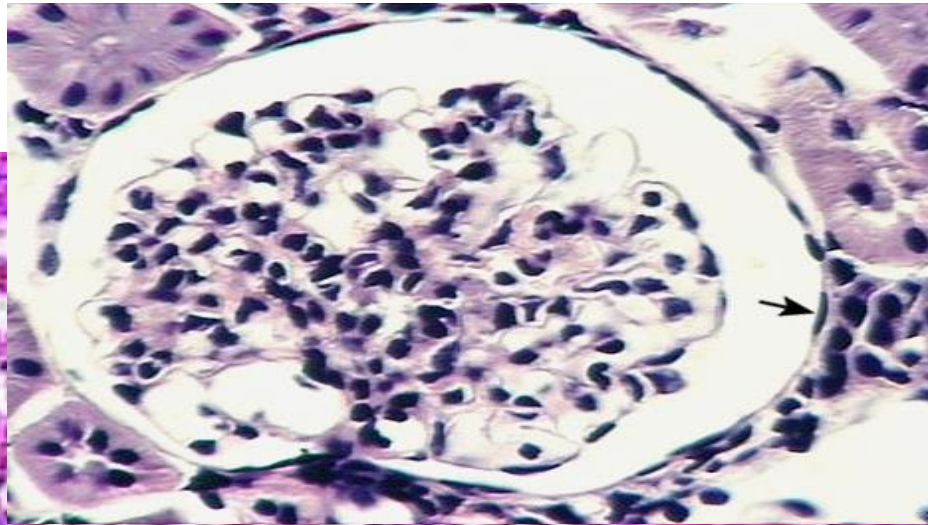
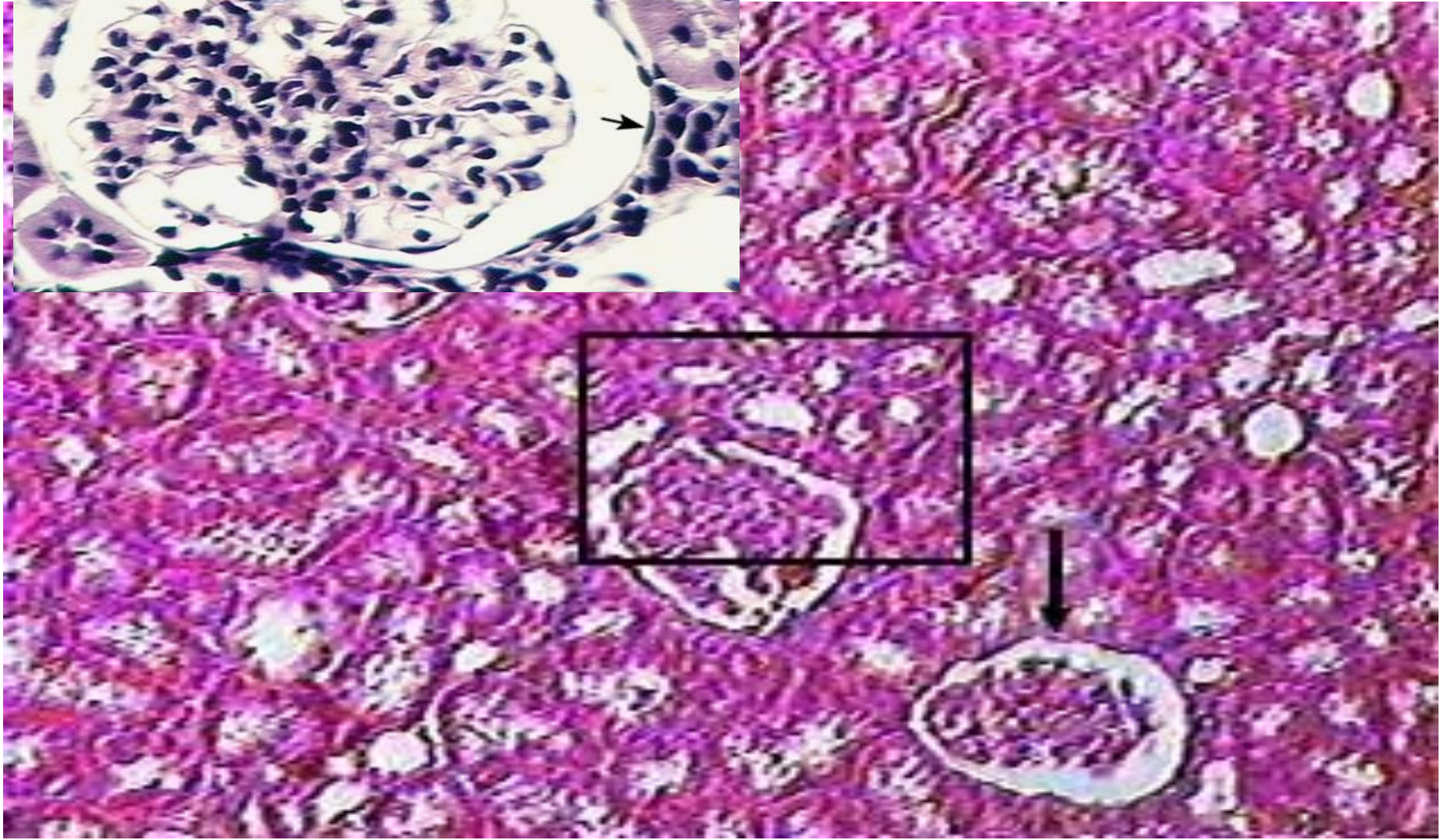


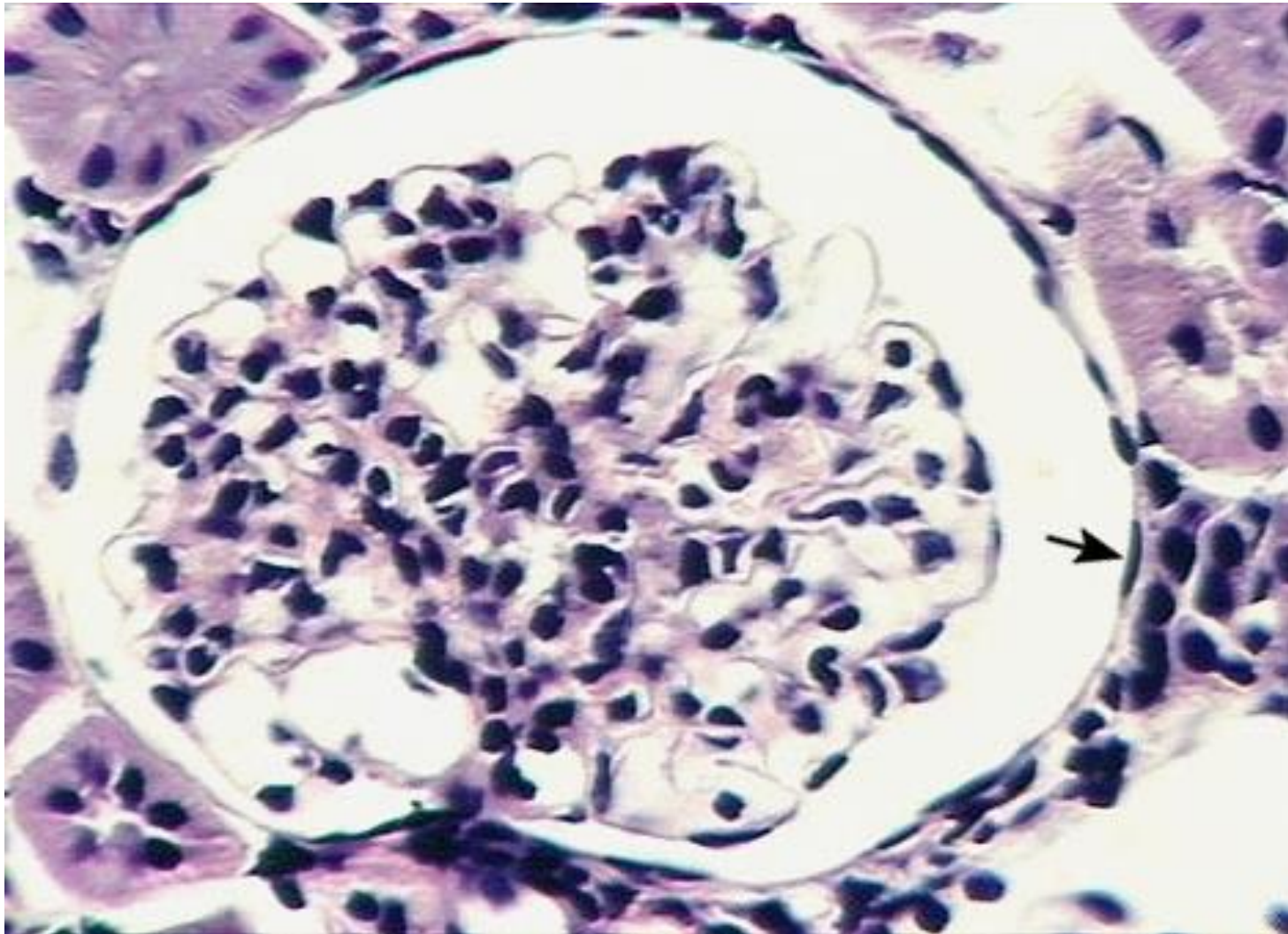
Bowman's capsule



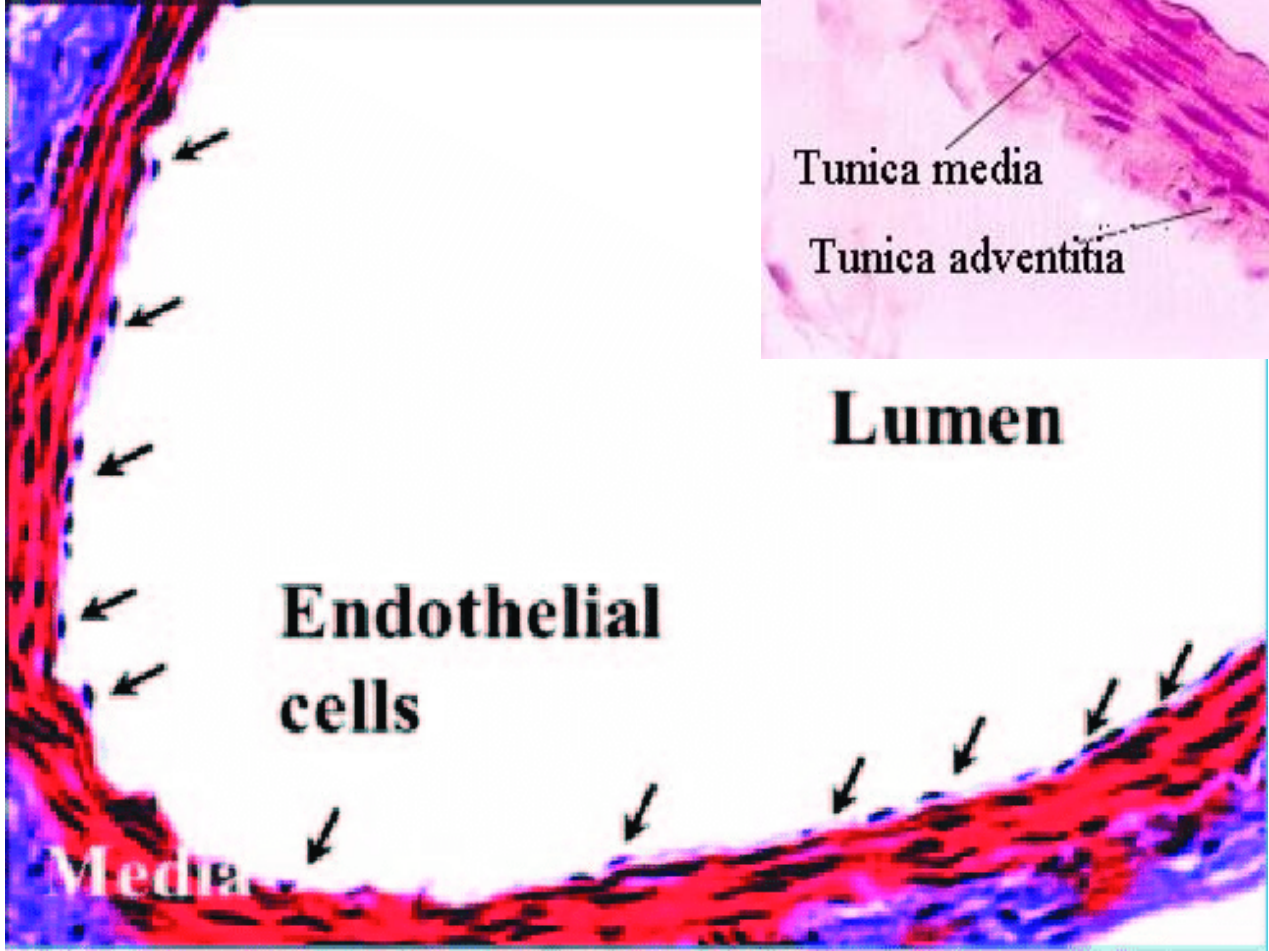
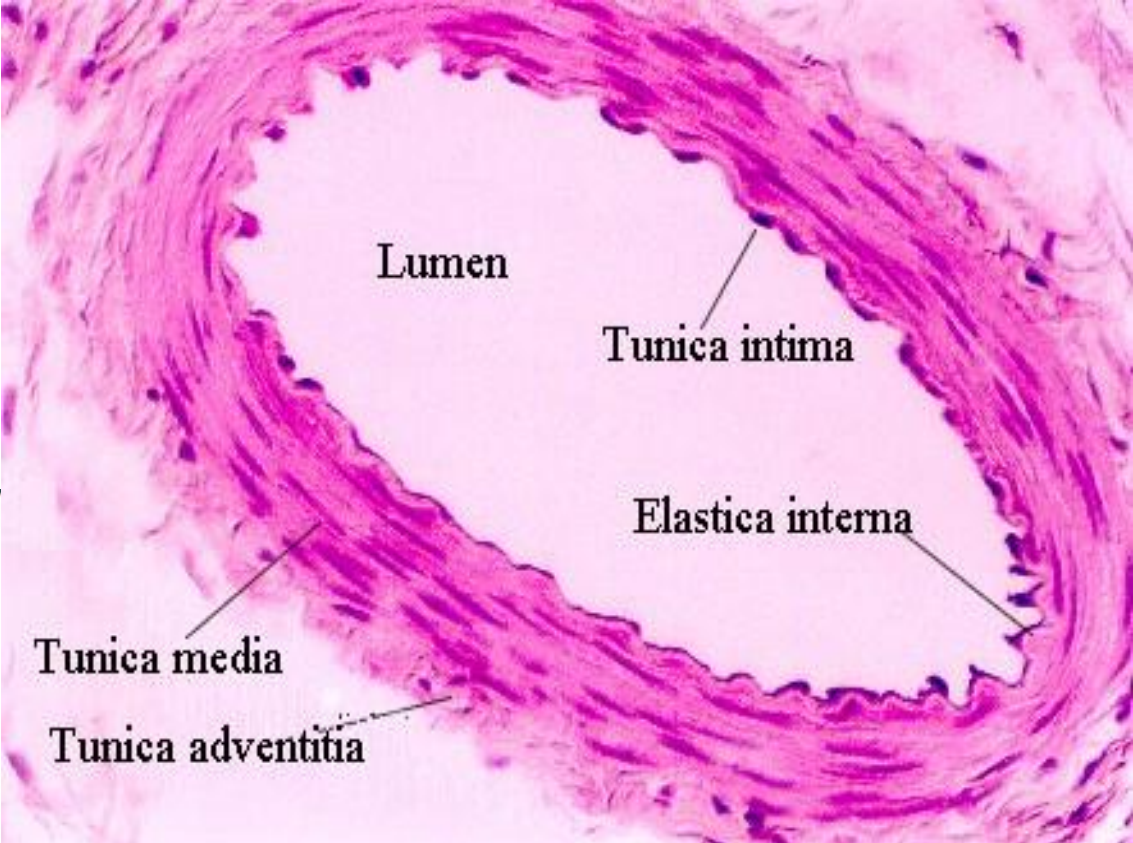
Bowman's capsule



