

# Acute Inflammation

Senani Williams

- Definition
- Signs
- Symptoms
- Pathogenesis
- Sequelae

# Proteins that leak out into the Interstitial fluid

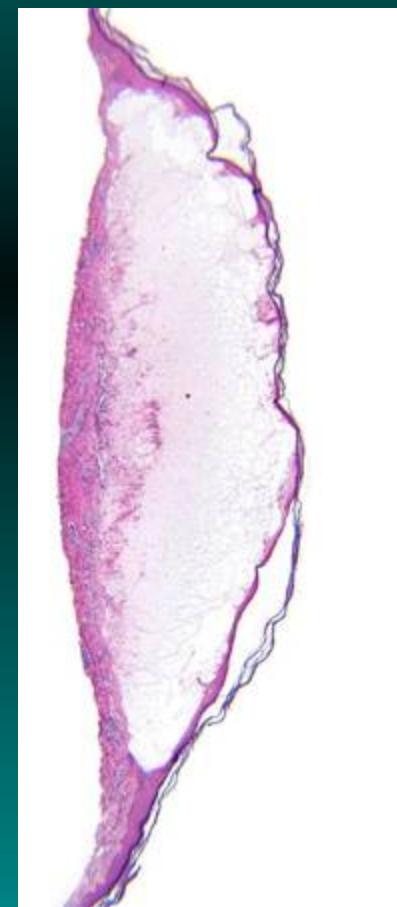
- Transudate Exudate
- <30 g protein > 30 g /l protein
- Predominant cell
- Lymphocyte Neutrophil

# **TYPES OF ACUTE INFLAMMATION**

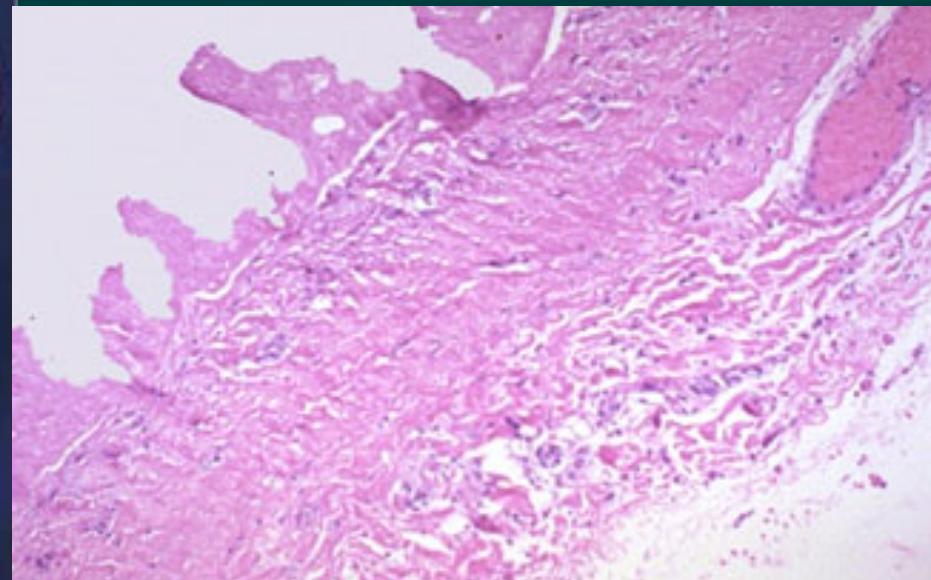
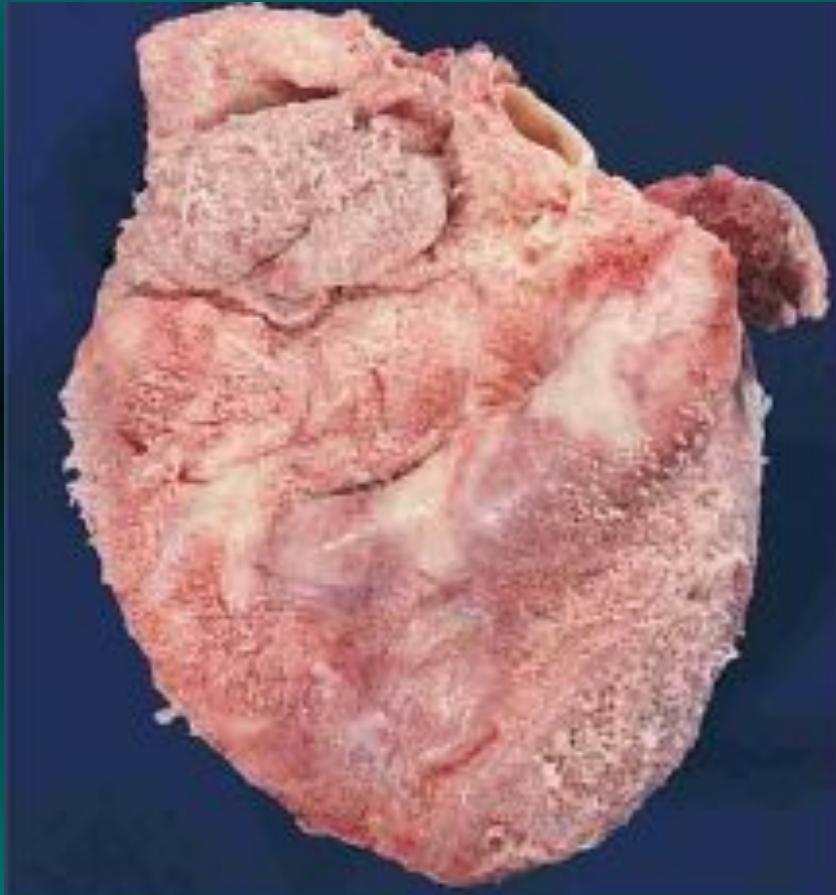
# Type of exudation

