FCGG Renal Biopsy Network: first epidemiological report on pediatric renal diseases

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Objective: In 2016, a regional renal biopsy network was founded as a collaboration between renal pathologists and nephrologists in order to standardize diagnosis and therapy. Uniform renal biopsy request and renal biopsy report forms were introduced, together with a new comprehensive list of renal pathology diagnoses for coding. The 2017-2018 epidemiological data of the pediatric patients (age= 0-17 years) are presented.

Methods: Following informed consent and in compliance with GDPR, data registration consists of basic patient and categorical renal data, semi-structured medical information of renal histopathology and the clinical renal disease.

Results: In 2017-2018, 92 renal biopsies were reported in pediatric patients or 3.6 per 100,000 pediatric inhabitants per year. Three clinical patterns were equally represented: only proteinuria >1g/day; only hematuria; and combination of proteinuria and hematuria. Acute or chronic renal failure were rare. In the youngest age group (0-5 years; N=26) minimal change disease predominated, followed by Henoch-Schönlein nephritis. The middle age group (6-11 years; N=32) mainly presented with disease characterized by hematuria: IgA nephropathy, Henoch-Schönlein nephritis and Alport's disease. A more diverse renal disease spectrum was present in the highest age group (12-18 years; N=34): IgA nephropathy, different forms of proliferative glomerulonephritis and of nephrotic syndrome of childhood. Patients with a Caucasian descent presented with IgA nephropathy, while a nephrotic syndrome was more common in those without a Caucasian descent. Alport's disease was particularly diagnosed in female patients, IgA nephropathy in male patients, and the gender distribution was equal in minimal change disease.

Conclusion: The FCGG network provides an better 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 renal diseases are ongoing.