Bowman's capsule

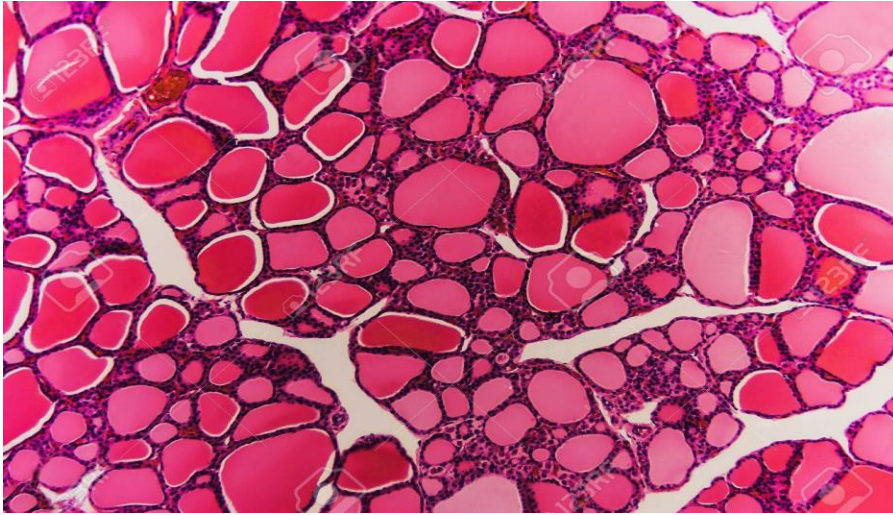


Endothelium

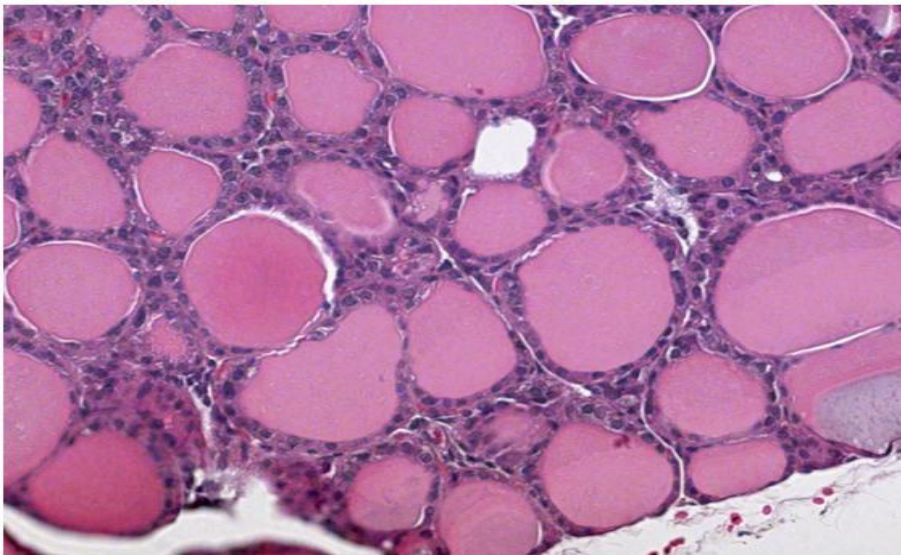
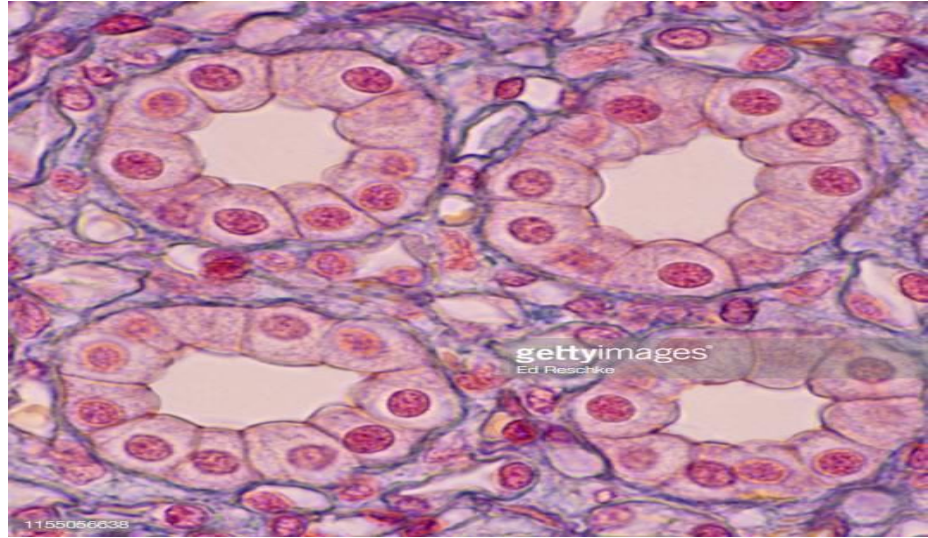


Simple cuboidal

Thyroid gland



kidney tubules

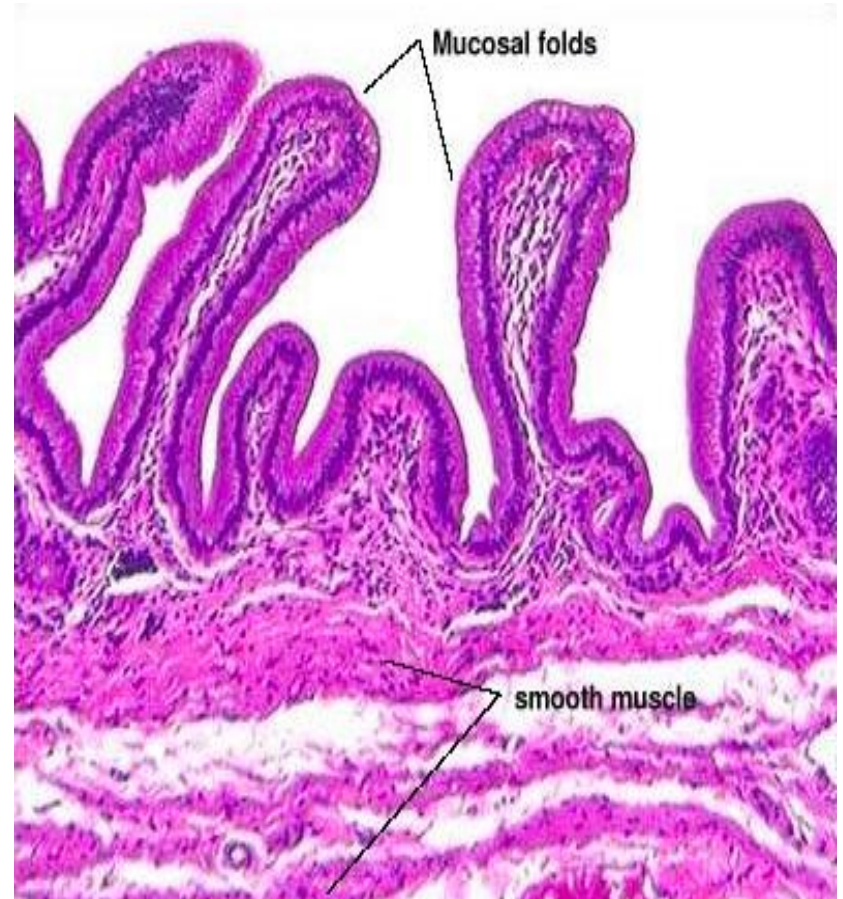


Site: Thyroid gland
secretion

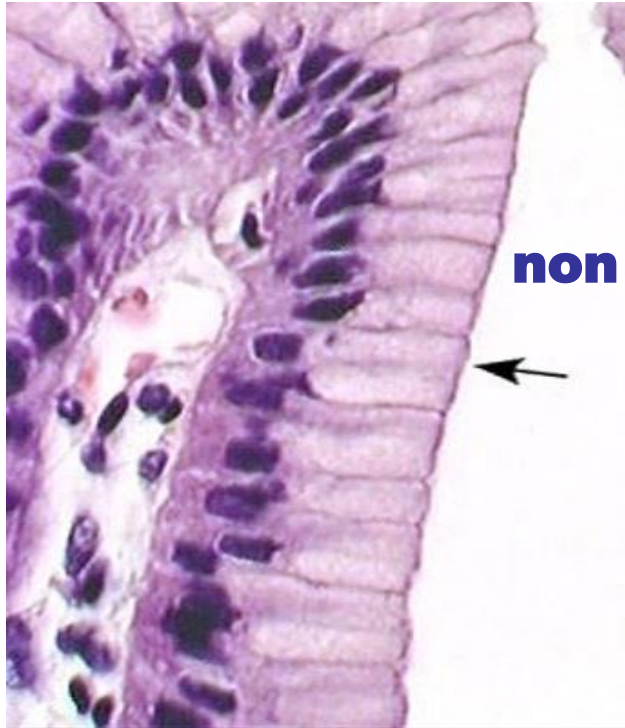
- kidney tubules
ion exchange

Simple columnar

non ciliated



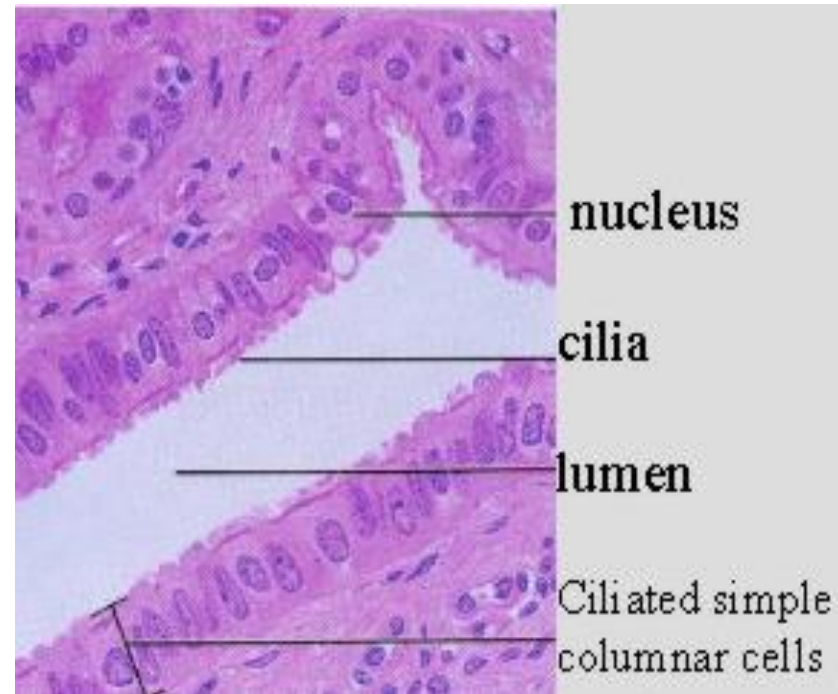
Simple columnar



non ciliated

- **Sites: ducts of glands: secretion**
- **digestive tract : absorption**

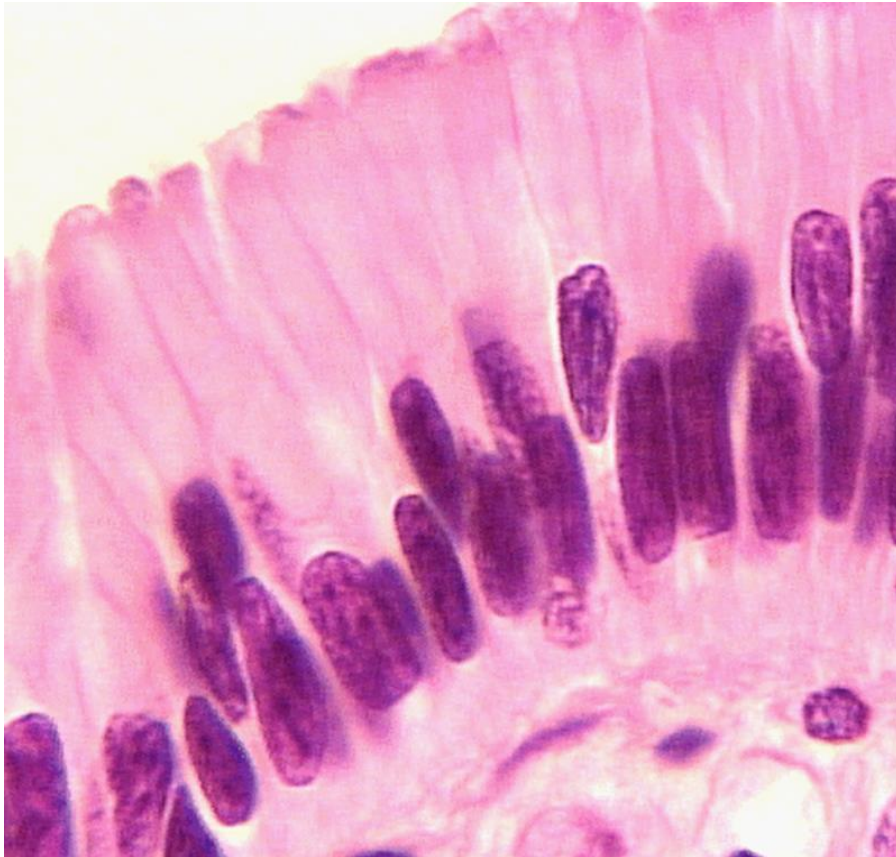
columnar ciliated •



- **Sites: uterus, oviduct & bronchiole of the lung (movement of luminal contents)**

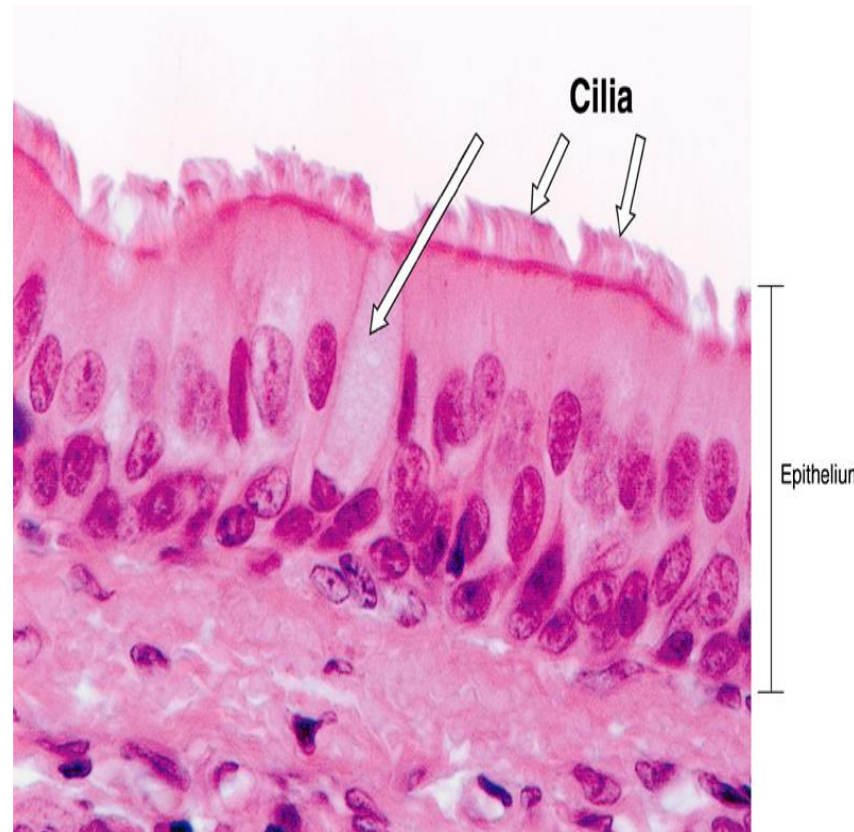
Pseudostratified columnar

non ciliated



Sites: Male genital tract – large ducts of glands: (secretion)

