FCGG Renal Biopsy Network: first epidemiological report on pediatric renal disease in Flanders

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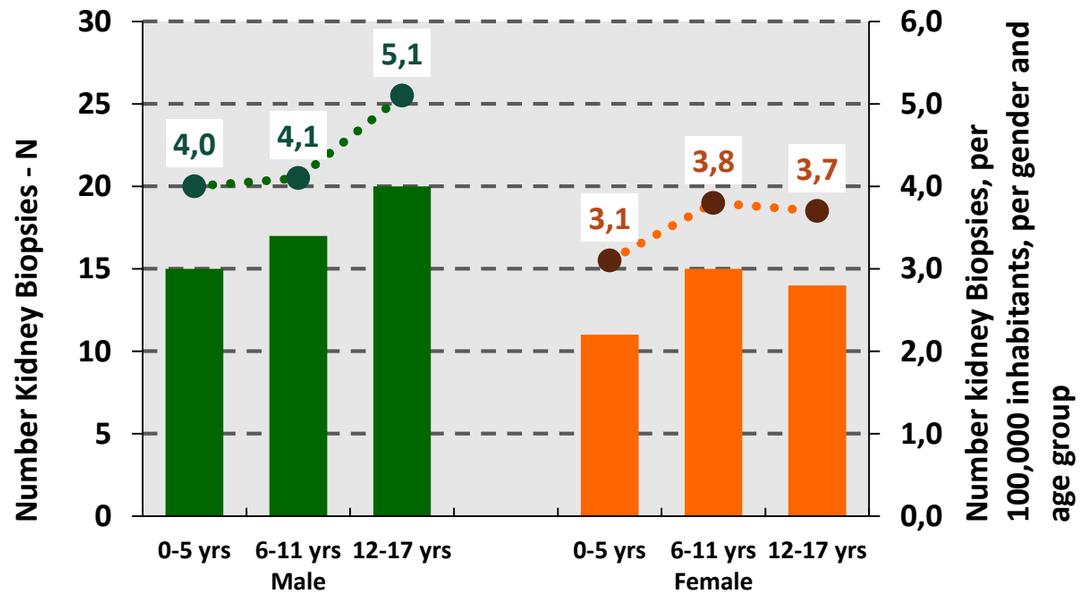
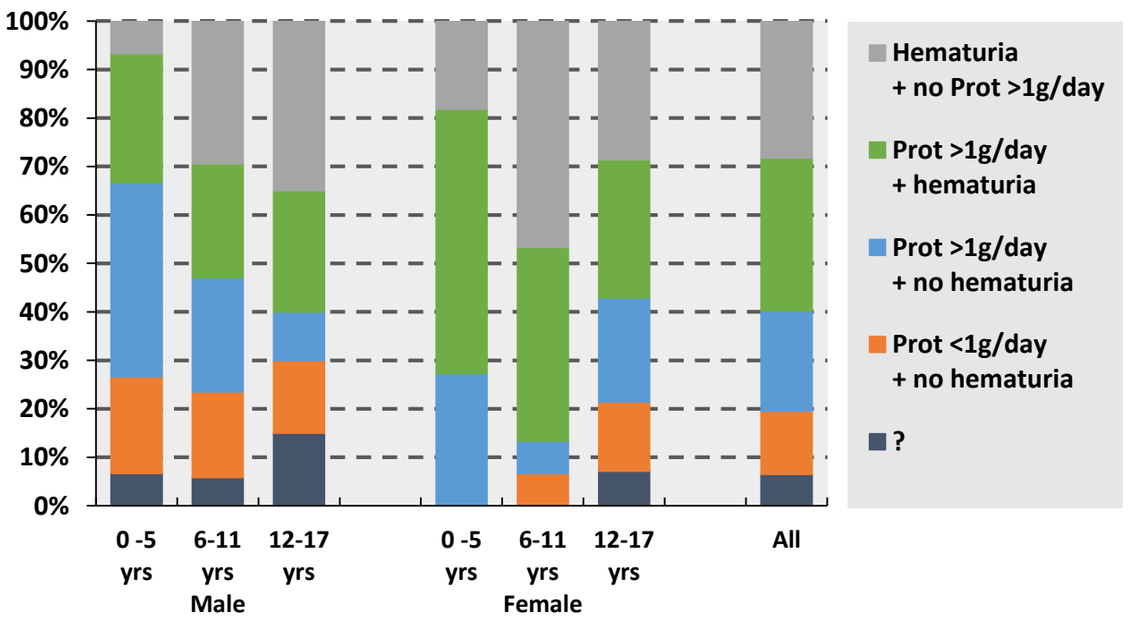
Introduction

- The Flemish Collaborative Glomerulonephritis Group (**FCGG**) was founded in 2016 as a collaboration between renal pathologists and nephrologists, within NBVN organization.
- The Renal Biopsy Network project consists of the registration of all native kidney biopsies within NBVN, uniformly collecting and/or using
  - basic patient data
  - semi-structured information on the kidney disease
  - a well-structured histopathology report
  - a comprehensive diagnosis list of kidney pathology, newly designed for this project
  - the ERA-EDTA clinical renal diagnosis list.
- All information is entered and monitored by 3 data entry centers.