- Serous
- Fibrinous
- Purulent or suppurative exudate
- Haemorrhagic
- catarrhal

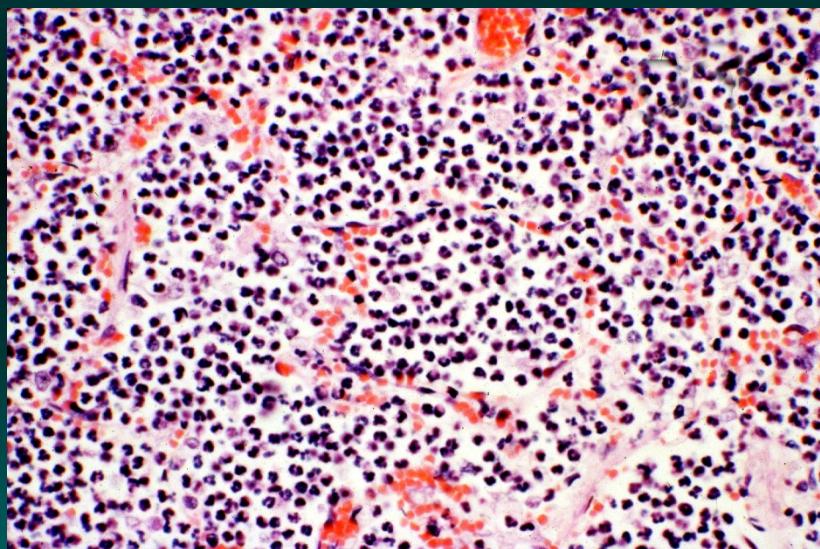
# Serous exudate



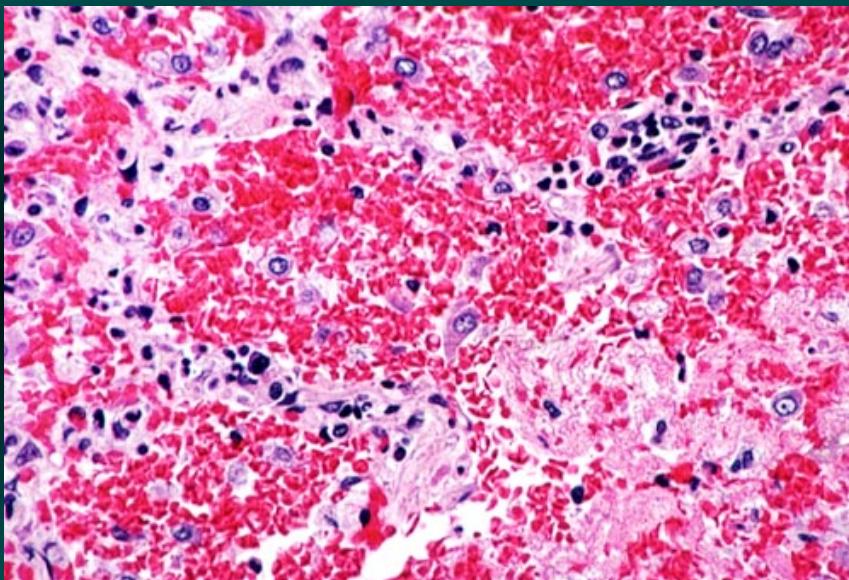
# Fibrinous Exudate



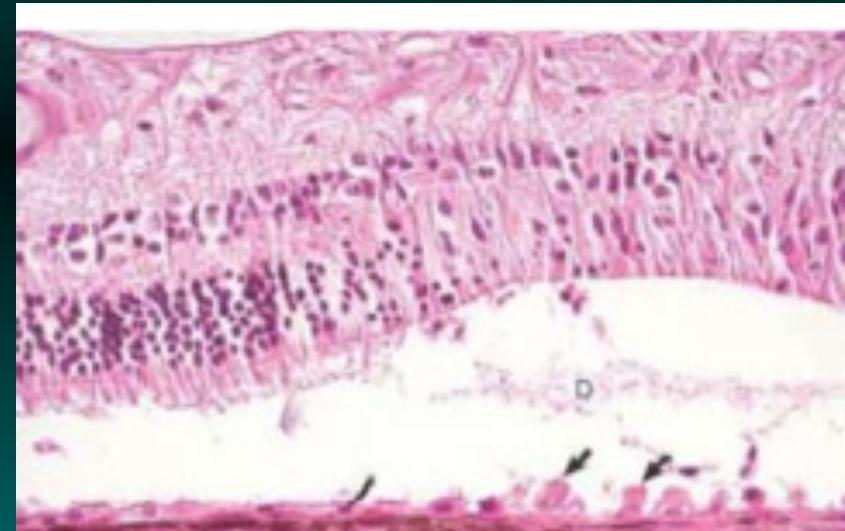
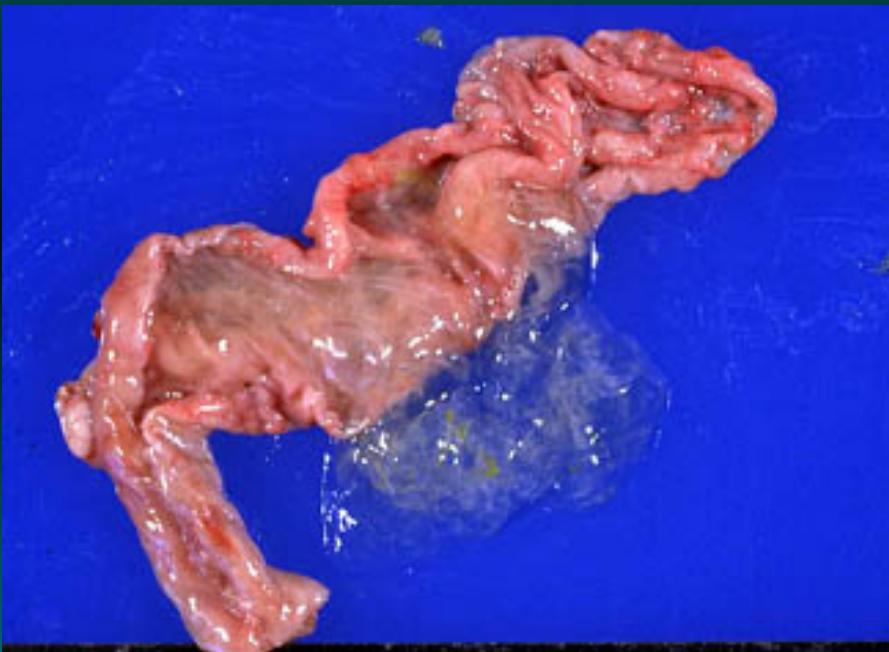
# Purulent Exudate



