

Minimal Change Nephrotic Syndrome—A Complex Genetic Disorder

W K Gong,**MBBS, M Med (Paed), MRCP (UK)*, W Cheung,***BA*, H K Yap,****FAMS, MD, FRCPCH*

Abstract

Introduction: Minimal change nephrotic syndrome (MCNS) is the most common primary nephrotic syndrome in childhood. While the pathogenesis of this disease is still unknown, there is considerable evidence that it is an immune disease. This role of genetic susceptibility in this disease is the subject of this review. **Methods:** Reported studies addressing potential genetic factors in MCNS were reviewed. These factors included human leukocyte antigen (HLA) associations, genes involved in the renin-angiotensin system and cytokines. **Results:** Several authors have reported the presence of familial clustering, human leukocyte antigen (HLA) associations, and association with asthma and atopy, suggesting a genetic susceptibility to the disease. Moreover, recent studies on the role of the renin-angiotensin system, cytokines and their respective receptors on the severity and clinical course of the disease, have lent further support to the immunogenetic basis of this disease. **Conclusion:** Knowledge of the genetic basis of MCNS may have important therapeutic implications in this disease, in particular, the role of cytokines and their respective receptors, including the influence of environmental factors on their expression.

Ann Acad Med Singapore 2000; 29:351-6

Key words: Angiotensin converting enzyme gene, Cytokines, Flt-1, Gene polymorphism, Human leukocyte antigen

* Assistant Professor

** Graduate Student

*** Professor

Department of Paediatrics

National University of Singapore

Address for Reprints: Dr Hui-Kim Yap, Department of Paediatrics, National University of Singapore, 5 Lower Kent Ridge Road, Singapore 119074.