KSN 2020
FULLY VIRTUAL MEETING

Abstract Type : Oral
Abstract Submission No. : OR-1641

Novel Histopathologic Predictors for Renal Outcomes in Crescentic Glomerulonephritis

Jeong-Hoon Lim[1], Man-Hoon Han[3], Yong-Jin Kim[3], Ji-Young Choi[1], Jang-Hee Cho[2], Chan-Duck Kim[2], Yong-Lim Kim[2], Hajeong Lee[4], Kyung Chul Moon[5], Sun-Hee Park[2]
[1]Department of Internal Medicine-Nephrology, Kyungpook National University Chilgok Hospital, Korea, Republic of
[2]Department of Internal Medicine-Nephrology, Kyungpook National University Hospital, Korea, Republic of
[3]Department of Pathology, Kyungpook National University Hospital, Korea, Republic of
[4]Department of Internal Medicine-Nephrology, Seoul National University Hospital, Korea, Republic of
[5]Department of Pathology, Seoul National University Hospital, Korea, Republic of

Objectives: Crescentic glomerulonephritis (CrGN) is a histologic feature of severe glomerular injury, which is clinically characterized by a rapid decline of renal function if it is not treated in a timely fashion. Factors associated with CrGN prognosis have not been thoroughly investigated. We evaluated the prognostic predictors of renal outcomes associated with CrGN, including the histopathologic classification of anti-neutrophil cytoplasmic antibody (ANCA)-associated glomerulonephritis, arteriosclerosis, and tertiary lymphoid organ (TLO) formation.

Methods: We retrospectively analyzed 114 patients diagnosed with CrGN between 2010 and 2018 at two university-based hospitals. The relationships between potential predictors and renal outcomes were analyzed using Cox proportional hazards model and linear regression analysis.

Results: The mean age was 61.0 ± 15.3 years, and 49.1% were male. Ninety-two patients (80.7%) were positive for ANCA, and 11 patients (9.6%) were positive for anti-glomerular basement membrane antibody. Fifty-five patients (48.2%) had advanced to end-stage renal disease (ESRD) during the median follow-up of 458.0 days. Cox proportional hazards analysis revealed that patients categorized under the mixed and sclerotic classes had worse renal survival than those categorized as focal class (mixed: hazard ratio [HR], 3.86; 95% confidence interval [CI], 1.22 to 12.23; *P*=0.022; sclerotic: HR, 5.03; 95% CI, 1.47 to 17.15; *P*=0.010), and severe arteriosclerosis was also associated with poor renal survival (HR, 2.44; 95% CI, 1.04 to 5.74; *P*=0.040). TLOs were observed in 41 patients (36.0%), and TLO formation was also a prognostic factor for ESRD (HR, 1.79; 95% CI, 1.01 to 3.17; *P*=0.046). In the multivariate linear regression analysis, sclerotic class, severe tubular atrophy, age, and baseline estimated glomerular filtration rate (eGFR) were independent predictors of eGFR 1 year after biopsy.

Conclusions: Specific histopathologic findings, histopathologic classification, severity of arteriosclerosis and TLO formation, provide helpful information for predicting renal outcomes associated with CrGN.

Figure 1. Comparison of renal survival.