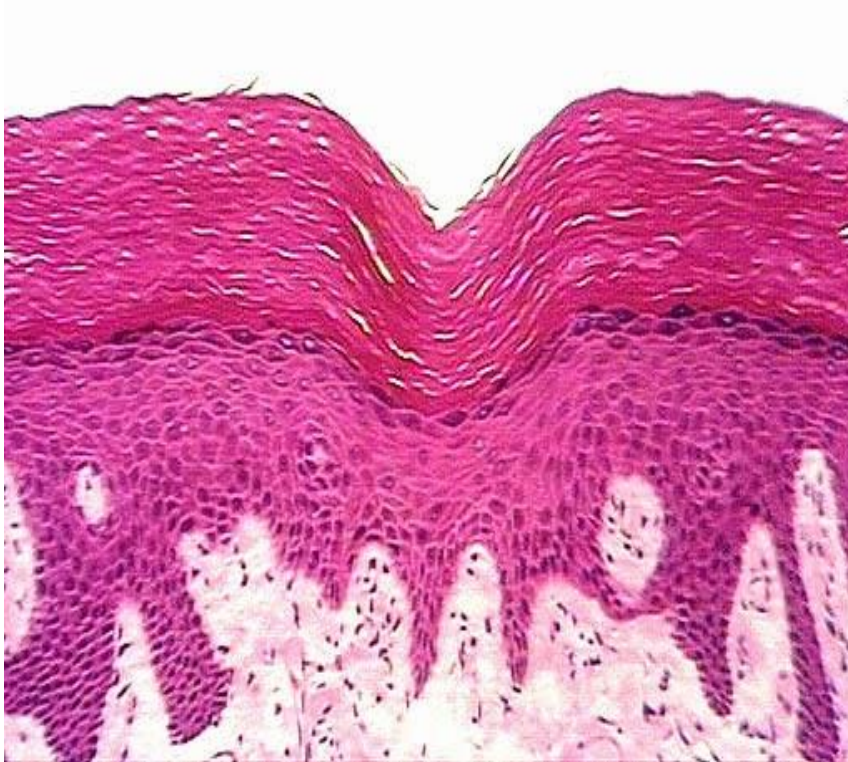
ciliated



Sites: Nose- Trachea

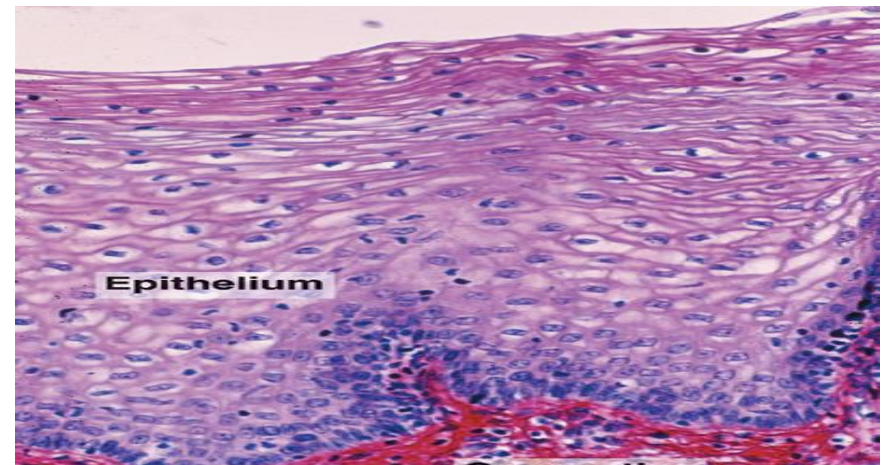
Stratified squamous

Keratinized



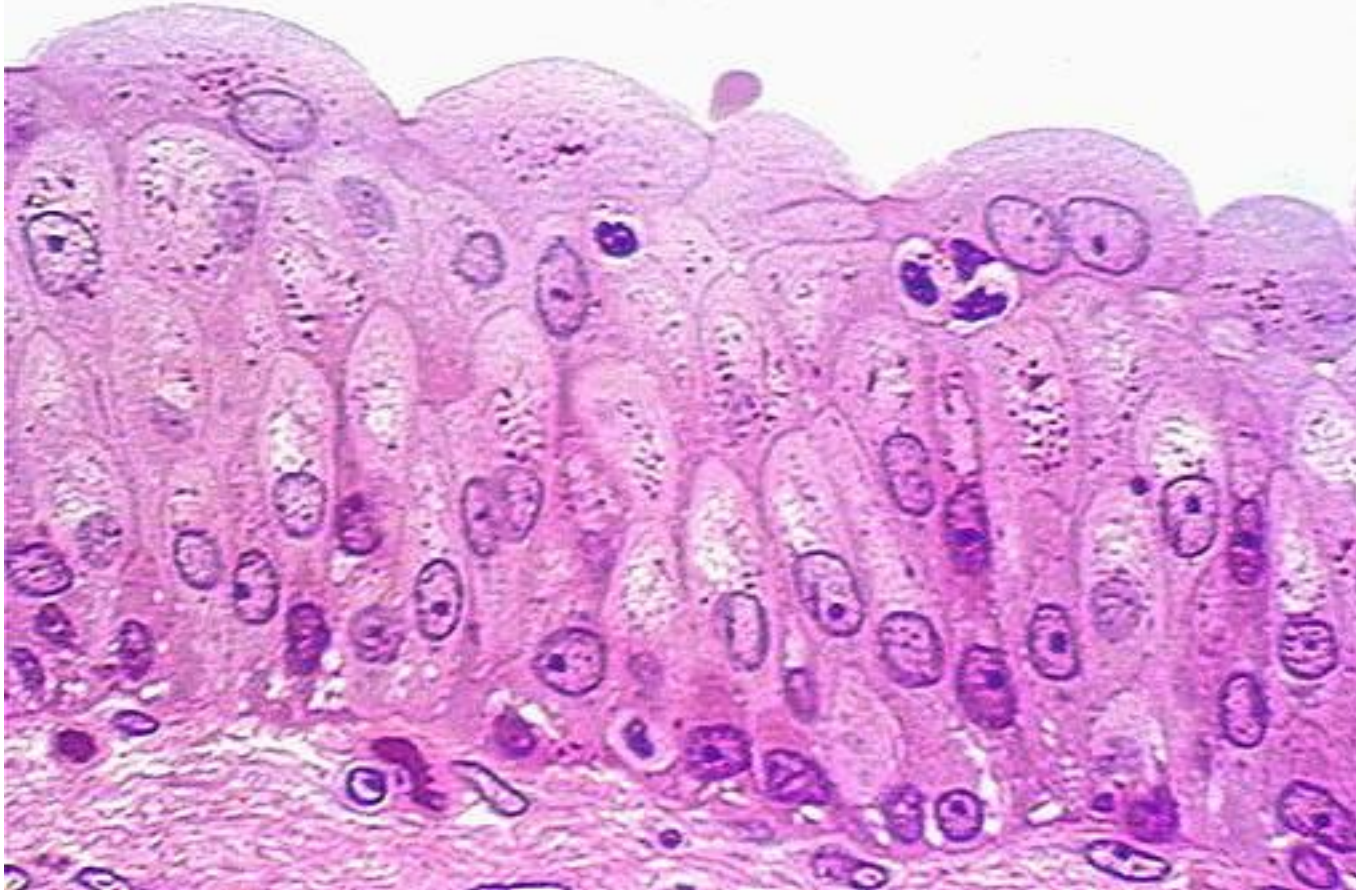
skin

Non Keratinized



Oesophagus- vagina

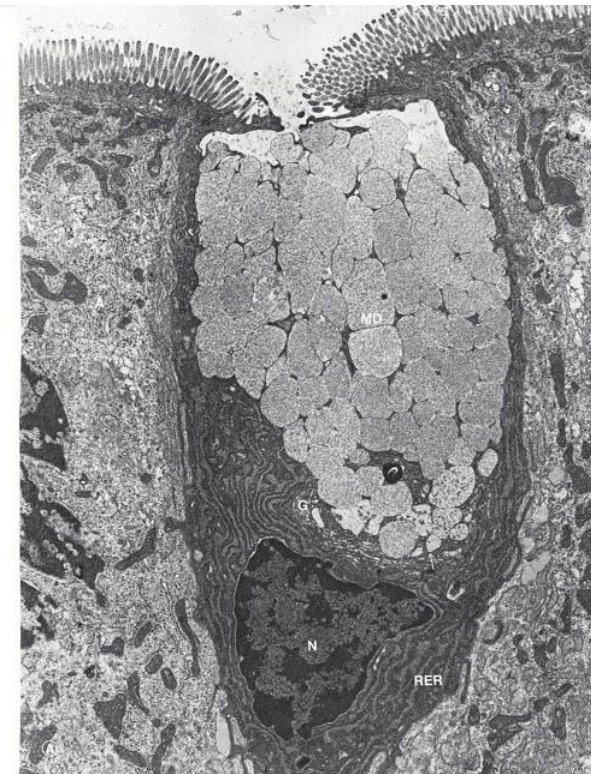
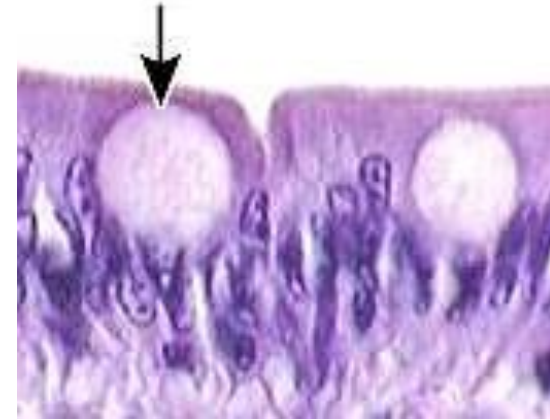
Transitional epithelium



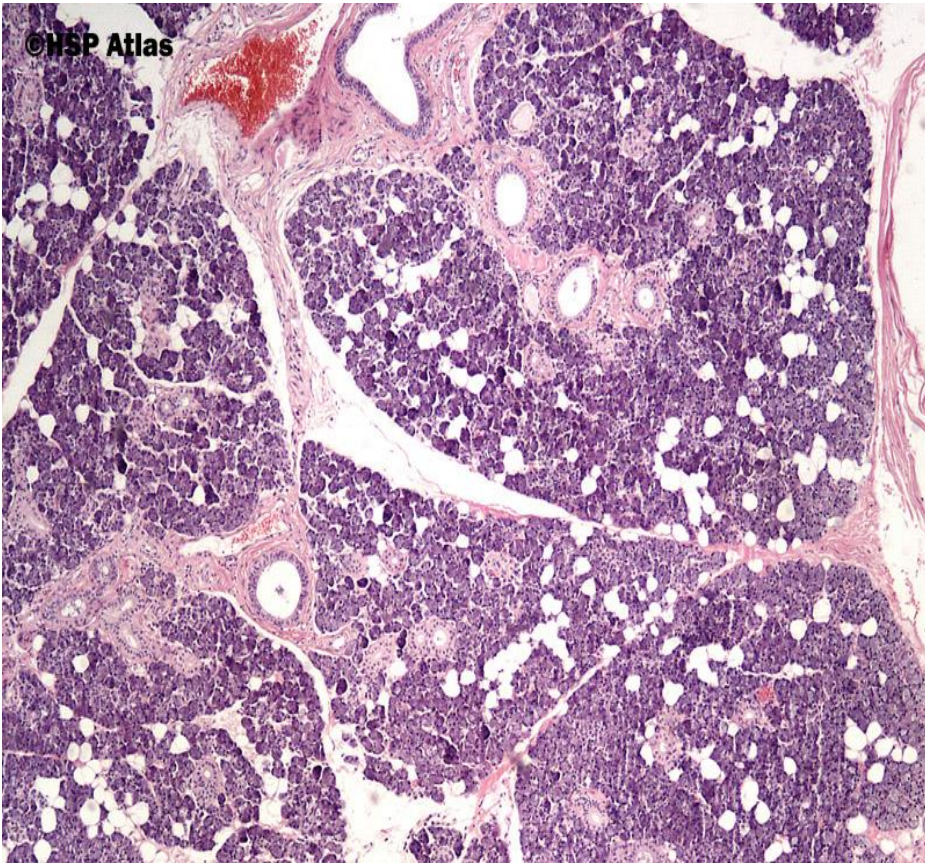
(urinary bladder - empty)

Goblet cells

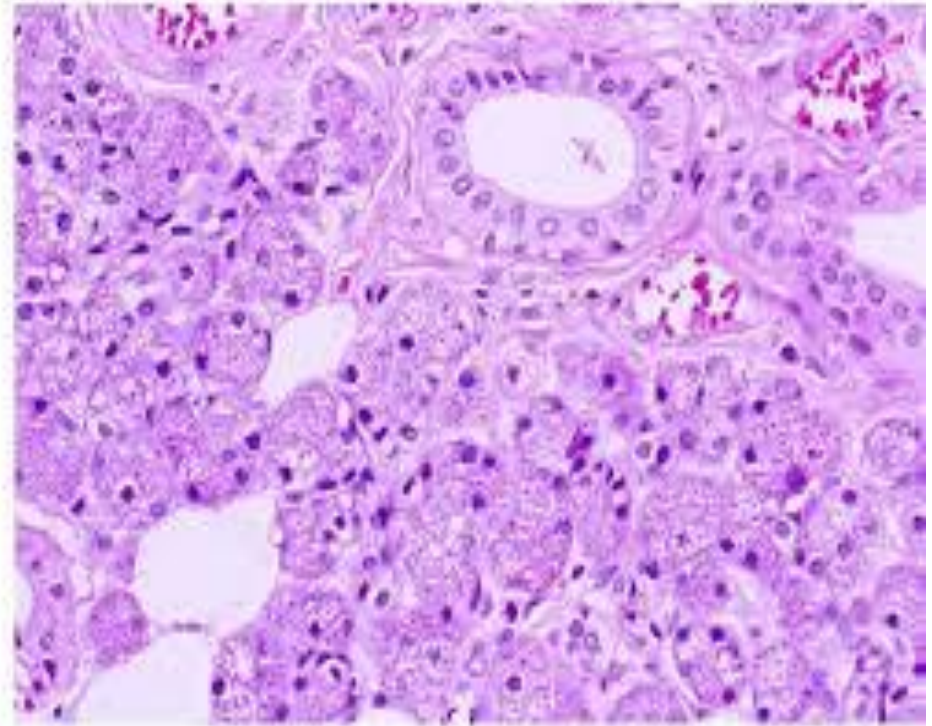
- Unicellular
- Exocrine
- Shape of the cell : flask shape with basal nuclei
- **Mode** of secretion: Merocrine
- **Nature** of secretion : Mucus
- **Site** : Respiratory system , GIT



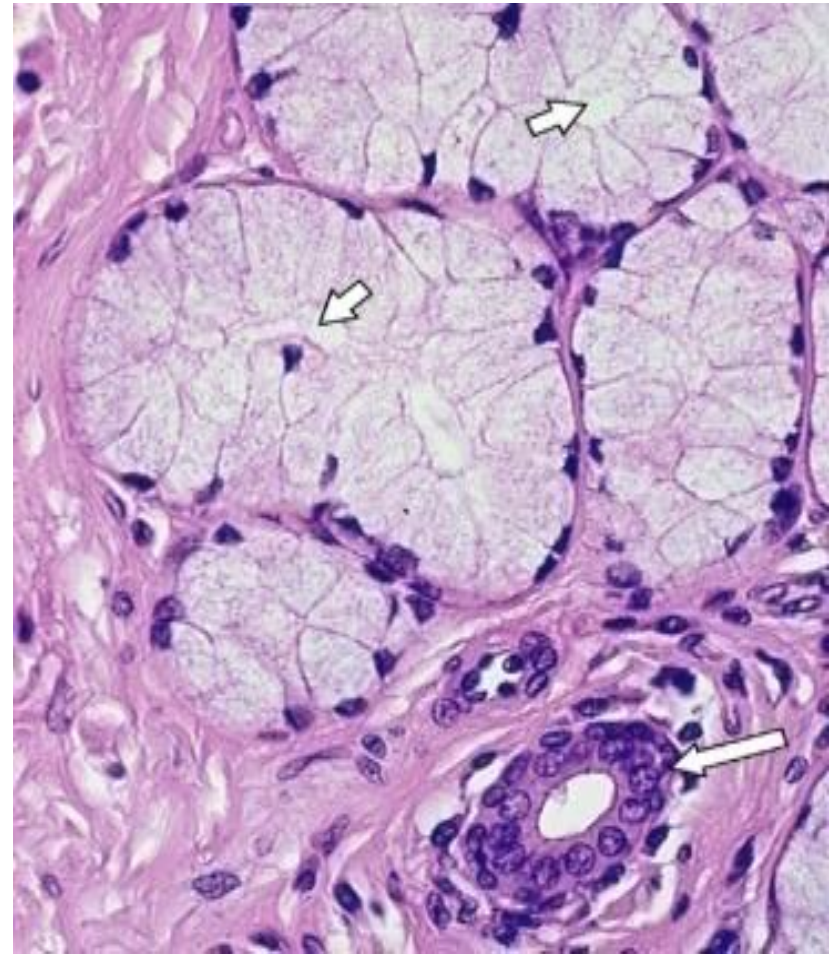
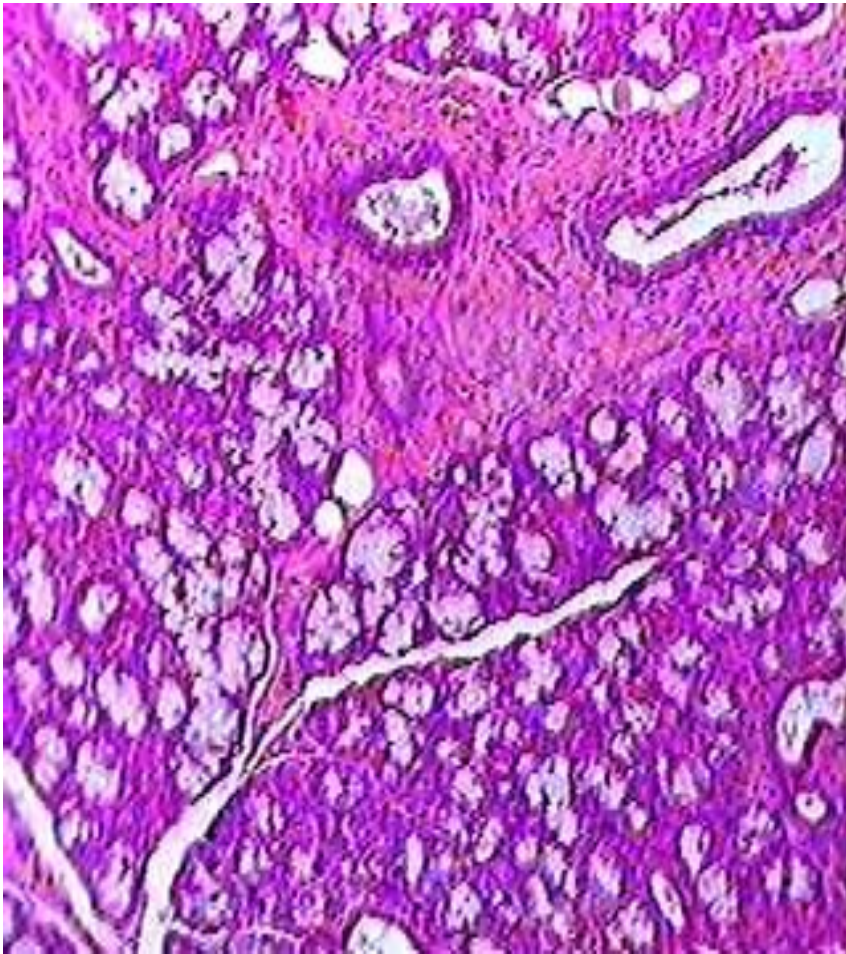
Serous glands, which secrete a watery secretion rich in enzymes e.g. parotid salivary gland.



