

# Inflammation

By Layan Al-Amir 🎀

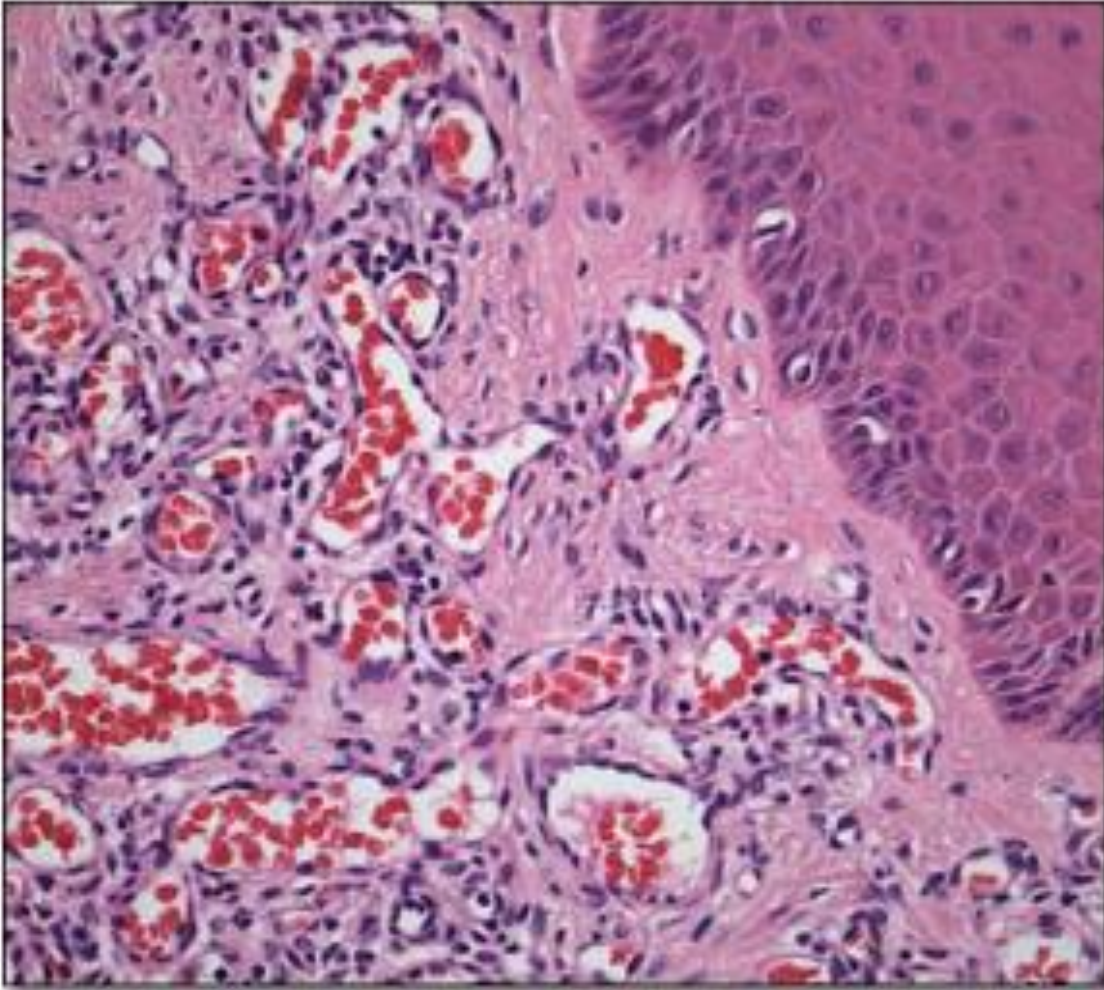


**Acute Tonsillitis**  
**- Shows the 3 major cardinal signs of inflammation (red, congested & enlarged)**



**Cellulitis (subcutaneous inflammation)**

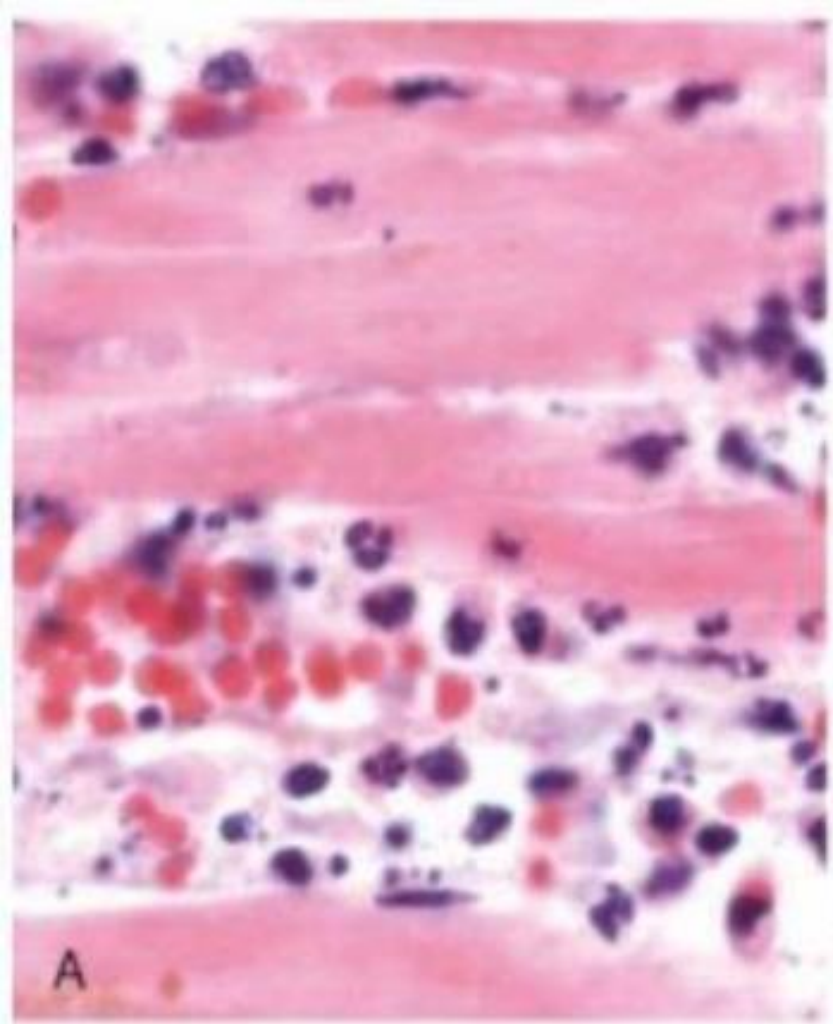
**Redness (erythema) and Heat caused by the vasodilation induced by released histamine in the early vascular stage of inflammation**



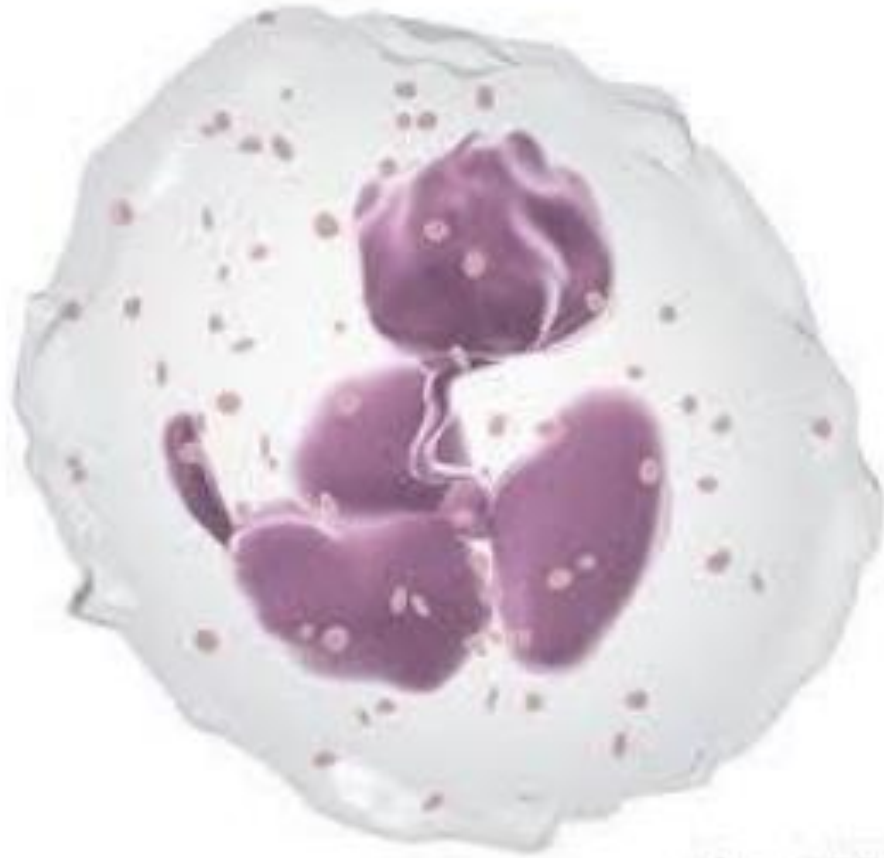
**PMNs accumulation and adhesion to the endothelium (after which they migrate outside the vessel to the interstitium) in the early vascular stage**



