



Commentary on Diabetes Mellitus Century

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Abstract

The molecular genetics of diabetes received extensive attention in recent years by many prominent investigators and research groups in the biomedical field. A large array of mutations and single nucleotide polymorphisms in genes that play a role in the various steps and pathways involved in glucose metabolism and the development.

Keywords: Diabetes; Type 2 diabetes, glucose.

Introduction

The major advances in the molecular understanding of diabetes in relation to the different types of diabetes in comparison to the previous understanding in this field are briefly reviewed here. Despite the accumulation of extensive data at the molecular and cellular levels, the mechanism of diabetes development and complications are still not fully understood. Definitely, more extensive research is needed in this field that will eventually reflect on the ultimate objective to improve diagnoses, therapy and minimize the chance of chronic complications development.

A variety of growth factors and cytokines may be released from damaged endothelium, macrophages, and smooth muscle cells. Platelets may adhere to the site of macrophage attachment and release thromboxane and growth factors. Smooth muscle cells may proliferate and migrate, accompanied by thrombus formation, vascular encroachment, and occlusion.

Diabetes mellitus is rising to an alarming epidemic level. Early diagnosis of diabetes and prediabetes is essential using recommended

hemoglobin A1c criteria for different types except for gestational diabetes. Screening for diabetes especially in underdeveloped countries is essential to reduce late diagnosis. Diabetes development involves the interaction between genetic and non-genetic factors. Biomedical research continues to provide new insights in our understanding of the mechanism of diabetes development that is reviewed here. Recent studies may provide tools for the use of several genes as targets for risk assessment, therapeutic strategies and prediction of complication.

Diabetes mellitus is a group of metabolic diseases characterized by chronic hyperglycemia resulting from defects in insulin secretion, insulin action, or both. Metabolic abnormalities in carbohydrates, lipids, and proteins result from the importance of insulin as an anabolic hormone. Low levels of insulin to achieve adequate response and/or insulin resistance of target tissues, mainly skeletal muscles, adipose tissue, and to a lesser extent, liver, at the level of insulin receptors, Diabetes mellitus is the epidemic of the century and without effective diagnostic methods at an early stage, diabetes will continue to rise. This review focuses on the types of diabetes and the effective diagnostic methods and criteria to be used for diagnosis of diabetes and prediabetes. Evidently, diabetes is a complex disease with a large pool of genes that are involved in its development. The precise identification.

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