Renal Biopsy Network - registry

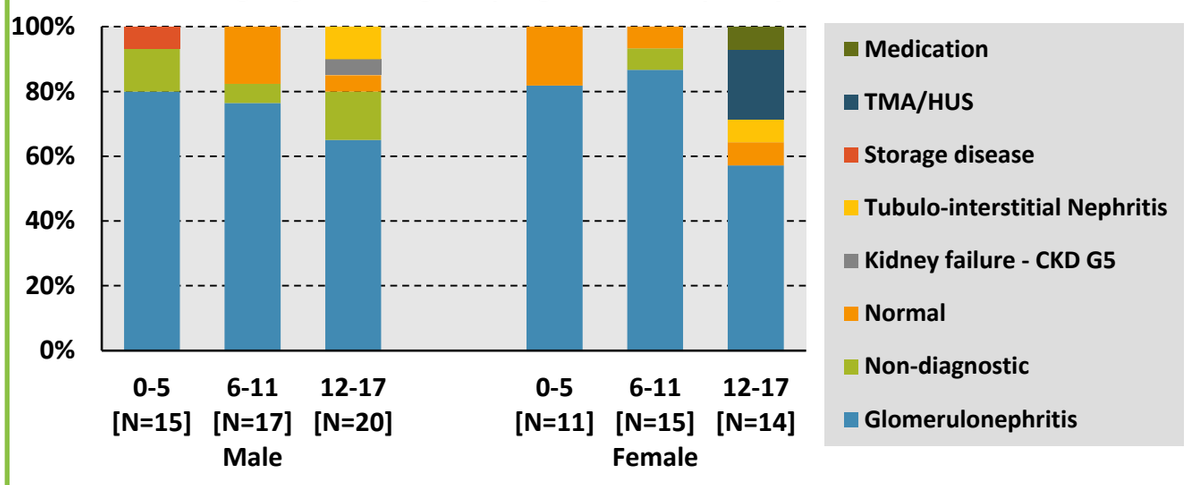
- In 2017 and 2018, 1385 first kidney biopsies were registered, or 10.5 per 100,000 inhabitants per year.
- 92 biopsies (6,6%) were done in pediatric patients (age <18 years), or 3.6/100,000 inhabitants per year. There were more biopsies in boys (N=52) than in girls (N=40). Kidney disease presented mainly either as proteinuria >1g/day, or hematuria, or hematuria and proteinuria >1g/day; some age/gender categories showed a distinct pattern.



