

Diabetes mellitus is associated with a marked increase of cardiovascular events. The treatment strategy of diabetes has to be based on the knowledge of its pathophysiology. Thus, insulin is essential for treatment of type 1 diabetic patients because there is a defect in insulin secretion. However, treatment of type 2 diabetic patients is more complex because a defect in both insulin secretion and insulin action exists. Therefore, the treatment selection will depend on the stage of the disease and the individual characteristics of the patient. This article examines the general goals of the treatment and reviews the management of type 2 diabetes.

Diabetes mellitus (DM) is a chronic metabolic disease characterized by hyperglycemia. It is a global health problem, with an estimated 463 million people affected in 2019, and this number is projected to increase to 688 million by 2045 [1]. The prevalence of DM is increasing worldwide, with a significant burden in Saudi Arabia. In 2019, the prevalence of DM in Saudi Arabia was 15.4%, and this is expected to increase to 21.5% by 2045 [2]. The pathophysiology of DM is complex, involving both genetic and environmental factors. In type 1 DM, there is an autoimmune destruction of the pancreatic islets, leading to absolute insulin deficiency. In type 2 DM, there is a combination of insulin resistance and relative insulin deficiency. The treatment of DM aims to achieve and maintain glycemic control, thereby preventing or delaying the onset and progression of long-term complications. The general goals of the treatment of DM are to achieve and maintain glycemic control, prevent or delay the onset and progression of long-term complications, and improve the quality of life of the patient. The management of DM involves a combination of lifestyle modifications and pharmacological therapy. Lifestyle modifications include a healthy diet, regular physical activity, and weight management. Pharmacological therapy includes oral hypoglycemic agents, insulin, and other medications. The choice of treatment depends on the type of DM, the stage of the disease, and the individual characteristics of the patient. This article examines the general goals of the treatment and reviews the management of type 2 diabetes.

Diagnosis and Classification of Diabetes Mellitus

Diabetes mellitus is diagnosed based on the following criteria [3]:

- 1. Fasting plasma glucose (FPG) ≥ 126 mg/dL (7.0 mmol/L).
- 2. 2-hour plasma glucose (2hPG) ≥ 200 mg/dL (11.1 mmol/L) during a 75-g oral glucose tolerance test (OGTT).
- 3. Hemoglobin A1c (HbA1c) $\geq 6.5\%$.
- 4. Random plasma glucose (RPG) ≥ 200 mg/dL (11.1 mmol/L) with symptoms of hyperglycemia.

Diabetes mellitus is classified into four types: type 1, type 2, gestational, and other specific types. Type 1 DM is an autoimmune disease characterized by absolute insulin deficiency. Type 2 DM is characterized by insulin resistance and relative insulin deficiency. Gestational DM is diagnosed during pregnancy. Other specific types include DM due to pancreatic disease, endocrine disorders, drugs, and other causes.

Management of Type 2 Diabetes Mellitus

The management of type 2 DM involves a combination of lifestyle modifications and pharmacological therapy. Lifestyle modifications include a healthy diet, regular physical activity, and weight management. Pharmacological therapy includes oral hypoglycemic agents, insulin, and other medications. The choice of treatment depends on the stage of the disease and the individual characteristics of the patient. The general goals of the treatment of type 2 DM are to achieve and maintain glycemic control, prevent or delay the onset and progression of long-term complications, and improve the quality of life of the patient.

Conclusion

Diabetes mellitus is a chronic metabolic disease characterized by hyperglycemia. The treatment strategy of diabetes has to be based on the knowledge of its pathophysiology. Thus, insulin is essential for treatment of type 1 diabetic patients because there is a defect in insulin secretion. However, treatment of type 2 diabetic patients is more complex because a defect in both insulin secretion and insulin action exists. Therefore, the treatment selection will depend on the stage of the disease and the individual characteristics of the patient. This article examines the general goals of the treatment and reviews the management of type 2 diabetes.

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