

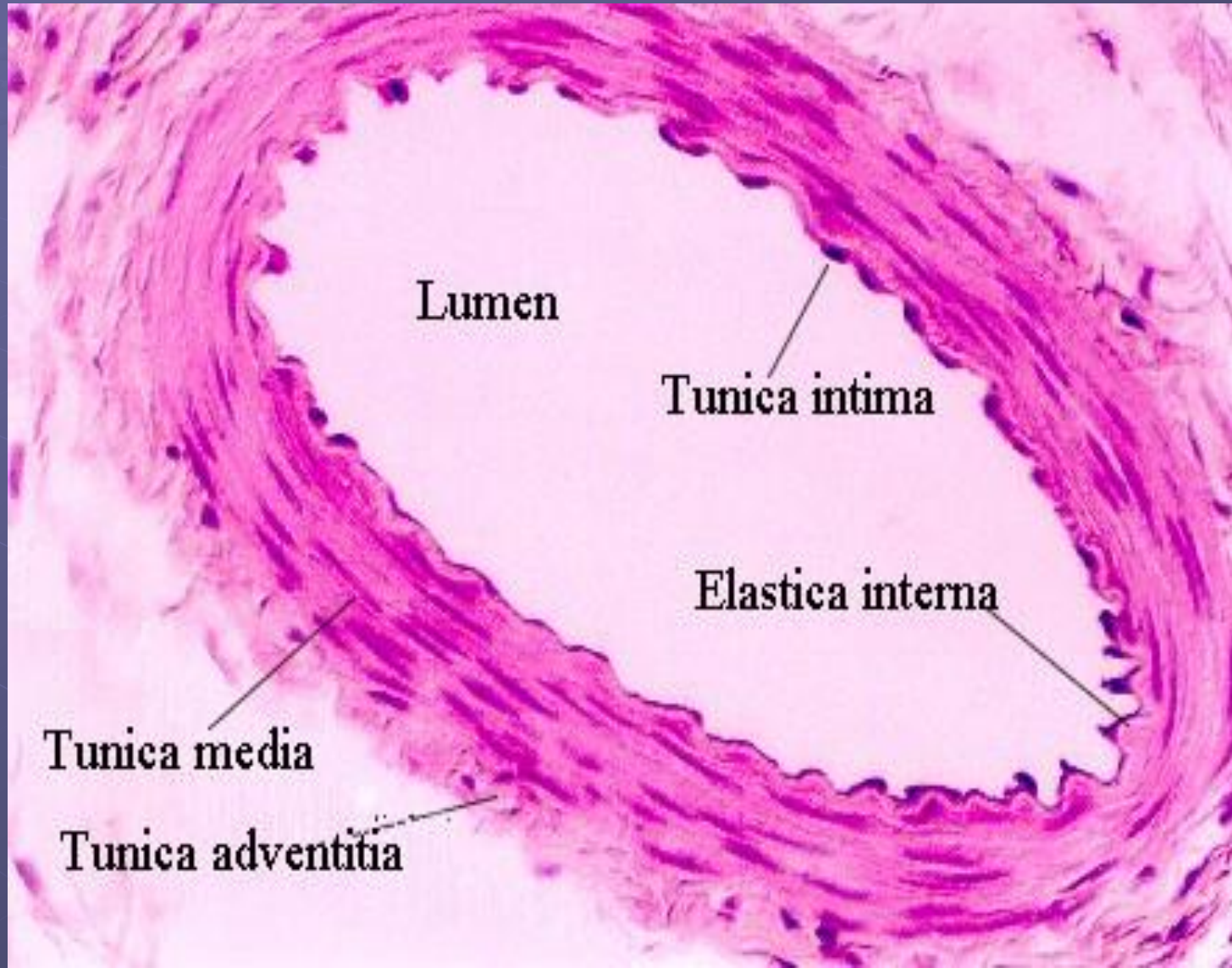
# PATHOHISTOLOGY

seminar from Physiology and Pathophysiology II

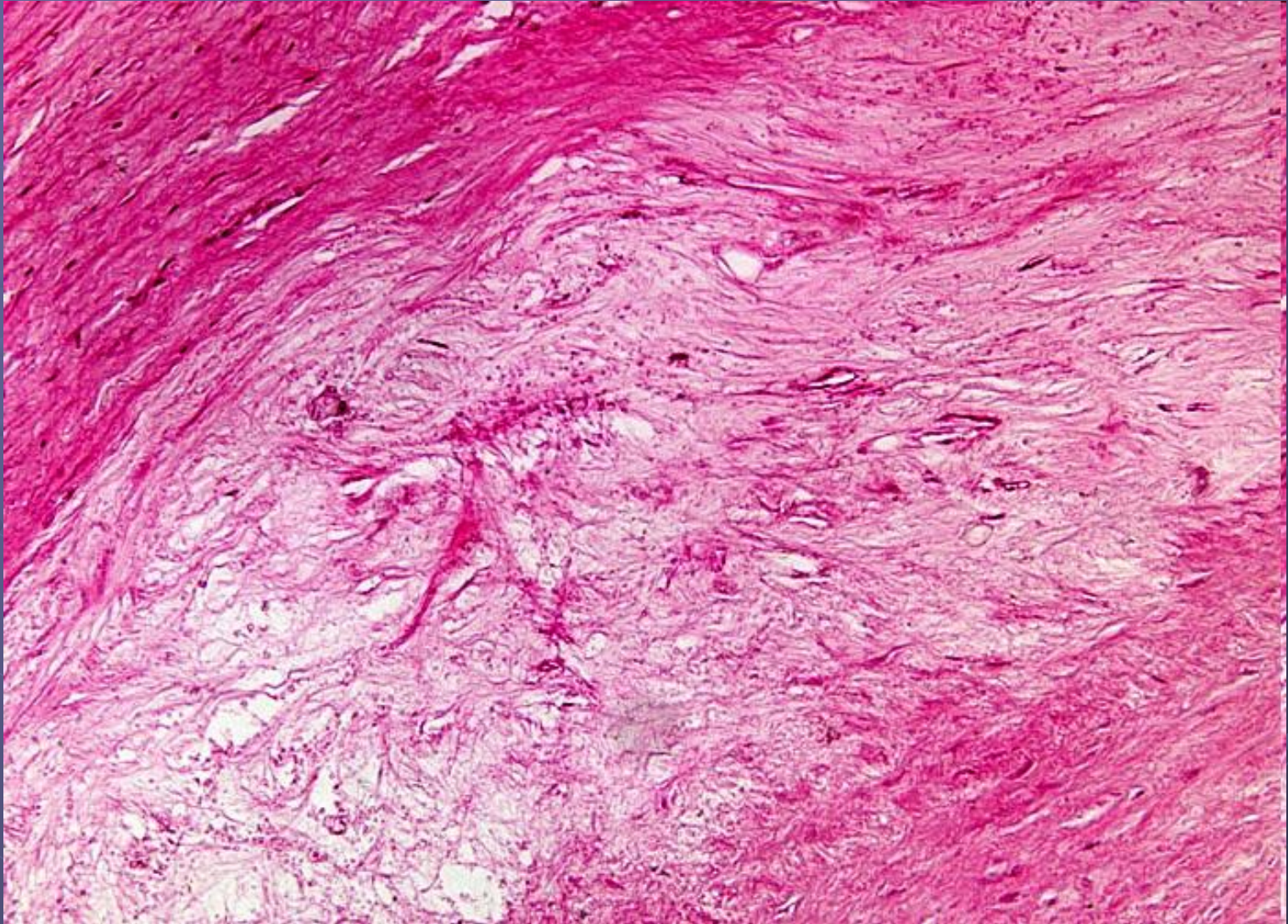
18. 4. 2023

M. Chalupová

# Artery



# Atherosclerosis

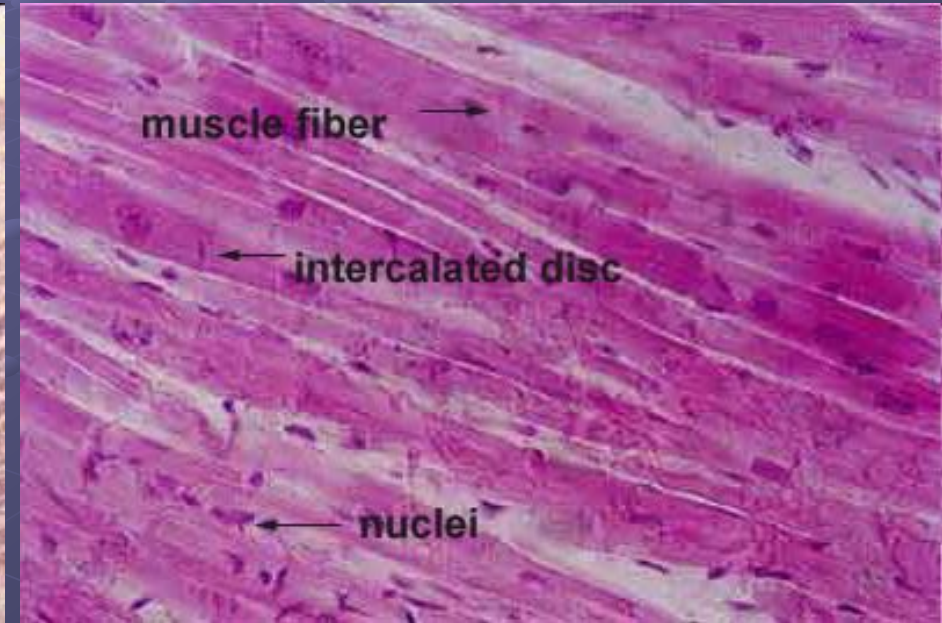
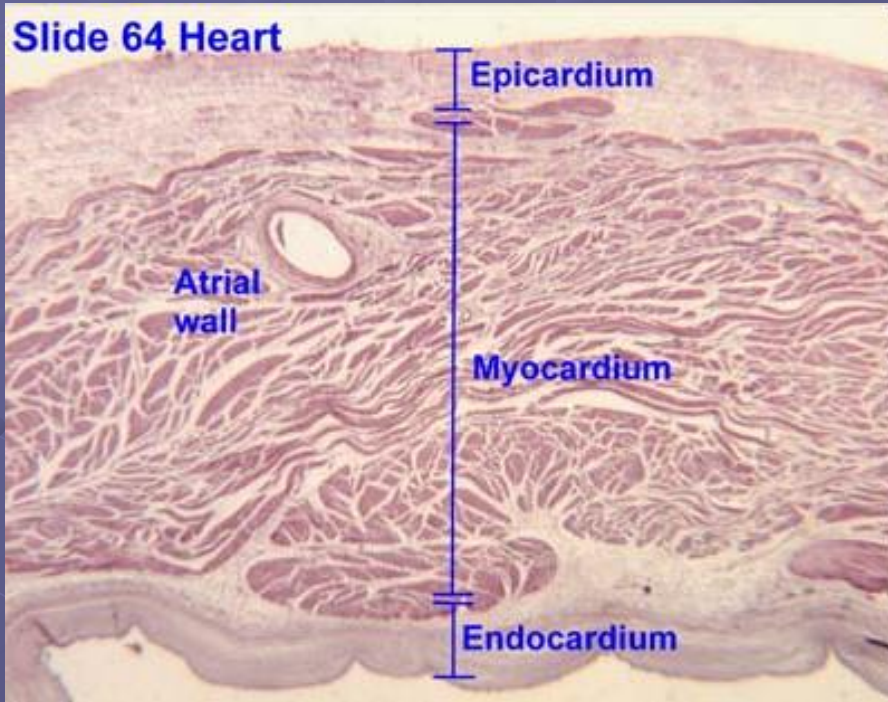