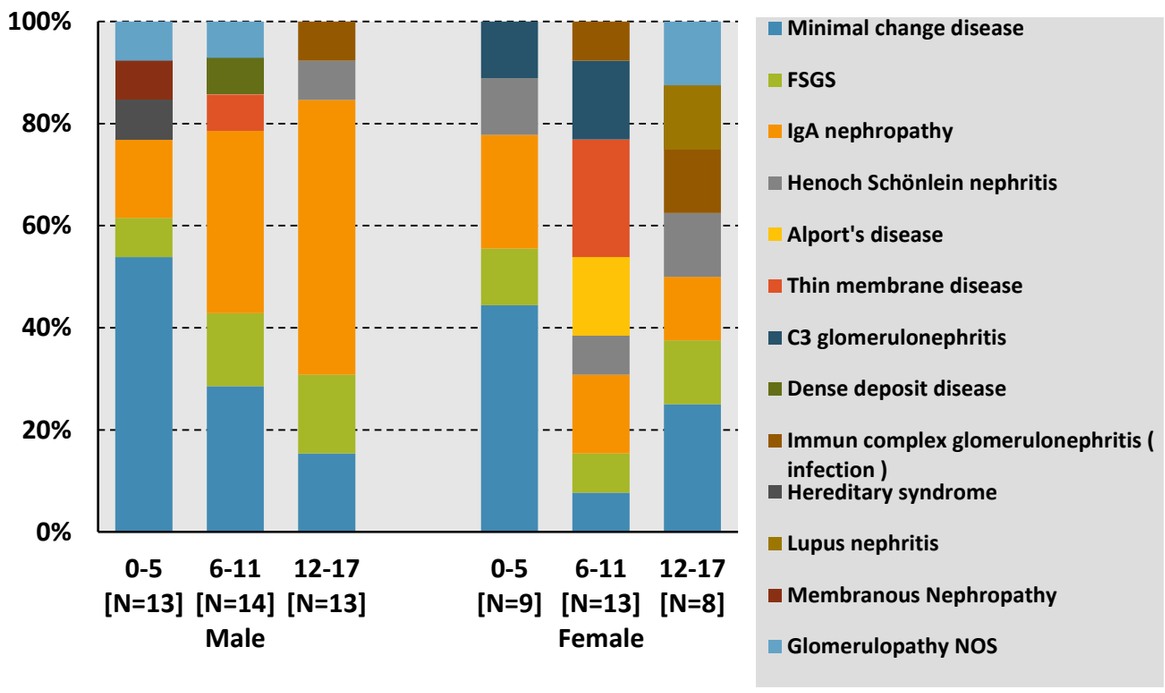


Results

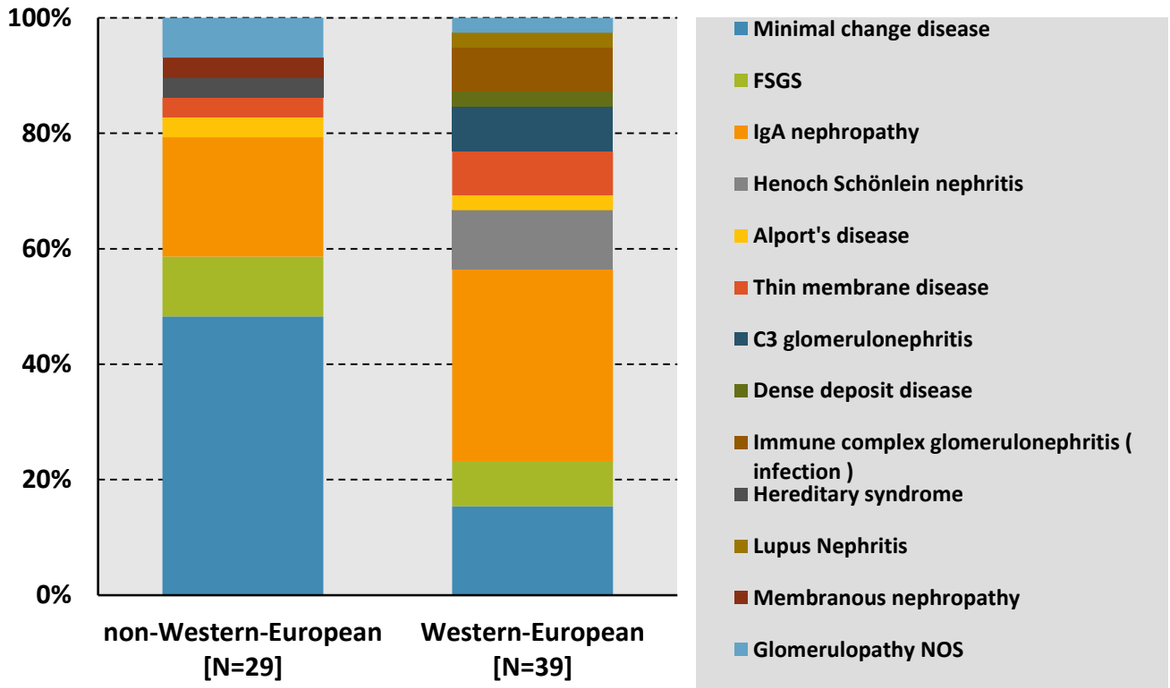
- In each age/gender group, glomerulopathy was most common.



- The Glomerulopathy spectrum differed among the age/gender groups.
  - 0-5 years: mainly minimal change disease with a nephrotic syndrome
  - 6-11 years: mainly diseases with hematuria, such as IgA-mediated diseases and Glomerular Basal Membrane related-diseases
  - 12-17 years: greater impact of gender =
    - Boys: almost 100% IgA nephropathy
    - Girls: more diverse collection of kidney diseases



- Children of Western-European descent presented with hematuric renal diseases, whereas those without a Western-European descent suffered from a minimal change disease.



Conclusion

- The FCGG network provides an excellent cross-talk between renal pathologists and nephrologists.
- For the first time reliable estimates of pediatric renal diseases based on histology are available.
- Genetic analyses are not yet included.
- Efforts to coordinate clinical care of pediatric nephrology in the NBVN region are ongoing.