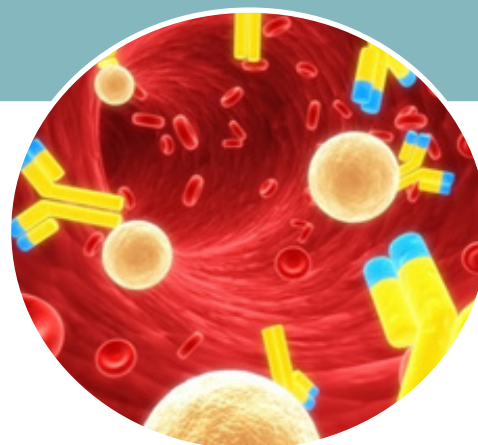


8

CHAPTER

UNIT - III

IMMUNOLOGY



Natural forces within us are the true healers of disease

- Hippocrates

Chapter outline

- 8.1 Basic concepts of immunology
- 8.2 Innate immunity
- 8.3 Acquired immunity
- 8.4 Immune responses
- 8.5 Lymphoid organs
- 8.6 Antigens
- 8.7 Antibodies
- 8.8 Antigen- antibody interactions
- 8.9 Vaccines
- 8.10 Vaccination and immunization
- 8.11 Hypersensitivity
- 8.12 Immunodeficiency diseases
- 8.13 Autoimmune diseases
- 8.14 Tumour immunology



Learning objectives

- Understands the basic concepts of immunology.
- Differentiates between innate immunity and acquired immunity, primary immune response and secondary immune response, active and passive immunity.
- Realizes the importance of immunization.
- Learns to comprehend the concept of hypersensitivity.



In the previous chapter, we have studied in detail the various infections which cause diseases in human beings. In this chapter, we shall discuss how our body protects us from these infections by the effective mechanism of the immune system.

8.1 Basic concepts of immunology

Immunology is the study of immune system. This system protects an individual from various infective agents. It refers to all the mechanisms used by the body for protection from environmental agents that are foreign to the body.

When the immune system does not function efficiently in an individual, it leads to infection causing disease. The overall ability of body to fight against the disease causing pathogen is called **immunity**. It is also called disease resistance and the lack of immunity is known as susceptibility. Immunity is highly specific.

Normally many of the responses of the immune system initiate the destruction and elimination of invading organisms and any toxic molecules produced by them. These immune reactions are destructive in nature and are made in response only to molecules