**Lymphadenitis**

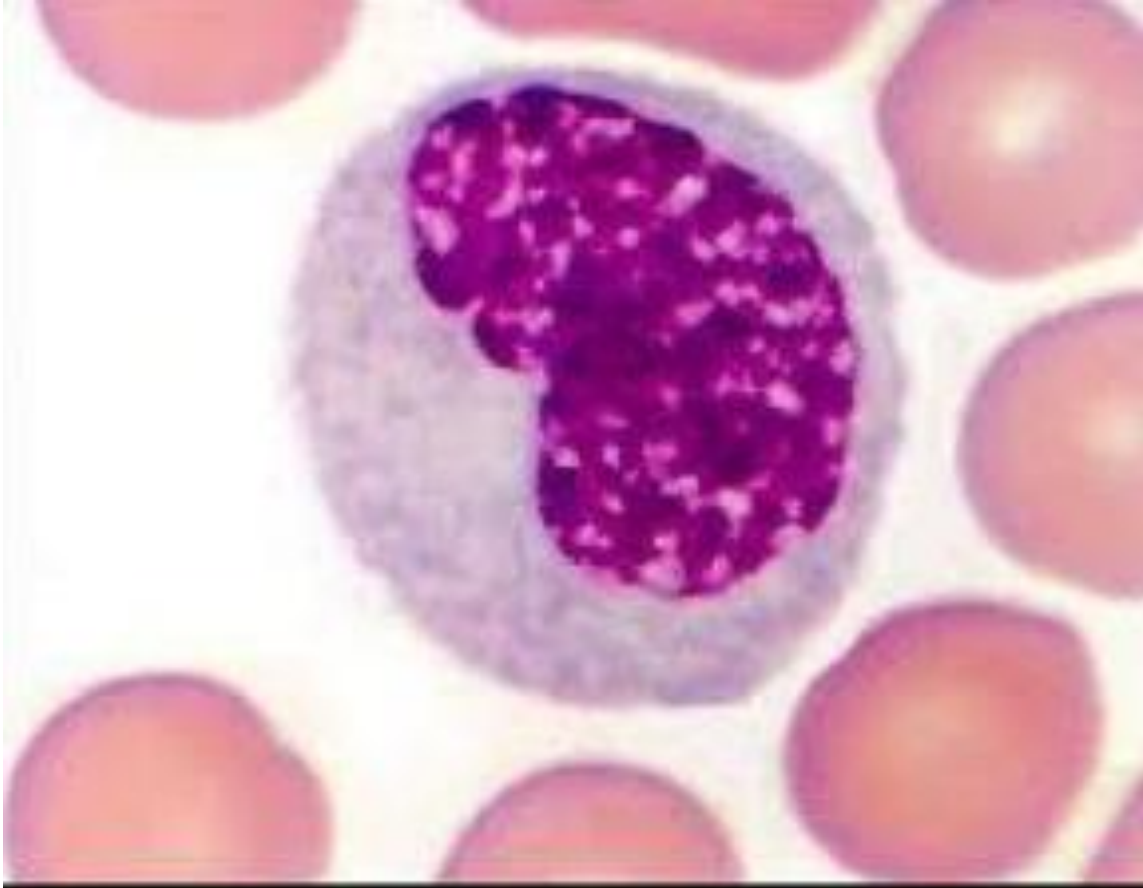


**Skeletal muscle with a lot  
of neutrophils  
[observe the PMNs/mickey  
mouse cells] >> acute  
inflammation phase**



wiseGEEK

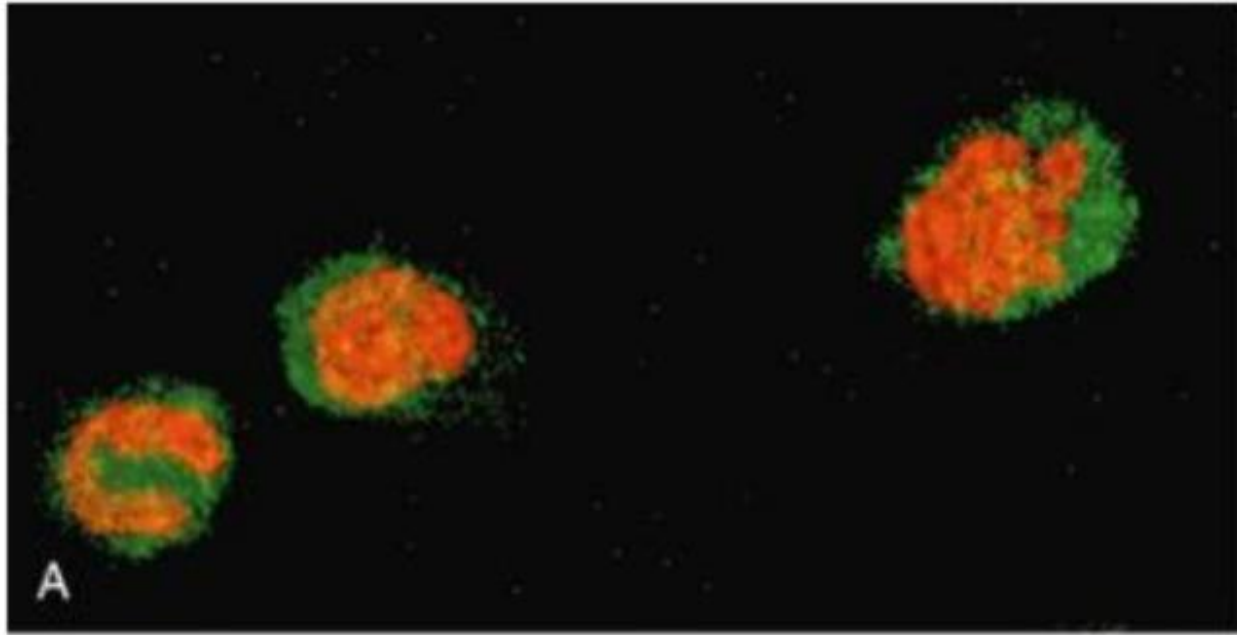
**A neutrophil w multiple  
nuclei & a lot of  
granules around the  
nucleus**



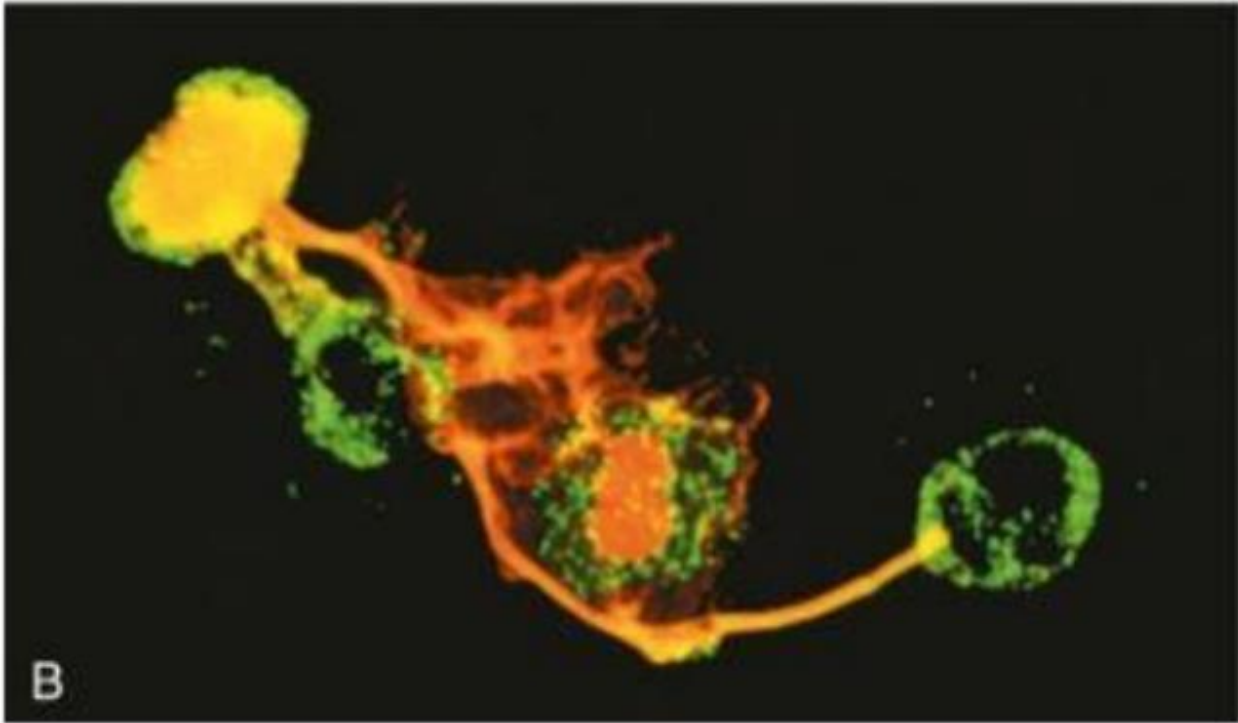
**A monocyte in the blood,  
with RBCs surrounding it.**

**[kidney shaped/  
less granules]**

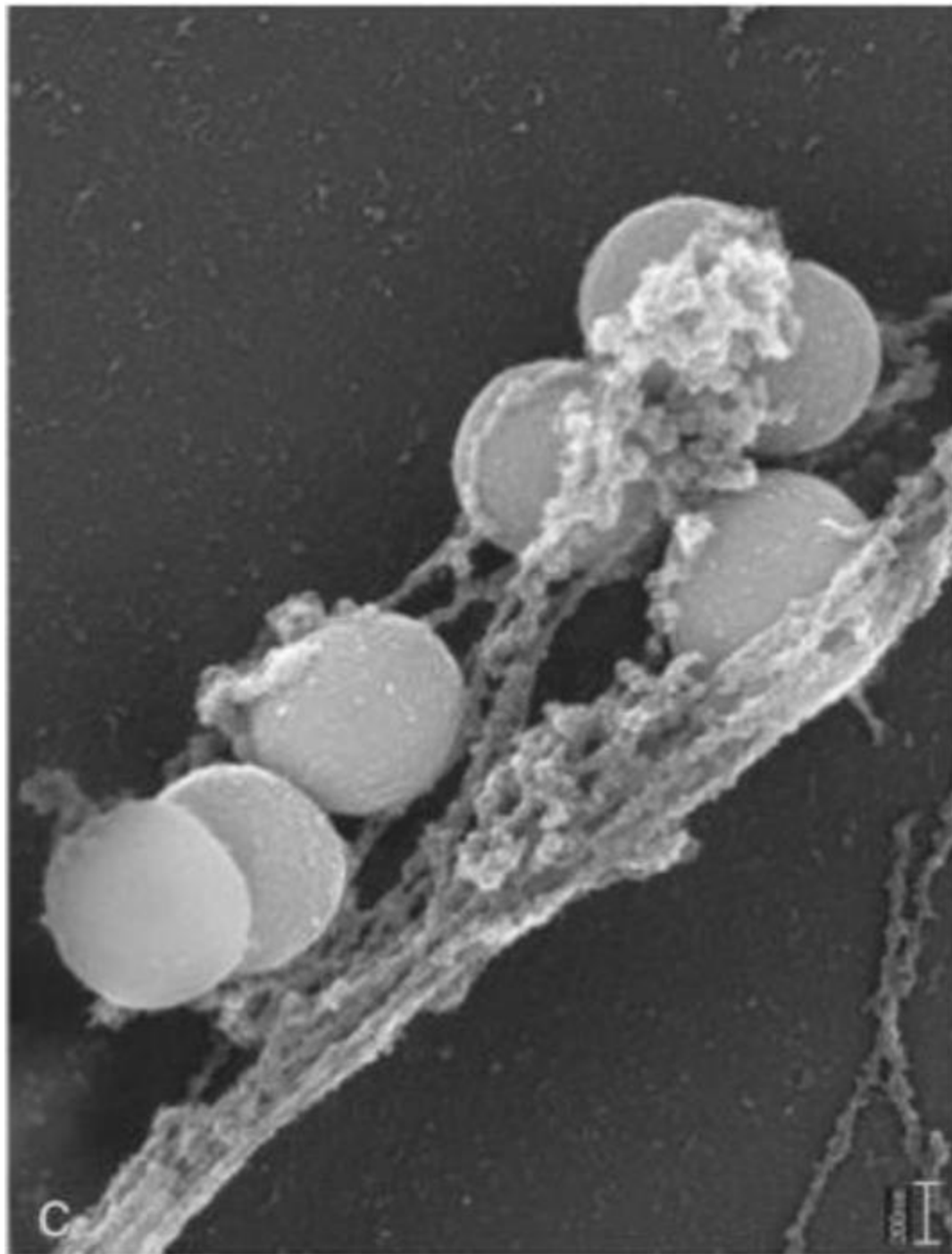




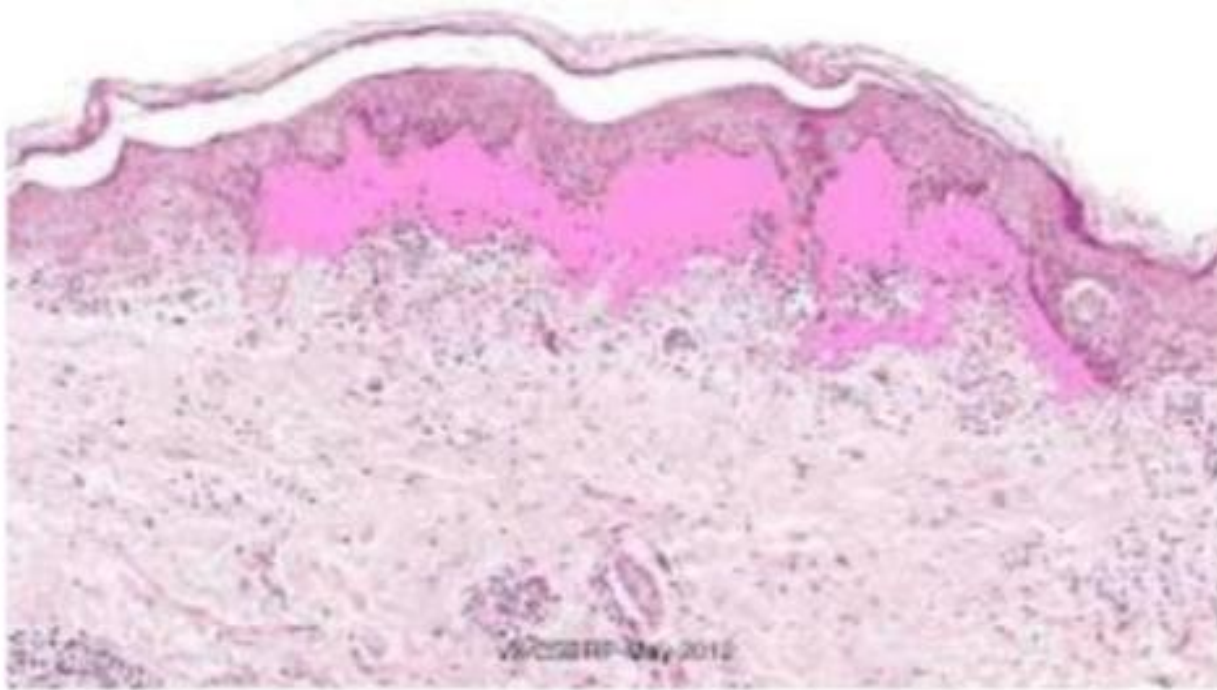
**NET**



**NET**



**These are the nets of neutrophils and they stick to organisms so these organisms (bacterial cocci) remain in this area and allow other inflammatory cells to come and kill them.**



