60TH ERA CONGRESS MILAN & VIRTUAL JUNE 15-18, 2023

Real-World Signs and Symptoms at Diagnosis in Patients with C3 Glomerulopathy - Interim Results from a Multi-Country Study

C. Proudfoot[1], K. Pannagl[2], J. Nguyen[3], A. King[1], K. Murphy[3], J. de Courcy[4] and R. Lafayette[5]

[1]Novartis Pharma AG, Basel, Switzerland; [2]Novartis Pharmaceuticals UK Ltd, London, UK; [3]Novartis Pharmaceuticals Corporation, East Hanover, New Jersey, United States; [4]Adelphi Real World, Bollington, UK; [5]Stanford University Medical Center, United States

INTRODUCTION

- Complement 3 glomerulopathy (C3G) is a rare form of glomerulonephritis, with an estimated incidence of 1-2 per million per year[1].
- C3G is associated with a high risk of disease progression with approximately 50% of patients reaching kidney failure within 10 years of diagnosis[2].
- Patients with C3G commonly present with signs and symptoms such as proteinuria, hematuria, edema, and hypertension[3].
- Currently, limited data are available on clinical characteristics of C3G patients.

AIM

- The aim of this analysis was to better understand the clinical characteristics of C3G patients from the United States (US), Europe and Asia, at the time of diagnosis.

METHOD

- An analysis was conducted using interim data from the Adelphi C3G Disease Specific Programme (DSP), a cross-sectional survey of C3G-treating nephrologists in the US, EU5 (France, Germany, Italy, Spain, and the United Kingdom), China, and Japan (study ongoing since August 2022; interim analysis based on data until November 2022).
- Nephrologists completed structured forms administered via online links for consecutive patients presenting with C3G.
- The forms included demographic and clinical information including signs, symptoms, and lab values amongst others.

RESULTS

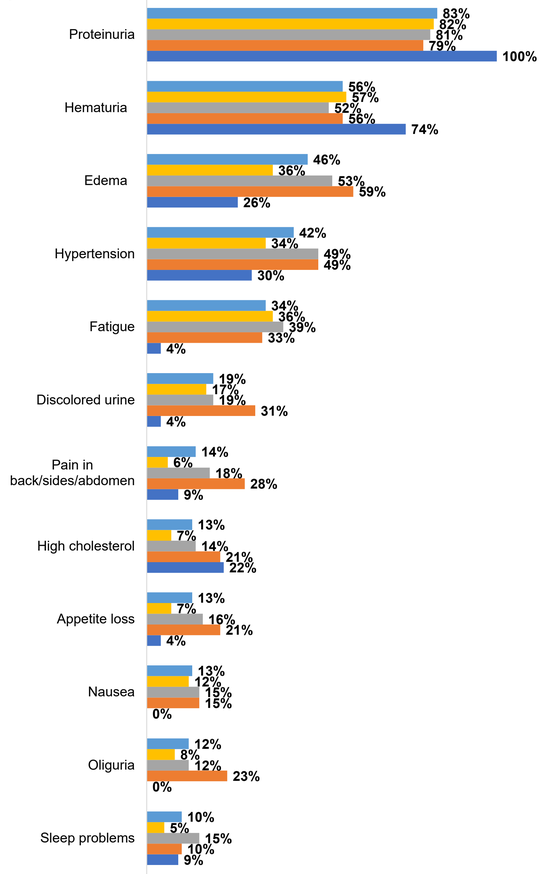
- In this interim analysis, 88 nephrologists had completed records for 277 patients in this survey, including 95 in US, 120 in EU5, 39 in China and 23 in Japan.
- The median patient age at diagnosis was 40.9 years, and 60% of patients were male.
- 80% had C3 glomerulonephritis (C3GN) and 19% had dense deposit disease (DDD).
- At diagnosis, median proteinuria was 2.9 g/day, and 82% of patients had proteinuria ≥1 g/day. The median estimated glomerular filtration rate (eGFR) was 50 ml/min/1.73m^2 (**Table 1**).
- Physicians described disease severity at the time of diagnosis as moderate in 53% and severe in 31% of patients.
- The most commonly reported signs and symptoms experienced by patients at the time of diagnosis were proteinuria, hematuria, edema, hypertension (>140/90 mmHg), and fatigue (**Figure 1**).

Table 1. Clinical characteristics of C3G patients at diagnosis

	All Regions	US	EU5	China	Japan
Proteinuria (g/day)					
No. of patients	224	64	104	34	22
<1 g/day	40 (18%)	8 (12%)	9 (9%)	9 (26%)	14 (64%)
≥1 g/day	184 (82%)	56 (88%)	95 (91%)	25 (74%)	8 (36%)
Median	2.9	2.8	3.4	3.2	0.3
IQR	1.3 - 5.0	1.5 - 5.0	1.8 - 5.0	0.8 - 7.1	0.0 - 1.8
Mean (SD)	3.4 (3.0)	3.2 (2.1)	3.6 (2.3)	4.8 (5.2)	1.1 (1.6)
Range	0 - 20	0 - 10	0 - 13	0 - 20	0 - 8
eGFR (ml/min/1.73m^2)					
No. of patients	233	65	111	36	21
Median	50	50	40	67.2	55
IQR	31.5 - 75	38 - 72	25 - 70	57 - 82.2	31 - 79
Mean (SD)	54.5 (28.9)	53.2 (24.4)	47.9 (27.9)	73.5 (32.2)	60.1 (27.7)
Range	5 - 163	8 - 150	5 - 121	20 - 163	25 - 130

Abbreviations: C3G: Complement 3 Glomerulopathy; eGFR: Estimated Glomerular Filtration Rate; EU5: France, Germany, Italy, Spain, and the United Kingdom; IQR: Interquartile Range; SD: Standard Deviation; US: United States

Figure 1. Physician-reported signs and symptoms experienced by patients at the time of diagnosis



Abbreviations: C3G: Complement C3 Glomerulopathy; EU5: France, Germany, Italy, Spain, and the United Kingdom; US: United States

CONCLUSIONS

- This interim analysis allows evaluation of a rare disease across various geographies, highlighting a substantial symptomatic and clinical burden in C3G patients at the time of diagnosis.
- This symptom burden, high proteinuria, and relatively low eGFR is consistent with physician assessment that the disease is moderate or severe at the time of diagnosis.
- Facilitating early diagnosis of C3G and rapid initiation of treatment could be beneficial for patients in slowing disease progression.

ACKNOWLEDGEMENTS

The authors acknowledge **Vilas Maroti Belekar** (Novartis, Hyderabad) for preparing the poster content. The final responsibility for the content lies with the authors.

REFERENCES

1. **Medjeral-Thomas NR et al.** C3 glomerulopathy: clinicopathologic features and predictors of outcome. *Clinical Journal of the American Society of Nephrology. 2014 Jan 7;9(1):46-53.*
2. **Smith RJ et al.** C3 glomerulopathy-understanding a rare complement-driven renal disease. *Nature reviews nephrology. 2019 Mar;15(3):129-43.*
3. **Heiderscheit AK et al.** C3 glomerulopathy: Understanding an ultra-rare complement-mediated renal disease. *Am J Med Genet.2022;190C:344–357.*

CONTACT INFORMATION

For more information, please contact Clare Proudfoot (e-mail: clare.proudfoot@novartis.com).