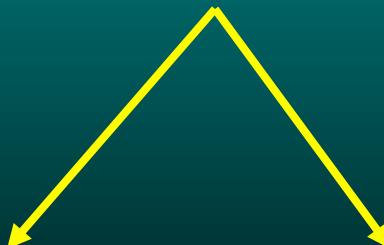
# Haemorrhagic Exudate



# Catarrhal Exudate



# Mediators of inflammation



Mediators produced  
By cells

Mediators in plasma

# Mediators released by cells

Arachidonic acid

Platelet activating factor

Interleukin 1

Leukotrienes

Interferon

TNF  $\alpha$  &  $\beta$

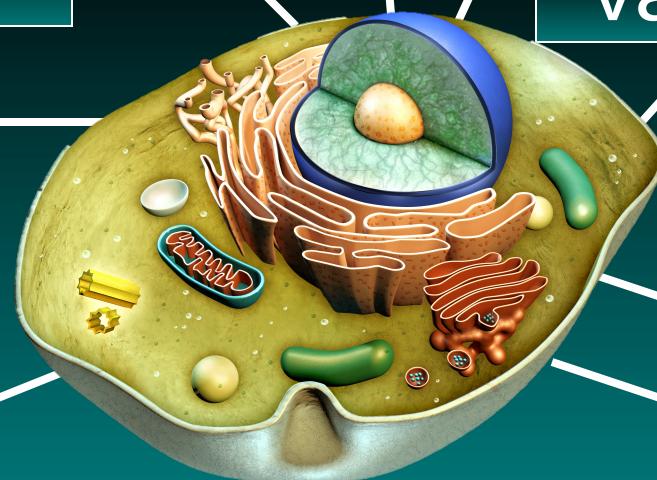
Lysosomal components

Vasoactive amines

Histamine

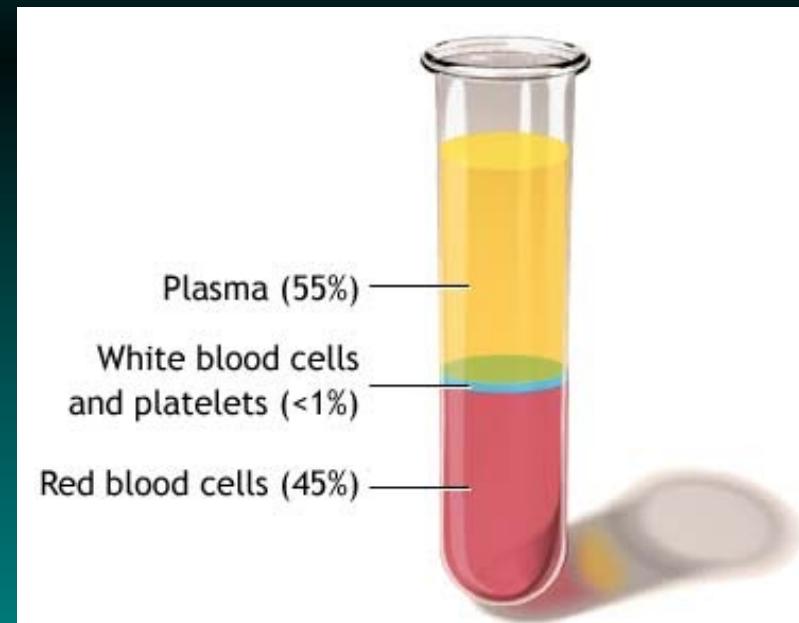
Serotonin

NO



# Mediators arising from Plasma

- Factor XII kinins
- Clotting system
- Fibrinolytic system,
- Complement system

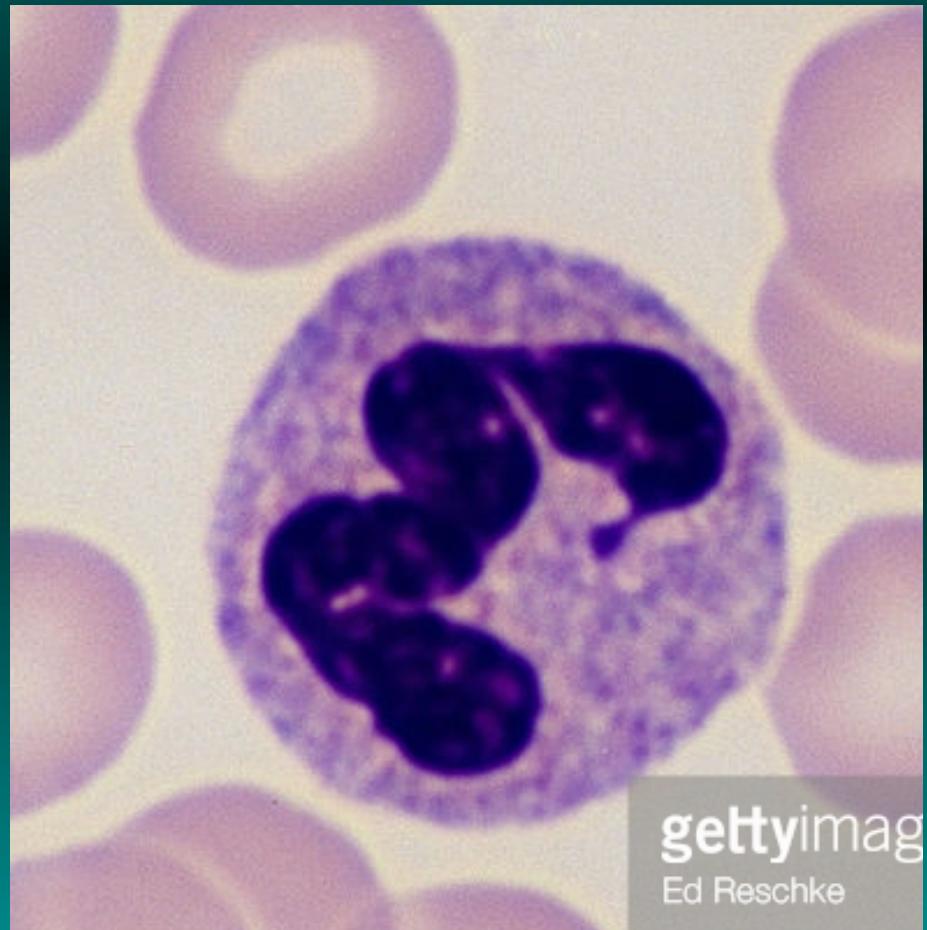


# Regulation of inflammation

- Acute phase reactants
- Corticosteroids
- Free cytokine receptors
- Supressor T cells
- Anti inflammatory chemical mediators