Parotid Gland

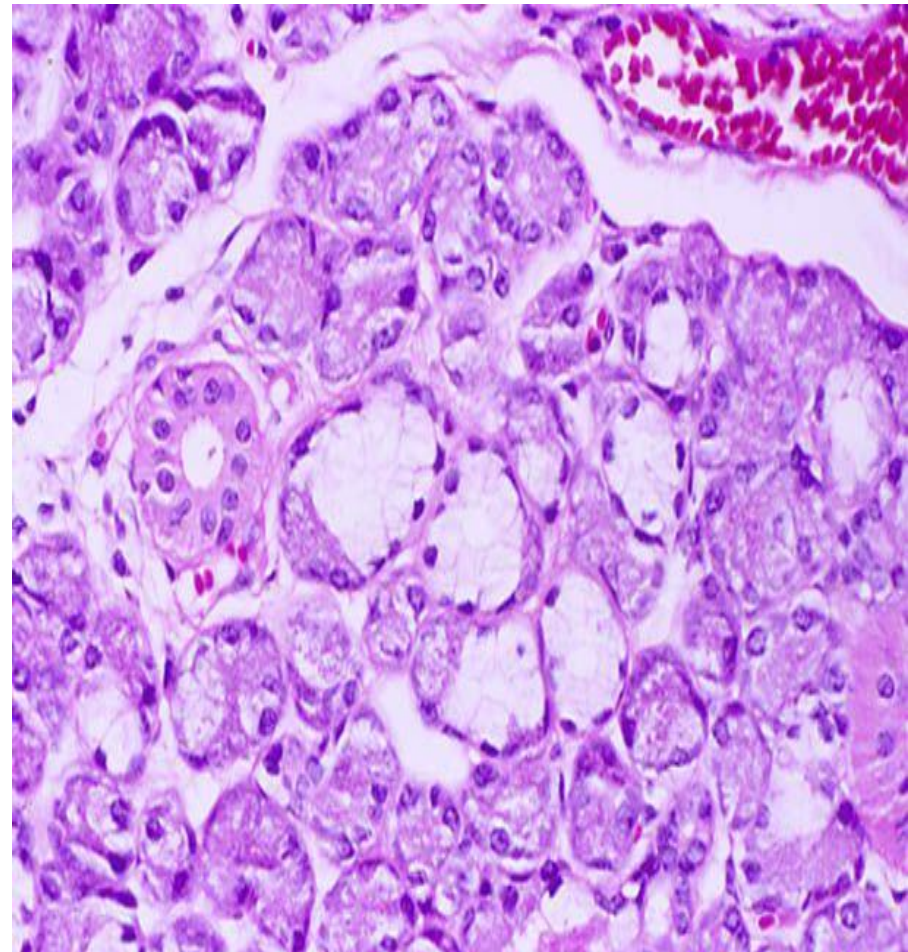
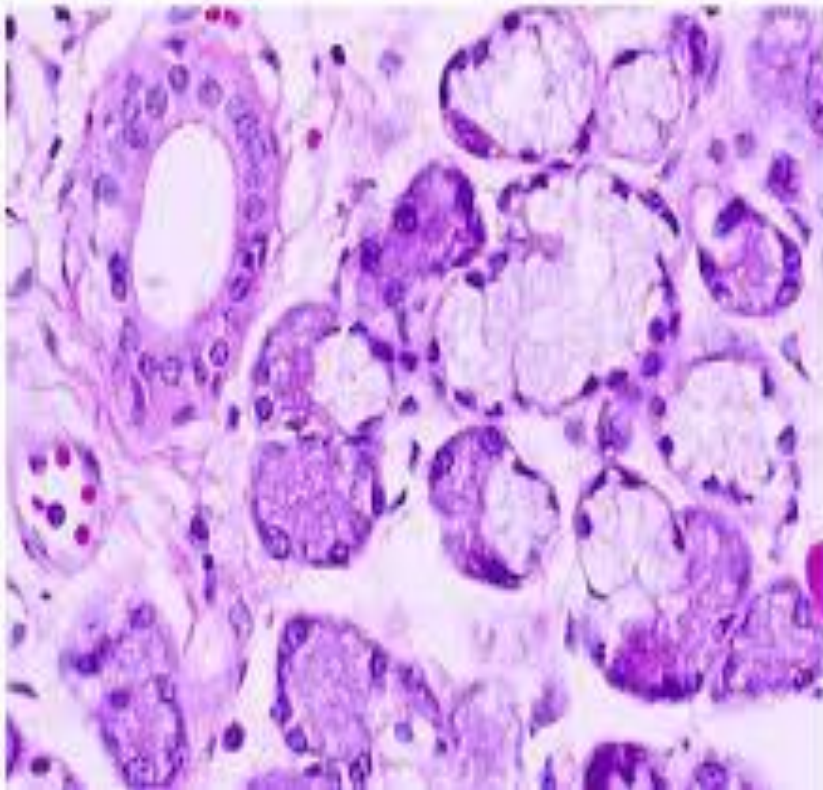


Mucous glands, which secrete a viscid glycoprotein secretion e.g. goblet cells and sublingual salivary gland.

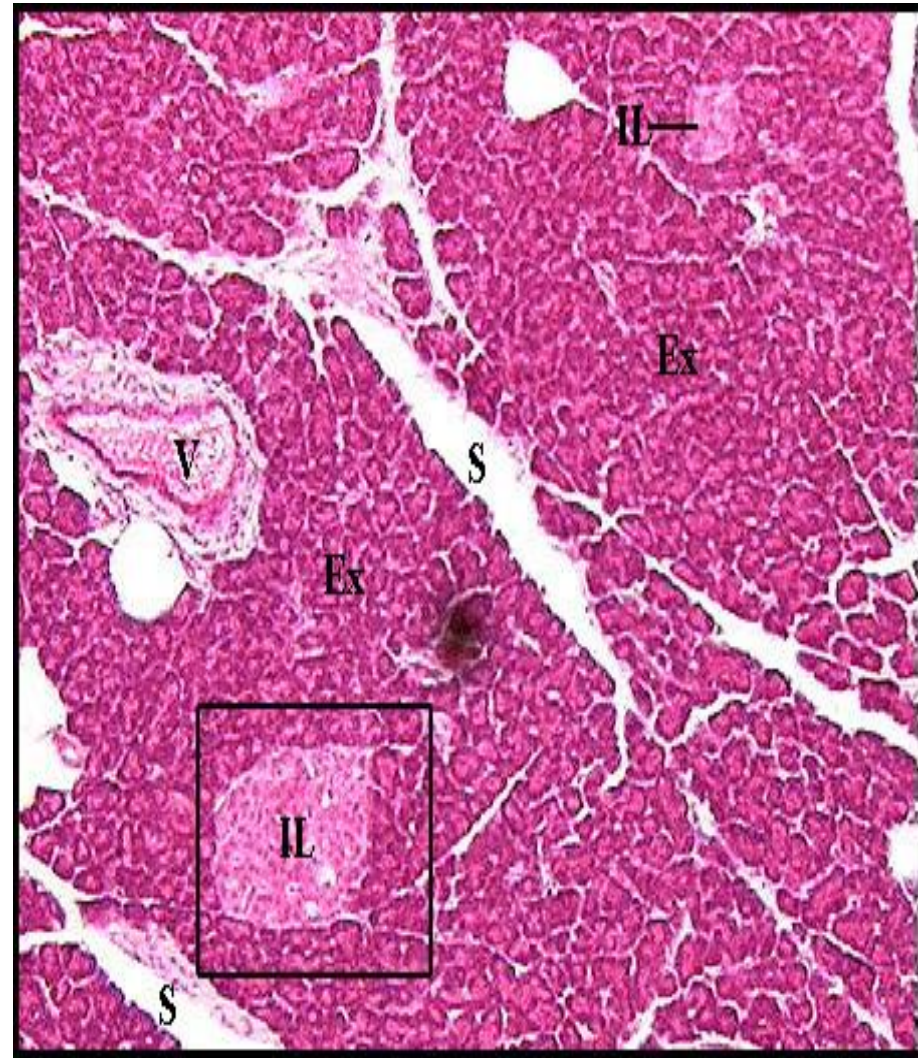
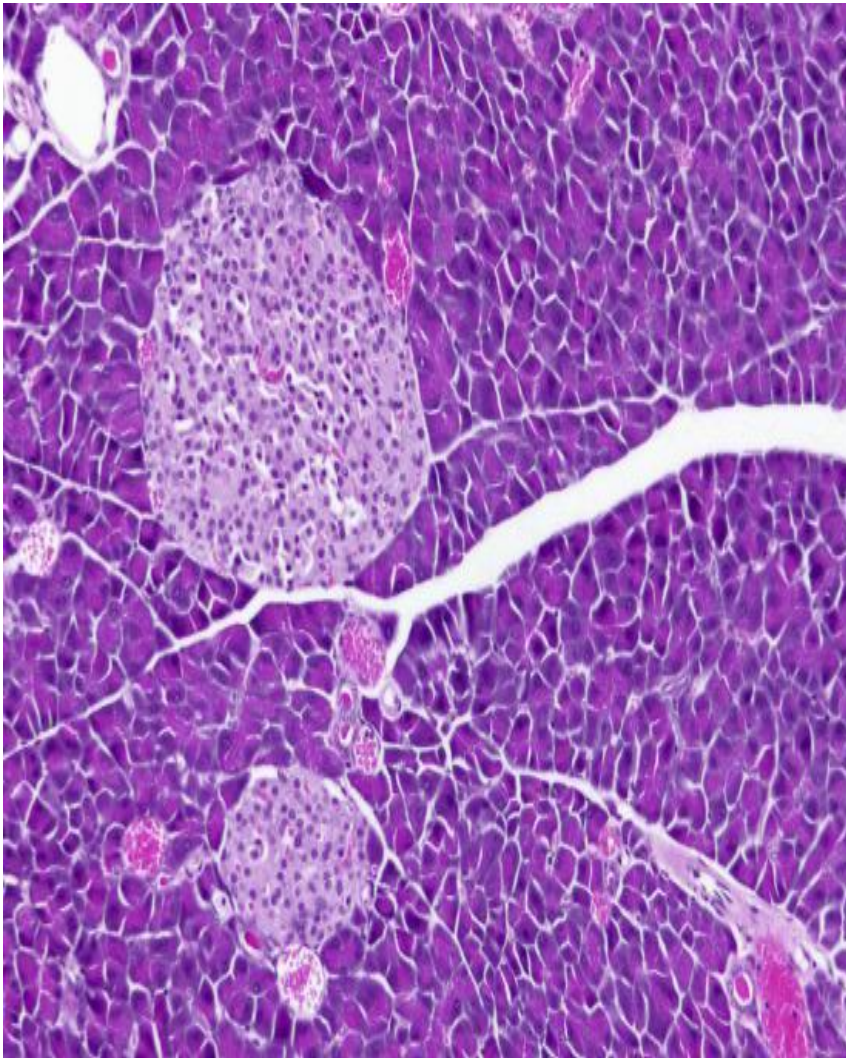


Mixed glands, which secrete both mucous and serous secretions e.g. submandibular salivary gland.

Submandibular Gland

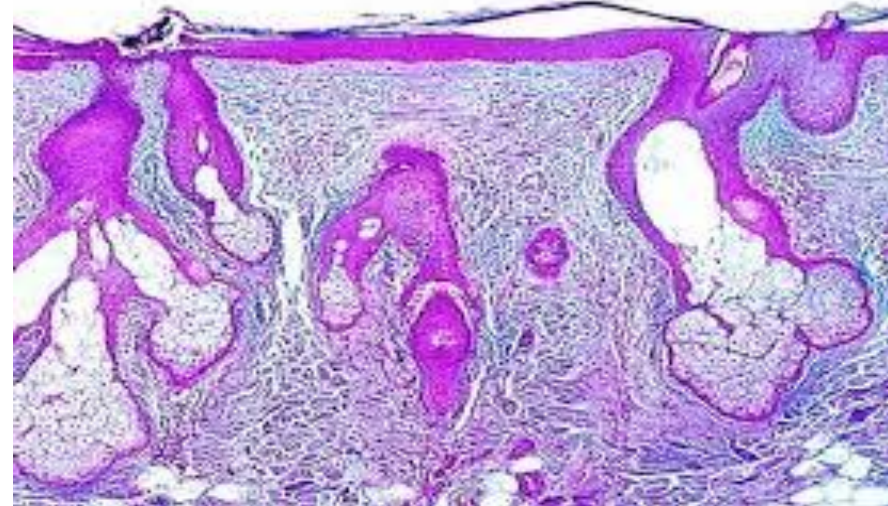
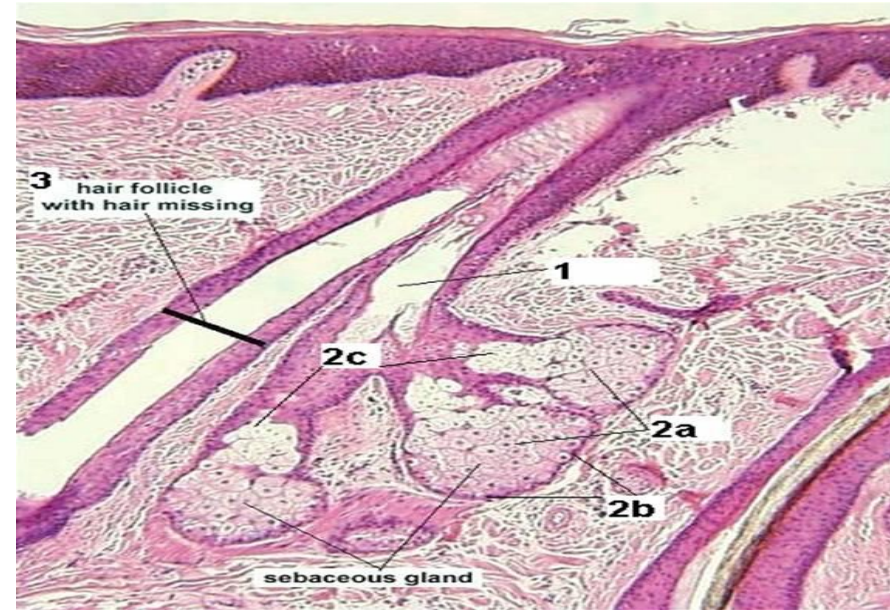


