

# Biochemical Immunology of Diabetes and Associated Complications

Edited by Pratima Tripathi · Rama Pati Tripathi · Mahabir Parshad Kaushik



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## 1. Introduction

Blood glucose is main energy source and comes from the food. Insulin, a hormone made by the pancreas, helps glucose from food get into our cells to be used for energy. Sometimes our body is not capable of making enough insulin or doesn't utilize insulin well. Glucose then stays in our blood and does not reach our cells. Over long time, accumulation of too much glucose in our blood can lead to health problems. Although diabetes has no cure at all, we can take steps or measures to manage our diabetes and stay healthy. Diabetes is affecting just about everyone, from the over 537 million population from whole world with or at risk for the disease to the many more people who care for them. The most common types of diabetes are type 1, type 2, and gestational diabetes (Thunander et al., 2012). If we are suffering from type 1 diabetes, our body will not make insulin. Our immune system attacks and destroys the cells in our pancreas that make insulin. Type 1 diabetes is usually diagnosed in children and young adults, although it can appear at any age (Cakan et al., 2012). People with type 1 diabetes need to take insulin every day to stay alive. If we have type 2 diabetes, our body does not make or use insulin well. Type 2 is the most common type of diabetes. Diabetes occurs most often in middle-aged and older people. Gestational diabetes develops in some women when they are pregnant. Most of the time, this type of diabetes goes away after the baby is born. However, if you've had gestational diabetes, you have a greater chance of developing type 2 diabetes later in life. Other types of diabetes are less common types which include monogenic diabetes, which is an inherited form of diabetes, and cystic fibrosis-related diabetes and other links that relate it with. There are some health disorders that can eventually lead to diabetes like, over time, high blood glucose leads to problems such as heart disease, stroke, kidney disease, eye problems, dental disease, nerve damage, foot problems you can take steps to lower your chances of developing these diabetes-related health problems.