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Contributions to Nephrology

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Diabetes and the Kidney

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Diabetic nephropathy is a leading cause of end-stage renal disease in many developed countries where type 2 diabetes mellitus has already reached an epidemic tsunami by the beginning of this millennium. In these countries, diabetic nephropathy is the primary renal diagnosis in 25–50% of people starting chronic renal replacement therapy. This global and growing threat of diabetic nephropathy due mainly to type 2 diabetes has long caught the attention of nephrologists and diabetologists. Yet, over the past decade, the magnitude of the problem has continued to grow without any sign of reaching its plateau. There are a number of astounding reasons. First, there is the relentless increase in the prevalence of type 2 diabetes as a result of the metabolic syndrome. Despite an ongoing emphasis on the need for lifestyle changes, such as weight loss, diet control, and increased physical exercise, the obesity and diabetes epidemic continues to escalate and the number of people with type 2 diabetes, currently estimated at 150 million, is predicted to double by 2025. This problem is compounded by the fact that the risk of diabetes increases with age and that there is an aging trend in the global population.

Surely, the risk factors and pathophysiology of diabetic nephropathy are not entirely understood, which implies that there is clearly a long way to go before effective renoprotective or preventive strategies for diabetic nephropathy can be implemented for our patients. On the other hand, significant progress has been made in recent years in understanding the pathologic, genetic, pathogenetic, and epigenetic mechanisms of this condition. Furthermore, many large-scale randomized controlled trials have emerged to attest some of these hypotheses. It will therefore be timely for the publication of a textbook to provide an updated overview of all the available clinical and basic scientific data for clinicians and researchers in the field. It is with such intention in mind that we gathered leading world experts actively engaged in diabetic nephropathy research from bench to bedside to compile this exciting monograph on diabetes and the kidney that covers every aspect of transcriptional and translational research in diabetic nephropathy. We wish to thank all the 54 contributors in making this comprehensive volume a success. We hope that while it will provide an update to everyone, this book will also serve as a reference to stimulate further novel investigations to advance our knowledge about all the unknowns in diabetic nephropathy.

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