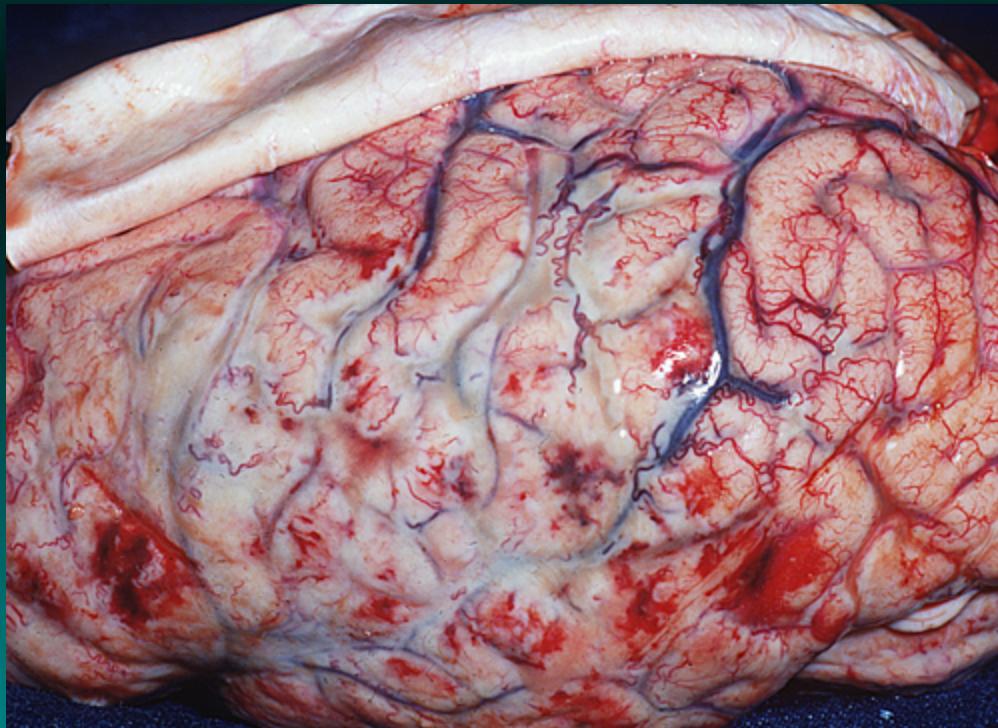
# Inflammatory cells - Neutrophils

- initial phagocytosis
- engulfment,
- harmful effect



# Morphology of acute inflammation

- Suppuration



# Inflammatory cells - Eosinophils

- allergic conditions,
- parasitic infestations,
- skin diseases,
- certain malignant lymphomas



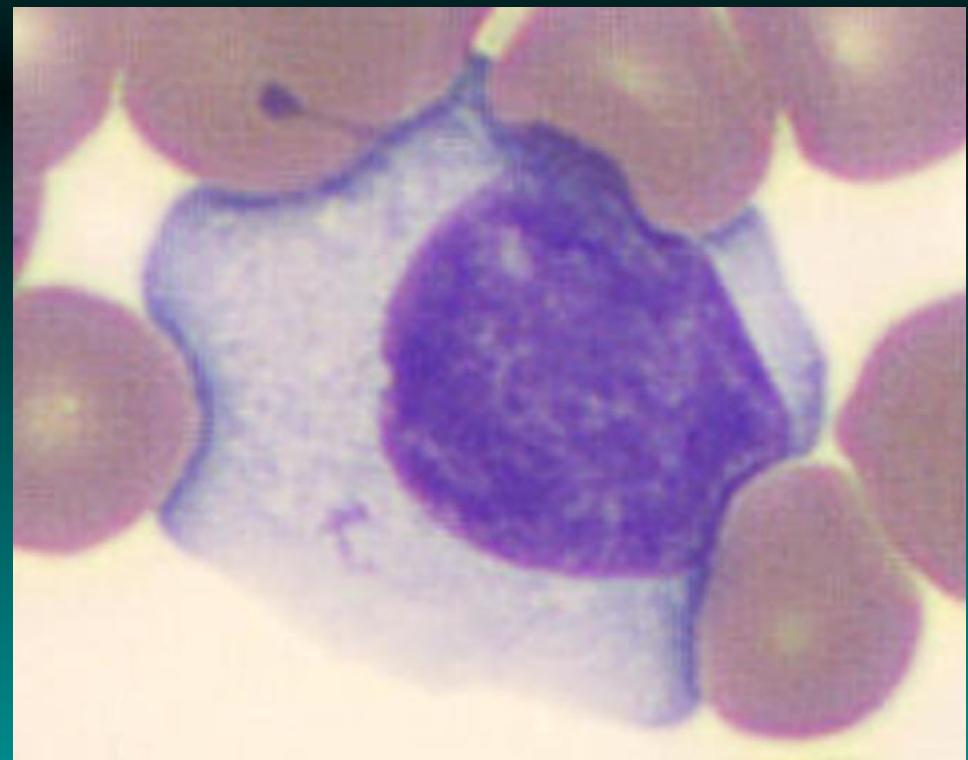
# Inflammatory cells - Basophils

- immediate and delayed hypersensitivity reactions
- Release of histamine



# Inflammatory cells - Lymphocytes

- In viral infections
- In chronic inflammation



# Inflammatory cells – Plasma cells

- Chronic infections - produces antibodies



# Inflammatory cells - Monocytes

Phagocytoses and destroys organisms and foreign bodies



# Factors determining variation in inflammatory response

- Factors involving the organism
- Type of injury and infection
- Virulence
- Dose
- Portal of entry
- Product of organisms