# Atherosclerosis

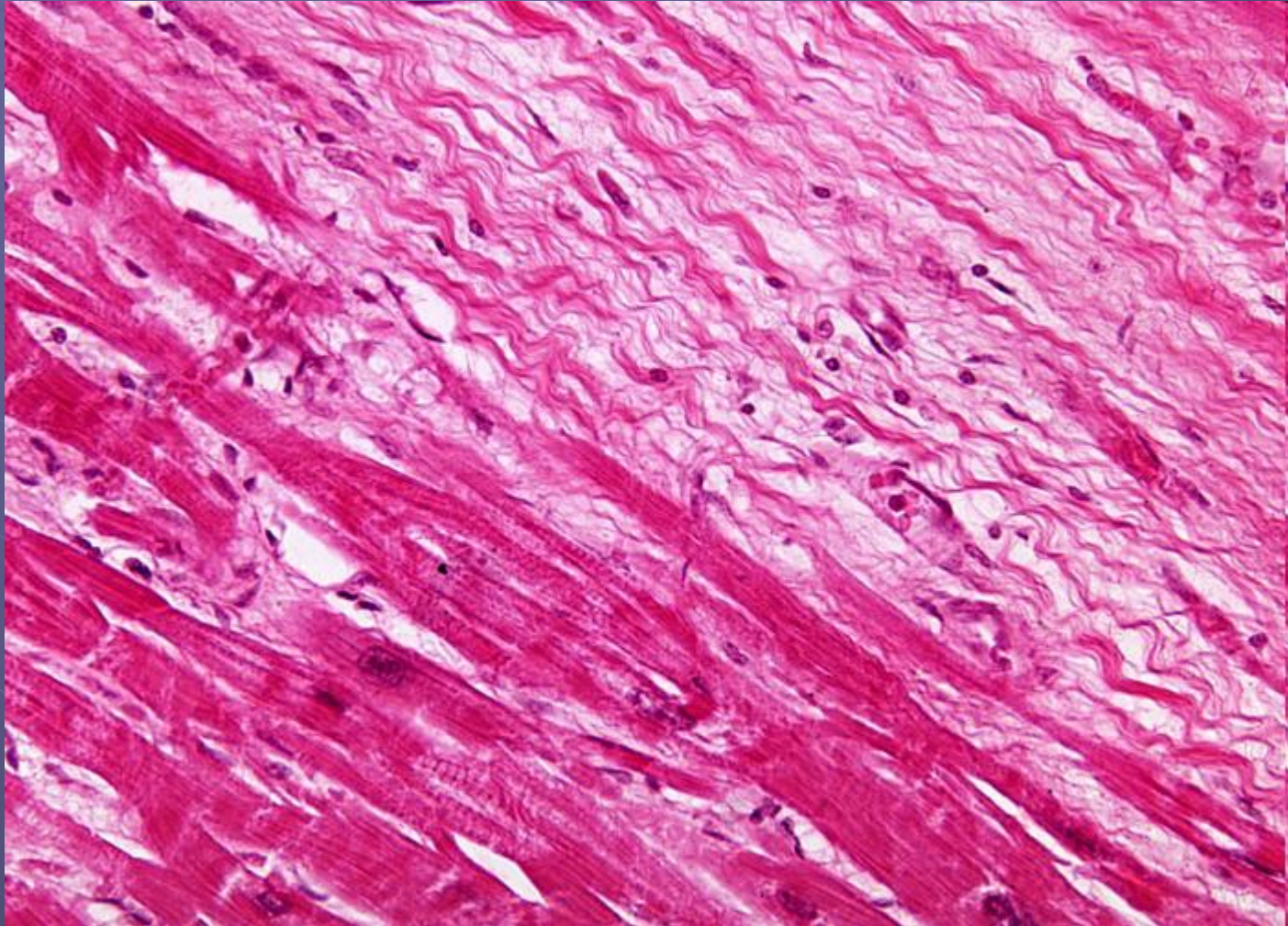


# Heart

Slide 64 Heart



# Myocardial Infarction (Coagulative Necrosis)



# Myocardial Infarction and Its Complications

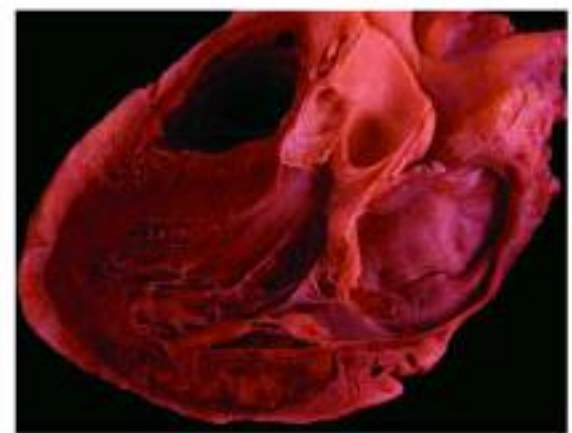
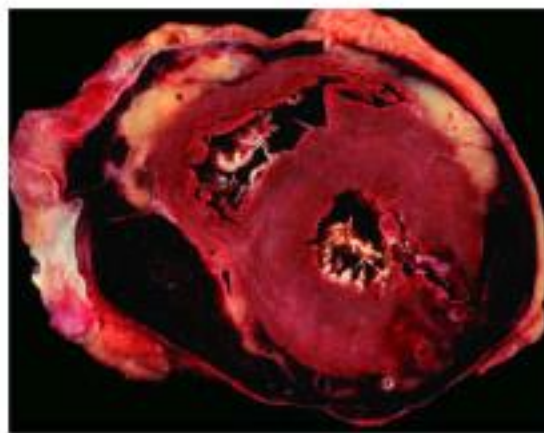
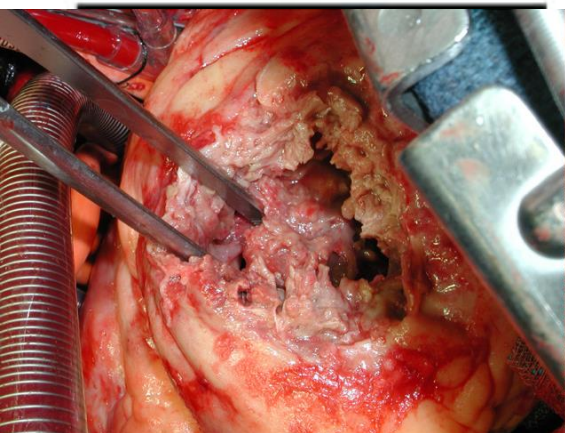


rupture of ventricular septum

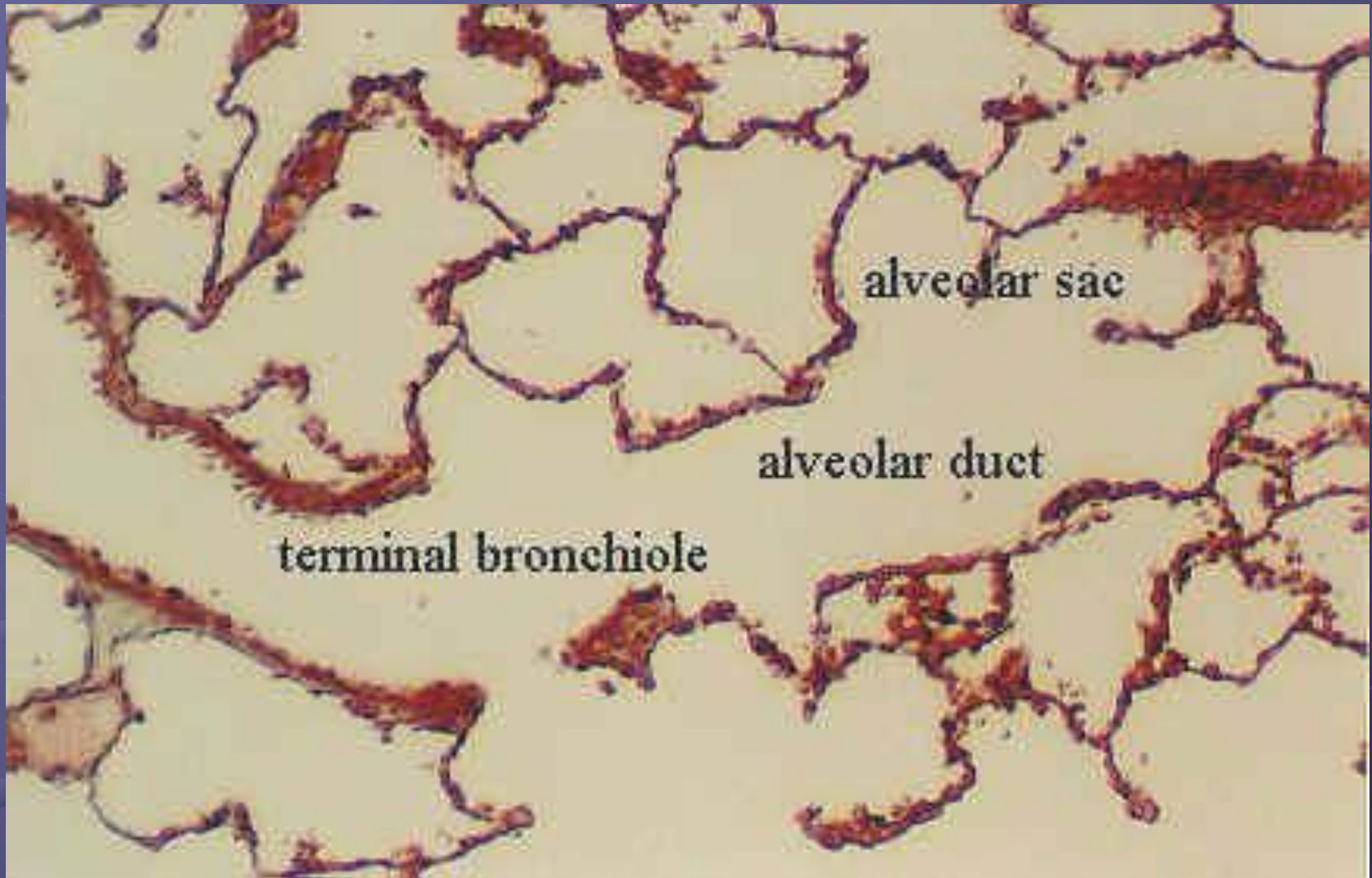


rupture of heart wall

mitral regurgitation (rupture of papillary muscle)



