The Kaplan-Meier survival analysis and Cox proportional hazard regression model were used to survey the independent association between recovery of hypertension and the risk of progression of IgAN. The primary end point was IgAN progression defined as the initiation of dialysis or kidney transplantation.

**Results:** Before diagnosis of IgAN, 1239 patients (42.1%) had already been diagnosed with hypertension. The KM survival analysis showed a difference in renal prognosis according to the controlled status of hypertension within the first year. In fully adjusted Cox proportional hazard model, the risk of IgAN progression increased by approximately 1.7-fold for prevalence of hypertension. In the subgroup analysis, well-controlled group showed a statistically significant risk of IgAN progression (Hazard ratio (HR), 3.19; Confidence interval (CI), 1.103-9.245;  $P = 0.032$ ). Also, new-onset and poor-controlled groups were associated with increased risk of IgAN progression compared to the normal group (HR, 2.58; CI, 1.016-6.545;  $P = 0.046$  and HR, 3.85; CI, 1.541-9.603;  $P = 0.004$ , respectively)

**Conclusions:** Although hypertension was well-controlled in the first year after diagnosis with IgAN, it was a still risk factor for progression of IgAN.

Kaplan-Meier survival curve with log-rank test between progression of IgA nephropathy and controlled status of hypertension within the first year