# Factors of host

- General health of host
- Immune state of host
- Leukopenia
- Site or type of tissue involved
- Local host factors

# Necrosis

- Gas gangrene
- Acute appendicitis

# Necrosis

- Gas gangrene
- Necrotizing Fasciitis

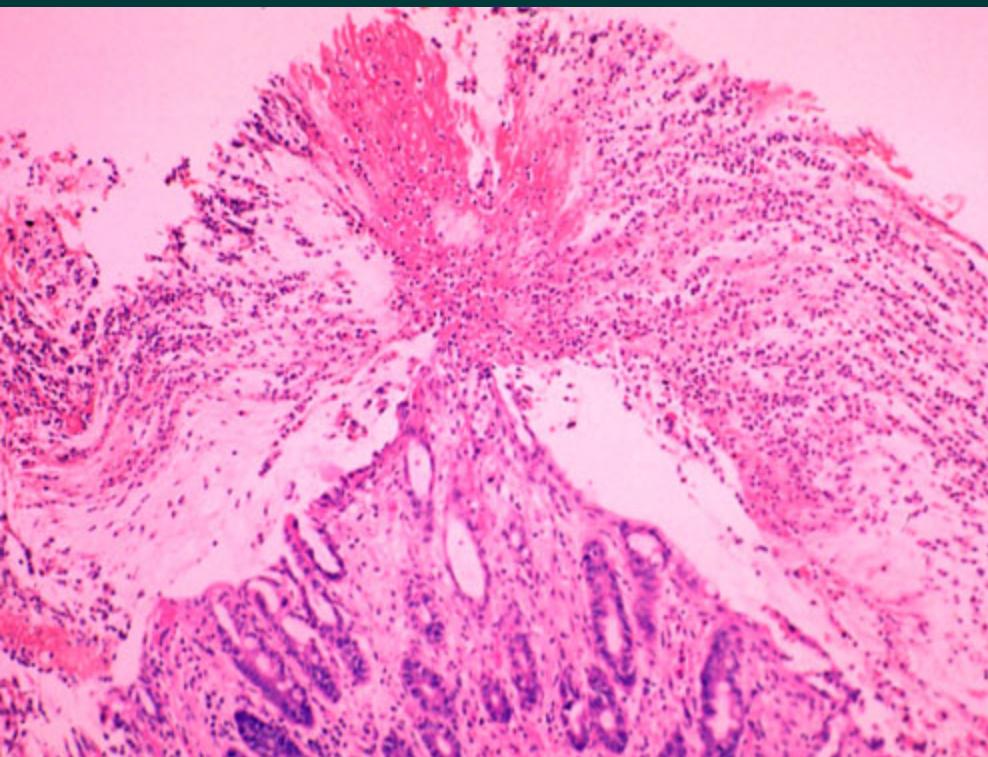


# Morphology of acute inflammation

- Pseudomembranous inflammation
- Ulcer
- Suppuration
- Cellulitis
- Bacterial infection of the blood –  
bacteremia, septicemia, pyaemia