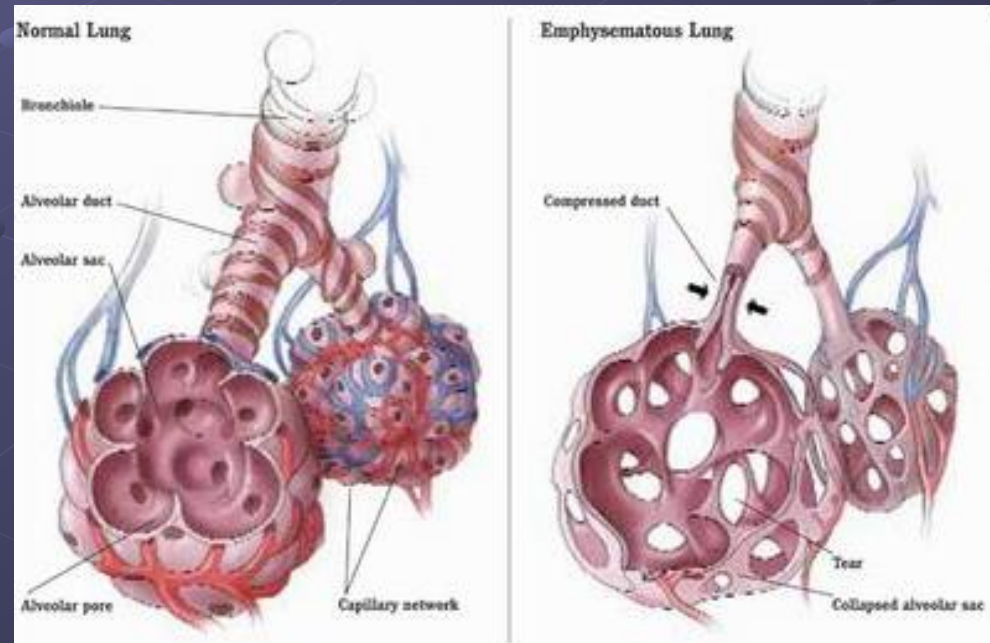
# Lungs



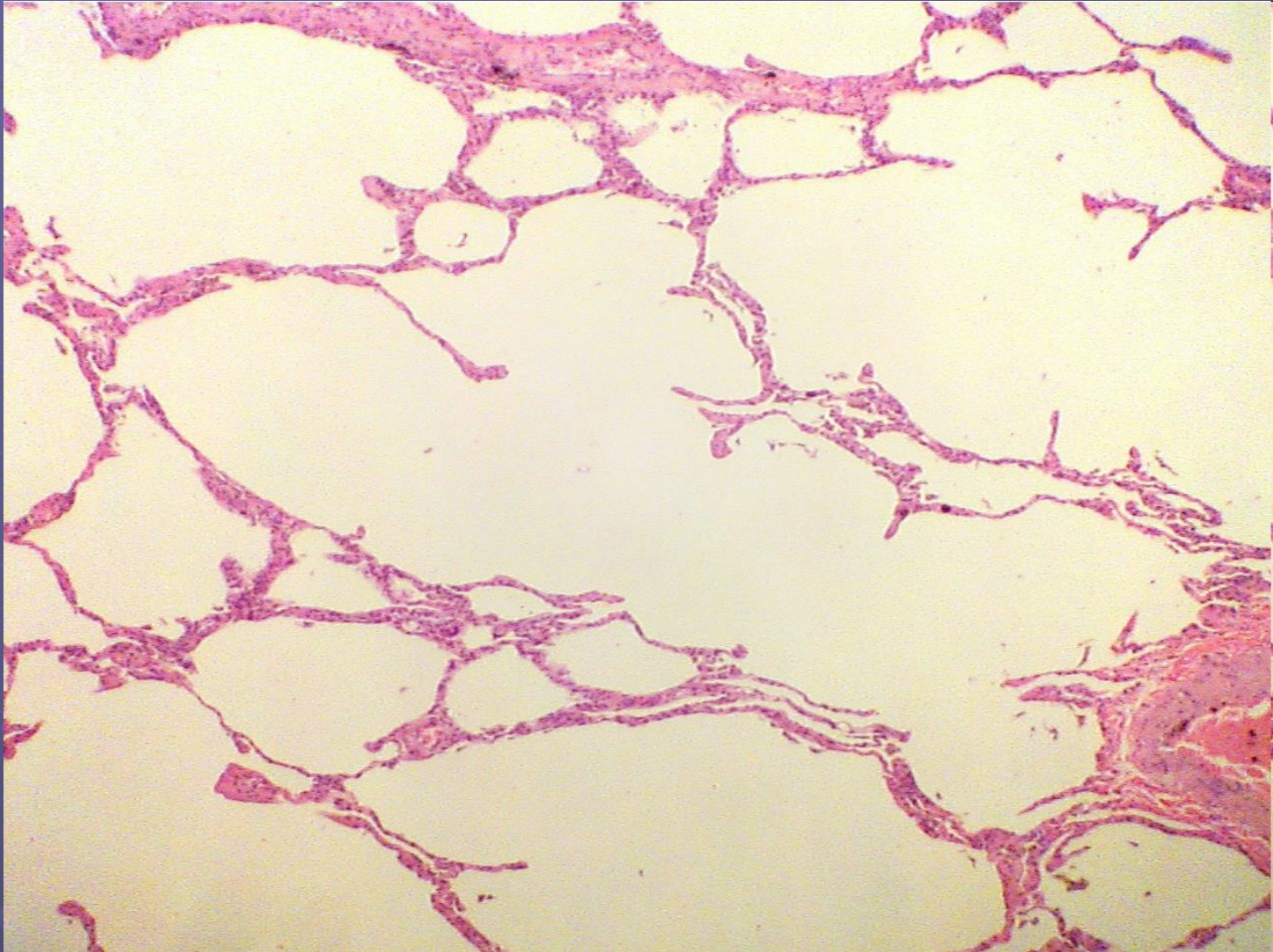


# Emphysema

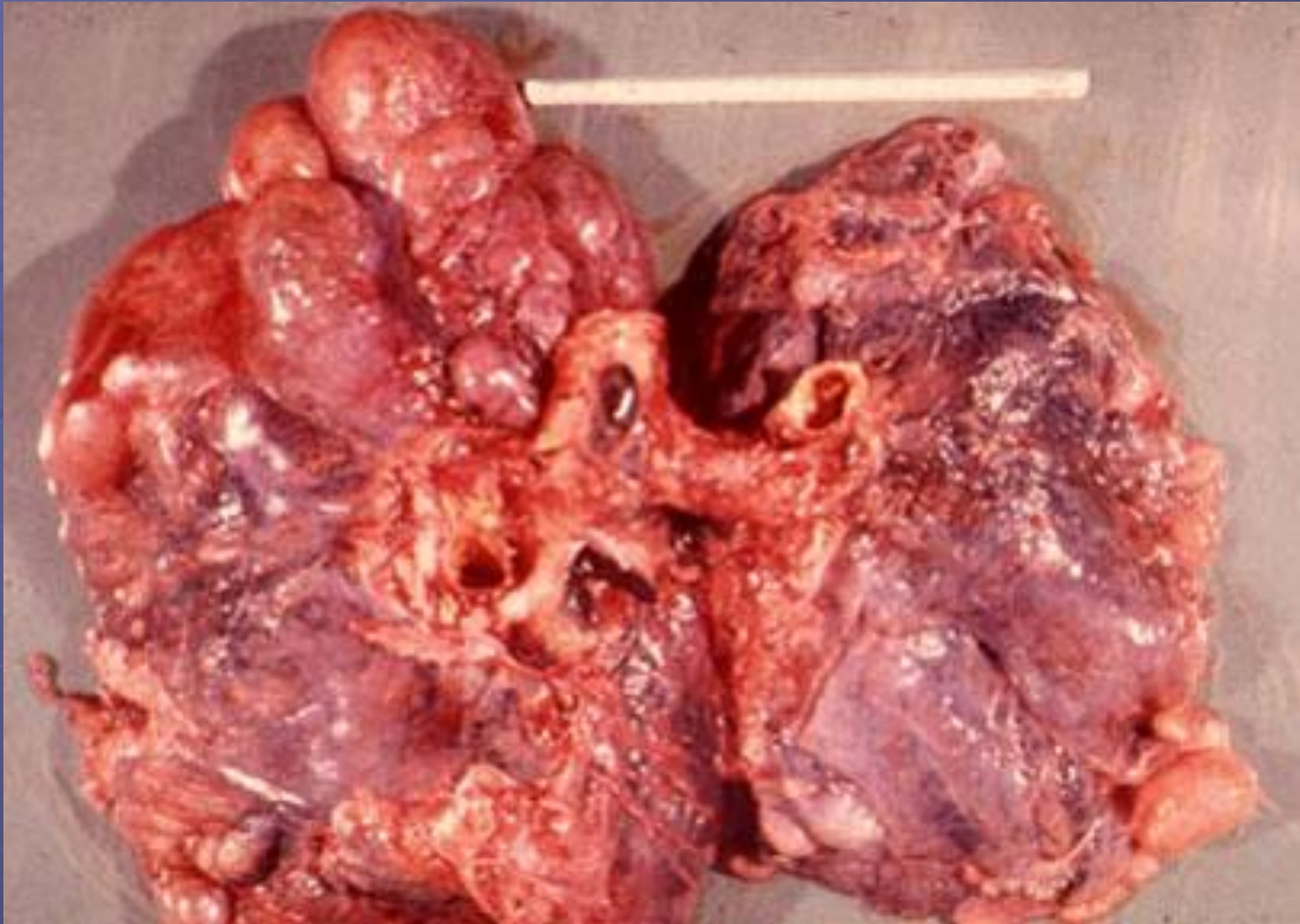
- regressive change – atrophy
- permanent enlargement of the alveoli and destruction of alveolar walls