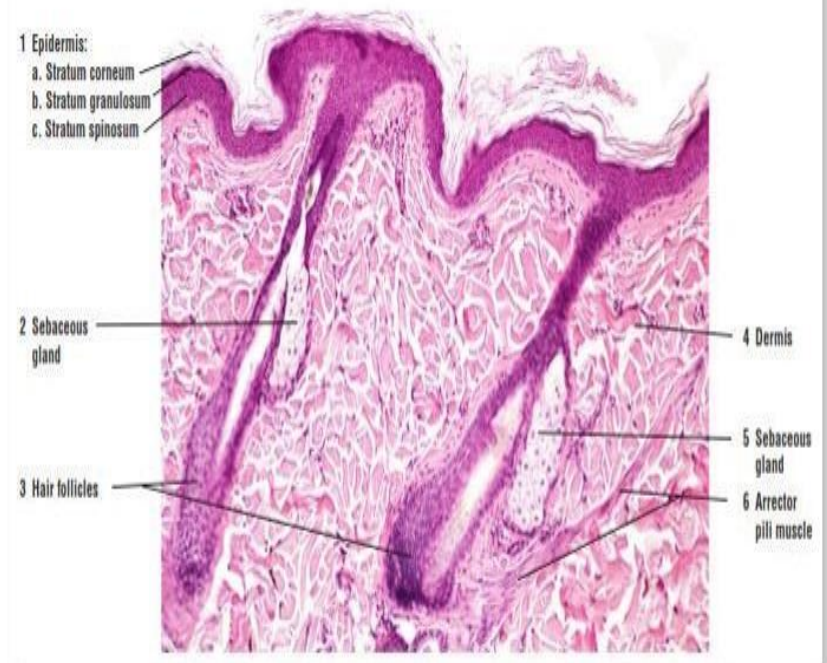
Mixocrine = pancreas



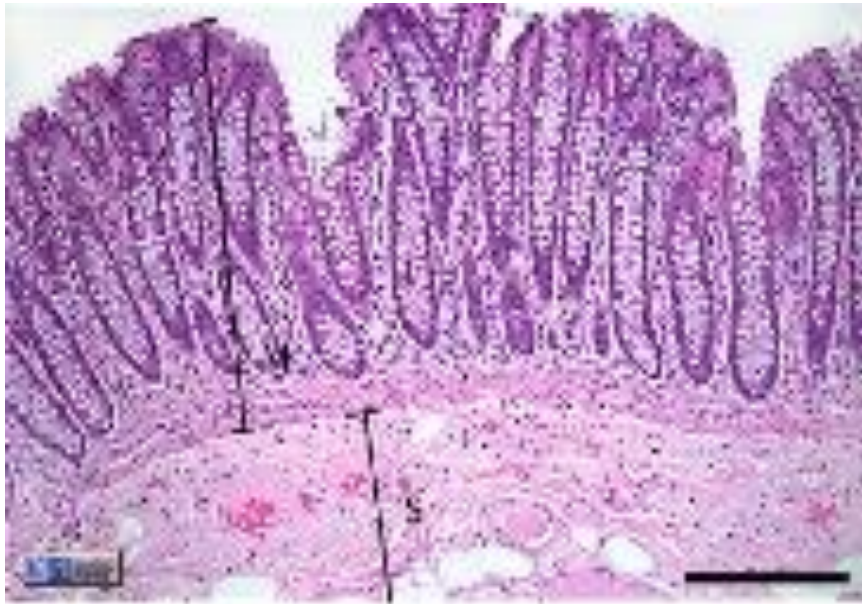
Sebaceous gland

- Exocrine
- Mode : Holocrine
- **Nature : (oily secretion)**
- **Shape of secretory units :
Branched alveolar**
- **Site : Related to hair follicles**
- Activity of the gland increase at the age of puberty
- Obstruction of the duct by thick secretion & keratin → Acne

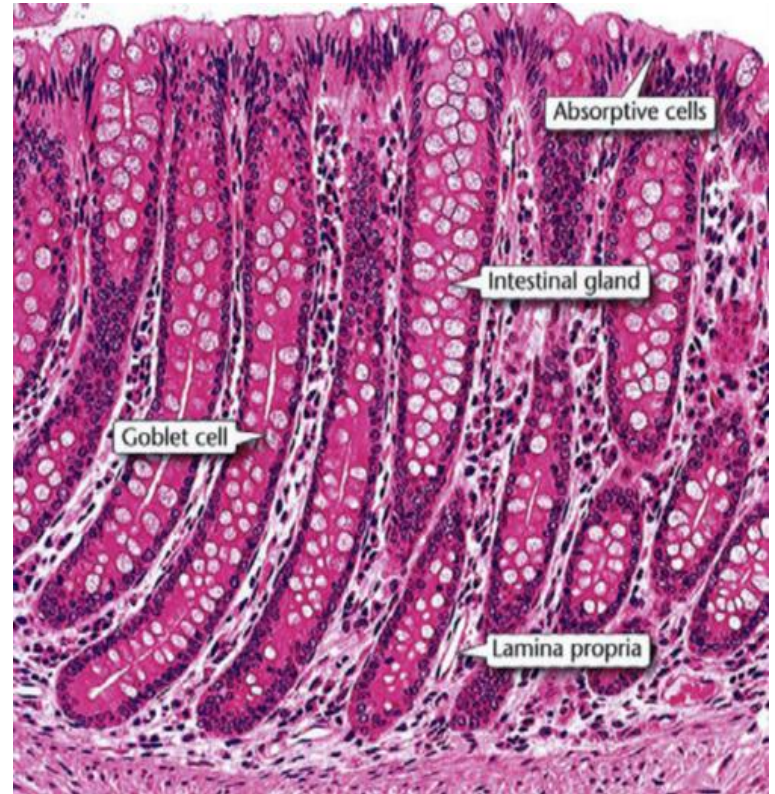




Tubular gland + goblet cell

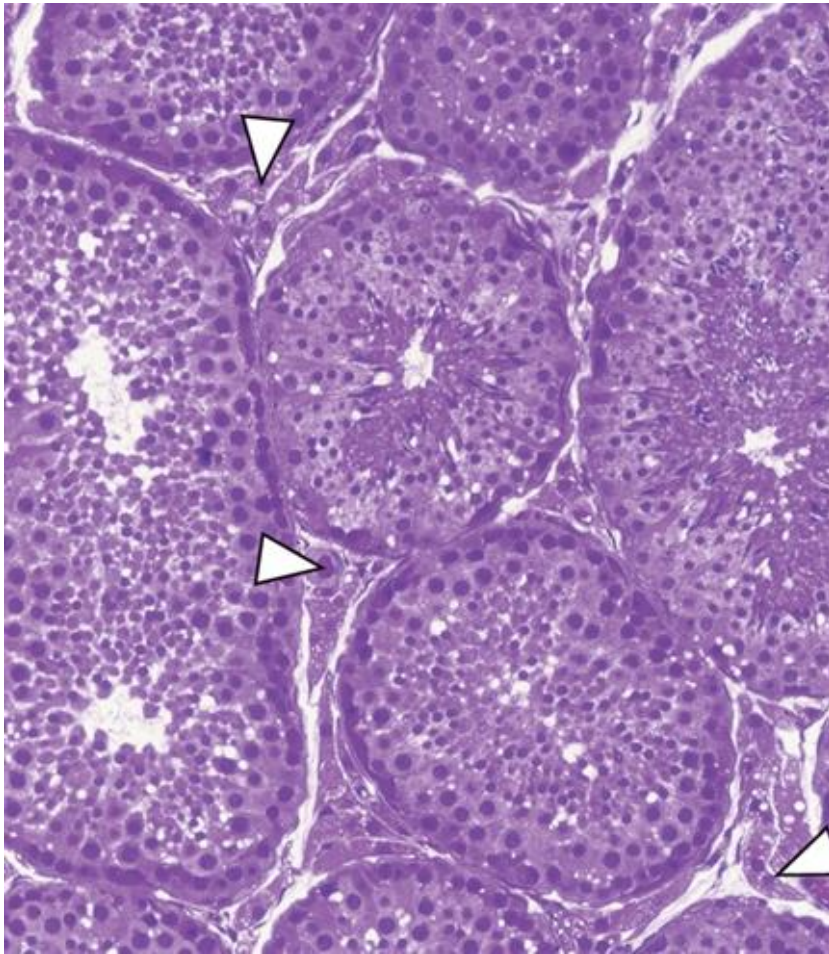


I-Intestinal Gland M-Mucosa
S-Submucosa

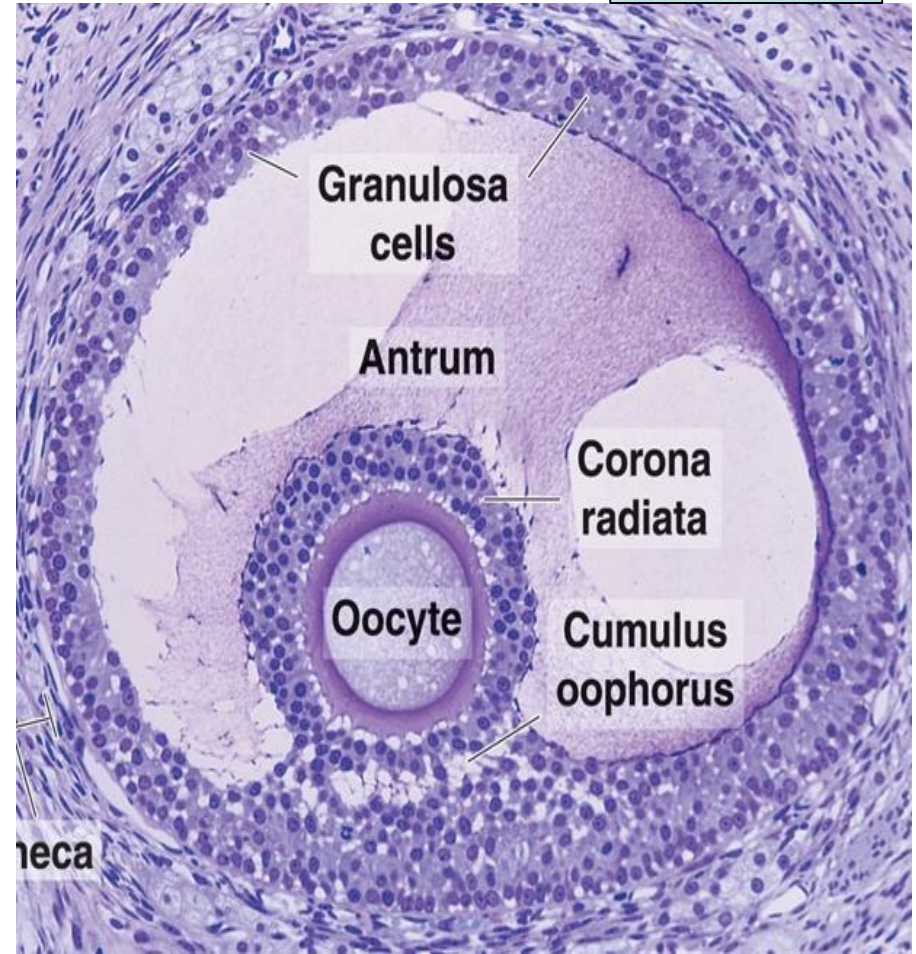


Germinal epithelium

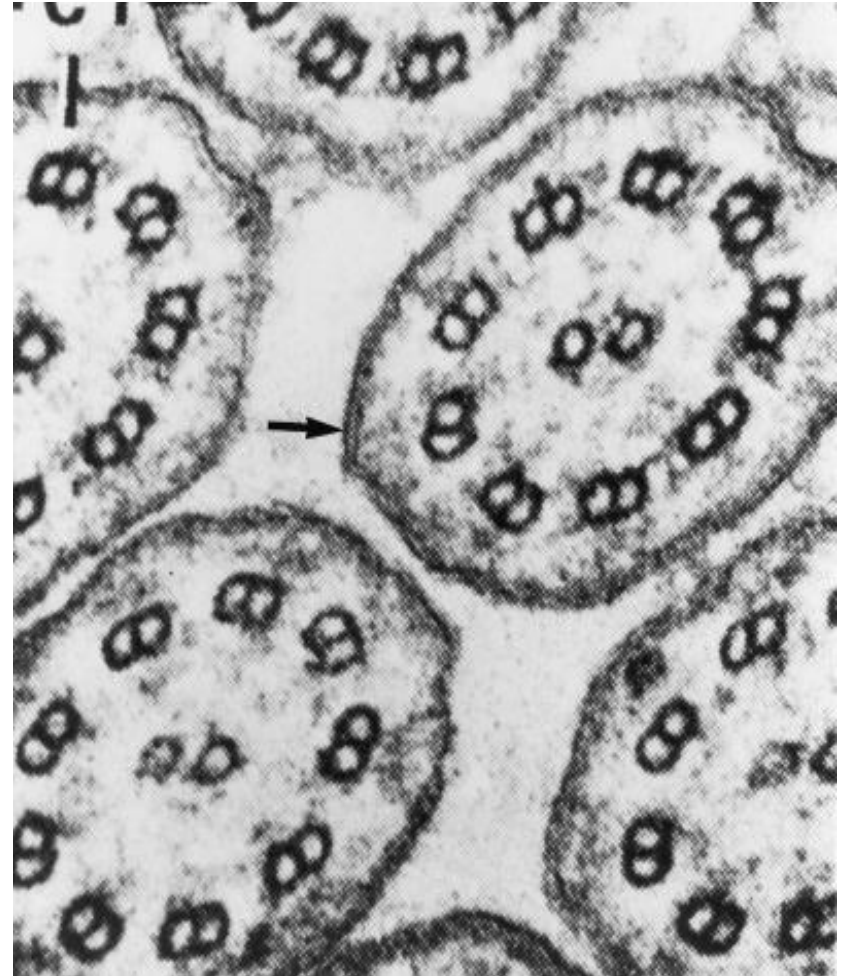
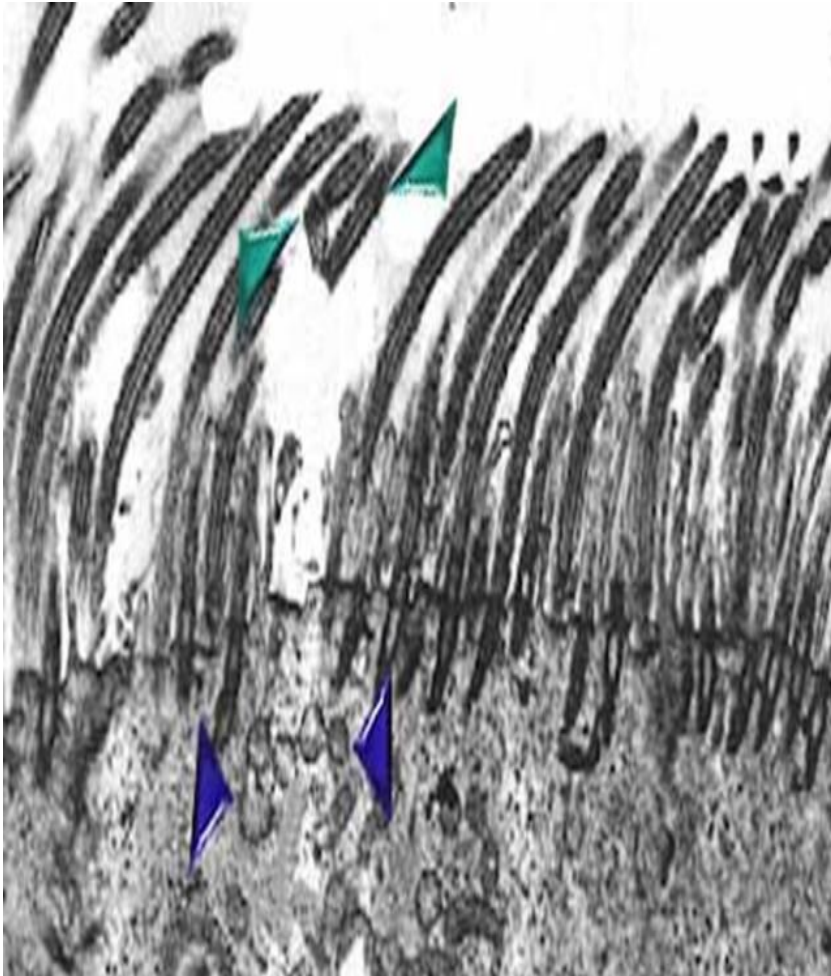
Testis



