Bassam Saeed

Farah Association for Child with Kidney Disease
Syria

Spectrum of steroid-resistant and congenital nephrotic syndrome in children: The podo net registry cohort

Abstract:

Background and objectives: Steroid-resistant nephrotic syndrome (SRNS) is a rare kidney disease involving either immune-mediated or genetic alterations of podocyte structure and function. The rare nature, heterogeneity, and slow evolution of the disorder are major obstacles to systematic genotype-phenotype, intervention, and outcome studies, hampering the development of evidence-based diagnostic and therapeutic concepts. To overcome these limitations, the Podo Net Consortium has created an international registry for congenital nephrotic syndrome (CNS) and childhood-onset SRNS.

Methods: Since Aug. of 2009 to Oct. 2021, clinical, biochemical, genetic, and histopathologic information was collected both retrospectively and prospectively from 2671 patients with childhood-onset (Age ≤20years old) SRNS, CNS, or persistent sub-nephrotic proteinuria of likely genetic origin at 81 centers in 32 countries through an online portal.

Results: SRNS manifested in the first 5 years of life in 64% of the patients. CNS accounted for 6% of all patients. Extra renal abnormalities were reported in 17% of patients. The most common histopathologic diagnoses were FSGS (56%), minimal change nephropathy (21%), and mesangio proliferative GN (12%). Mutation screening was performed in 1174 patients, and a genetic disease cause was identified in 23.6% of the screened patients. Among 14 genes with reported mutations, abnormalities in NPHS2 (n=138), WT1 (n=48), and NPHS1 (n=41) were most commonly identified. The proportion of patients with a genetic disease cause decreased with increasing manifestation age: from 66%in CNS to 15%–16% in schoolchildren and adolescents. Among various intensified immunosuppressive therapy protocols, calcineurin inhibitors and rituximab yielded consistently high response rates, with 40%–45% of patients achieving complete remission. Confirmation of a genetic diagnosis but not the histopathologic disease type was strongly predictive of intensified immunosuppressive therapy responsiveness. Post-transplant disease recurrence was noted in 25.8% of patients without compared with 4.5% (n=4) of patients with a genetic diagnosis.

Conclusion: The Podo Net cohort may serve as a source of reference for future clinical and genetic research in this rare but significant kidney disease.

Biography

Consultant Pediatric Nephrologist at Farah Association for Child with Kidney Disease in Syria Founder and current President of Farah Association for Child with Kidney Disease in Syria (2013 to date) Deputy Chair of the ISN Middle East Regional Board 2023-2025 Council Member of the ISN 2023-2025 Member of the ISN Continuing Medical Education Committee (2022 – 2024) Representative of Syria in the ISN Middle East Regional Board. (2014 to date). Past president of the Middle East Society for Organ Transplantation (MESOT). Founder of the 1st Pediatric nephrology fellowship program in Syria in Nov. 2003 Founder of Pediatric Nephrology Department & Pediatric Dialysis Unit & pediatric Kidney transplant program at Surgical Kidney Hospital / Damascus / Syria / in February 2002 Member of the Declaration of Istanbul Custodian Group (DICG) Member of the Honorary Committee of the Advanced International Training Course in Transplant Procurement Management. TPM-DTI Foundation. Barcelona – Spain Founding member of the World Academy of Medical, Biomedical, and Ethical Sciences Country Liaison representing Syria in The Transplantation Society (TTS). Regional Representative of the Middle East/Africa region in the KDIGO Associate Editor of Experimental and Clinical Transplantation (ECT) Journal. Founder of the MESOT Fellowship Program Participant and Signatory to the final statement issued by the Pontifical Academy of Sciences (PAS) during the Vatican Summit on Organ Trafficking and Transplant Tourism held at the Vatican on February 7-8, 2017 Editorial Board member and reviewer in many journals