- dysbalance between proteases and antiproteases
- smoking
- cadmium
- pneumoconioses
- **alpha-1-antitrypsin deficiency**



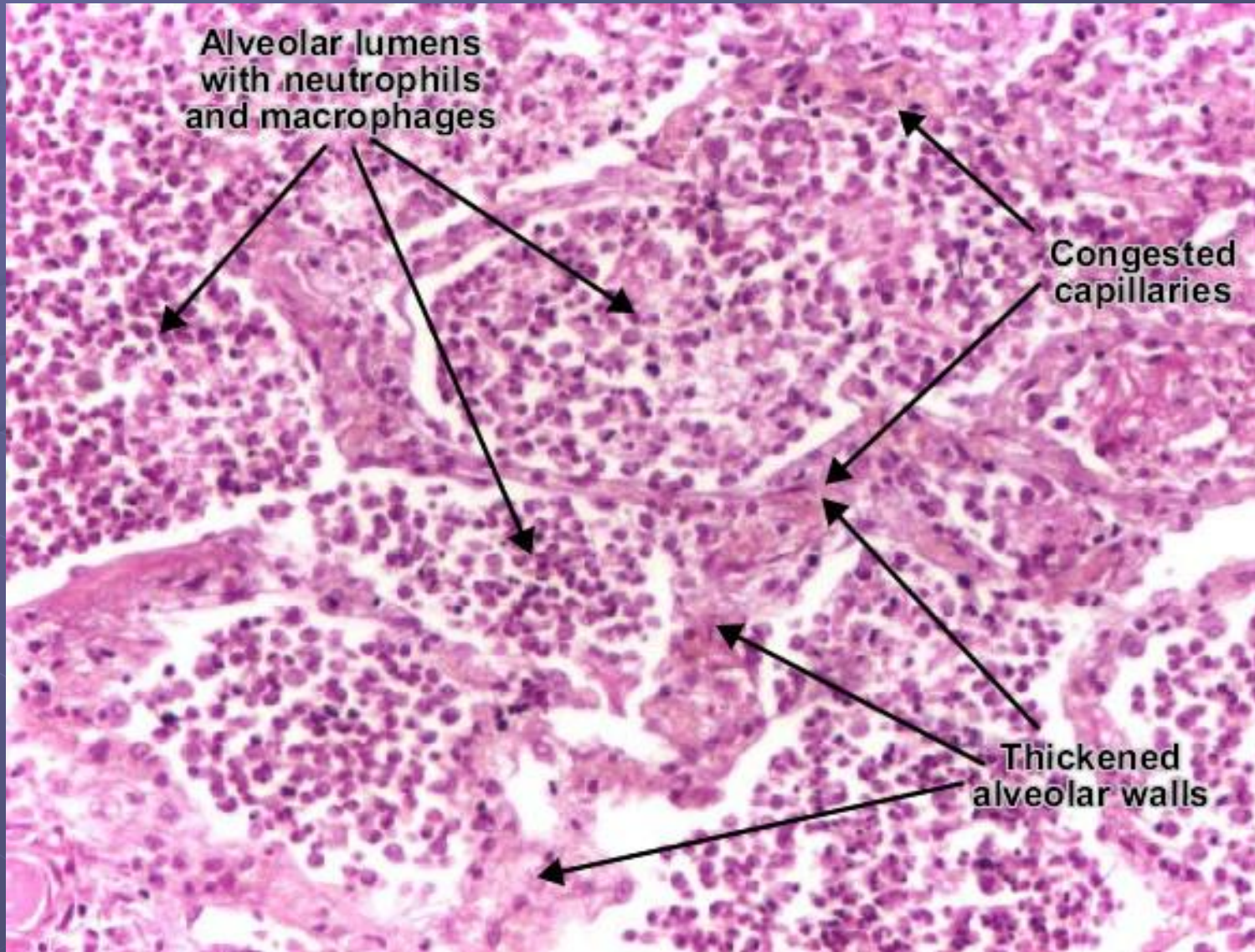
# Emphysema



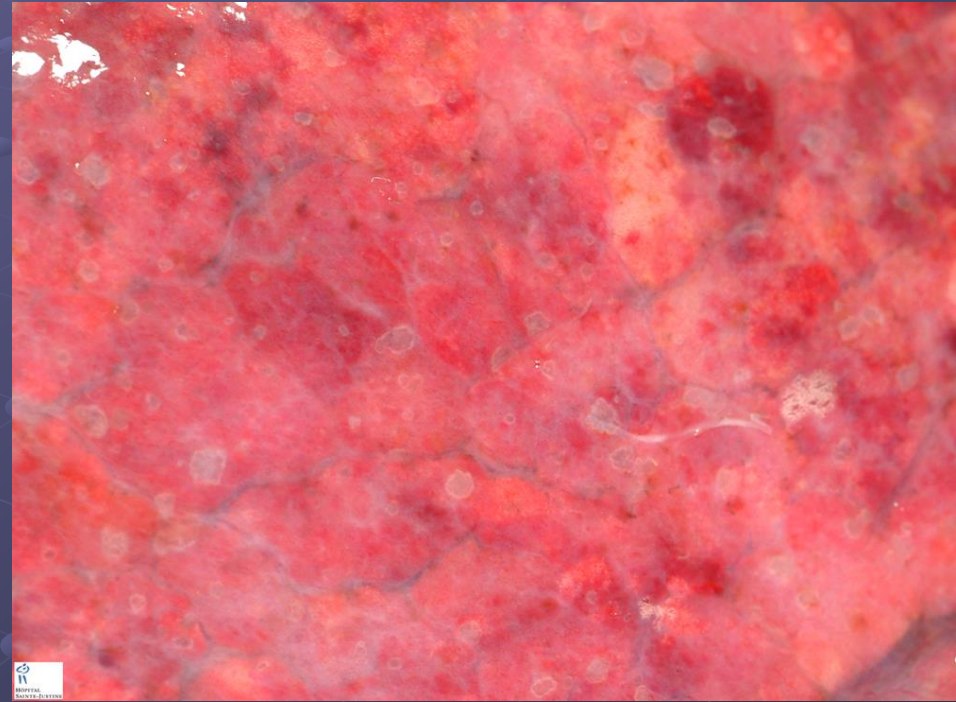
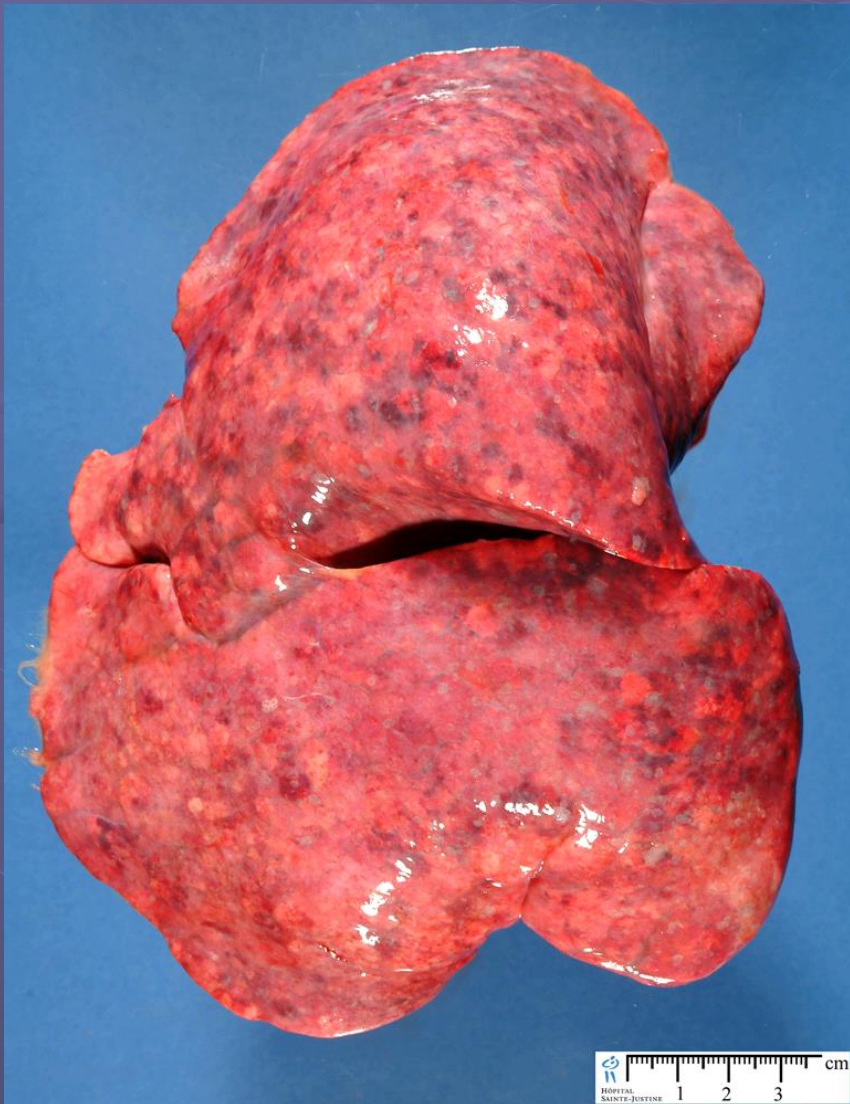
# Emphysema