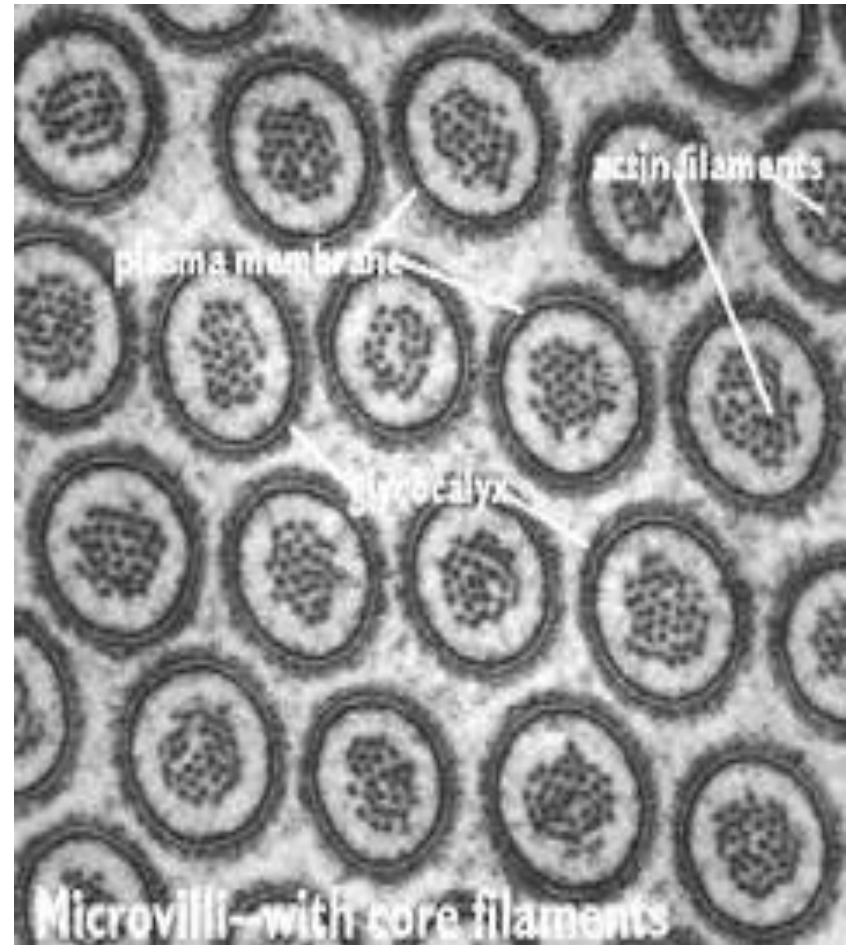
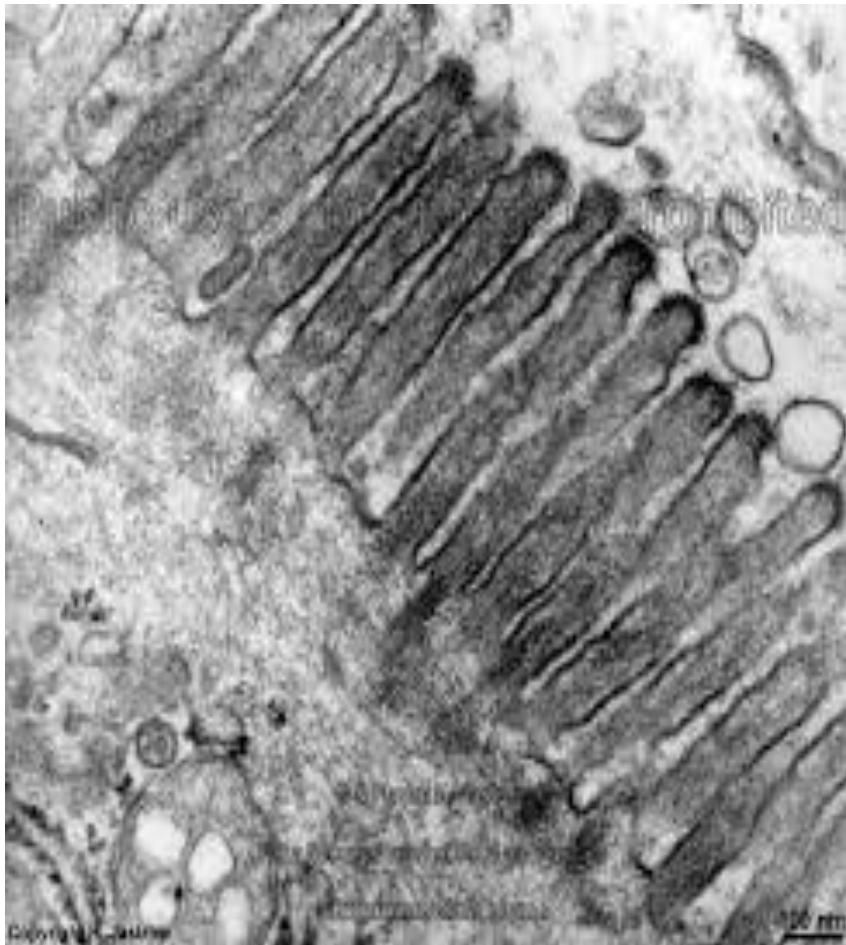
Ovary



Cilia

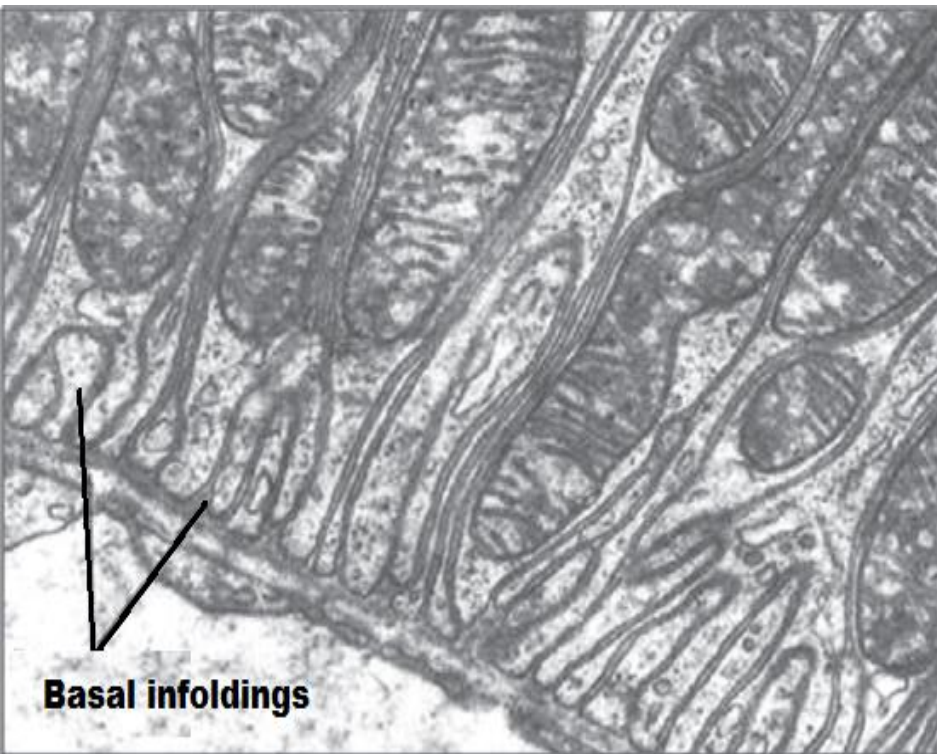


Microvilli

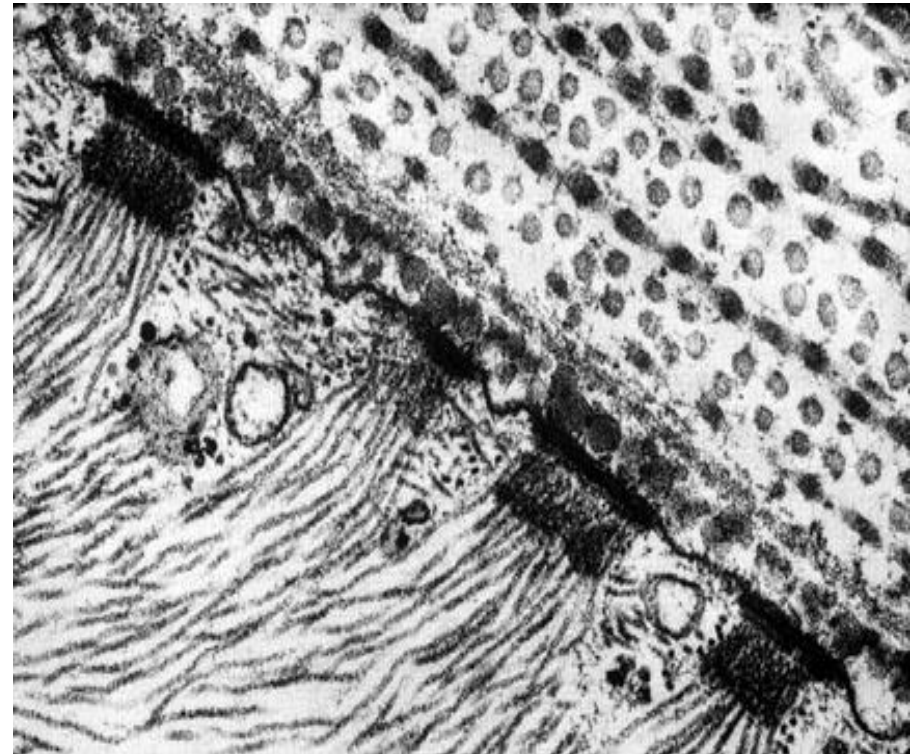


Basal modifications

Basal infolding

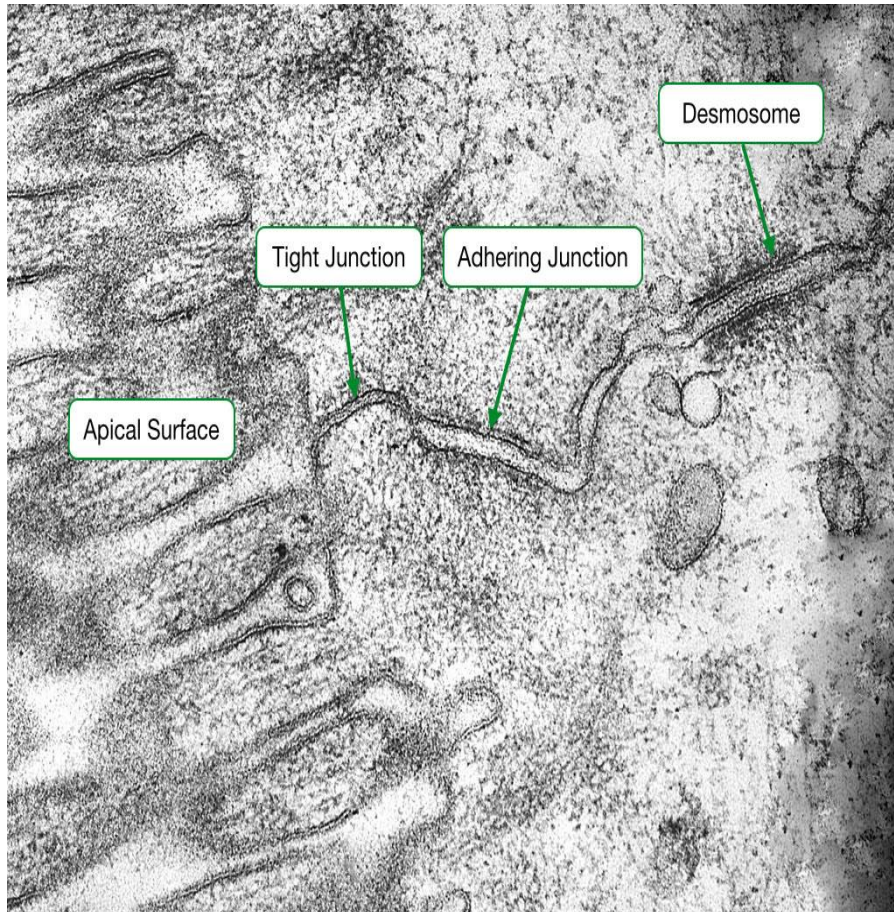


Hemidesmosome

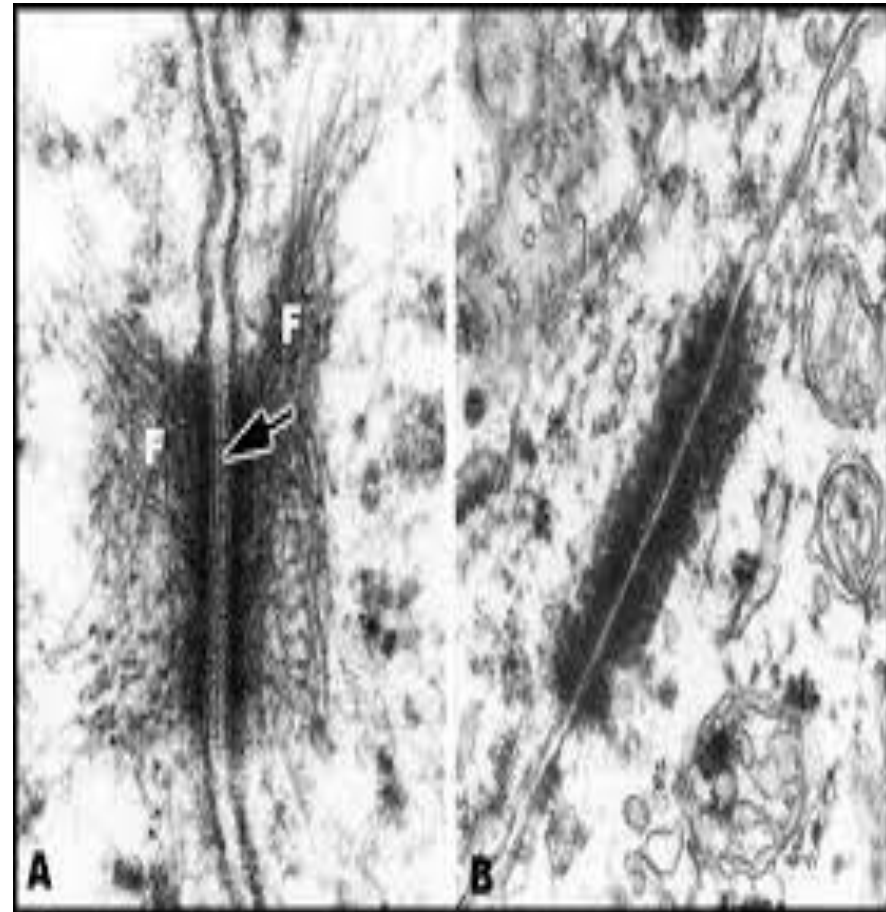


Adhering junction

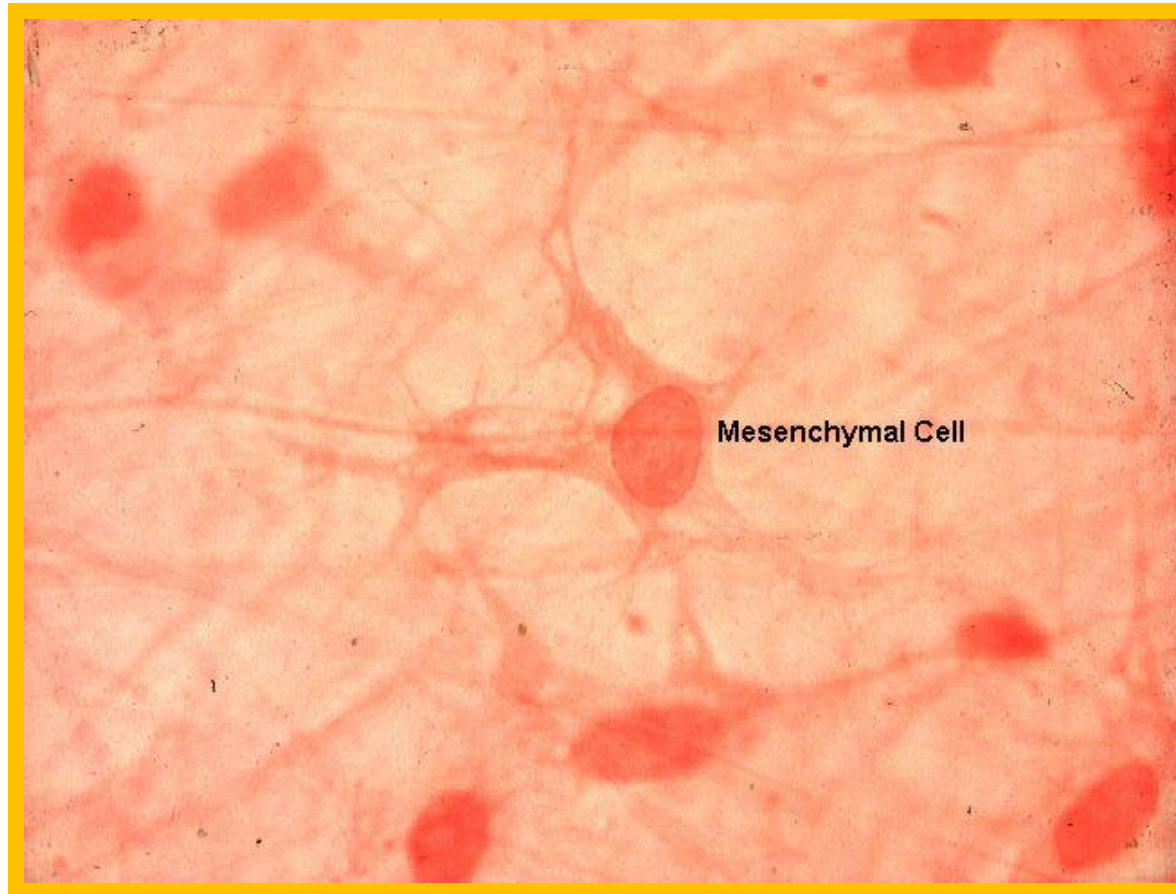
Zonula adherens:



