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## **CKD progression in patients with complement 3 glomerulopathy (C3G) in a US multi-center assessment**

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### **Background**

Patients with C3G have high rates of progression despite treatment. Using electronic medical record data, this study characterized disease progression in a US cohort of patients with C3G.

### **Methods**

This was a retrospective cohort study of de-identified patients within the US Optum Life Science clinical electronic health record database, aged  $\geq 12$  years at C3G diagnosis (per ICD-10 or SNOMED) between Jan 2015–Jun 2022. Index date was the date of diagnosis. Patients had continuous clinical activity  $\geq 12$  months before (baseline) and  $\geq 6$  months after (follow-up) index. Patients were followed until death or data end.

Patient and clinical characteristics were assessed using descriptive statistics, and time to CKD progression using Kaplan–Meier analyses.

### **Results**

Of 284 patients in the final sample, mean age  $\pm$  SD was 49 years  $\pm$  21; 136/228 (60%) had stage  $\geq 3$  CKD at index. During follow-up, 115/188 patients (61%) progressed to a higher CKD stage than at index, and/or to kidney failure; median time to progression was 12.6 months (95% CI: 9.4, 17.7). At 6 and 12 months, 38% and 48% of patients, respectively, had a progression of CKD stage. In progressors (n=115), mean age was 54 years and mean Charlson Comorbidity Index (CCI) score was 2.8; in non-progressors (n=73), mean age was 48 years and mean CCI score was 1.8. Among progressors and non-progressors, 14% and 6% of patients, respectively, were African American, had hypertension (79% and 55%), and had prior kidney transplant (10% and 3%) at baseline. At index, 68/115 (59%) of progressors and 28/73 (38%) of non-progressors had CKD stage  $\geq 3$ . Within 90 days of index, a higher proportion of progressors relative to non-progressors were treated with ACE inhibitors (31% and 22%) or ARBs (23% and 14%). Up to 90 days after index, mean  $\pm$  SD protein:creatinine ratio was 2.3  $\pm$  2.6 g/g in 21

assessed non-progressors and  $3.7 \pm 5.0$  g/g in 53 assessed progressors. The proportion of patients with complement C3 level  $<77$  mg/dL at baseline was 15/47 (32%) among progressors and 9/24 (38%) among non-progressors.

### **Conclusion**

Patients with C3G progress rapidly despite supportive care. Noted differences between progressors and non-progressors warrant further investigation.

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### **Category**

1402: glomerular diseases: clinical, outcomes and trials

### **Key words (3 maximum)**

complement, chronic kidney disease, glomerulopathy

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