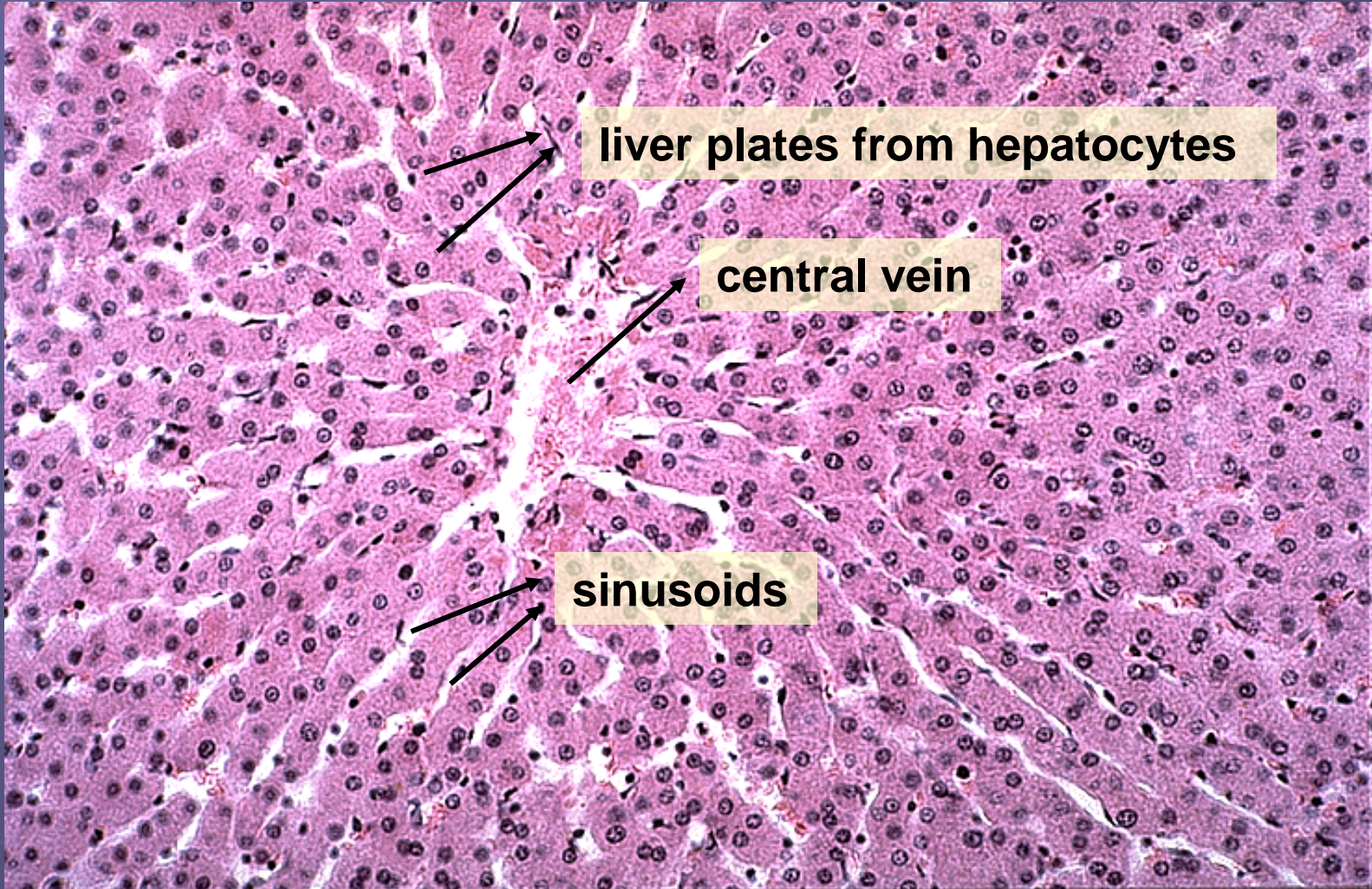
# Lobar Pneumonia



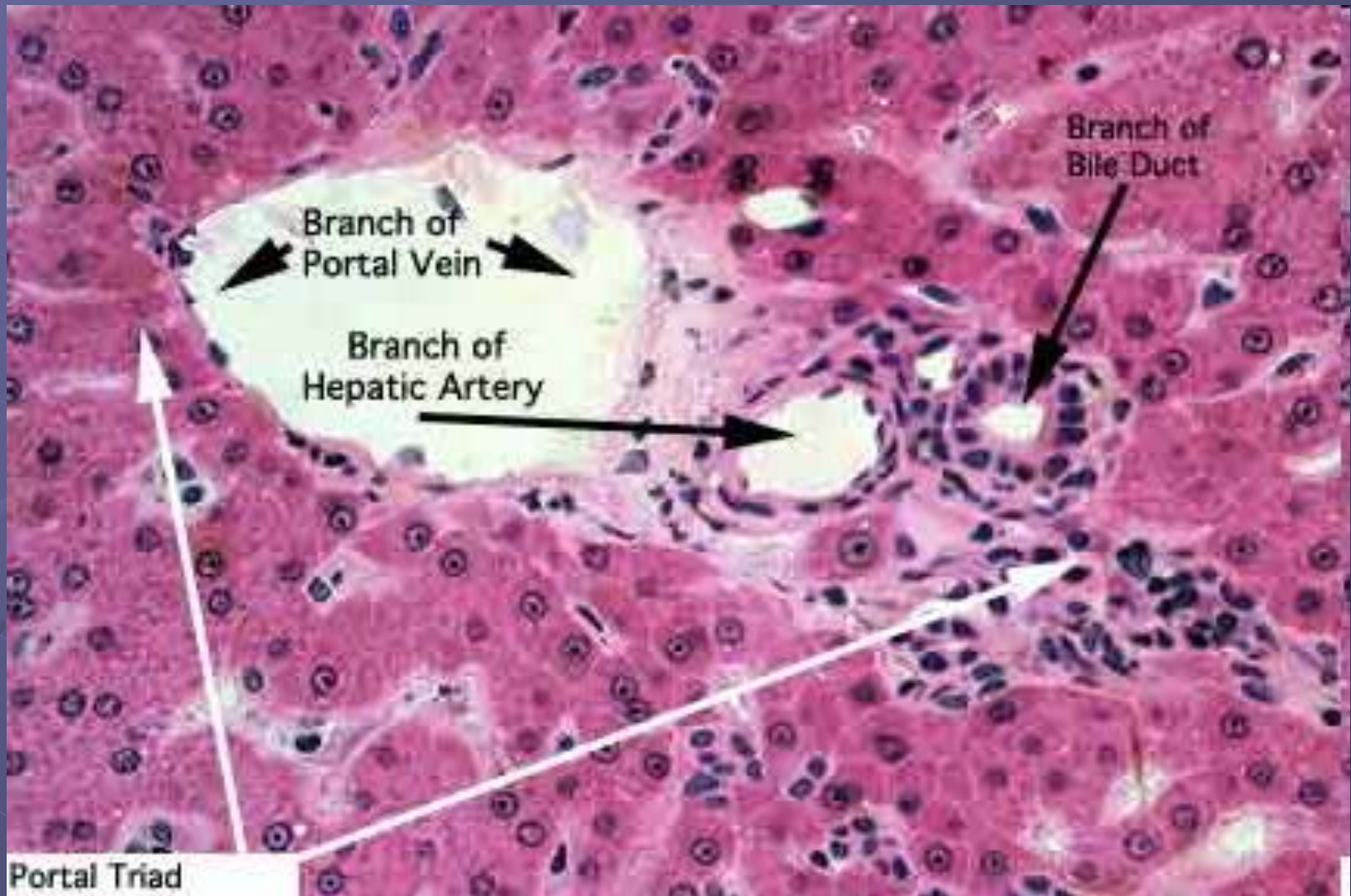
# Pneumonia



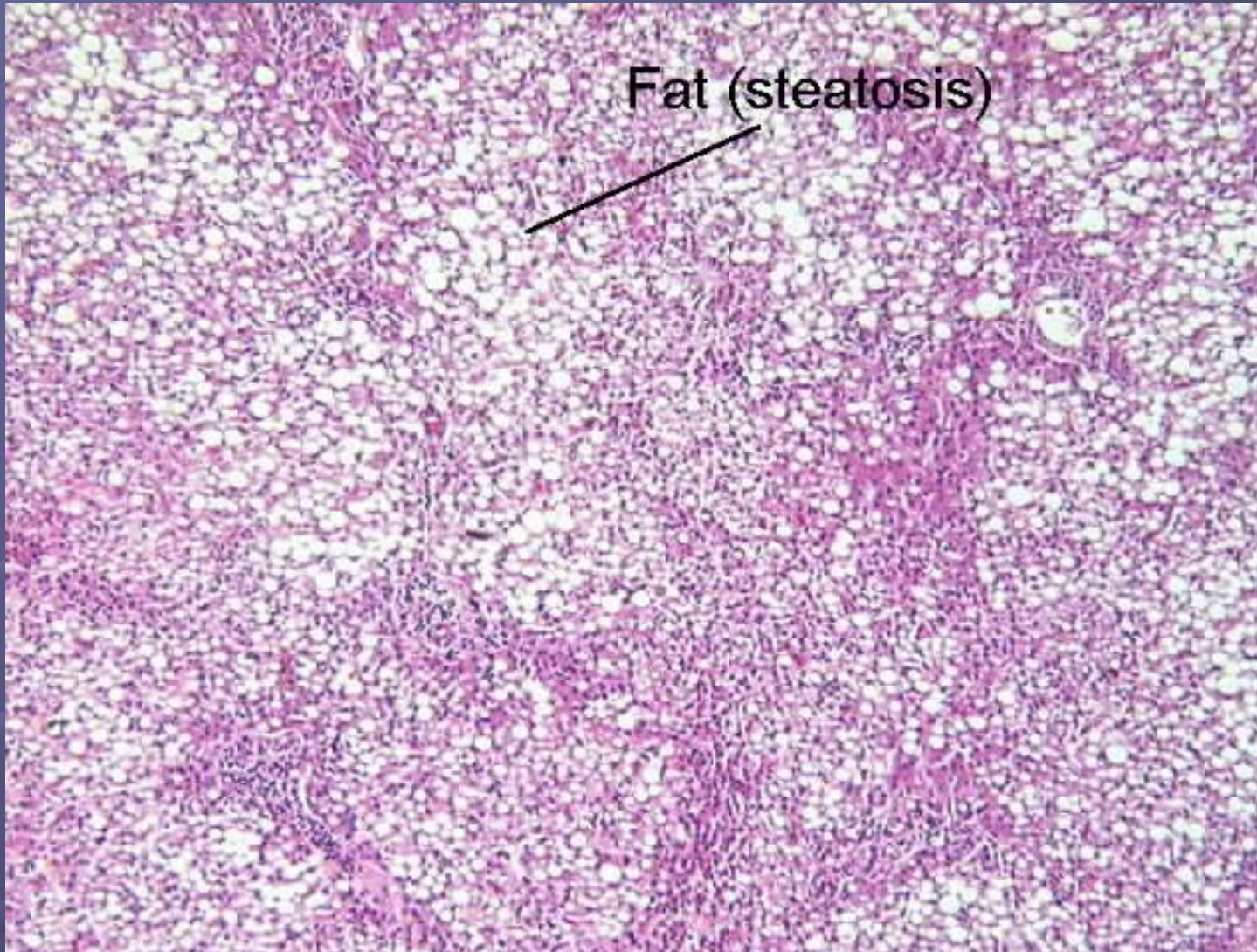
# Liver



# Liver – Portal Space



# Fatty Liver (Steatosis)





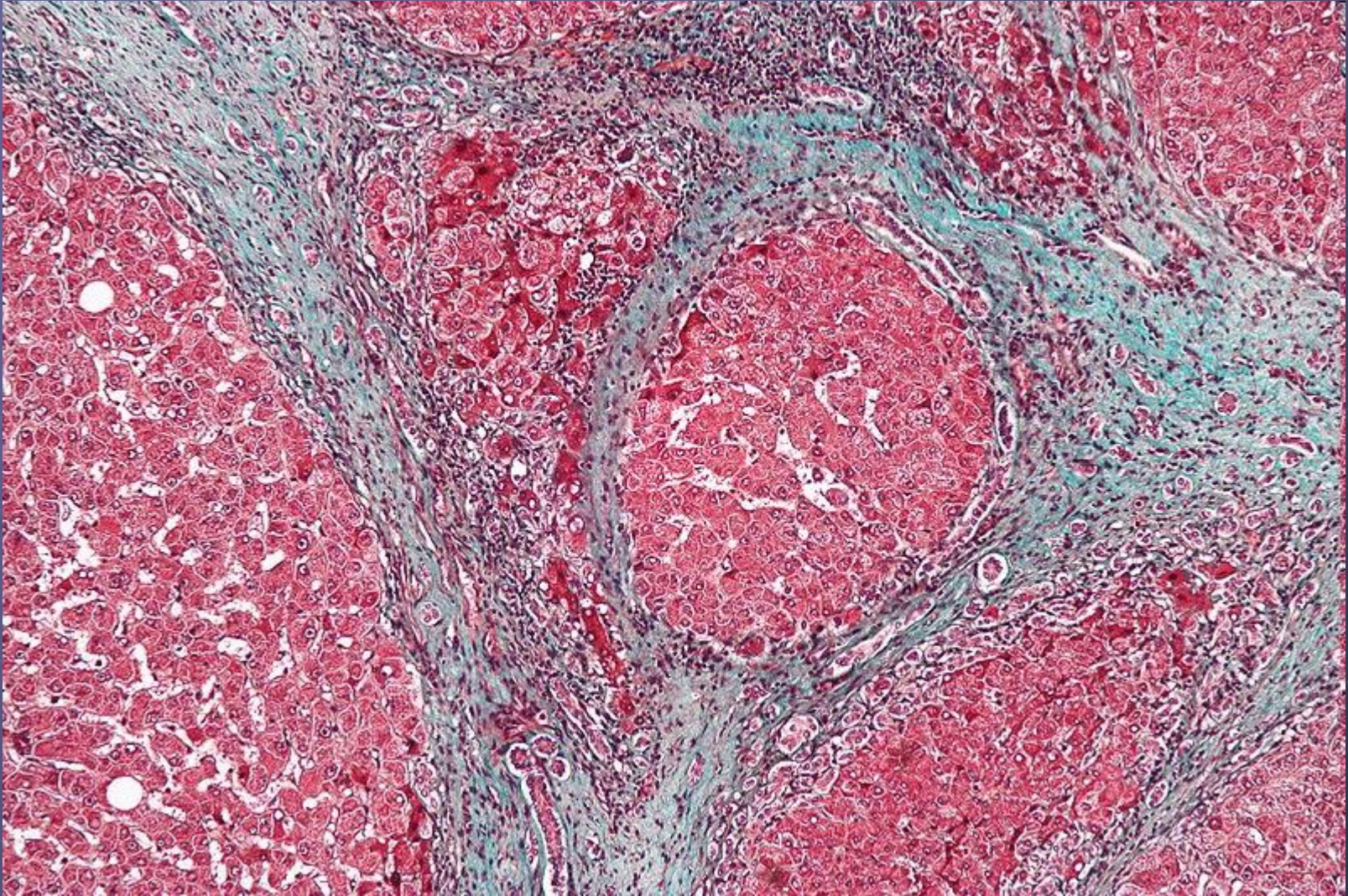
# Liver Steatosis



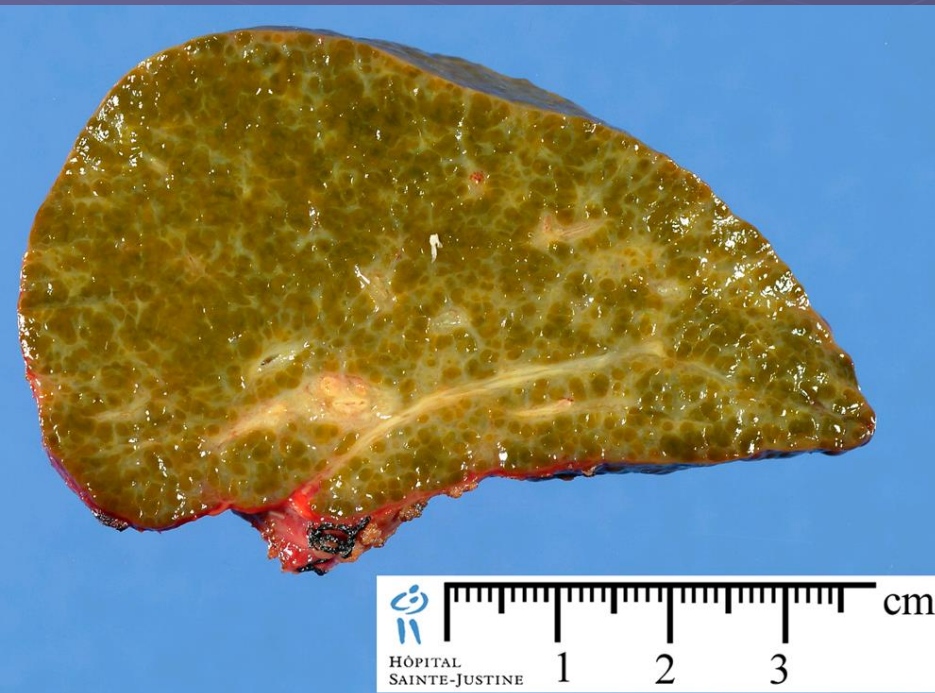
# Cirrhosis

- a consequence of chronic liver disease characterized by replacement of liver tissue by fibrosis, scar tissue and regenerative nodules leading to loss of liver function
  - micronodular (under 3 mm)
  - macronodular (over 3 mm)
  - mixed
- **posthepatic** (chronic hepatitis C, B, B+D)
- **alcoholic** (ethanol, acetaldehyde)
  - steatosis
  - hepatitis
  - cirrhosis (micronodular)
- **biliary cirrhosis**
- **toxic** (toxic substances, drugs)
- **metabolic**
  - Wilson's disease
  - alpha-1 antitrypsin deficiency(A1AT)
- **long-lasting venostasis**

