Mini-symposium

Genetics of CKD: What Have We Learned So Far?

Afshin Parsa, MD, MPH

University of Maryland School of Medicine, Baltimore, MD

It is well established that progression of chronic kidney disease (CKD) varies substantially among individuals, despite similar backgrounds, disease etiologies, blood pressure and/or glycemic control. However, our understanding of factors influencing the development and/or differential rates of CKD progression is limited. Indeed, currently known clinical factors account for less than half of the observed variability, suggesting a meaningful genetic contribution to CKD related outcomes.

Various studies have implicated that the genetic basis for baseline renal function, development of renal disease and the rate of CKD progression are, in part, distinct from each other. Accordingly, a substantial number of studies in various populations have been completed in order to better delineate genetic contributions to CKD related outcomes. These include various study designs ranging from single candidate gene association to genome wide based association studies (GWAS) in single study populations as well as in large scale multinational meta-GWAS efforts involving over 100,000 individuals.

In this session, we will review select findings from a variety of primarily GWAS based studies as related to renal function in the general population, renal disease development and the progression rate of established CKD. We will also examine some of the lessons learned as we continue to move through the rapidly changing genetic based studies landscape, associated challenges and their implications for future studies.