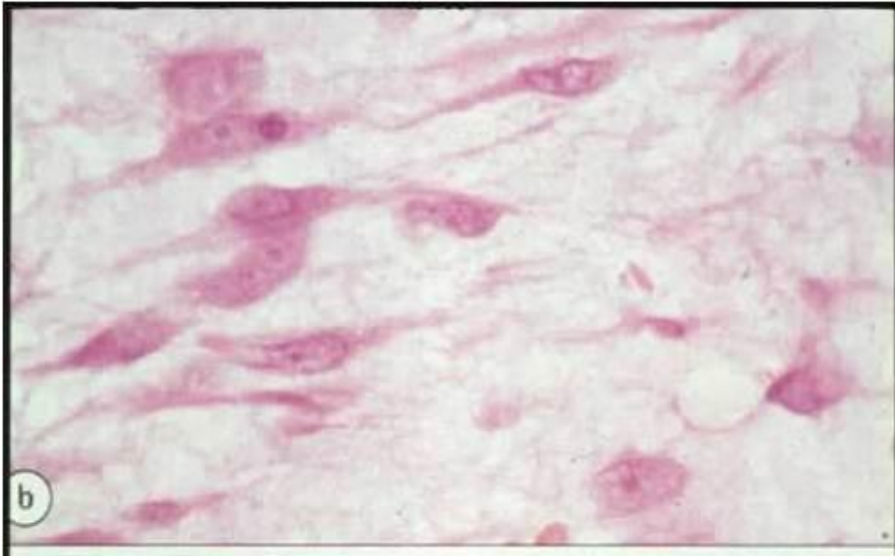
Macula adherens = desmosomes



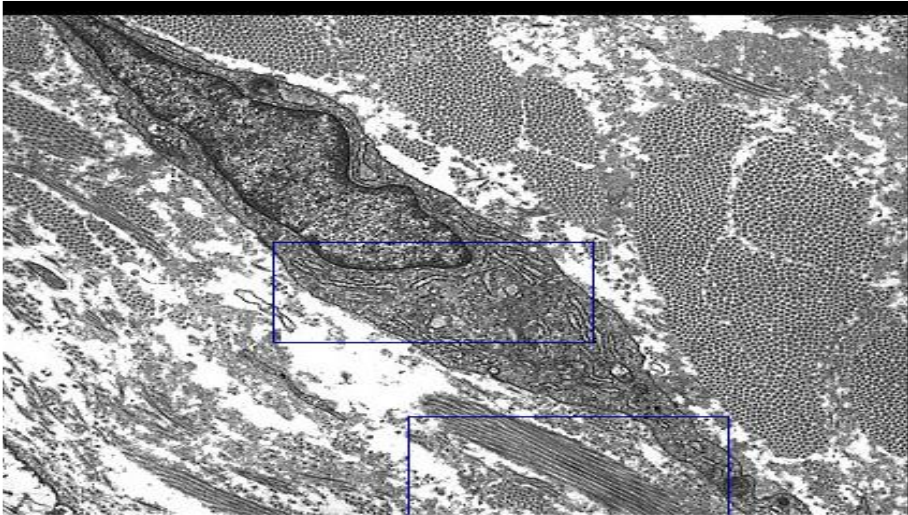
UDMC



Fibroblasts



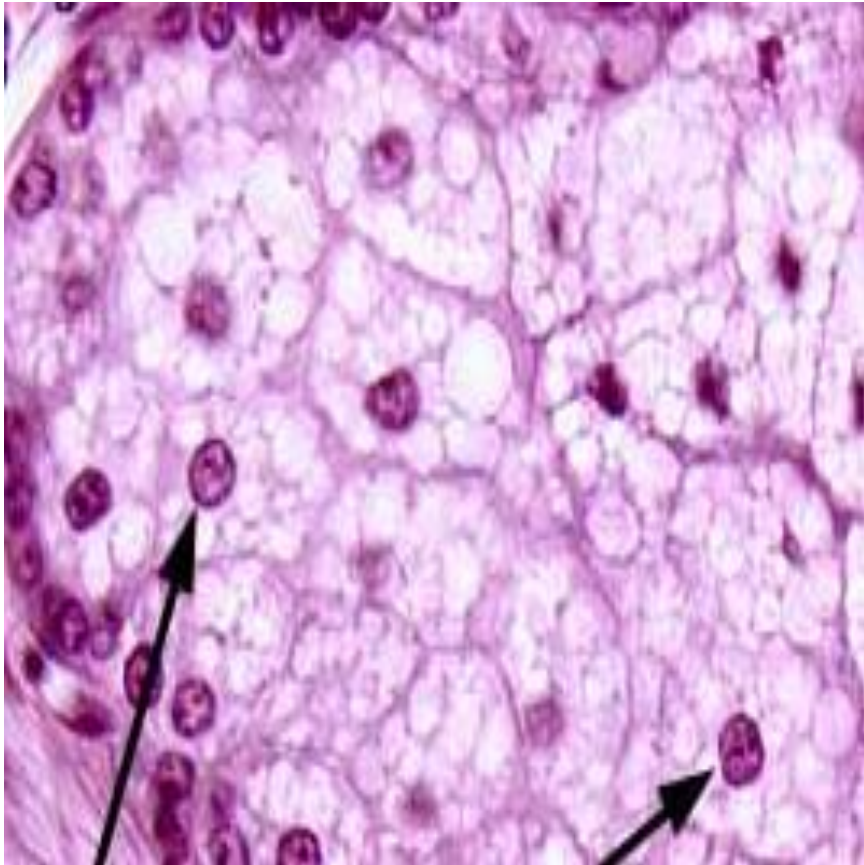
Fibrocytes



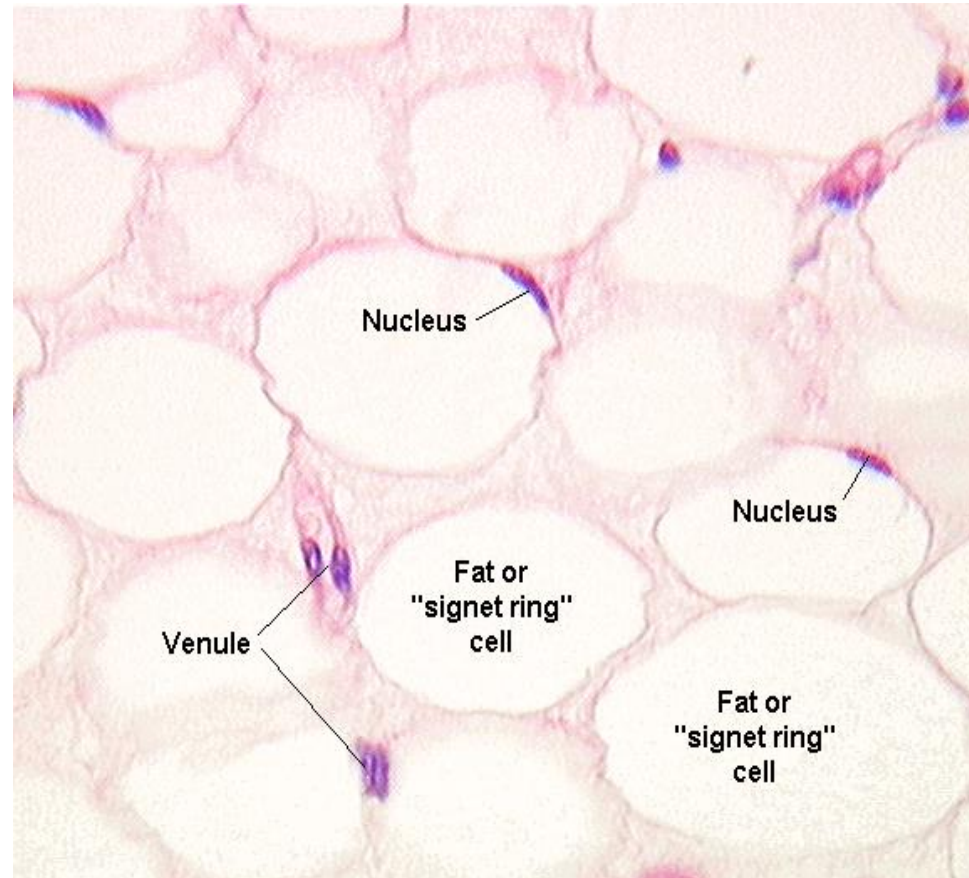
Adipocytes

Fat cell

**Multilocular
Brown Fat**



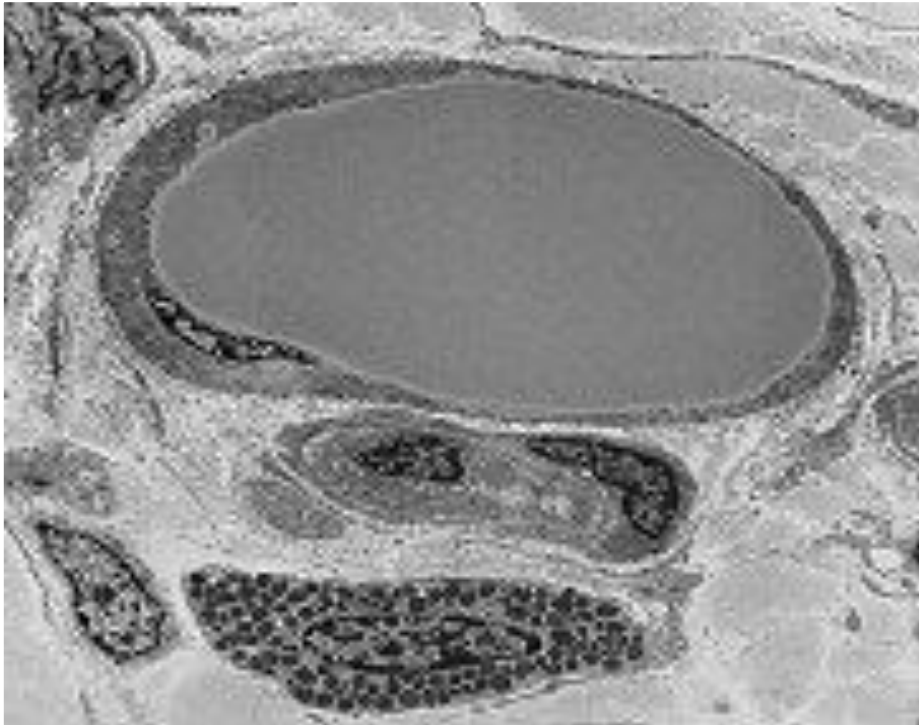
**Unilocular
Yellow Fat**



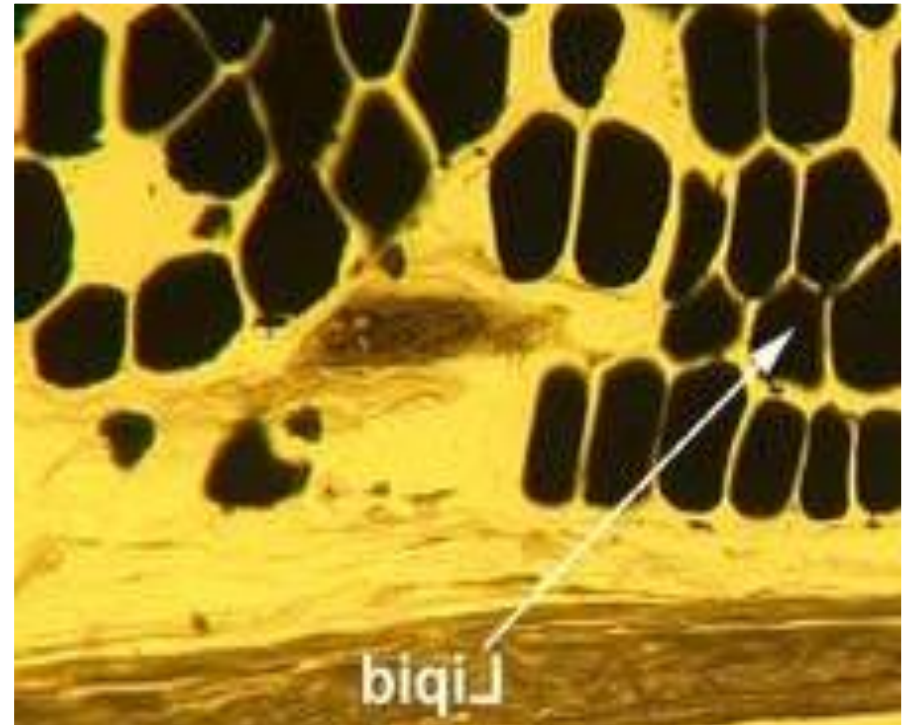
Adipocytes

Fat cell

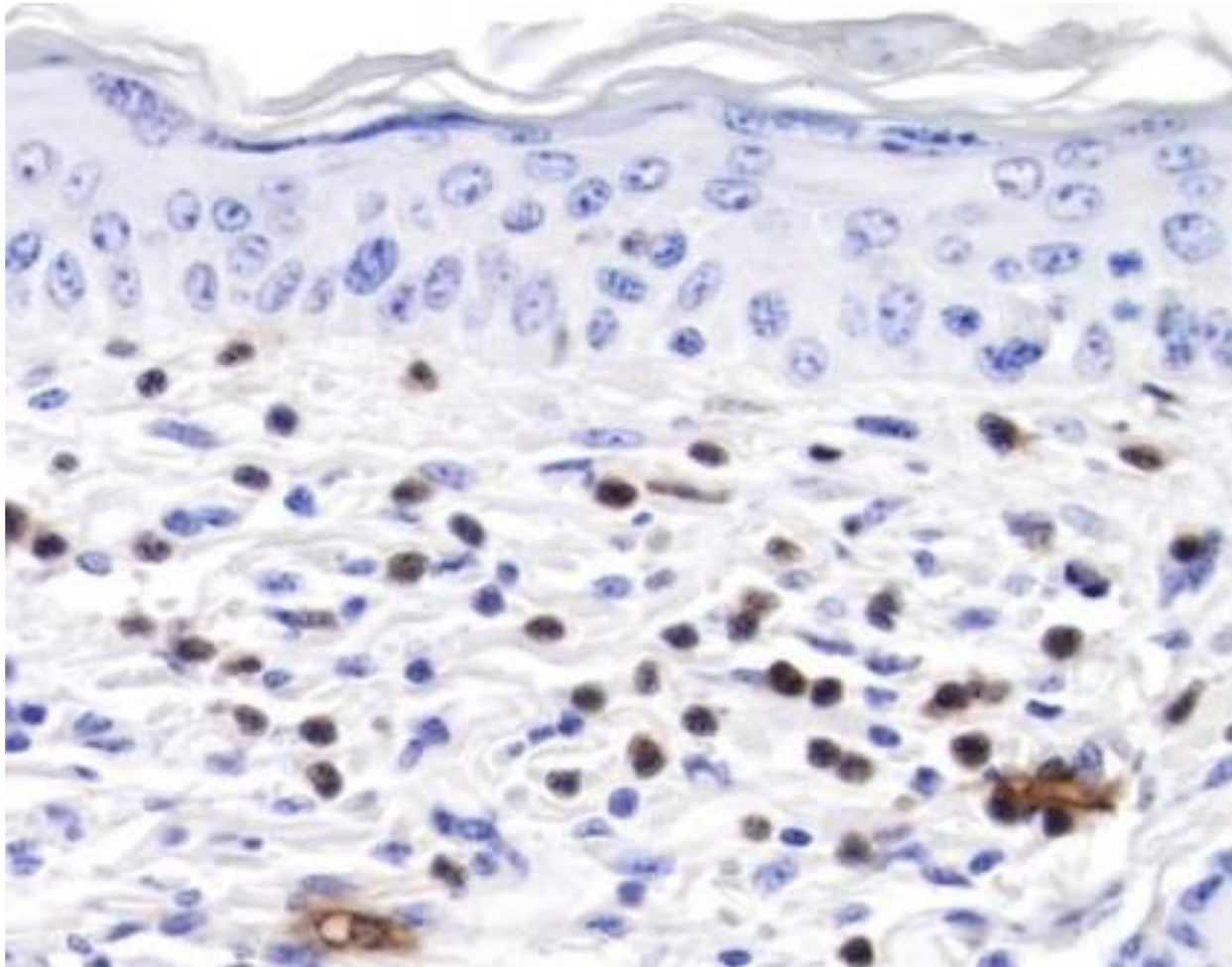
