

Diabetes Mellitus

Overview

Diabetes Mellitus is a chronic metabolic disorder characterized by persistently elevated blood glucose levels. It results from defects in insulin secretion, insulin action, or both. Long-term uncontrolled diabetes can lead to damage of multiple organ systems, especially the heart, blood vessels, kidneys, eyes, and nerves.

Types of Diabetes

Type 1 diabetes is an autoimmune condition leading to absolute insulin deficiency. Type 2 diabetes is caused by insulin resistance combined with inadequate insulin production and is strongly associated with obesity, sedentary lifestyle, and genetic predisposition. Gestational diabetes occurs during pregnancy and increases the risk of future Type 2 diabetes.

Symptoms

Common symptoms include frequent urination, excessive thirst, increased hunger, fatigue, unexplained weight loss, blurred vision, slow wound healing, and recurrent infections. Symptoms may develop gradually, especially in Type 2 diabetes.

Diagnosis

Diagnosis is based on laboratory tests such as fasting plasma glucose, oral glucose tolerance test, and HbA1c levels. Diagnosis and management decisions should always be made by qualified healthcare professionals.

Management and Treatment

Management includes lifestyle modifications such as dietary changes and physical activity, regular blood glucose monitoring, oral hypoglycemic agents, and insulin therapy when required.

Complications

Long-term complications include cardiovascular disease, kidney failure, neuropathy, retinopathy, foot ulcers, and increased risk of infections.

Prevention

Type 2 diabetes can often be prevented or delayed through healthy lifestyle practices, including weight management, regular exercise, and balanced nutrition.

Hypertension (High Blood Pressure)

Overview

Hypertension is a chronic medical condition in which blood pressure remains persistently elevated. It is a major risk factor for cardiovascular diseases such as heart attack and stroke.

Causes and Risk Factors

Risk factors include genetic predisposition, high salt intake, obesity, lack of physical activity, excessive alcohol consumption, stress, and certain underlying medical conditions.

Symptoms

Hypertension is often called a 'silent condition' because many individuals experience no symptoms. When symptoms occur, they may include headaches, dizziness, or visual disturbances.

Diagnosis

Diagnosis is made through repeated blood pressure measurements taken on different occasions.

Treatment

Treatment includes lifestyle changes such as dietary salt reduction, regular exercise, weight loss, and antihypertensive medications prescribed by healthcare professionals.

Complications

Untreated hypertension can lead to heart disease, stroke, kidney damage, and vision loss.

Asthma

Overview

Asthma is a chronic inflammatory disorder of the airways characterized by variable airflow obstruction and bronchial hyperresponsiveness.

Symptoms

Symptoms include wheezing, shortness of breath, chest tightness, and coughing, often worse at night or early morning.

Triggers

Common triggers include allergens, respiratory infections, exercise, cold air, smoke, and environmental pollutants.

Diagnosis

Asthma is diagnosed based on clinical history, physical examination, and lung function tests such as spirometry.

Management

Management involves avoidance of triggers, use of inhaled corticosteroids, bronchodilators, and regular monitoring.

Complications

Poorly controlled asthma can result in frequent hospitalizations, reduced quality of life, and severe asthma attacks.

Hypothyroidism

Overview

Hypothyroidism is a condition in which the thyroid gland produces insufficient thyroid hormones, leading to a generalized slowing of metabolic processes.

Causes

Common causes include autoimmune disorders such as Hashimoto's thyroiditis, iodine deficiency, and certain medications or medical treatments.

Symptoms

Symptoms include fatigue, weight gain, cold intolerance, constipation, dry skin, hair loss, and depression.

Diagnosis

Diagnosis is made through blood tests measuring thyroid-stimulating hormone (TSH) and thyroid hormone levels.

Treatment

Treatment typically involves lifelong thyroid hormone replacement therapy under medical supervision.

Complications

If untreated, hypothyroidism may lead to cardiovascular problems, infertility, and neurological complications.