

Demographic, clinical characteristics and treatment outcomes of C3 glomerulopathy in China: A nationwide retrospective cohort study

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① Background:

- C3 glomerulopathy (C3G) is a rare glomerular disease, and there is limited data on the epidemiology and treatment outcomes of C3G in China.

② Methods:

- We conducted the multicentre observational study using China Renal Data System database (including 24 regional central hospitals across 18 cities in China from 2013 to 2021), which represented a nationwide real-world kidney disease database. We identified potential C3G patients using medical terms in Chinese as no ICD code for C3G so far. We defined the index date as the recorded date of first confirmed diagnosis of C3G in the database. This study provided a descriptive analysis of the clinical characteristics (from 90 days pre-index to 30 days post-index date) and treatment regimen (from the index date to 6 months post-index date). We used t-test for continuous variables and chi-square test for categorical variables for comparisons.

③ Results:

- In total of 470,000 patients with chronic kidney disease (CKD) were enrolled in the study, of which 102 patients were identified with C3G based on renal biopsy records (Fig 1 and Table 1).

Fig 1. Patients Characteristics

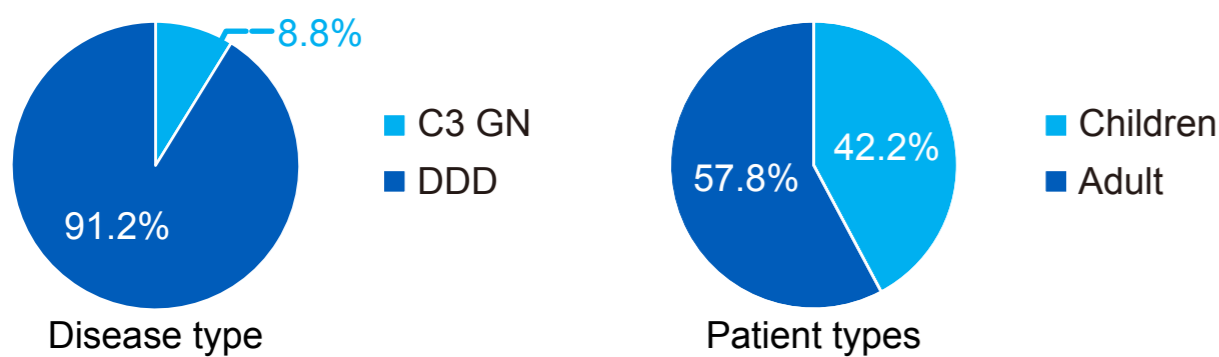


Table 1. Baseline characteristics of patients with C3G stratified by age

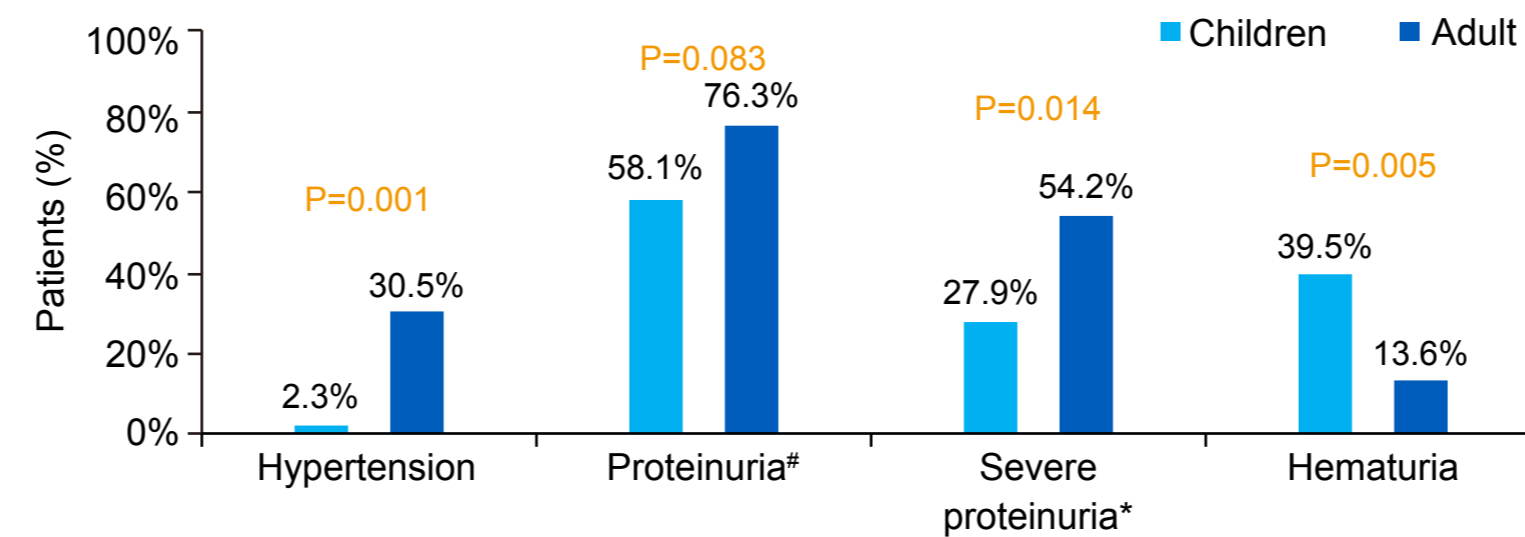
Demography	Children [^] (N=43)	Adult(N=59)
Age	8.9(6.1-11.2) [#]	42.1(29.4-53.8) [#]
Male,n(%)	24(55.8) [*]	29(49.2) [*]