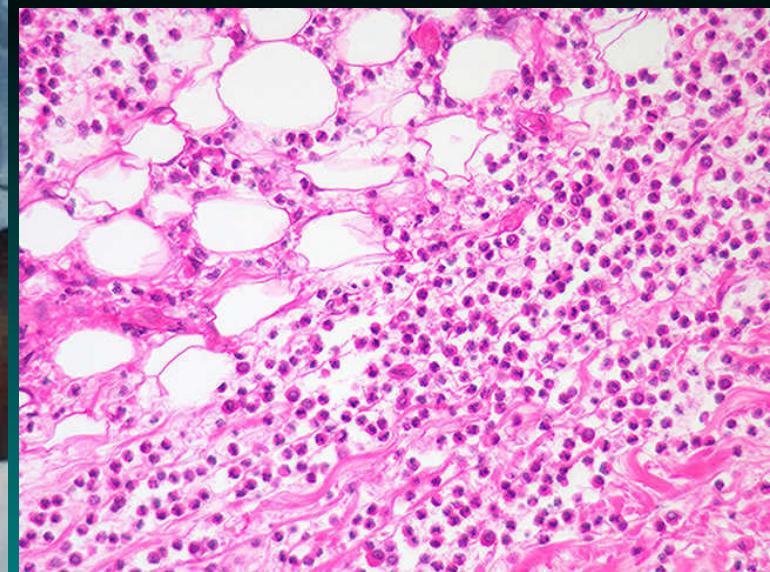
# Morphology of acute inflammation

- Pseudo membranous inflammation



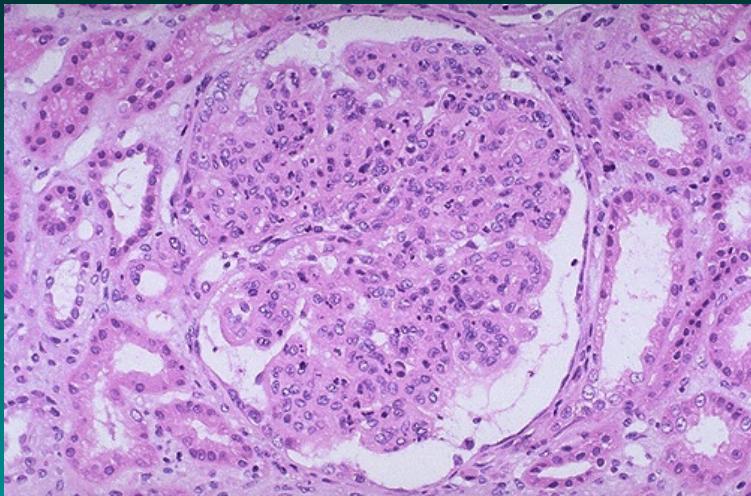