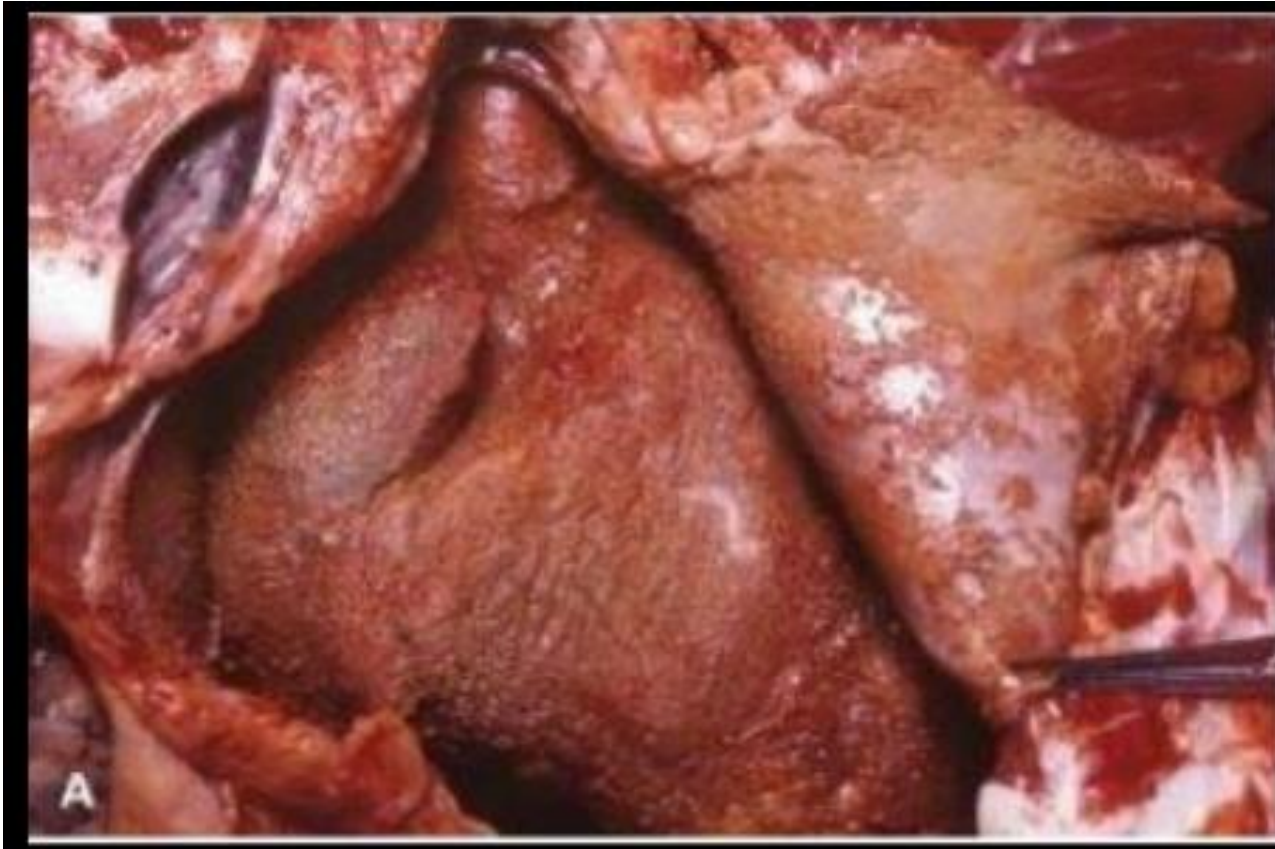
## **Serous Inflammation**

**Look at the fluid  
accumulation that  
caused the subepithelial  
space separation**



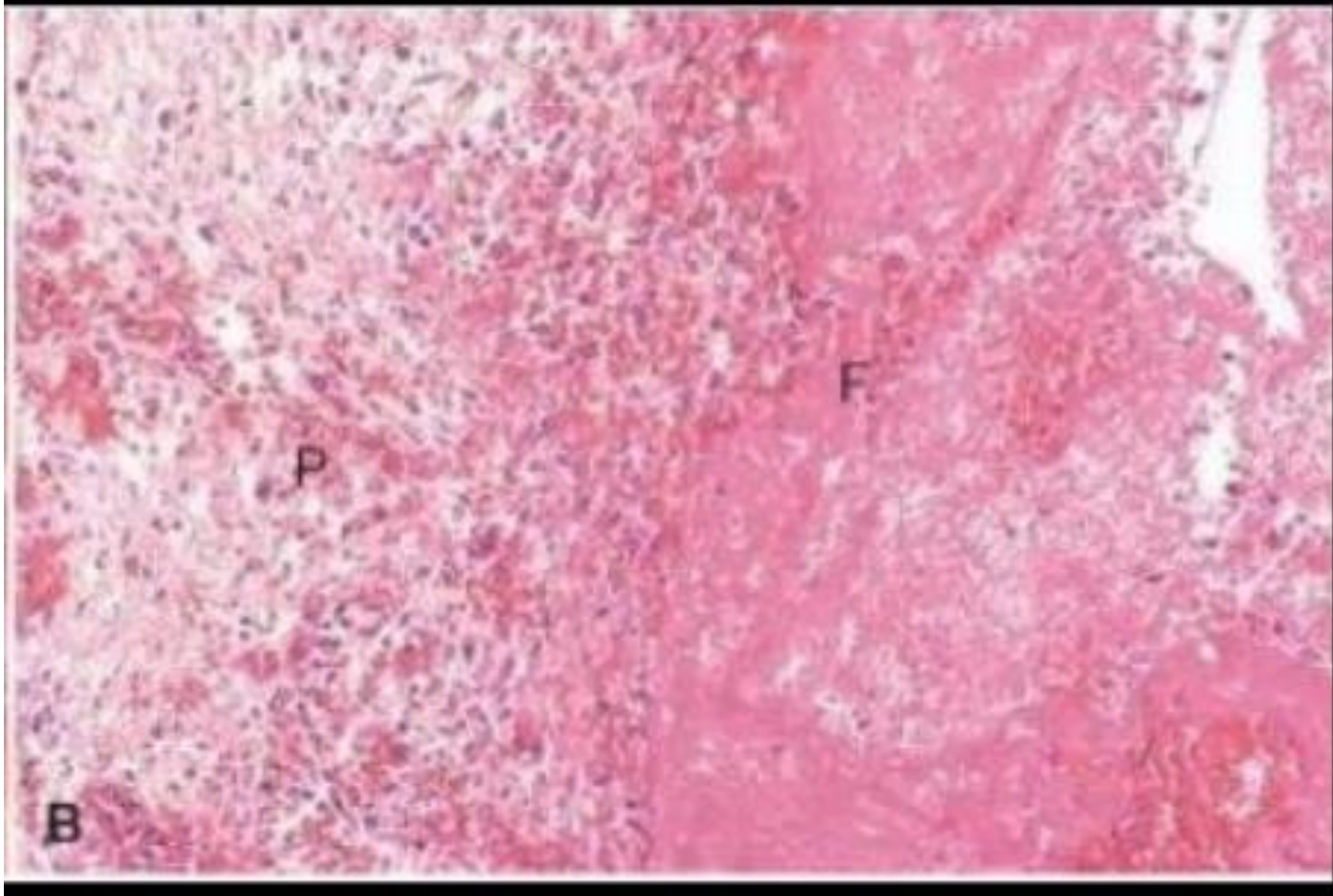
## **Skin Blisters**

**Caused by serous  
inflammation / first  
degree burns**



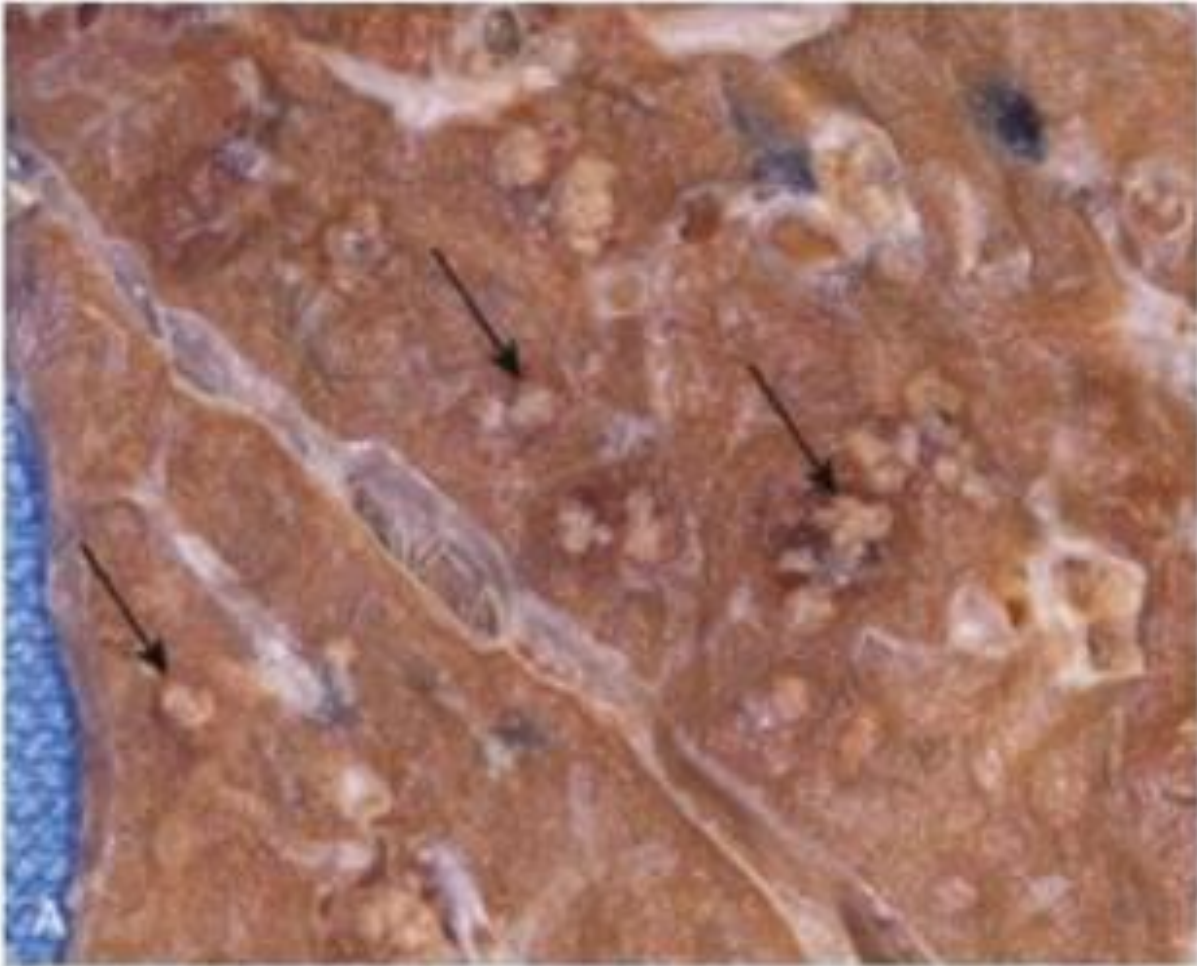
## **Fibrinous Pericarditis**

**(inflamed  
pericardium)**



## **Fibrinous inflammation**

**Coagulation, platelets & abundant fibrin deposits (the pinkish material)**



## **Purulent Inflammation**

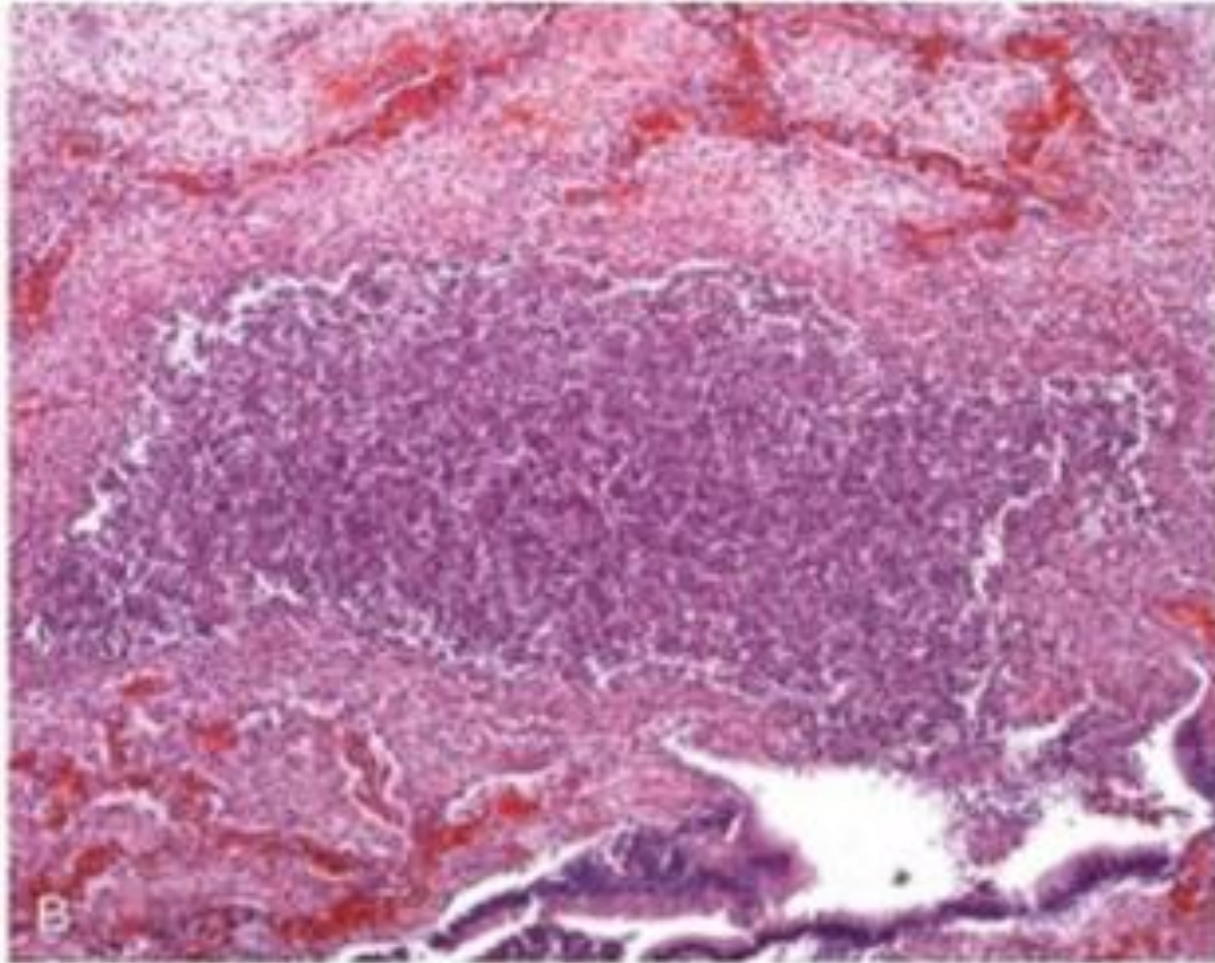
**A lung section from a patient who died from severe pneumonia >> gross appearance shows micro-abscesses**

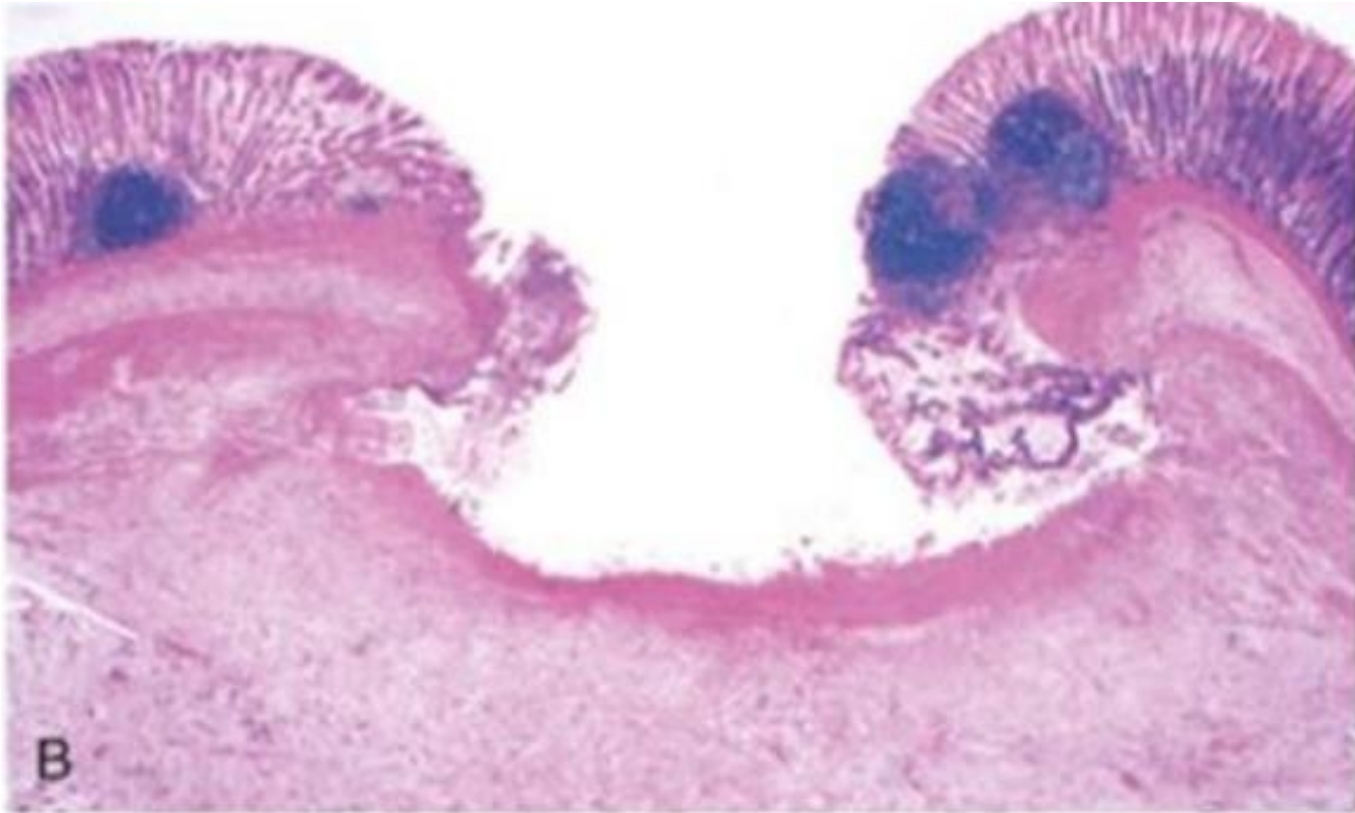


## Purulent Inflammation

**this lesion is a neutrophil collection forming an abscess, surrounded by reactive lung tissue.**

**Inside the abscess are acute inflammatory cells, including neutrophils, bacteria, & other inf cells. This is the bronchial epithelium, and because the process begins in the bronchial region, it is called bronchopneumonia.**





