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Advances in the Treatment of Diabetic Nephropathy

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Diabetic nephropathy is the leading cause of end- stage renal disease worldwide and an independent risk factor for all- cause and cardiovascular mortalities in diabetic patients. Multiple pathways that participate in the development and progression of diabetic nephropathy have been suggested. Chronic hyperglycemia, acting through diacylglycerol- protein kinase C pathway, advanced glycation end products, oxidative stress, and the polyol pathway, is a necessary but probably not sufficient requirement for the generation of the lesion of diabetic nephropathy. In recent years, our knowledge of the pathophysiological processes that lead to diabetic nephropathy has notably improved on a molecular level. Despite the benefits derived from the current therapeutics for diabetic nephropathy, mainly strict control of blood glucose and systemic and intraglomerular hypertension with blockade of the renin angiotensin system, these strategies still provide imperfect protection against renal progression. This imperfection with the advances in our understanding of the processes that are involved in diabetic renal disease have led to a number of new approaches to prevention and treatment, many of which are in various stages of clinical evaluation. The purpose of this review is to bring together current information on the treatment of diabetic nephropathy including standard and potential therapeutics.