Diabetic nephropathy is the most common cause of end-stage kidney disease in the USA and Europe, and its incidence and prevalence continue to rise at a great human and economic cost. Over the past decade there has been literally an explosion of research to all aspects of diabetes and diabetic nephropathy, such as better definition of clinical patterns, i.e., latent autoimmune diabetes of the adult (LADA), maturity onset diabetes of the young (MODY), etc. Novel clinical biomarkers beyond microalbuminuria are being explored, and the implications of proteinuria in diabetes are being reassessed. Recent research continues to discover and characterize new molecular, immunologic, genetic, and epigenetic mechanisms in the pathogenesis of diabetic kidney disease. Advances in the approach to eye disease associated with diabetes in relation to diabetic kidney disease, diabetes during pregnancy, and diabetic kidney disease in children are among the topics covered. The spectrum of histopathology is described in greater detail with focus on pathophysiology. Newer drugs with novel mechanisms of action have been introduced to clinical practice, and additional drugs are likely to follow in the near future. Advances in biotechnology are opening up a whole new vista with an eye to futuristic therapies taking advantage of newer insights into regenerative medicine. There are improvements in transplant medicine, exploring newer protocols in kidney pancreas transplant, islet cell transplant, and even in cross-species transplantation. That diabetes is not a simple lack of glycemic control and it is associated with a broad array of metabolic disorders including lipid abnormalities had been appreciated for sometime, but, again, recent research has contributed new insight into our understanding of these associated metabolic disorders and the consequent cardiovascular morbidity.

The purpose of this book is to provide a convenient single volume to practitioners and investigators, as well as medical students and residents, where an overview of the recent advances in the theory and practice of diabetic kidney disease with an eye on future prospects is available. This, of course, is an ambitious goal; however, we are pleased that we have been able to arrange a coherent collection of chapters authored by prominent experts in their fields making it possible to not only view the current state of the art in diabetic nephropathy but also provide a starting place for additional reading for those who might wish to further investigate a certain aspect of diabetic nephropathy. We are hopeful that the readers of this book, whether clinicians, clinician-scientist, or basic researchers, will find this book a useful compilation, and the reader regardless of her/his level of knowledge in the field will be able to glean some useful information for her/his purpose.

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