# Liver Cirrhosis (Micronodular)



# Liver Cirrhosis Micronodular Biliary Atresis



# Complications of Cirrhosis

**icterus**



**oesophageal varices**



# Complications of Cirrhosis

**ascites**



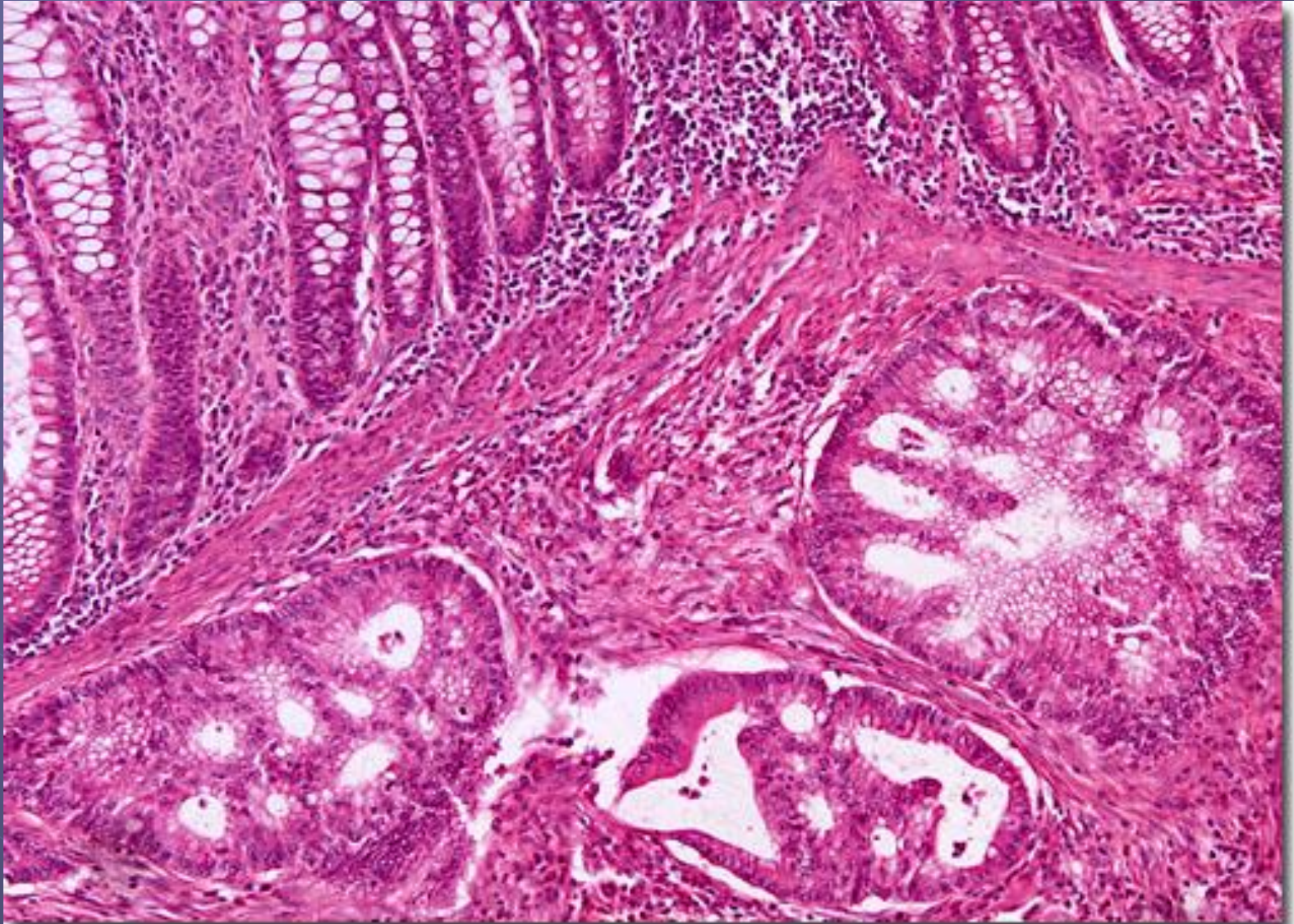
**spider naevi (naevi aranei)**



# Large Intestine – Mucous Membrane

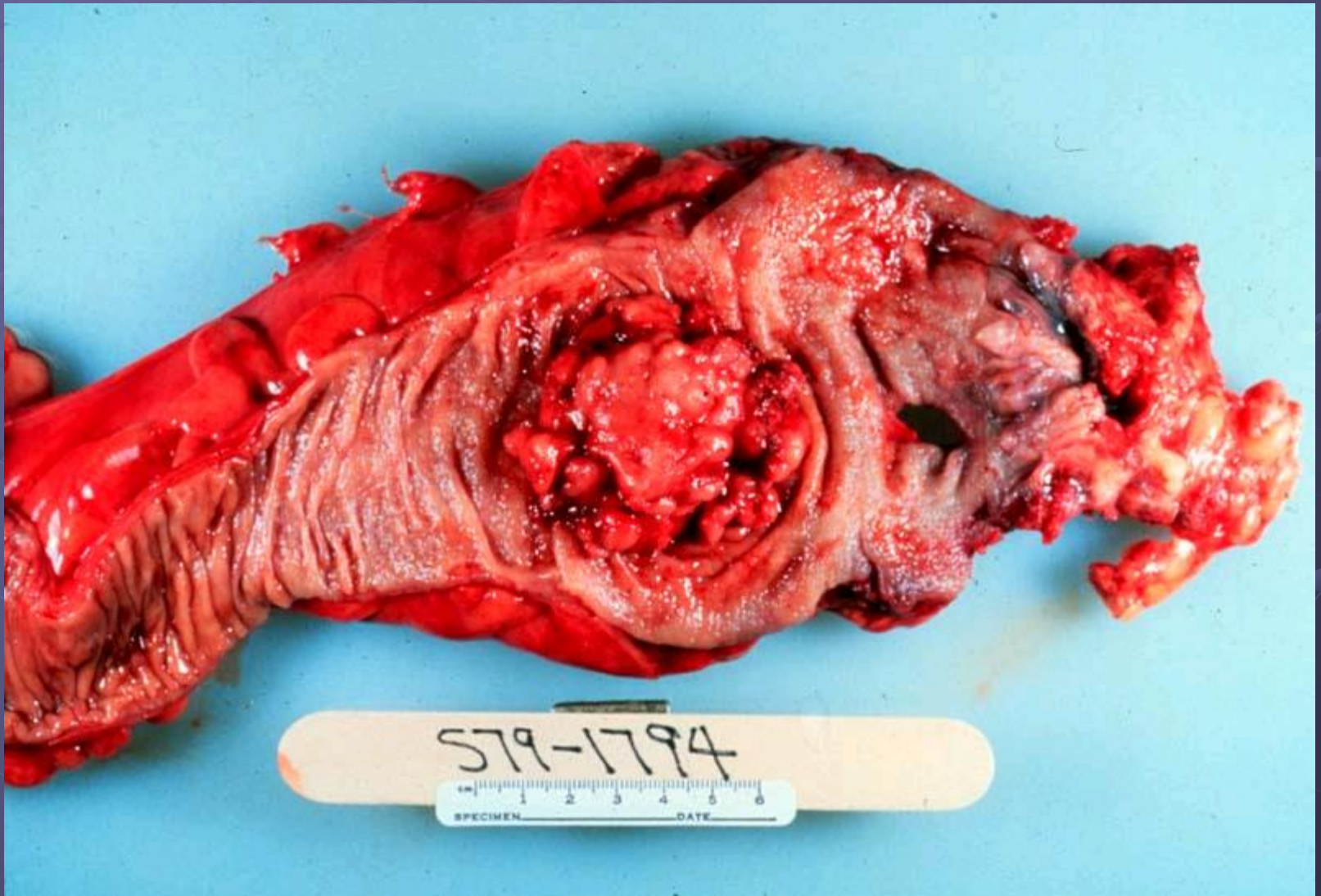


# Tubular Adenocarcinoma

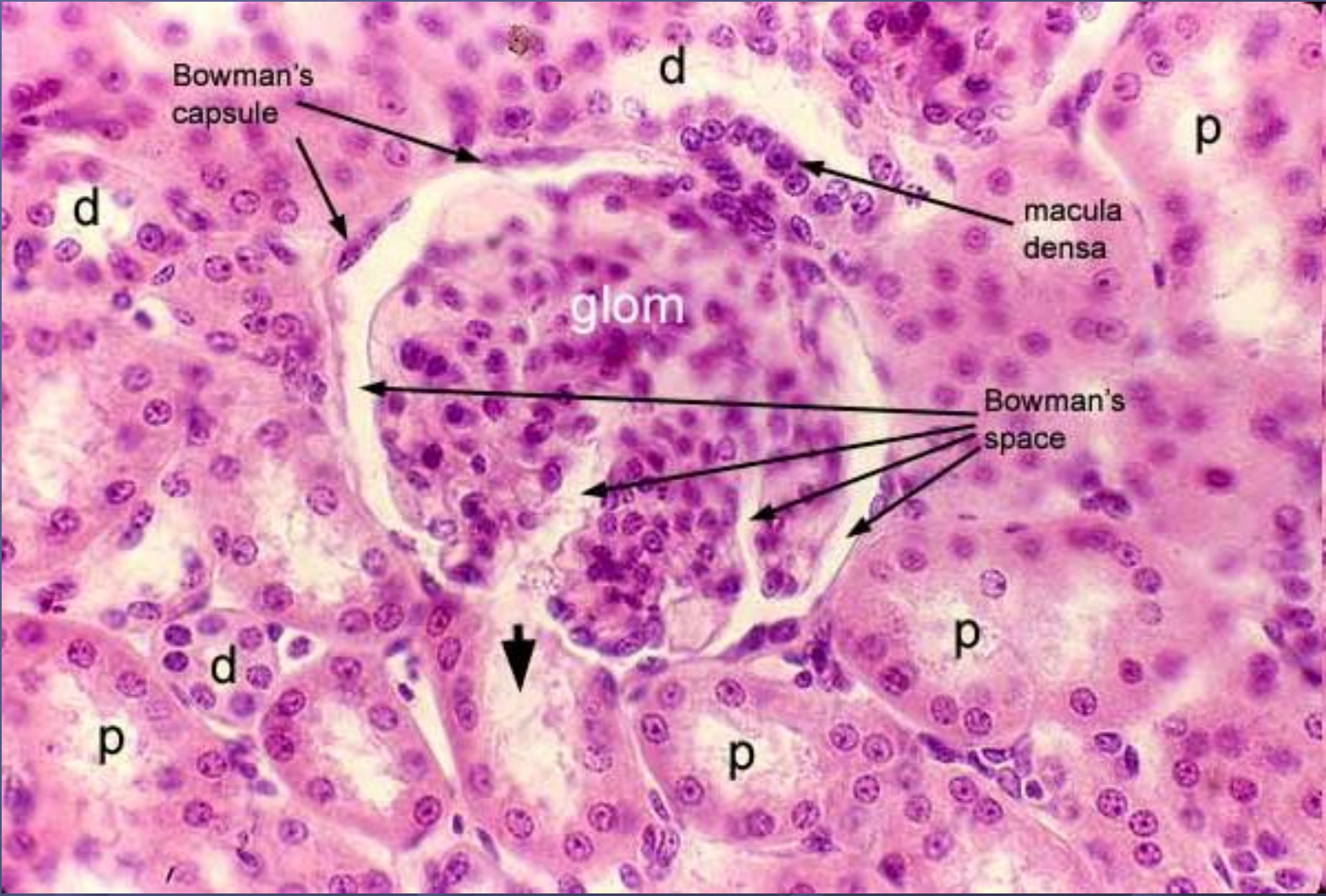




# Adenocarcinoma Coli

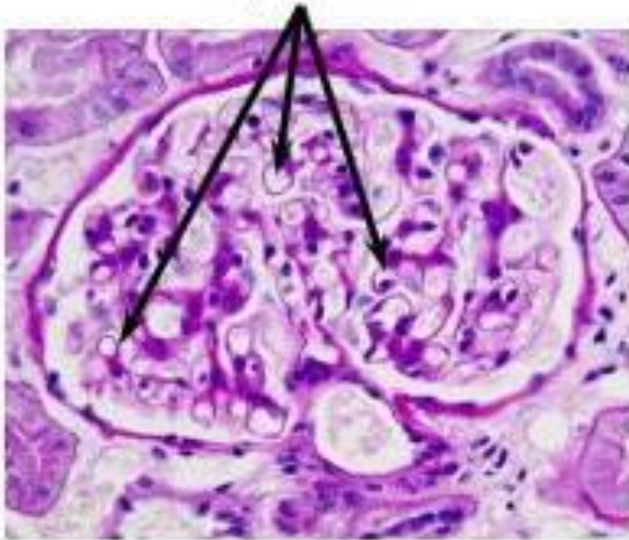


# Kidney



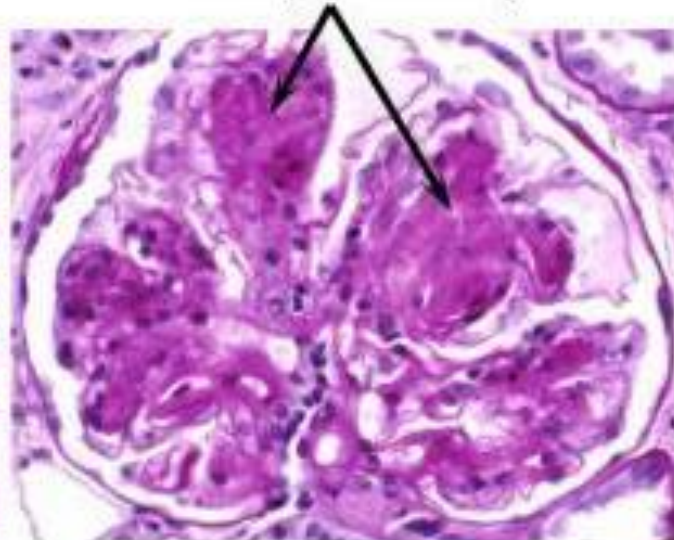
# Diabetic Glomerulosclerosis

**Normal glomerular capillaries**



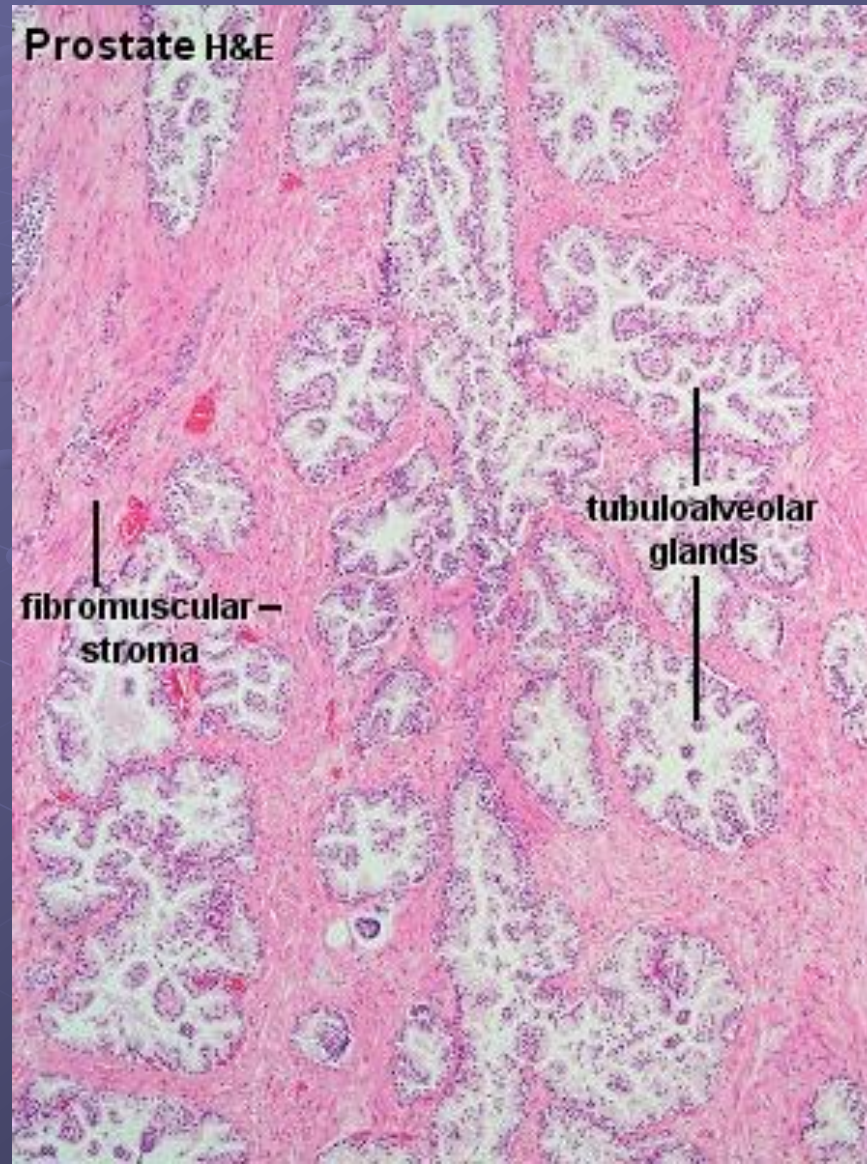
Microscopic photograph of a cross section of a **NORMAL GLOMERULUS** in a kidney biopsy specimen. The small capillaries that filter blood to make urine are open.

