

Emerging therapies for diabetes mellitus in the new millennium

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Abstract

The incidence and prevalence of diabetes mellitus (DM) is increasing around the world steadily in the last few years in epidemic proportions. The total number of diabetics is estimated to reach 400 million worldwide by the year 2030. This rapid growth in the people affected with the disease as well as the morbidity associated with diabetic complications has warranted the development of new and more effective therapeutic options for both type 1 DM and type 2 DM. The last few decades have witnessed remarkable improvements in the insulin preparations. In addition several oral hypoglycemic agents have been developed which are safer and more effective. Among the more recent agents released from the pipeline include two forms of incretin-based therapies- the dipeptidyl peptidase 4 inhibitors (DPP4) and the glucagon like peptide 1 agonists (GLP-1). Another emerging therapy that appears promising involves inhibition of sodium-glucose co-transporters (SGLT 1 and 2). Inhibitors of SGLT-2 are currently undergoing clinical trials. A broad overview of all such emerging therapies as well as the current status of stem cell therapy and transplantation approaches in management of diabetes is the focus of this presentation.

Biography

Sharma Prabhakar is a distinguished nephrologist and physician scientist currently at Texas Tech University Health Sciences Centre, where he is a tenured professor in the Departments of Medicine and Cell Physiology & Molecular Biophysics and the Chief of Nephrology Division and Vice Chairman, Department of Medicine. He is an established researcher examining pathophysiologic mechanisms of diabetic nephropathy and of insulin resistance in vitro and animal models. In the area of clinical research he initiated and is the principal investigator of a number of clinical studies. Dr Prabhakar has over 100 publications including original articles, reviews, book chapters and published abstracts in prestigious journals such as the American Journal of Physiology, Journal of American Society of Nephrology, and Kidney International. He has recently published a reference book on "Advances in the pathogenesis of diabetic nephropathy" and a two volume reference book entitled "Glomerulopathies". In recognition of his excellence in practice of medicine, Dr Prabhakar was awarded an endowed chair by the University Medical Center. He is active in several professional societies and organizations and is the current President of American Federation for Medical Research.