

Teaching topics : Inflammation and Repair

Teaching outline :

A. Types of Inflammation

- a. Acute inflammation
- b. Chronic inflammation

B. Cause of Inflammation

- a. Infection (bacterial, viral, parasitic) and microbial toxins
 - Most common and important
- b. Tissue necrosis
 - Ischemia, trauma, physical and chemical injury
- c. Foreign bodies
 - Cause traumatic injury or carry microbes
- d. Immune reactions (hypersensitivity)
 - Immune system damages the individual's own tissues.
 - Autoimmune disease, allergy

C. Stimuli for Acute Inflammation

- a. Infection (bacterial, viral, parasitic) and microbial toxins
- b. Trauma
- c. Physical and chemical agents
- d. Tissue necrosis (from any cause)
- e. Foreign bodies
- f. Immune reactions

D. Chemical Mediators of Inflammation

- a. Originate from plasma (by activation) or cells (by secretion or synthesis) and most are short-lived
- b. Binding to specific receptors on target cells to perform their biologic activity
- c. Mediators may stimulate the release of other mediators and may have amplifying or counteracting effect on one another
- d. Mediators can act on one or few target cells and may have different effect on different cells

E. Inflammatory Actions of Eicosanoids

F. Mediators of Acute Inflammation

G. Role of Mediators in Different Reactions of Inflammation

H. Diseases with Granulomatous Inflammations

I. Main Types of Collagens, Tissue Distribution, and Genetic Disorders

J. Vascular Endothelial Growth Factor (VEGF)

K. Growth Factors and Cytokines Affecting Various Steps in Wound Healing