**Nodules of glomerular scar (sclerosis)**

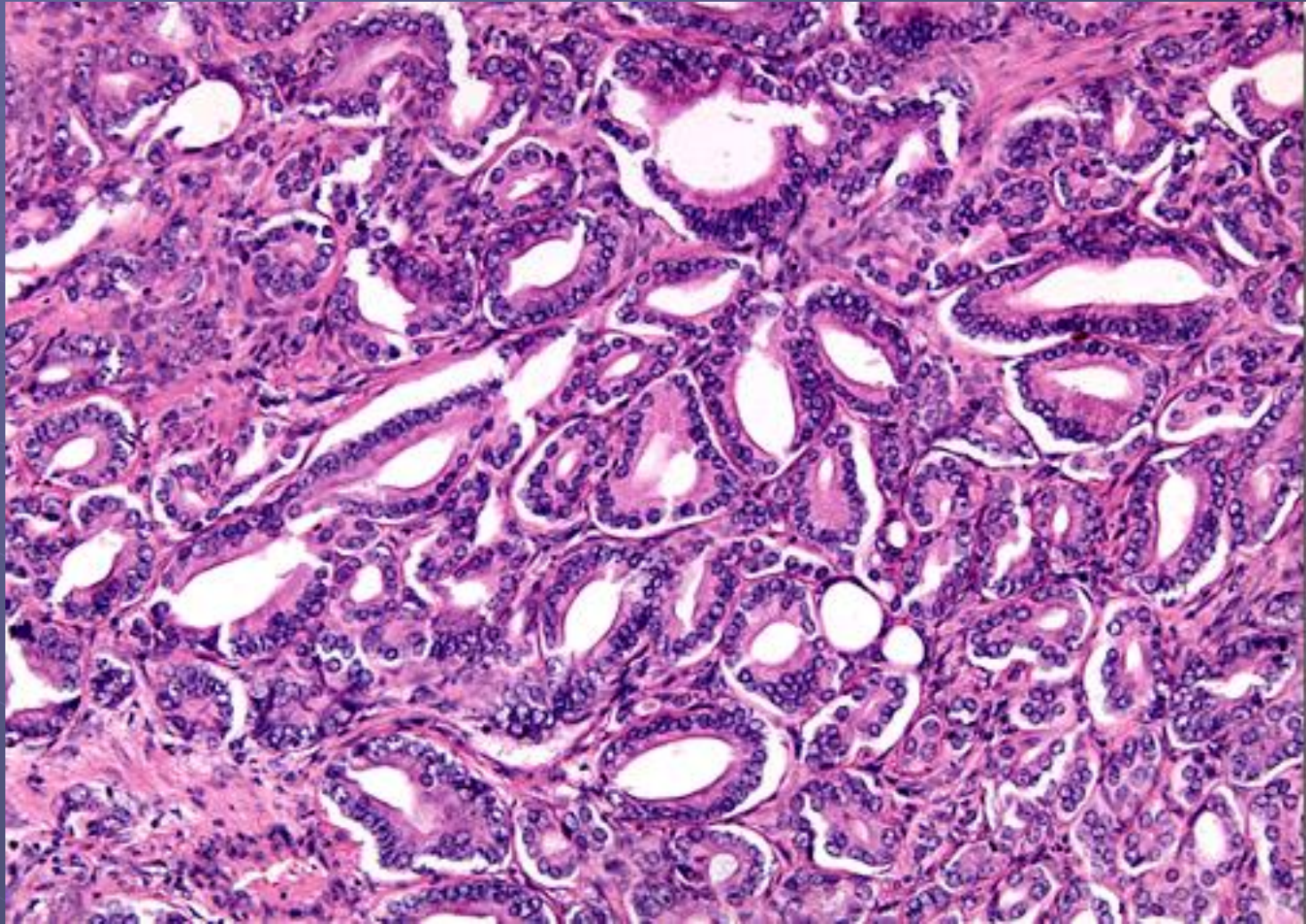


Microscopic photograph of a cross section of a glomerulus with **NODULAR DIABETIC GLOMERULOSCLEROSIS**. The small capillaries that filter blood are distorted or compressed by the nodular scarring (sclerosis).

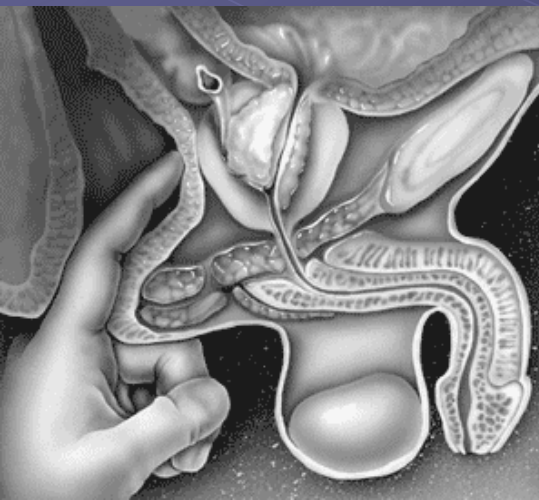
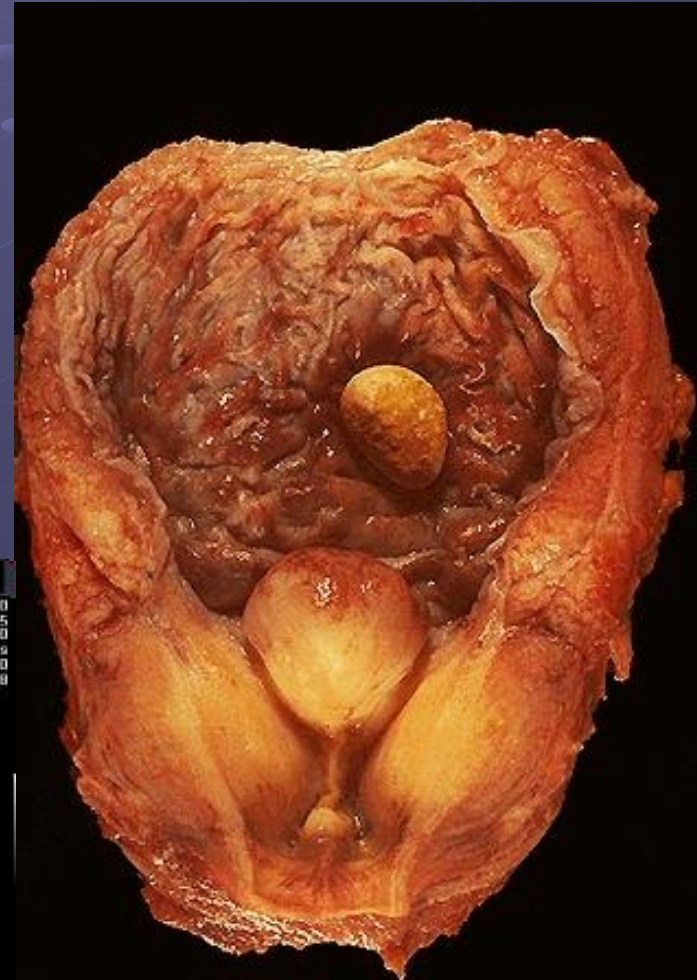
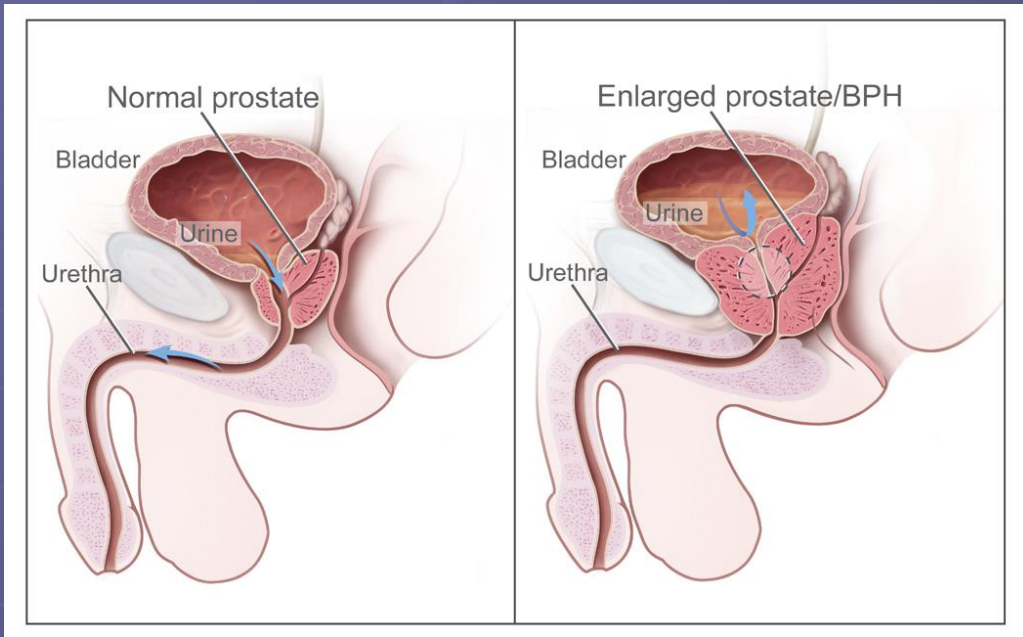
# Prostate Gland



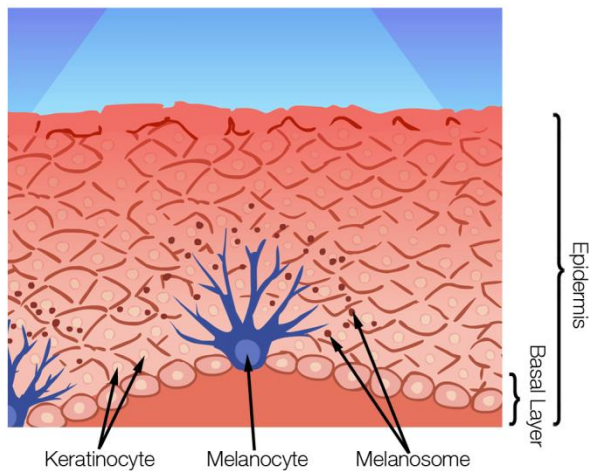
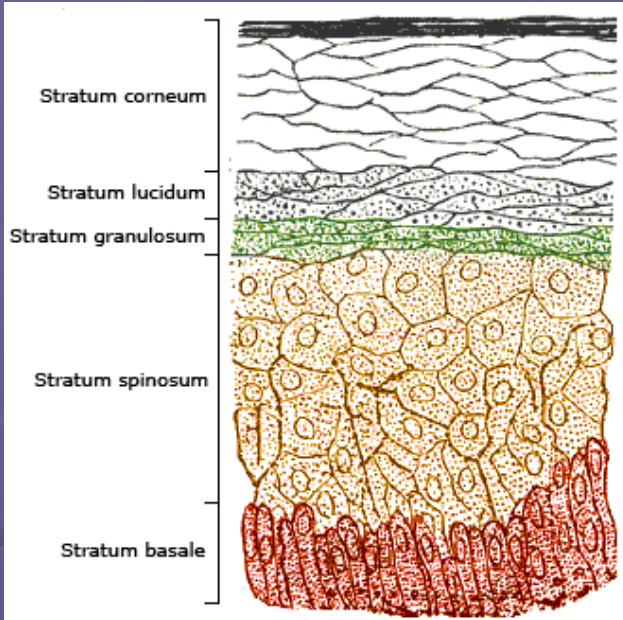
# Benign Prostatic Hyperplasia



