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A Brief Note on Patients With Kidney Disease

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Description

Between 10 and 15 percent of kidney disorders are inherited or linked to genetic factors. Due to the lack of distinguishing clinical symptoms and poor treatment response, hereditary kidney diseases account for approximately 30 percent of hospitalized children in the United States with chronic renal failure. Hereditary kidney disease has been linked to a number of genes. Hereditary kidney disorders can only be diagnosed using molecular genetics, and this is especially important for the prenatal diagnosis. Over the past three decades, our group has been studying inherited kidney diseases. Here, we summarize our group's major findings and research efforts on inherited renal disorders.

Numerous hereditary kidney diseases are associated with mendelian inheritance, indicating that the encoded proteins are necessary for maintaining renal function. Our comprehension of renal development and the physiology of the filtration barrier has greatly improved as a result of the identification of genes involved in kidney congenital abnormalities and variants of familial nephrotic syndrome. The distinct phenotypic and clinical heterogeneity found in monogenic forms of these diseases will be the primary focus of this review. In renal diseases [1-3] with complicated inheritance, the significance of susceptibility genes will also be emphasized.

The presentation of a clever class of aminoglycosides with worked on translational read through of rubbish changes and lower harmfulness offers another treatment choice for a subset of people with genetic kidney illness. This method is ideal for aminoglycosides because they are absorbed and retained in the kidney at a high intracellular concentration. In this study, we investigate the therapeutic window for subclasses of each hereditary kidney disease caused by nonsense mutations and the possibility of aminoglycoside read through therapy.

Genetic mutations at various loci are to blame for the distinct clinical and hereditary patterns of polycystic kidney disease syndromes. For the majority of cystic kidney diseases, doctors must rely on clinical judgment and experience because molecular diagnostics are not yet a viable clinical tool. This publication aims to inform practicing physicians about the genetic patterns, fundamental epidemiology, and phenotypic characteristics of the most prevalent cystic renal diseases. In-depth discussion will be given to the following conditions: Nephronopthisis-medullary cystic kidney disease complex, autosomal dominant polycystic kidney disease, Bardet-Biedl syndrome, and oral-facial-digital syndrome type 1 are all forms of polycystic kidney disease.

About 10 percent of adults and nearly all children require renal replacement therapy due to hereditary kidney disease. Both our knowledge of renal and syndromic disorders and our ability to perform genetic diagnostics have improved [4,5] The genetics of renal diseases, such as polycystic kidney disease, Alport syndrome, and Fabry disease, as well as more complex conditions like kidney and urinary tract congenital abnormalities, are discussed in this article. Common monogenic diseases include polycystic kidney disease, Alport syndrome, and Fabry disease. A review of common genetic testing, a guide to genetic counseling, and reproductive options for at-risk couples, such as prenatal diagnosis or pre-implantation genetic diagnosis, are all part of our comprehensive approach to treating inherited diseases for the nephrologist.

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Conflict of Interest

The author declares that there is no conflict of interest associated with this paper.

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