[^]:Children < 16 years old ^{*}:percentage; [#]:Quartiles (Q1andQ3)

DDD dense deposit disease; C3 GN C3 glomerulonephritis;

- At the time of diagnosis, 46.2% C3G patients had an eGFR<60 ml/min/1.73m², 47.1% presented serum complement C3 below normal, 48.8% presented low level of serum C4, 22.5% had abnormal blood/urine protein electrophoresis, and 3% had elevated serum globulin.
- Adult patients had significantly higher proportions of hypertension, severe proteinuria, and hematuria than children (Fig 2). Adult patients had significantly higher creatinine values, 24-hour urine protein excretion, and lower glomerular filtration capacity than children (Fig 3).

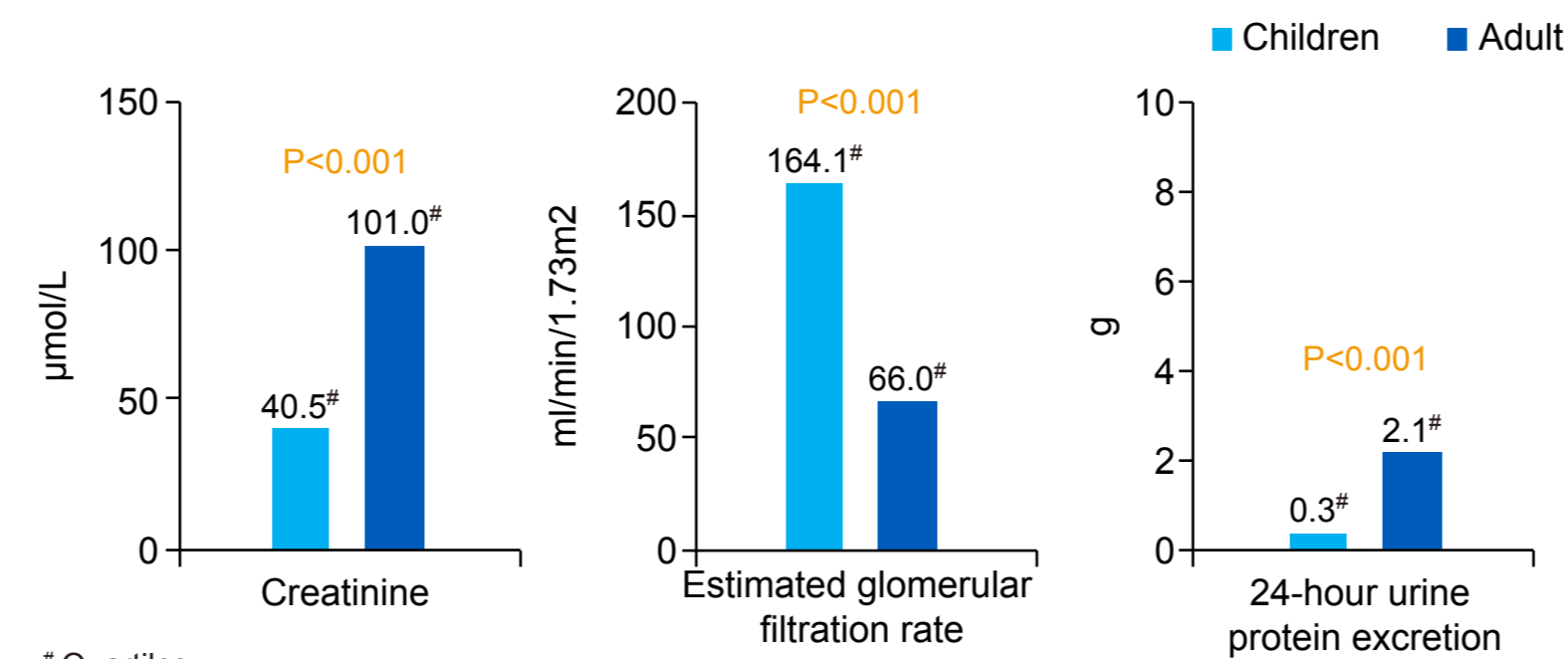
Fig 2. Clinical presentations



[#]Proteinuria: urinary protein qualitative≥1+ or UACR >30mg/g or 24-hour urinary protein qualitative >0.15g.