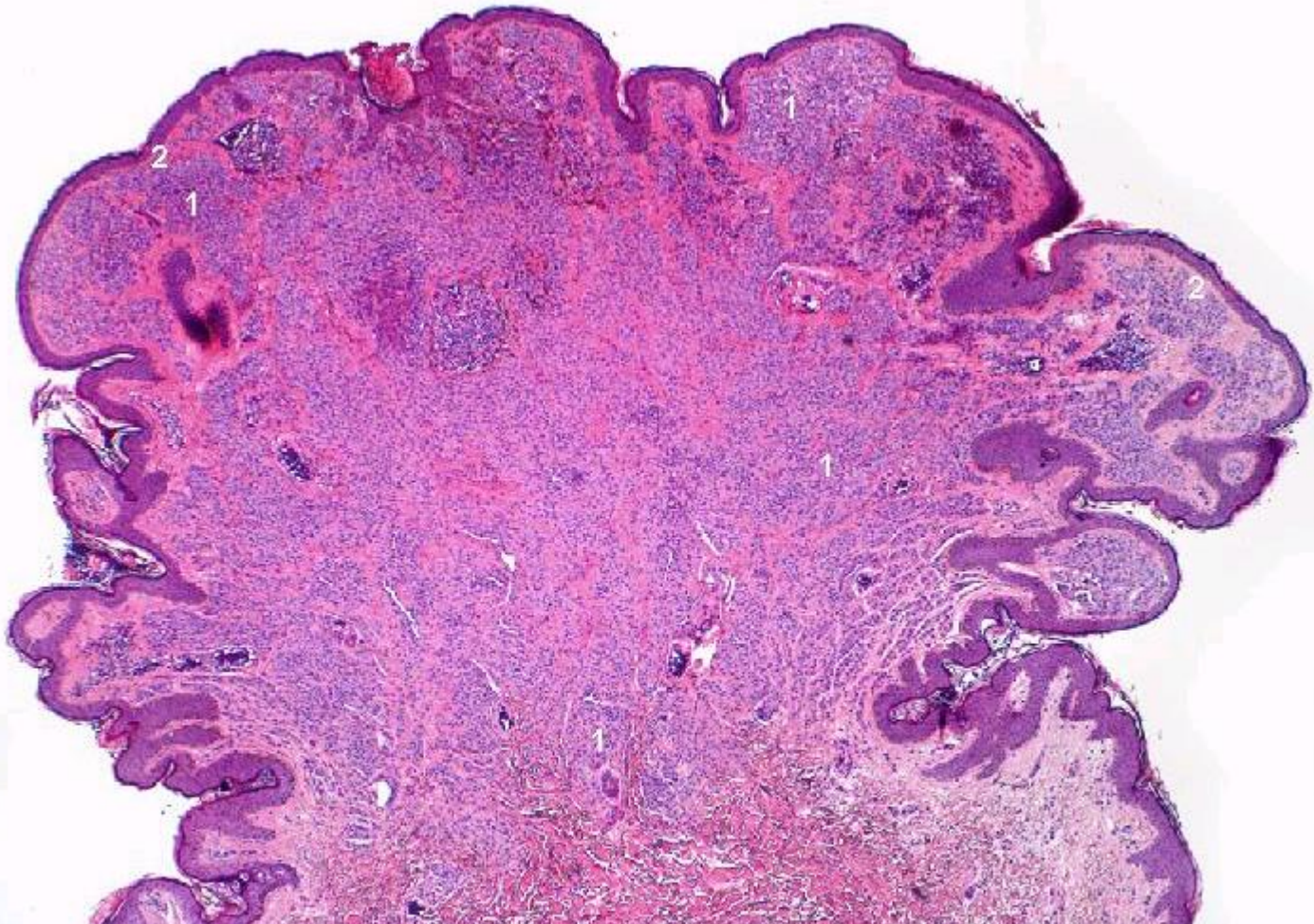
# Benign Prostatic Hyperplasia



# Melanocytic Naevi



# Melanocytic Naevus



**1 melanocytes**

**2 nests of melanocytes**



# Malignant Melanoma

1. Lentigo maligna melanoma
2. Superficial spreading melanoma
3. Acral lentiginous melanoma
4. Nodular melanoma

## ● Breslow thickness

- 0,76 mm: 98%
- 0,76–1,5 mm: 63%
- more than 1,5 mm: 44%

} 5-year survival

## ● Clark's level

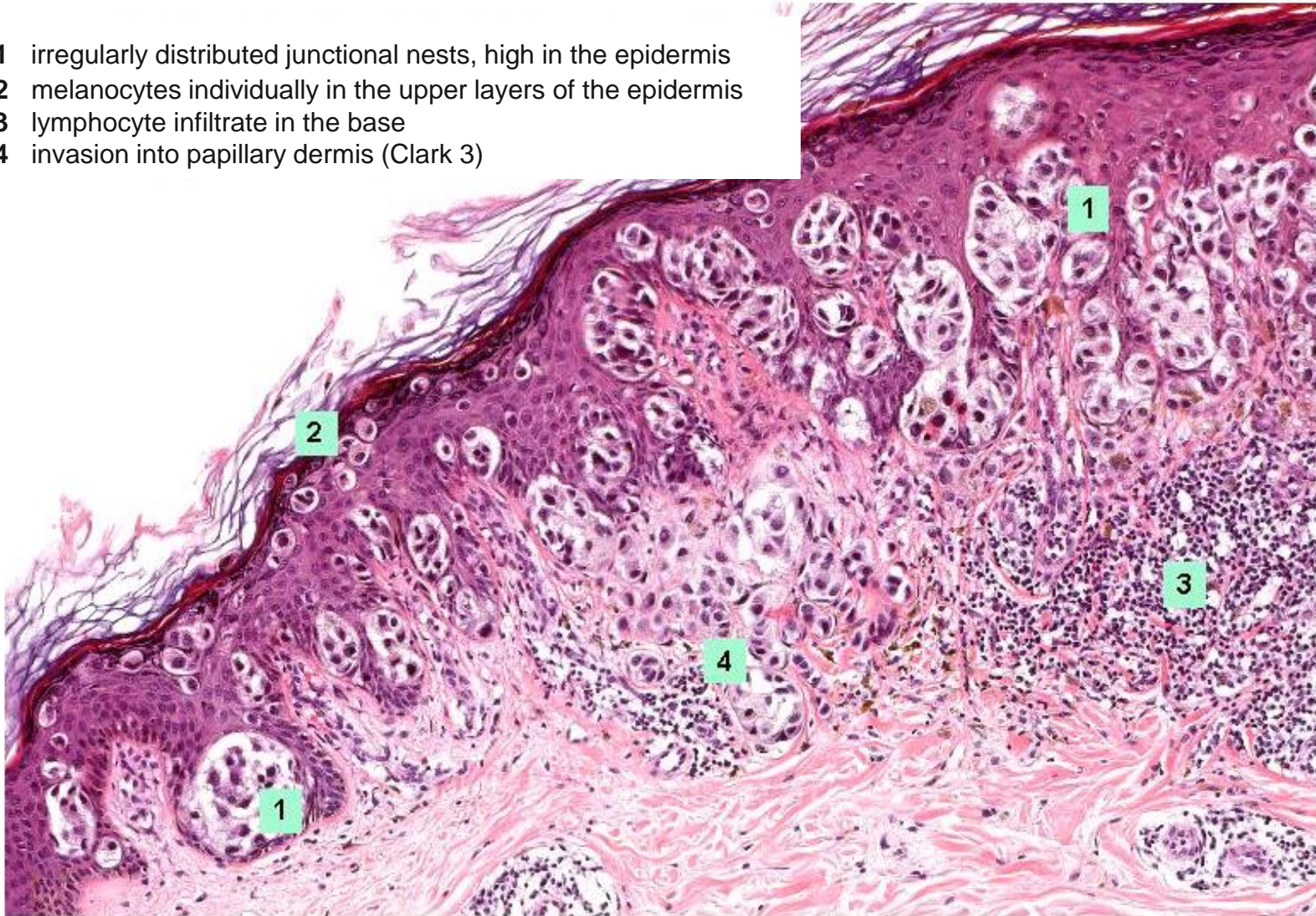
- the level of anatomical invasion of the melanoma in the skin

# Lentigo Maligna Melanoma



# Superficial Spreading Melanoma

- 1 irregularly distributed junctional nests, high in the epidermis
- 2 melanocytes individually in the upper layers of the epidermis
- 3 lymphocyte infiltrate in the base
- 4 invasion into papillary dermis (Clark 3)



# Superficial Spreading Melanoma



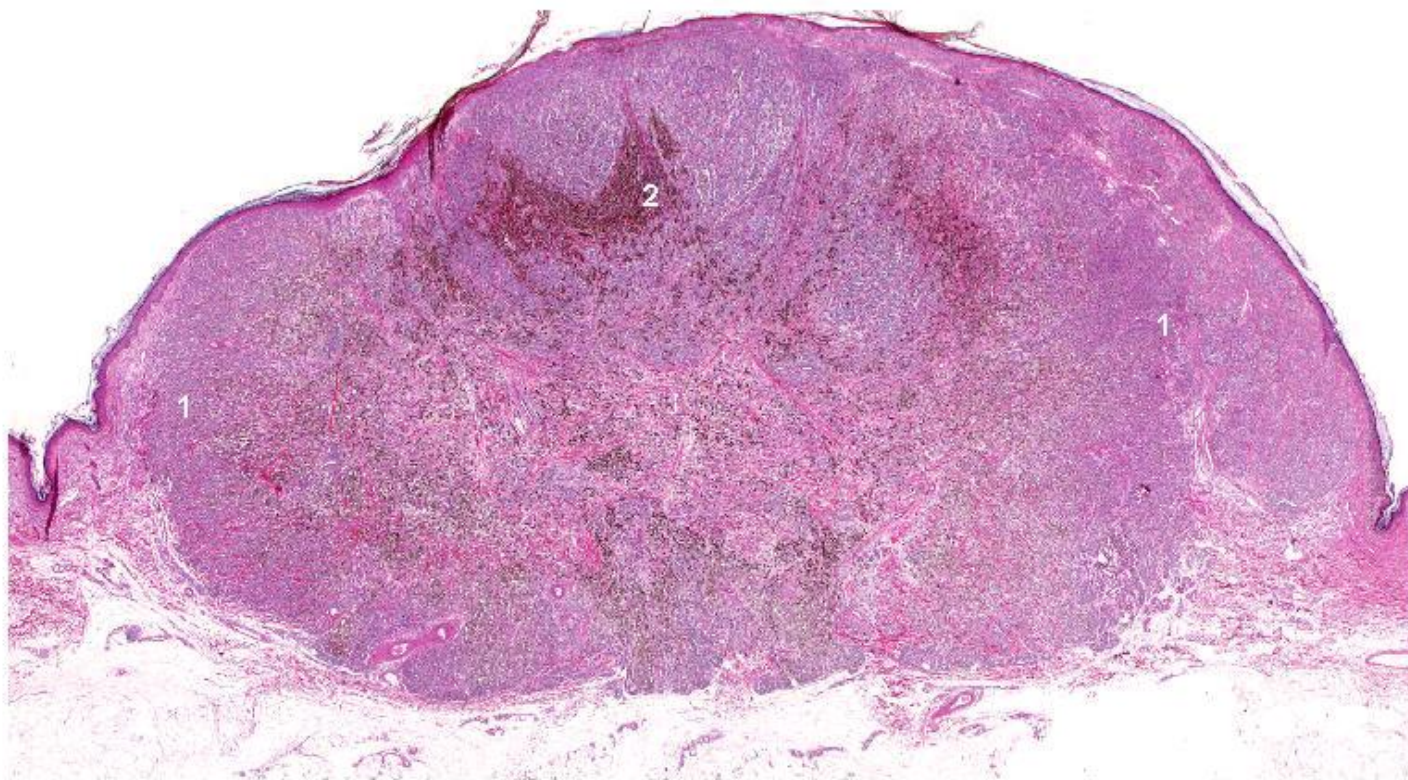
# Acral Lentiginous Melanoma



# Nodular Melanoma

**1** extensive tumor invading adipose tissue

**2** focal melanin production

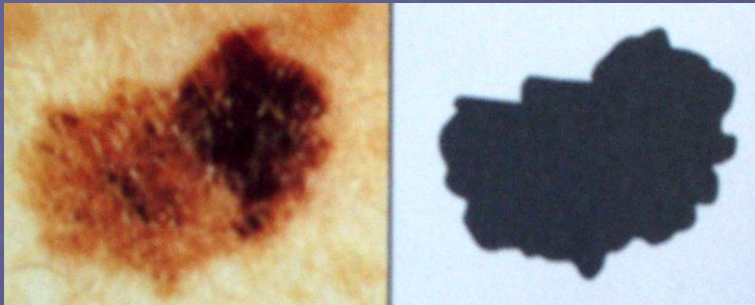


# Nodular Melanoma

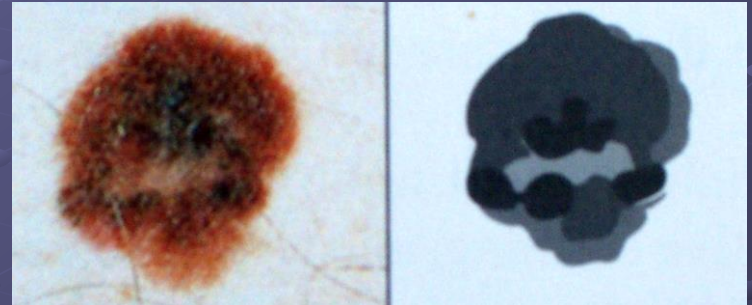


# ABCD Rule

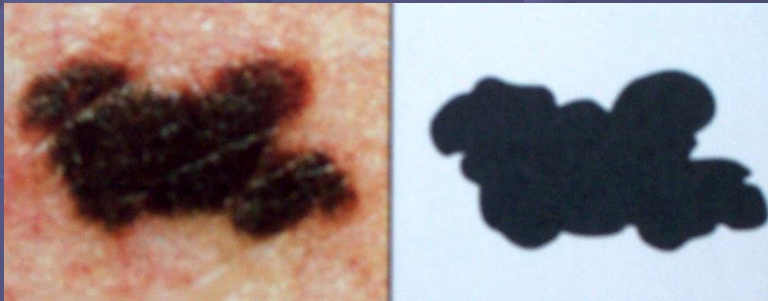
## ● A (Asymmetry)



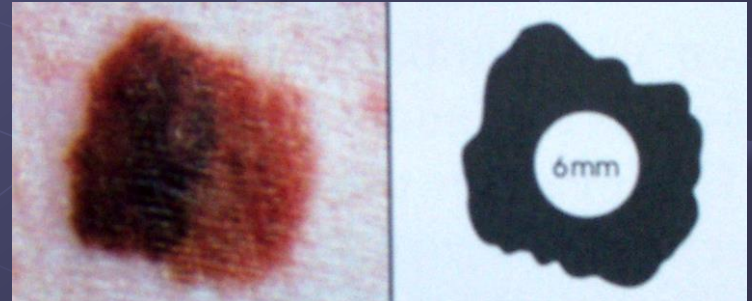
## ● C (Colour)



## ● B (Border)



## ● D (Diameter)



- pain, erythema and swelling, itching, bleeding, scarring



# Malignant Melanoma Metastases

