

Abstract Type : Oral

Abstract Submission No. : OR-1411

Time-trends in characteristics and prognosis of IgA nephropathy in Korea

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Objectives: Immunoglobulin A nephropathy (IgAN) is one of the most common primary glomerulonephritis globally, particularly prevalent in East-Asia including Korea. However, there are limited evidence assessing time-trends in characteristics and prognosis of IgAN.

Methods: We performed a multicenter retrospective cohort study in four hospitals in Korea. We included biopsy-confirmed native IgAN cases, and clinicopathologic characteristics were collected. Included patients were stratified into three eras; 1979-2004, 2005-2009, and 2010-2016. The main prognostic variable was progression to end-stage renal disease (ESRD), determined by initiation of renal replacement therapy.

Results: We included 1,367 (from 1979-2004), 1,636 (from 2005-2009), and 1,442 (from 2010-2016) IgAN patients in this study. The median age of IgAN diagnosis increased from 31 [21-42] to 39 [27-51] among the studied era. In the recent periods, IgAN with relatively better clinical characteristics, regarding higher estimated glomerular filtration rate, lower baseline blood pressure, were diagnosed. In pathologic characteristics, no significant differences within glomerular changes were identified among the studied era. Both usage of renin-angiotensin-aldosterone system blockades, from 57.7% in 1979-2004 to 80.0% in 2010-2016 and immunosuppressants, from 21.0% in 1979-2004 to 29.1% 2010-2016, were increased in the recent time-periods. The 10-year risk of progression to ESRD was lower in 2010-2016 when compared to 1979-2004 (adjusted hazard ratio 0.685, 95% confidence interval 0.511-0.919, P value 0.011), even after adjusted for age, sex, eGFR, blood pressure, presence of proteinuria, and pathologic characteristics. The usage of renin-angiotensin-aldosterone system blockades was a significant mediator (P value < 0.001) for the improved prognosis.

Conclusions: Initial clinicopathologic characteristic of IgAN has been changed during time, and IgAN patients are frequently receiving renin-angiotensin-aldosterone system blockades or immunosuppressants than before in Korea. The recent prognosis of IgAN has been improved than the past period, possibly related to increased prescription of renin-angiotensin-aldosterone system blockades.