^{*} Severe proteinuria defined as urinary protein qualitative ≥3+ or UACR >300mg/g or 24-hour urinary protein qualitative >3.5g

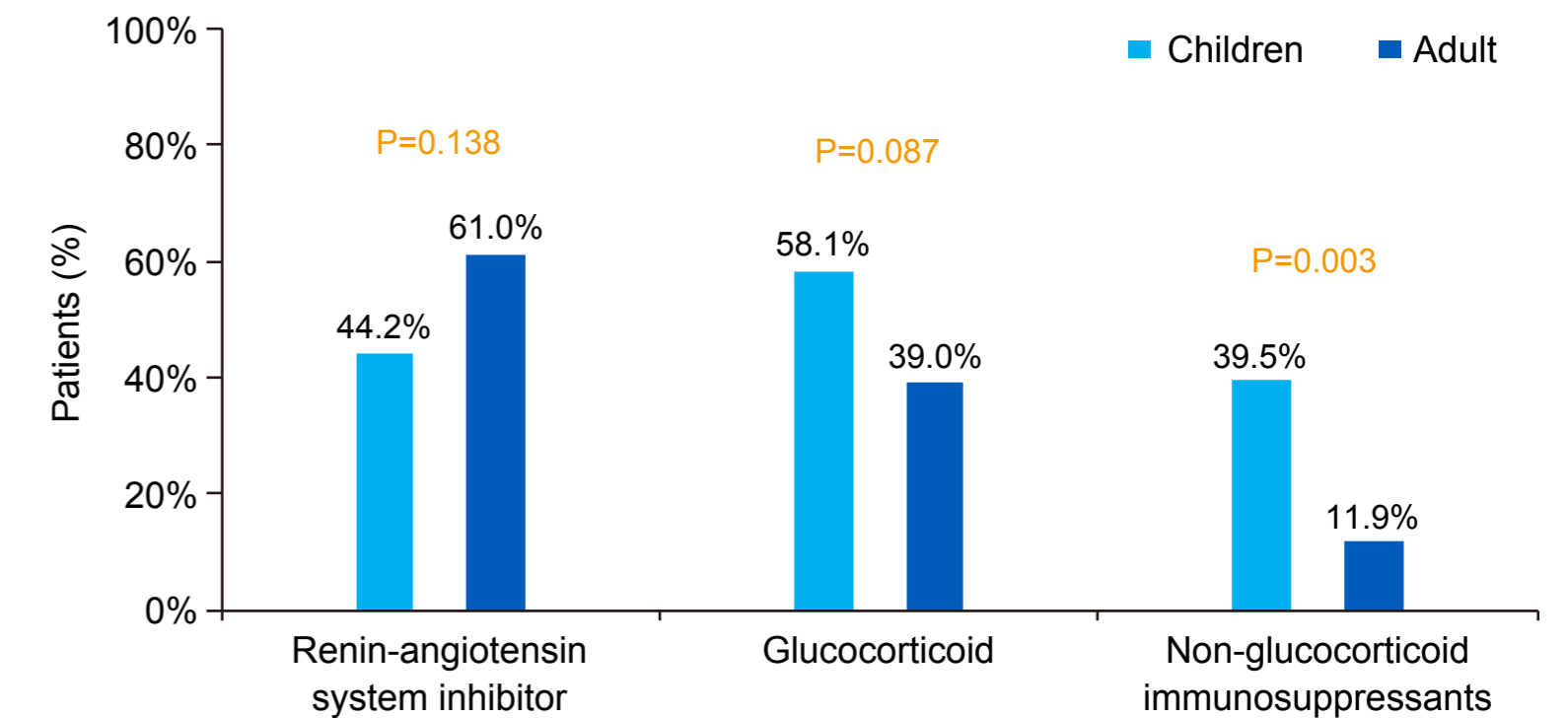
Fig 3. Laboratory tests



[#]:Quartiles

- As for treatment, the proportion of RASI use was 53.9%, while 47.1% of patients received glucocorticoids and half of them (23.5% of total) non-glucocorticoid immunosuppressants(including Cyclosporine, MMF, tacrolimus, etc.)(Fig 4).

Fig 4. Treatment



- Sixteen patients were followed for more than one year. Among them, 12.5% had progression, as measured by a sustained > 40% decrease in eGFR from baseline, and 18.7% developed kidney failure within one year.

④ Conclusion:

- C3G has heterogeneous clinical characteristics, and adult patients presented more serious symptoms at diagnosis. Unmet needs are identified for C3G patients standardized treatment in China, and targeted therapy is urgently needed.

⑤ Disclosures:

- The authors have no disclosures or conflicts of interest to report.