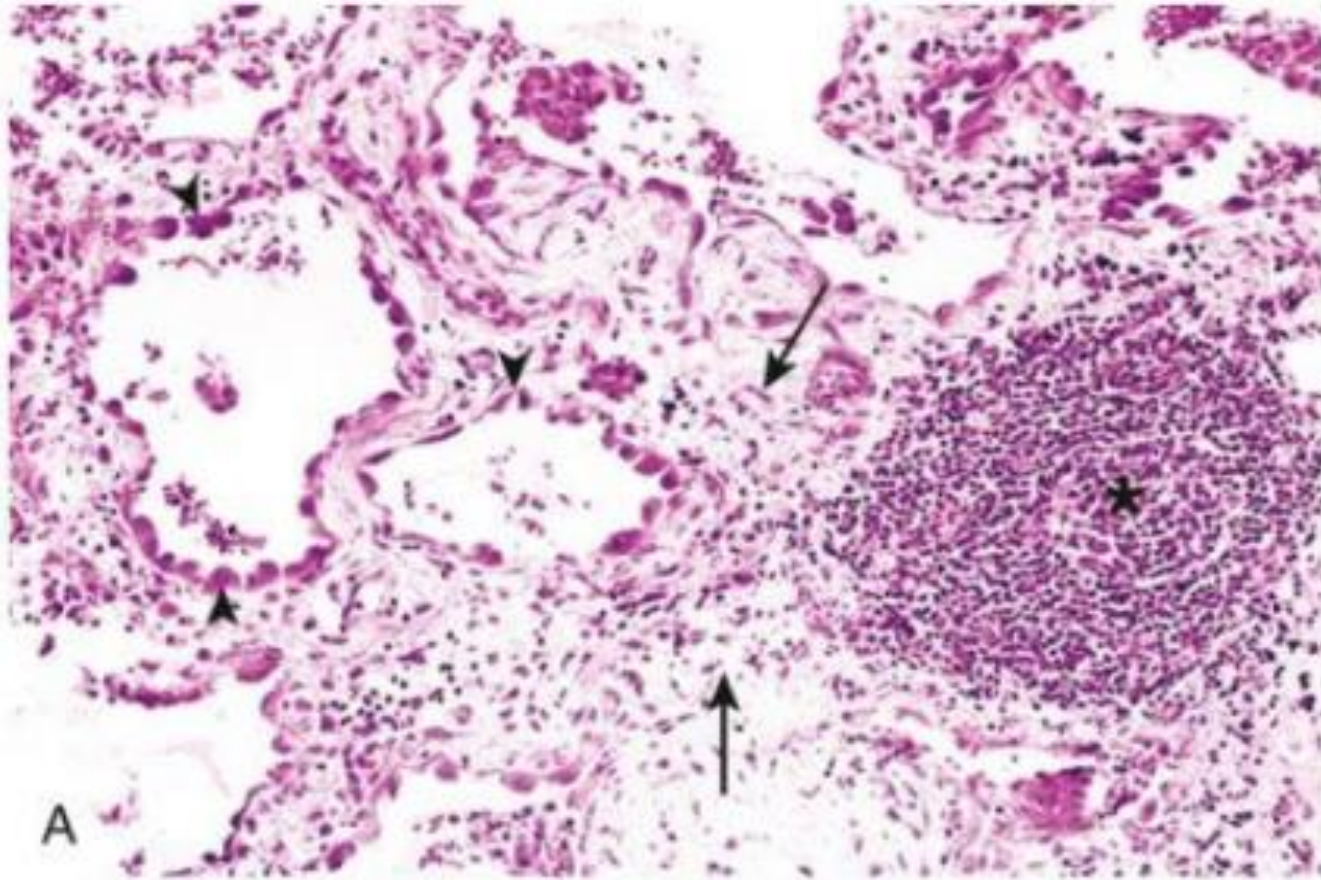
## **Ulcer**

**Stomach section that shows discontinuity of its mucosa**



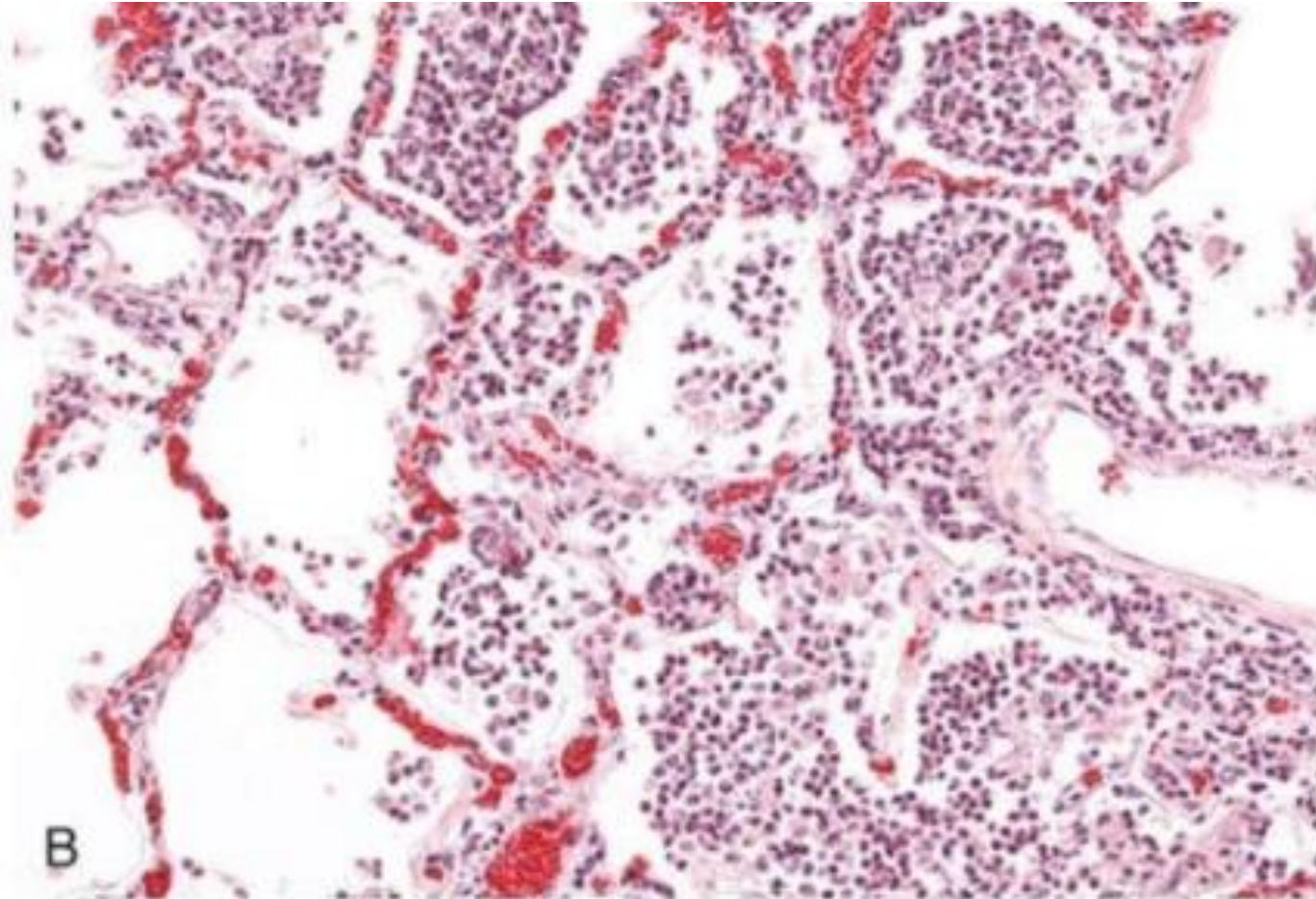
**Ulcer**

**Duodenal & Gastric  
"bronchoscopic  
appearance image"**



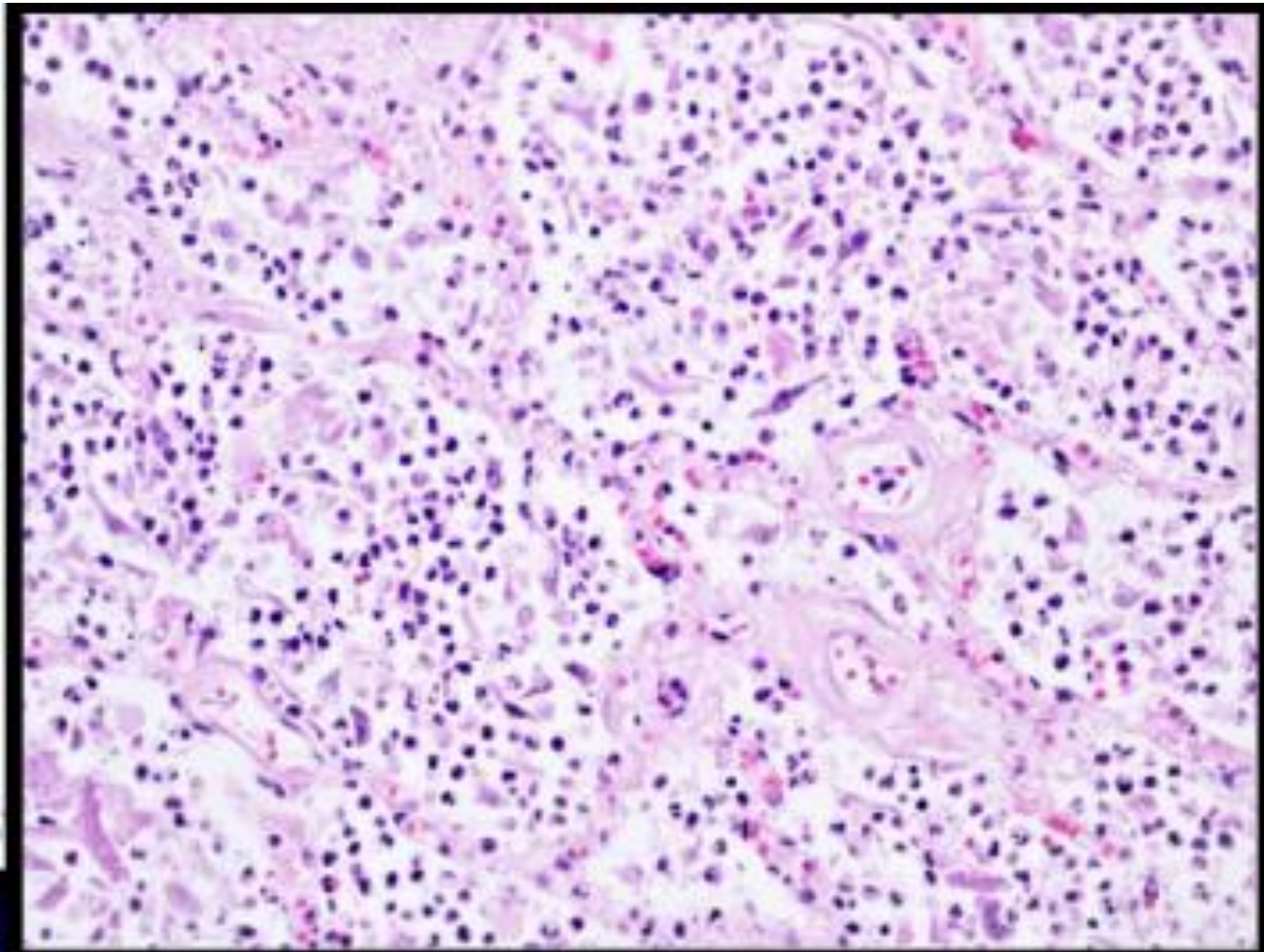
## **Chronic Pneumonia**

**alveoli replaced by fibrous tissue, there is a chronic inflammatory follicle (granuloma), a chronic inflammation of the lung with fibrosis.**

