CP/2025/UDCGP/CH-16

CHYREN PUBLICATION

E-CERTIFICATE

of Publication

This is to certify that **Mr. Tribhuwan Kumar Vashishtha** has published his/her chapter entitled ***ENDOCRINE AND METABOLIC DISORDERS*** in the edited book on ***CARDIOVASCULAR DISEASES*** bearing "ISBN: "978-93-49076-89-1" in February 2025.

ISBN 978-93-49076-89-1

CHYREN PUBLICATION * PALWAL *

CHAPTER 16
ENDOCRINE AND METABOLIC DISORDERS

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16.1 Introduction

Endocrine and metabolic disorders encompass a wide range of conditions resulting from hormonal imbalances or metabolic dysfunctions. These disorders can lead to significant morbidity and mortality worldwide. Hormones are essential chemical messengers that regulate numerous physiological functions, including metabolism, growth, and homeostasis. When these hormones are disrupted, the consequences can be severe, leading to chronic conditions such as diabetes, obesity, and lipid metabolism disorders.

Metabolic disorders occur when the body's normal biochemical processes are disrupted due to enzyme deficiencies, hormonal imbalances, or genetic mutations. These disorders can affect energy production, fat metabolism, and glucose regulation, often leading to long-term complications such as cardiovascular disease, neuropathy, and organ damage.
This chapter explores three major endocrine and metabolic disorders: Diabetes Mellitus and Obesity, Disorders of Lipid Metabolism, and Metabolic Syndromes. Each section will discuss the causes, pathophysiology, clinical manifestations, diagnosis, and management strategies for these conditions, providing a comprehensive understanding of their impact on human health.

16.2. Diabetes Mellitus and Obesity

16.2.1 Diabetes Mellitus

Diabetes Mellitus (DM) is a chronic metabolic disorder characterized by hyperglycemia resulting from impaired insulin secretion, insulin action, or both. It is one of the most prevalent non-communicable diseases worldwide, with a significant impact on morbidity and mortality. Persistent hyperglycemia in diabetes leads to damage in various organs, including the eyes, kidneys, nerves, and cardiovascular system.