

UNIT 18

INTEGRATION OF METABOLISM-I

Structure

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18.1 INTRODUCTION

The coordination of metabolic processes requires complex interactions. This coordination includes hormone regulation, metabolic characteristics of each organ, and enzymatic control of all pathways. Metabolism refers to the complex biochemical processes that generate energy and synthesize the structural and functional components of living organisms. To understand the importance and mechanisms of metabolic integration, it is necessary to investigate the primary metabolic pathways: anabolism, catabolism, and intermediary metabolism, as well as their regulation. It is critical to understand that metabolism is more than just a collection of independently existing enzyme sequences that catalyze cell reactions. Instead, these pathways are linked together and operate in a coordinated and highly regulated manner based on the cell's needs. Hormonal and nutritional conditions have a significant impact on the body's ability to regulate metabolic processes. Metabolic changes and adaptations under starvation and feeding conditions result in "starvation-feeding cycles" that contribute significantly to our understanding of metabolic integration. This situation investigates the roles of various hormones, including insulin, glucagon, epinephrine, and other key enzymes.

The amount of energy available for physical and mental activity through the food we consume. However, while fasting, fat are stored in our adipose