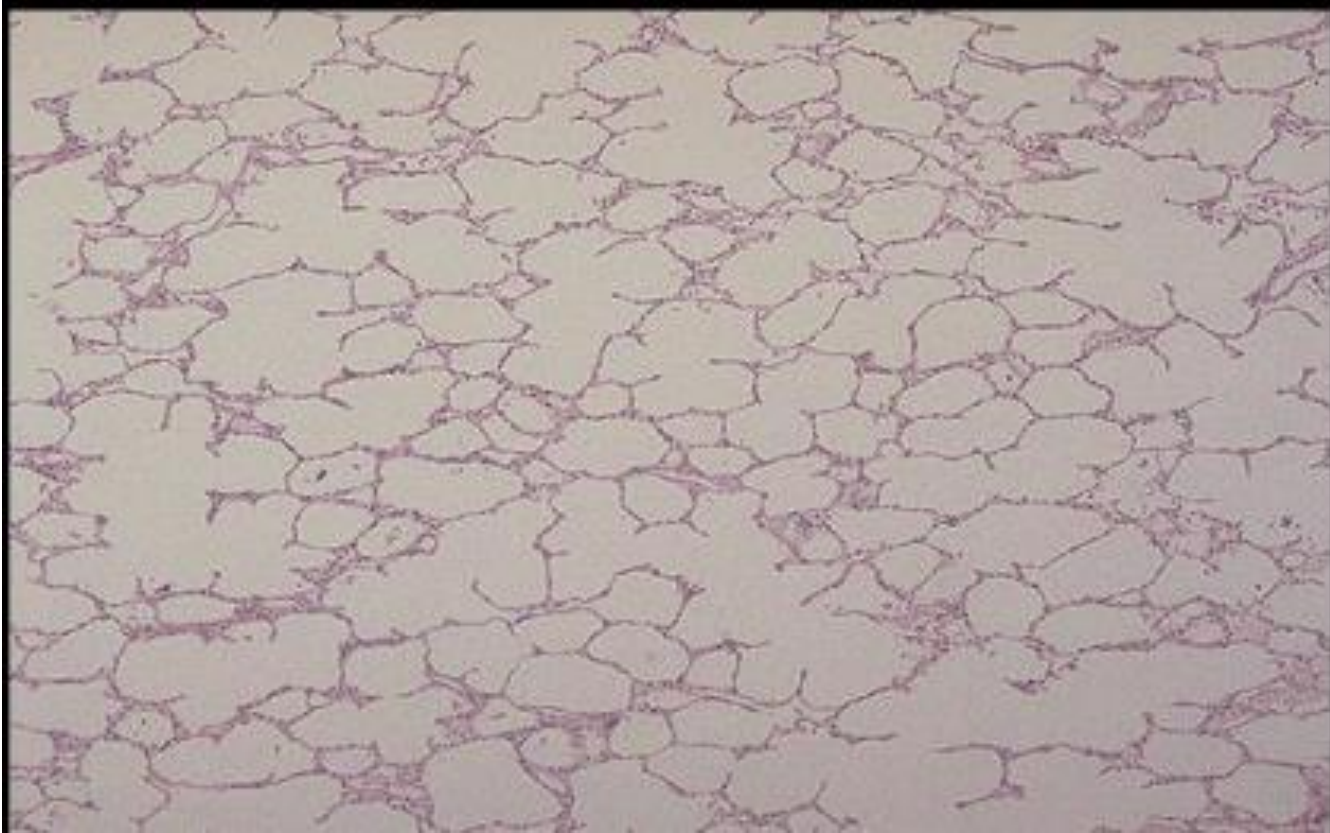


## **Acute Pneumonia**

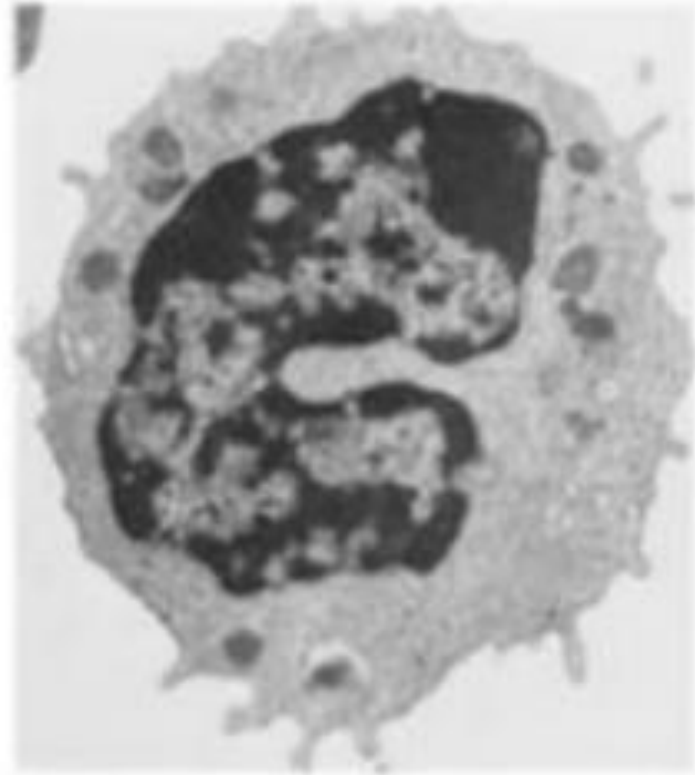
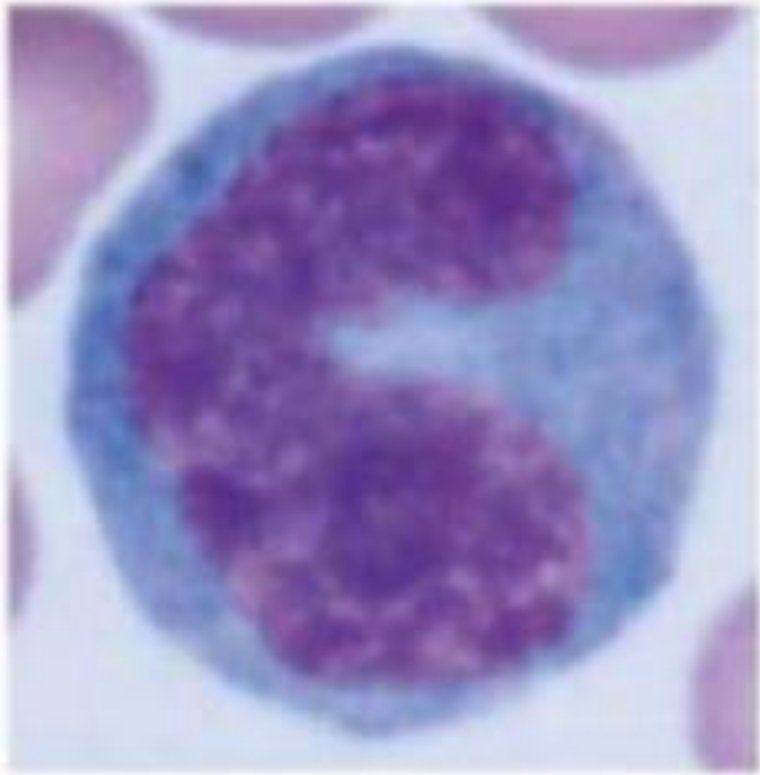
**lung tissue where alveoli  
parenchymal  
architecture is well  
preserved, altho the  
alveoli are full of  
neutrophils  
this is severe acute  
lobar pneumonia**