# Morphology of acute inflammation

- Cellulitis



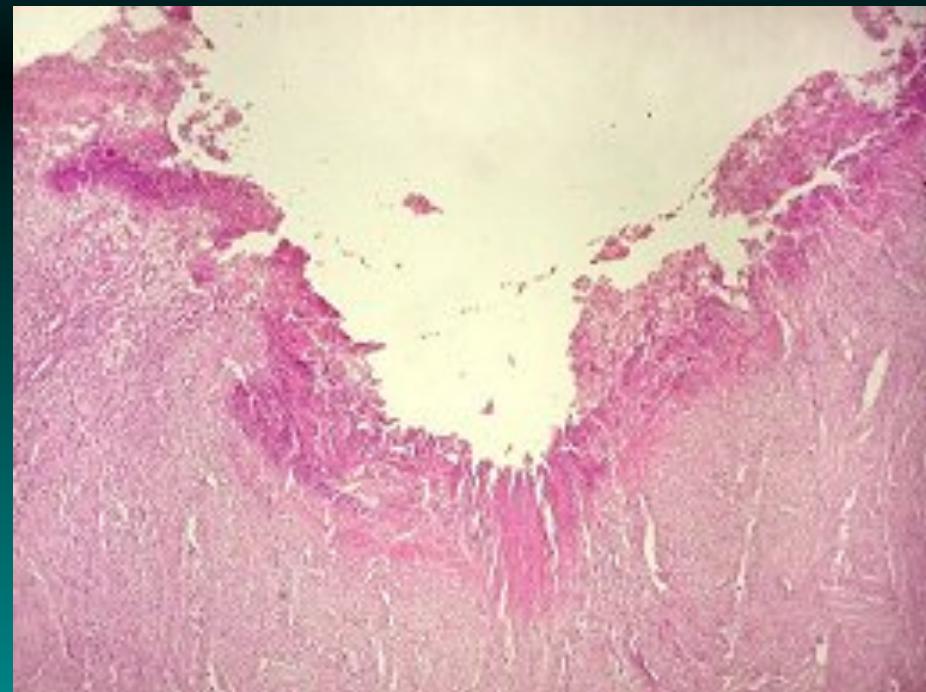
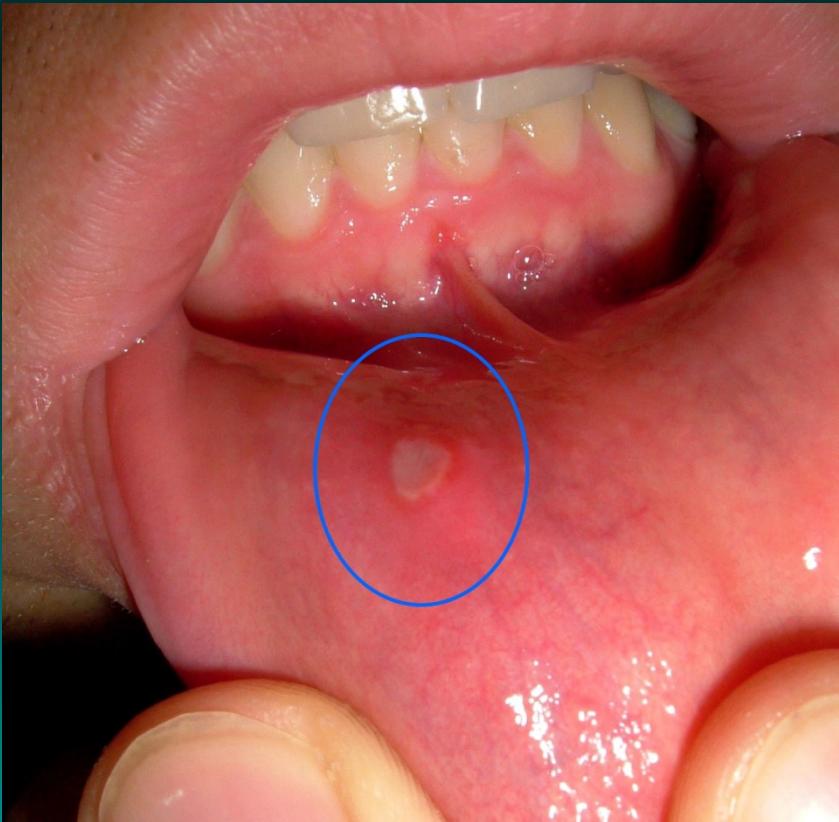
# Cellular proliferation