**Acute Pneumonia**

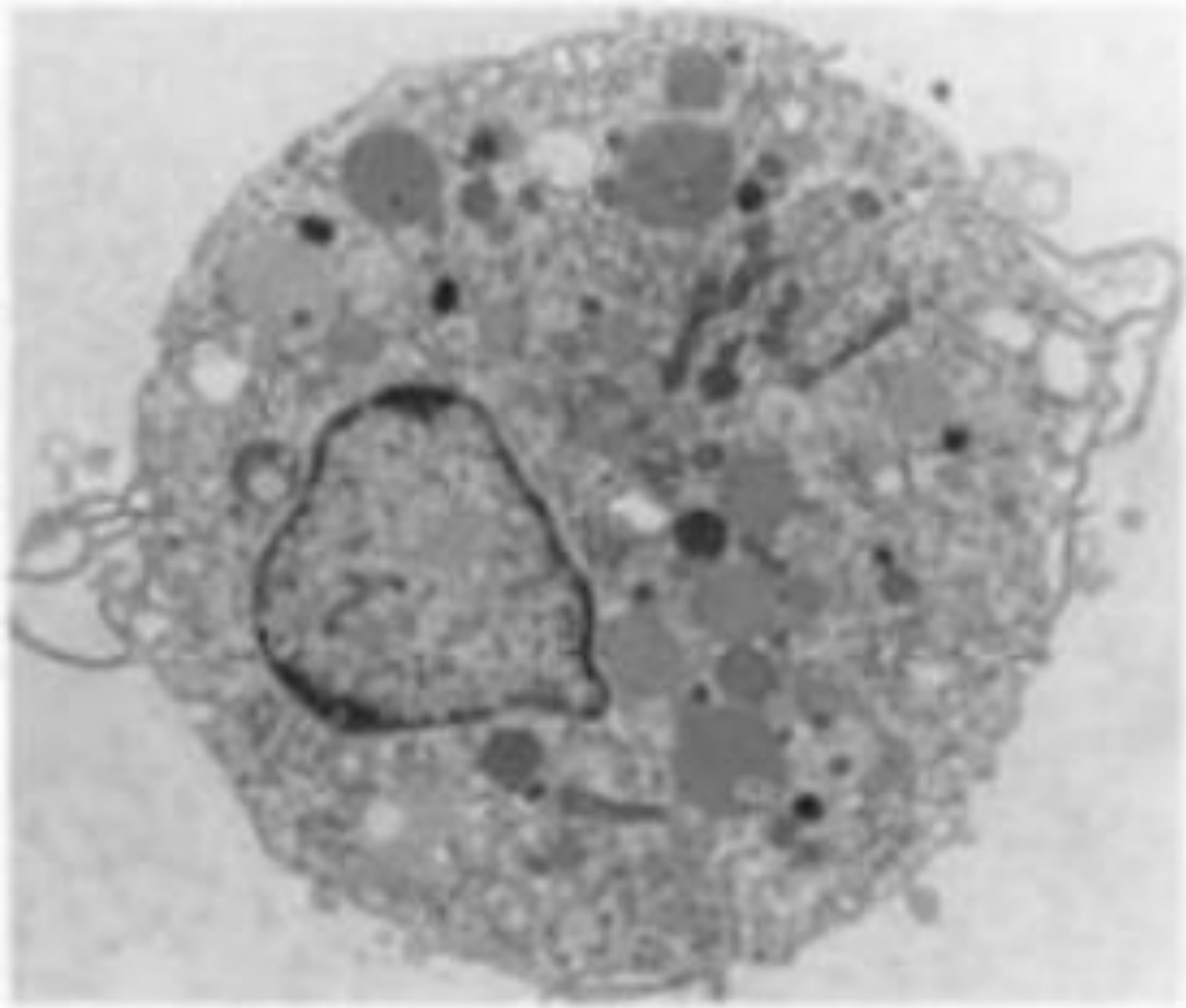


**Normal lung tissue**

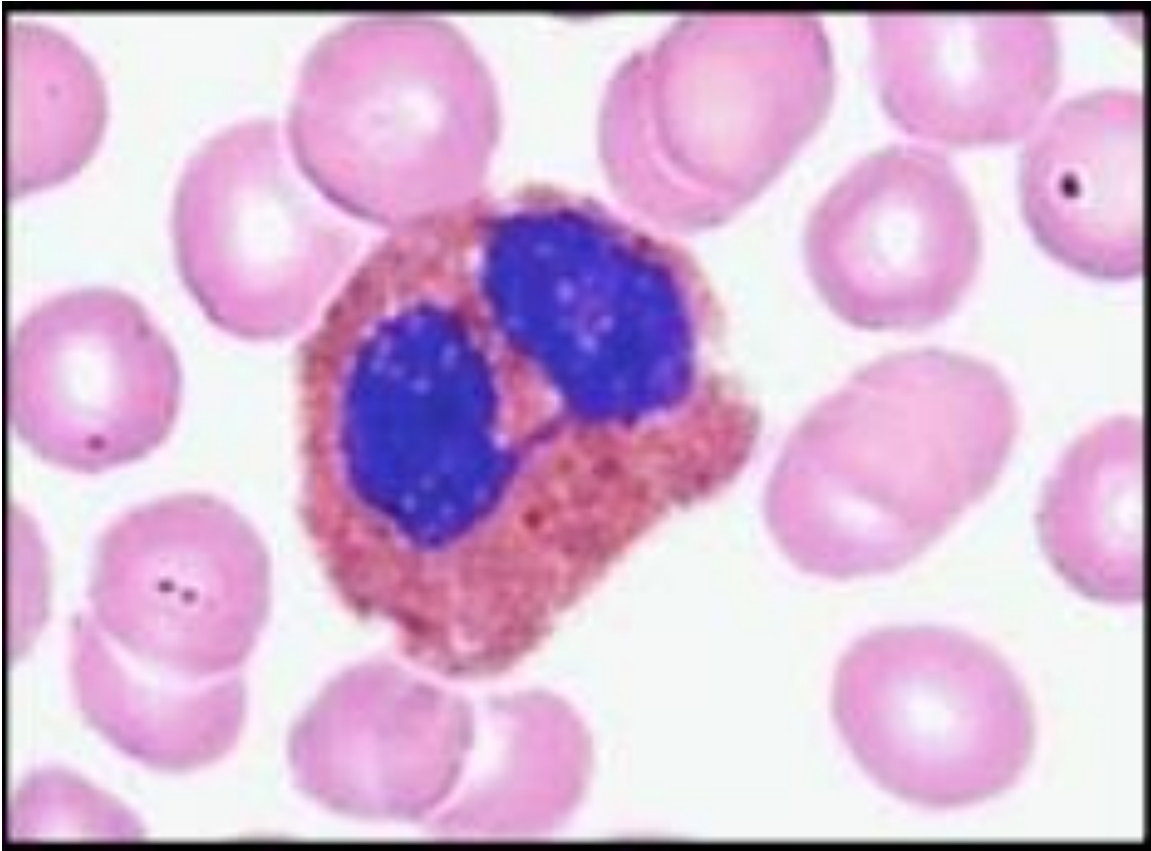


**Monocyte**

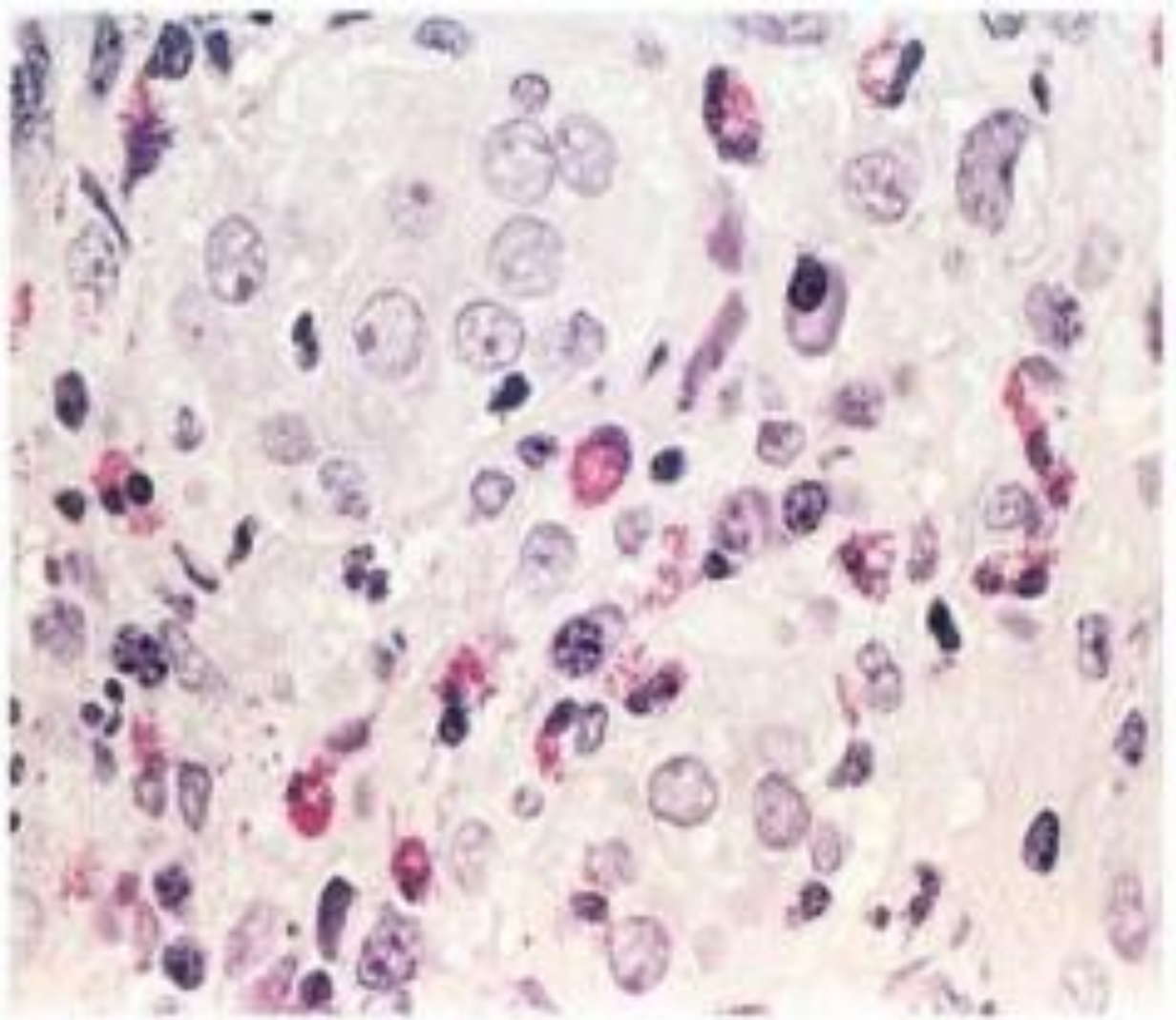




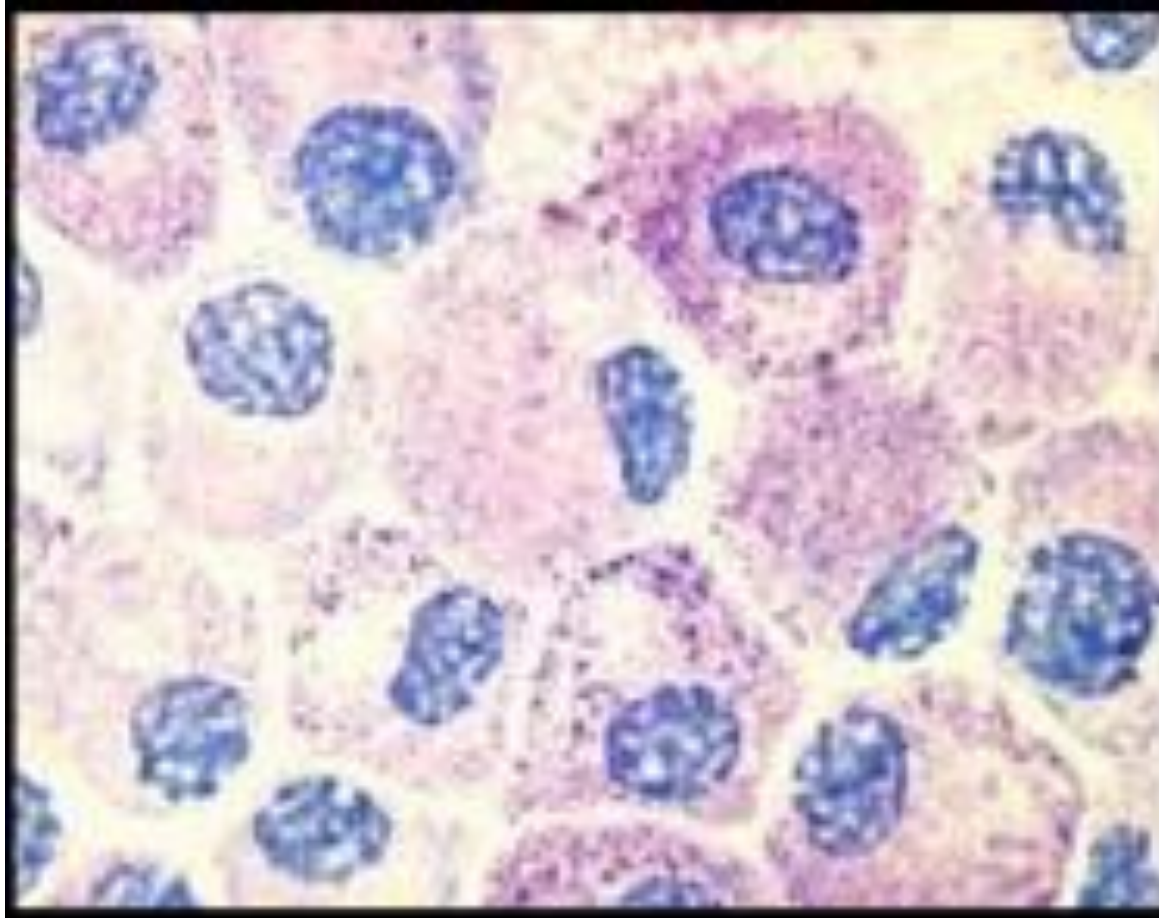
**Activated Macrophage**



**An Eosinophil  
(bi-lobed nucleus,  
heavy granulated  
pink cytoplasm)**

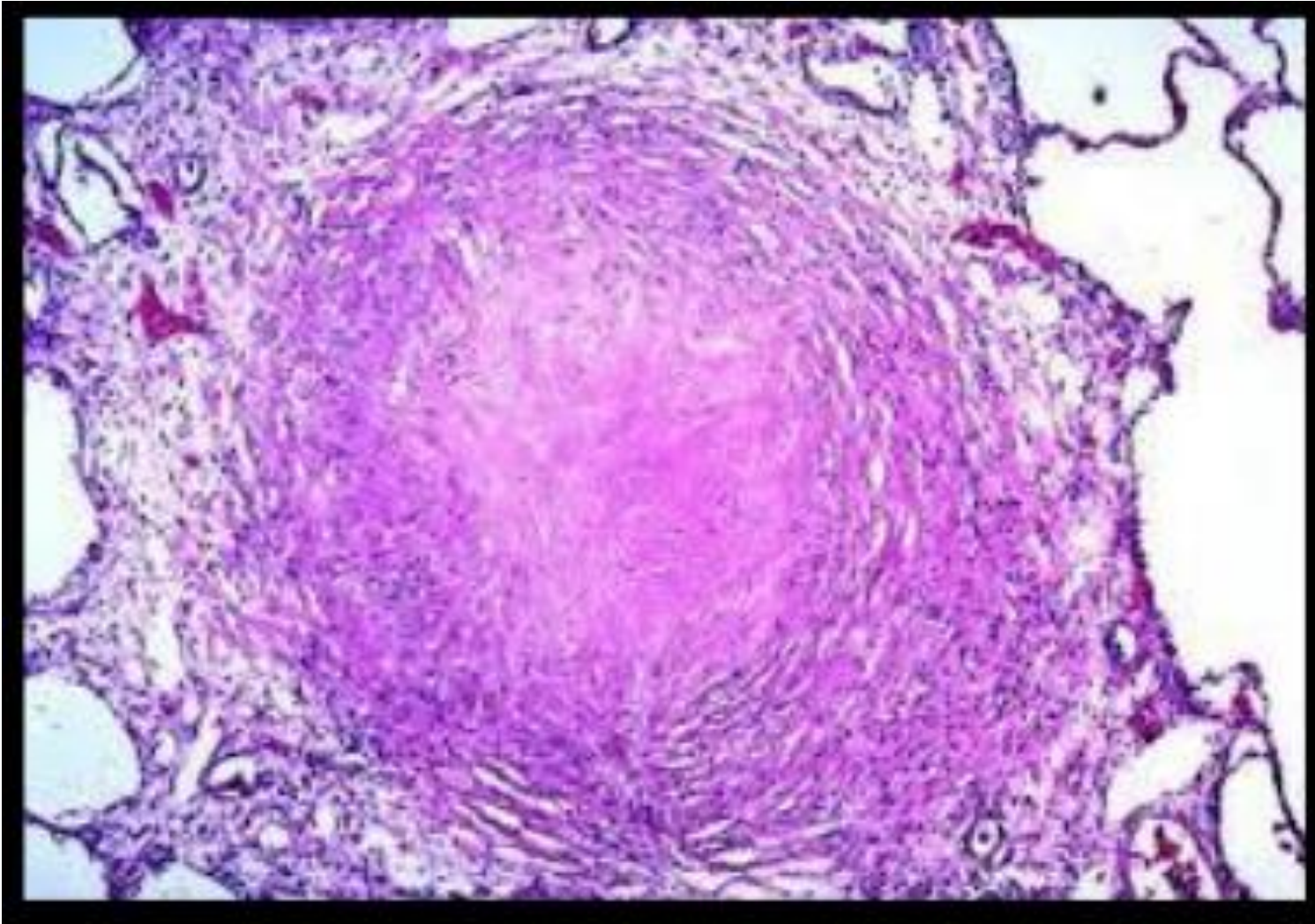


**Inflamed tissue with  
many eosinophils**

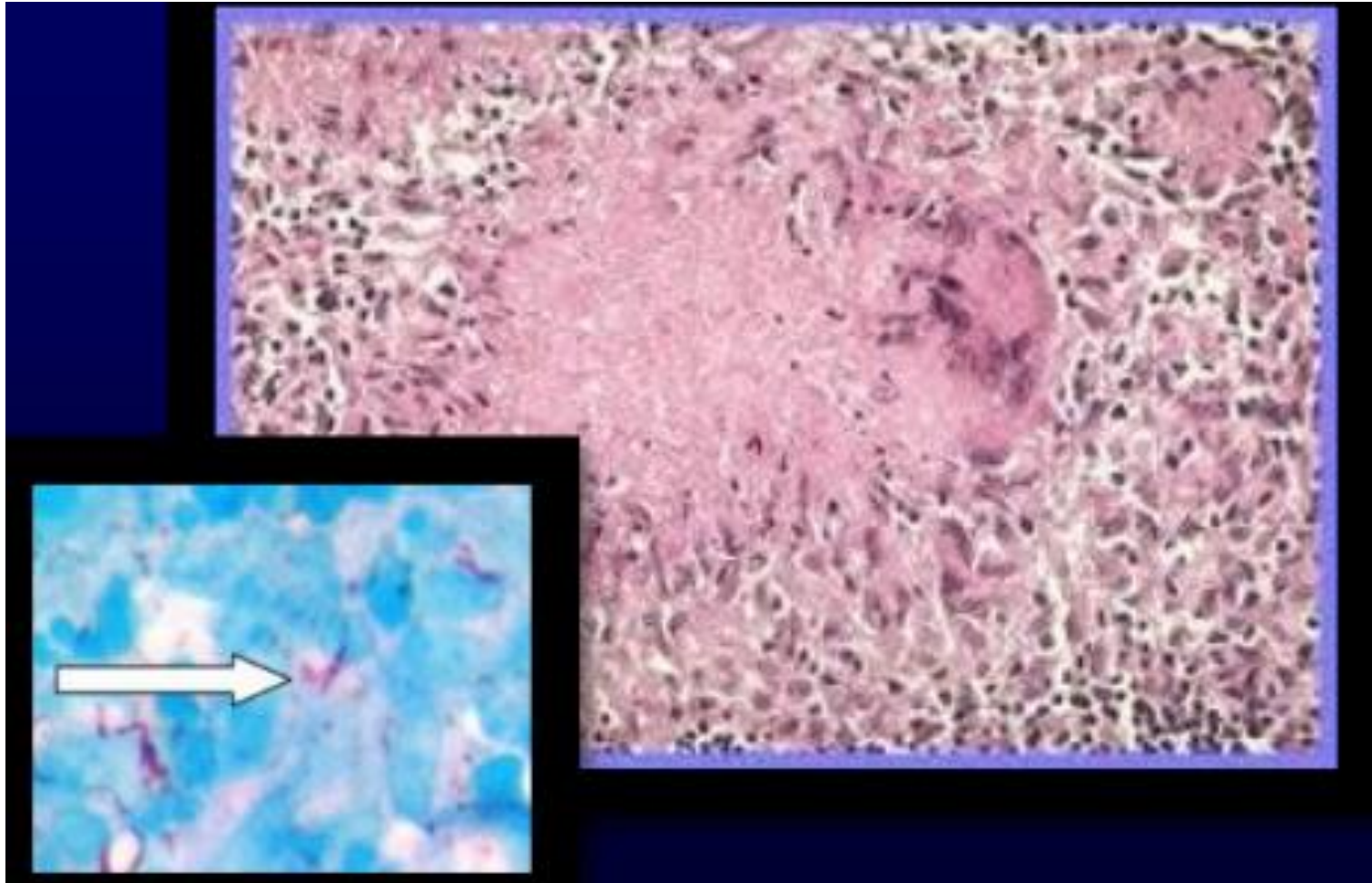


## **Mast Cells**

**Single prominent  
nucleus & basophilic  
granules**



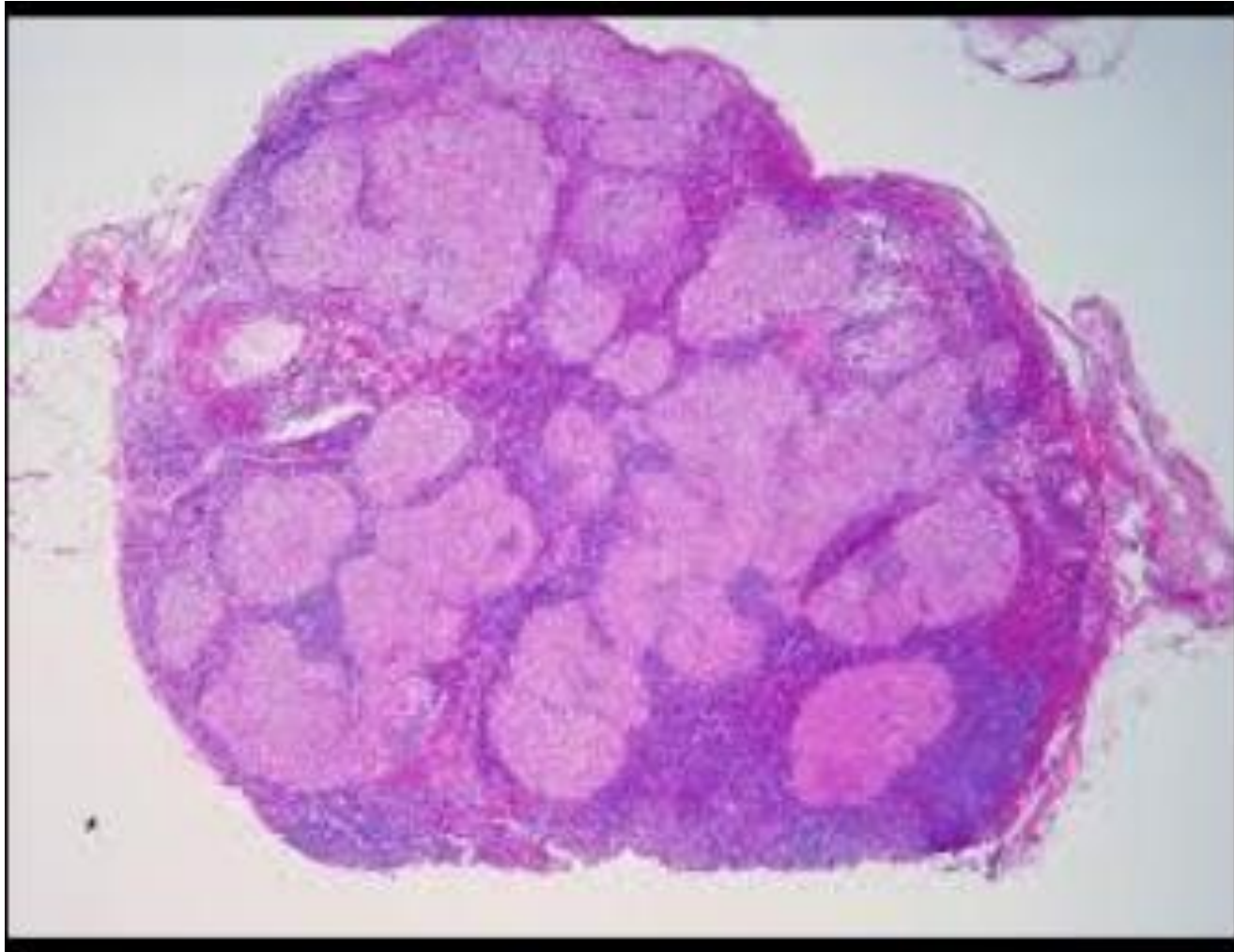
**Necrotizing Granuloma  
surrounded by normal  
lung tissue  
Low power microscope  
(center = parenchymal  
structure is lost/necrosis  
/lost basophilia)  
[in the spherical  
structure we can see  
pinkish nucleated cells  
(granuloma) at the  
circumference]**



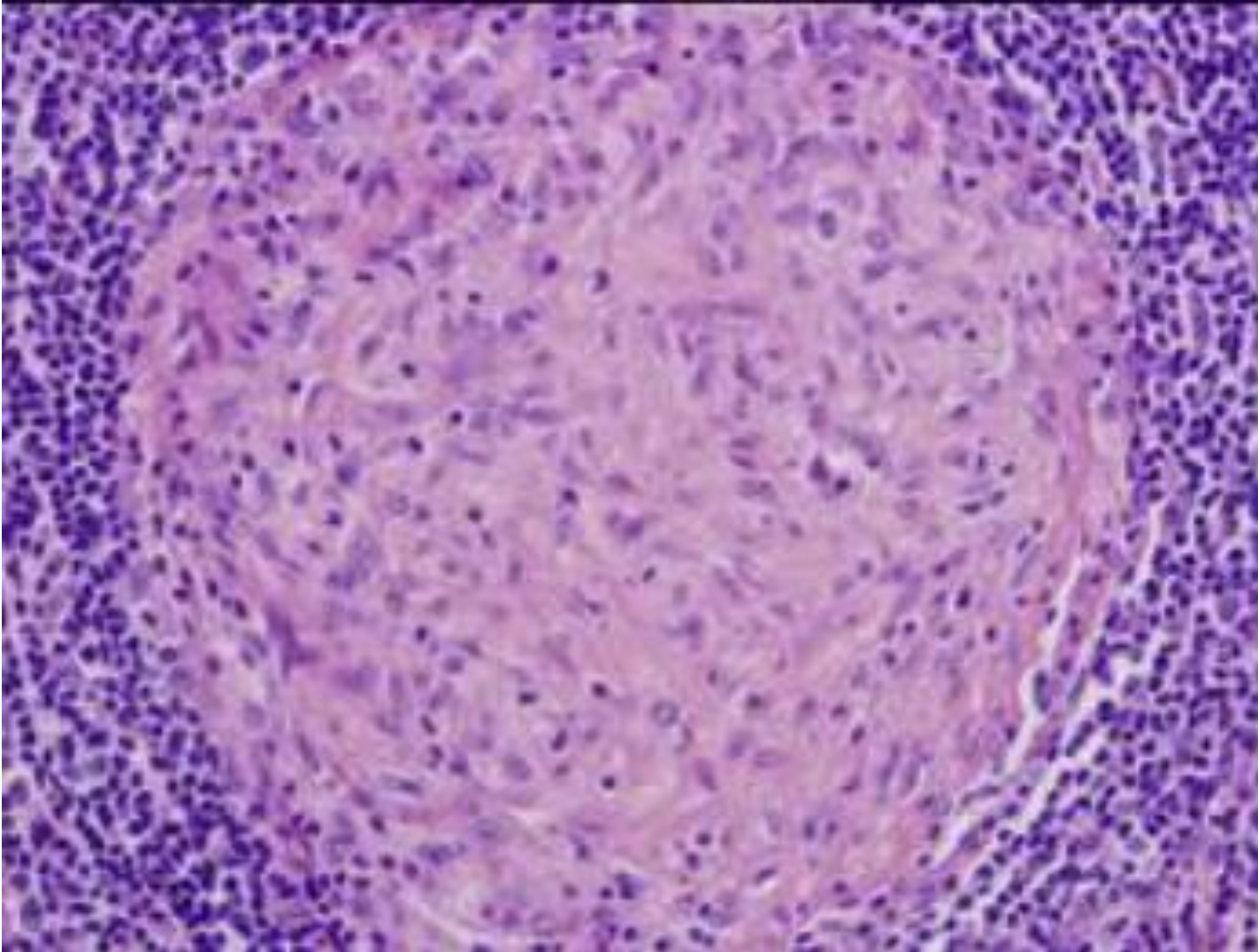
**Necrotizing granuloma  
High power microscope**

**You can see a multi-  
nucleated giant cell, and  
The rest of the cells  
around are epithelioid  
histiocytes**

**The Pic at the bottom:  
Zn Stain  
Red= the organism**



**Lymph node with the sinuses inside & surrounded by the capsule, the red structures (abundant cytoplasm) are granulomas**



## **Non-Necrotizing Granuloma**

- **Epithelioid histiocytes (red granuloma)**
- **Plasma cell (black dots)**
- **Lymphocytes**
- **NO Necrosis**



يا فارج الهمّ ويا كاشف الغم فرج همنا ويس أمرنا، وارحم ضعفنا وقلّة حيلتنا، وارزقنا من حيث لا  
يا رب العالمين، اللهم إني نسألك أن تجعل خير عملنا آخره، وخير أيامنا يوم نلّقاك فيه، إنك نحتسب  
على كل شيءٍ قدير

لَا إِلَهَ إِلَّا أَنْتَ سُبْحَانَكَ إِنِّي كُنْتُ مِنَ الظَّالِمِينَ