- No proliferation in acute bacterial infections
- Viral infections – epidermal proliferation in H simplex
- RPGN – crescents



# Morphology of acute inflammation

- Ulcer



# Systemic effects of acute inflammation

- Fever
- Leucocytosis
- Lymphagitis lymphadenitis
- shock

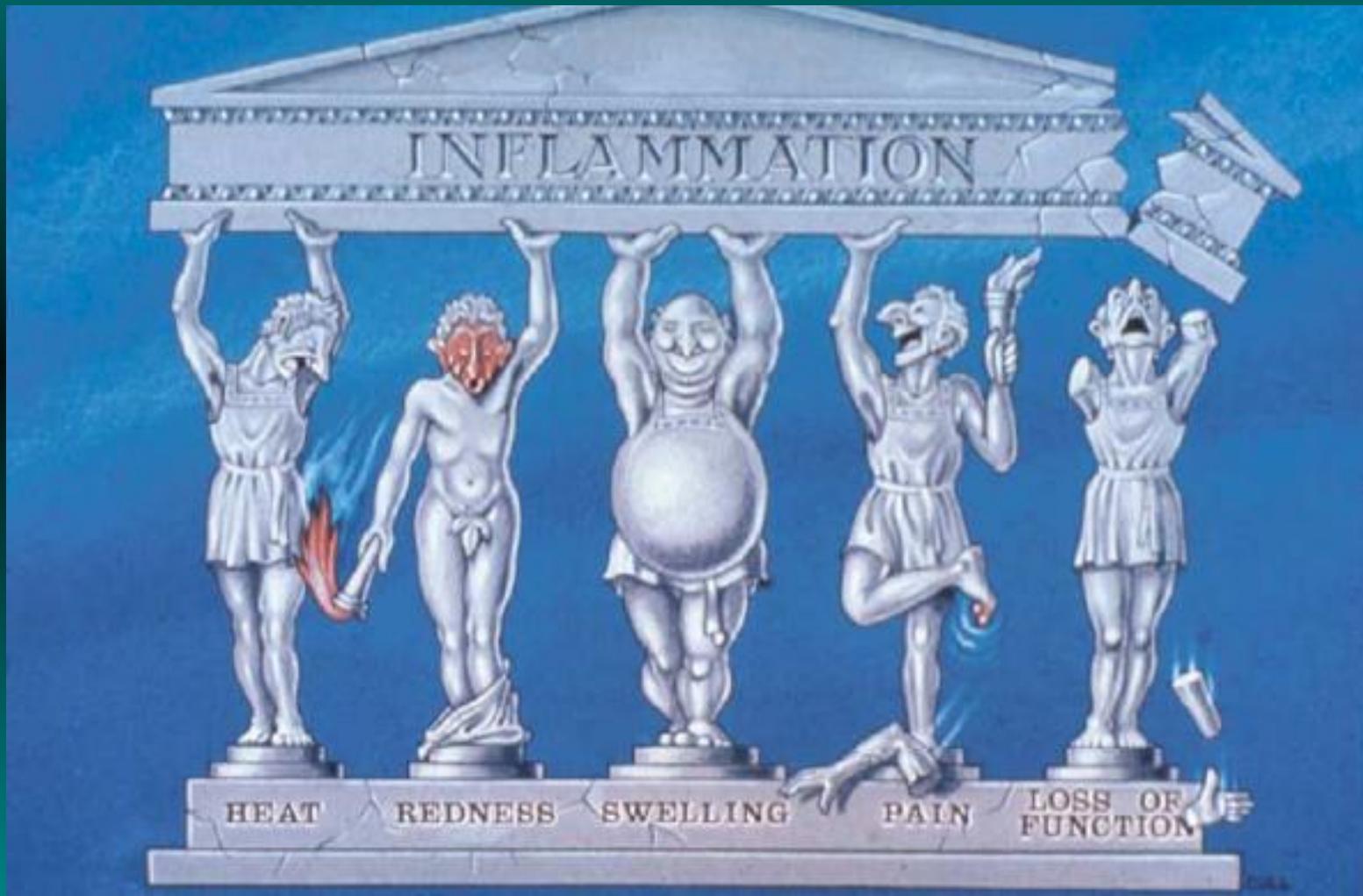
# Regulation of inflammation

- Acute phase reactants
- Corticosteroids
- Free cytokine receptors
- Suppressor T cells
- Anti inflammatory chemical mediators

# Fate of acute inflammation

- Resolution
- Healing by scarring
- Progression to suppuration
- Progression to chronic inflammation

# Summary



# THANK YOU