EM



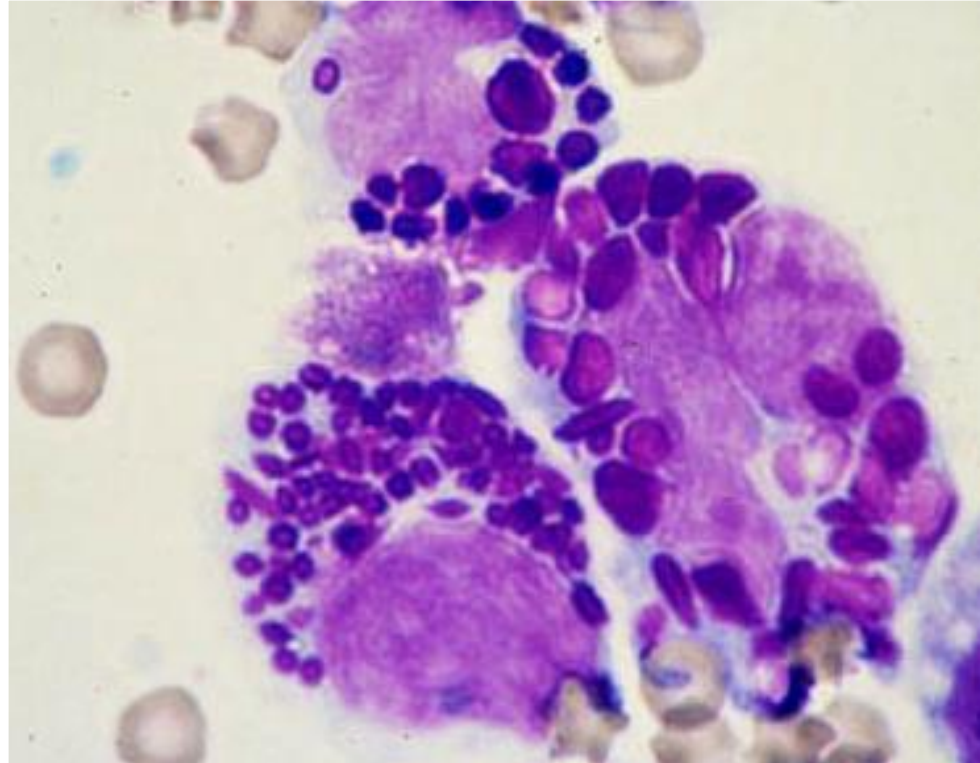
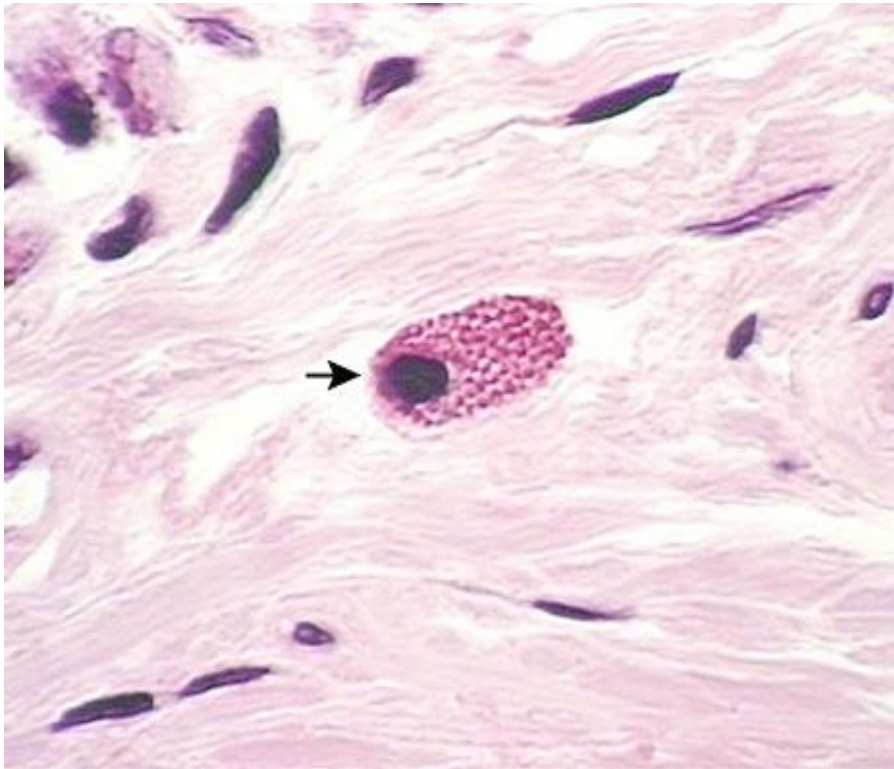
Osmic acid



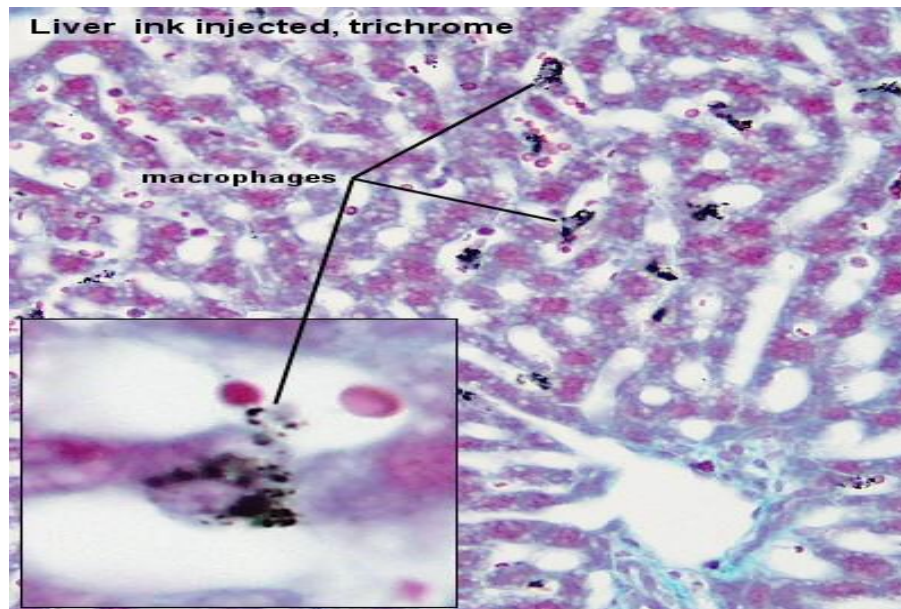
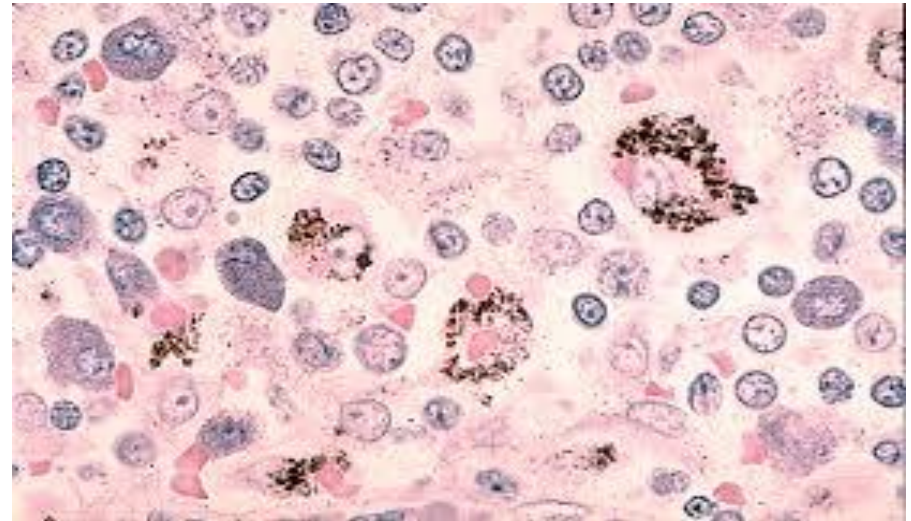
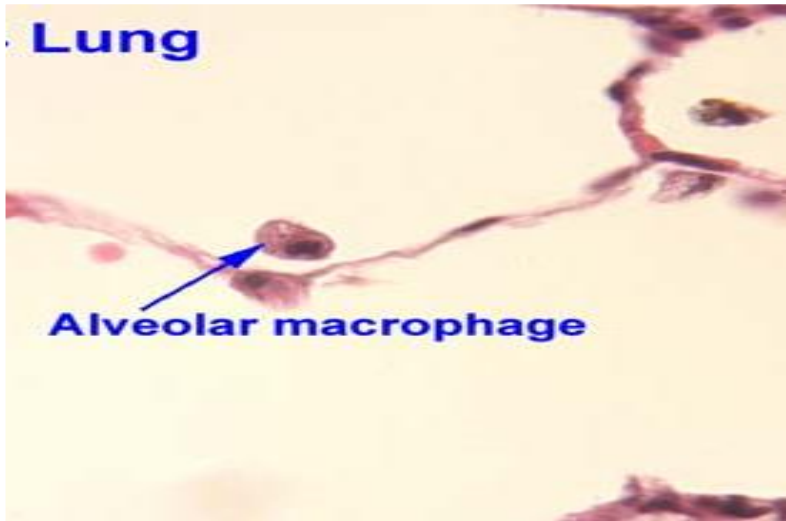
Pigment Cells



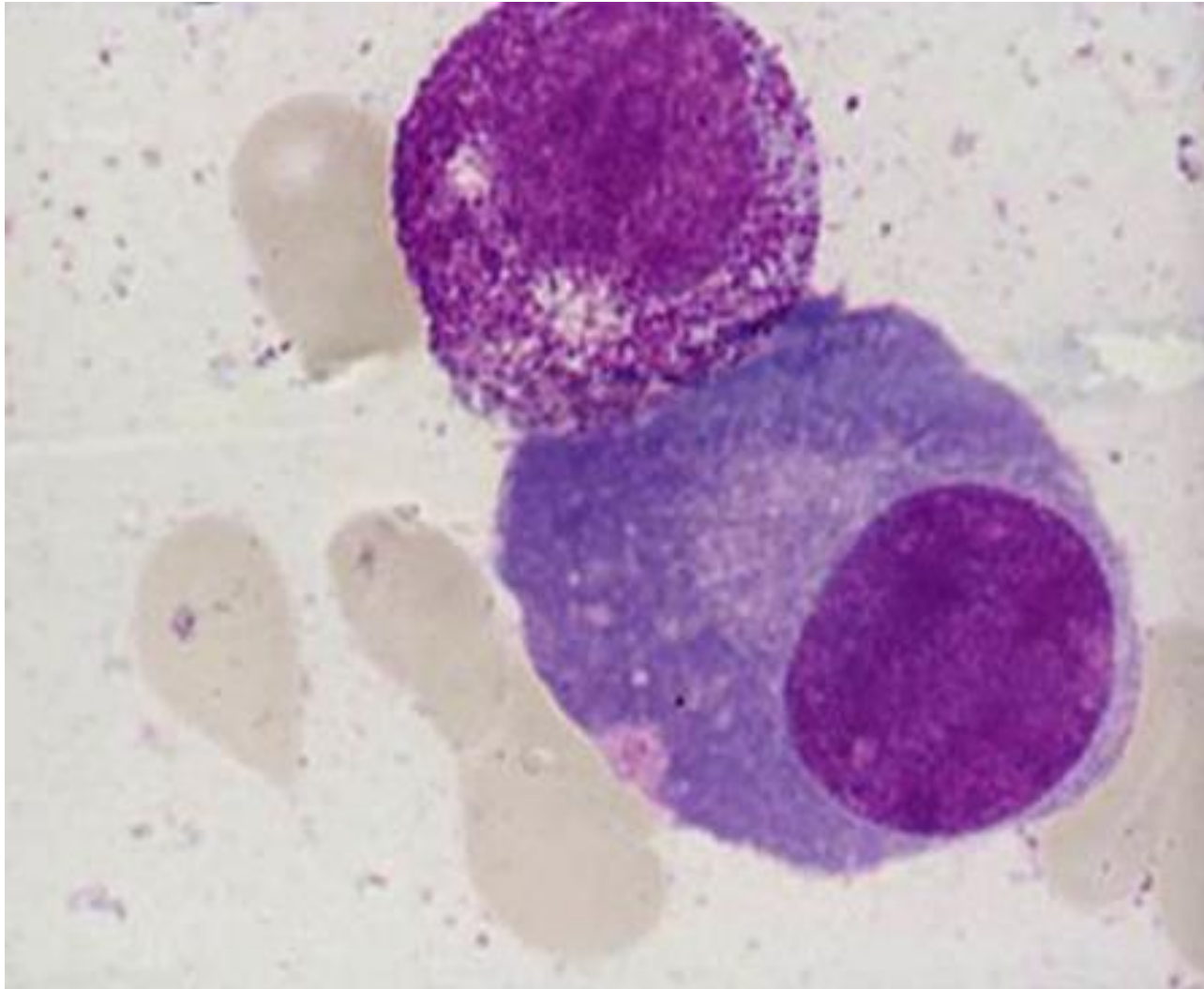
Mast Cells



Macrophages= Histiocytes

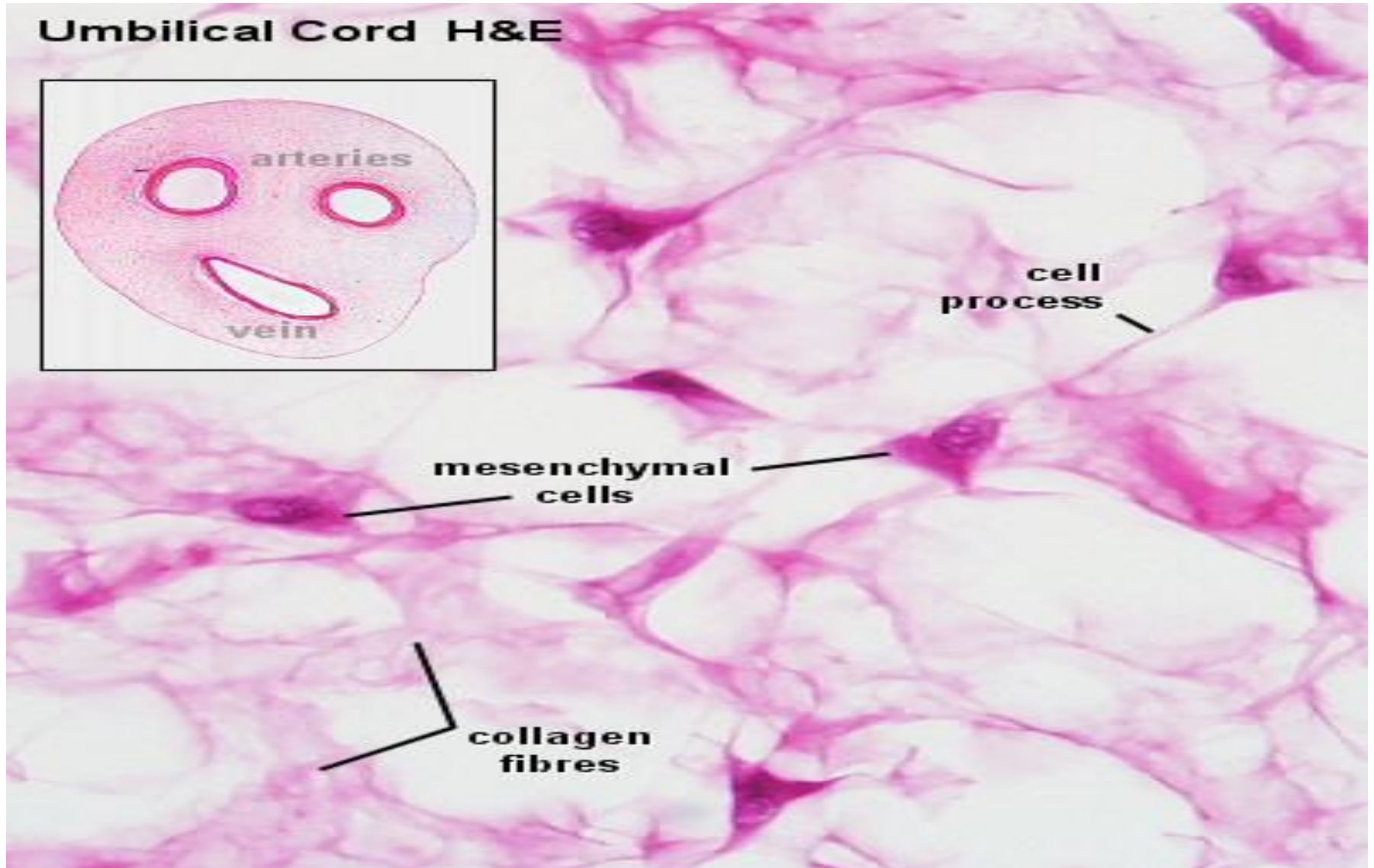


Plasma Cells

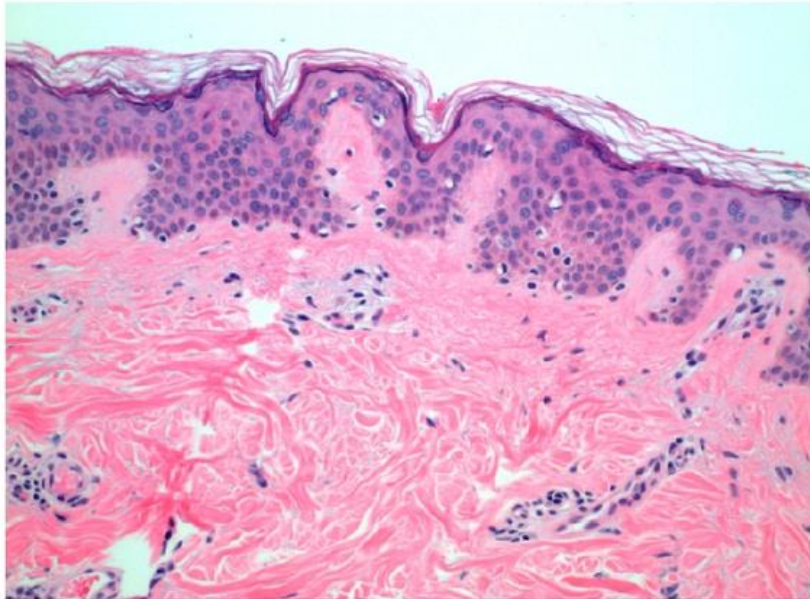
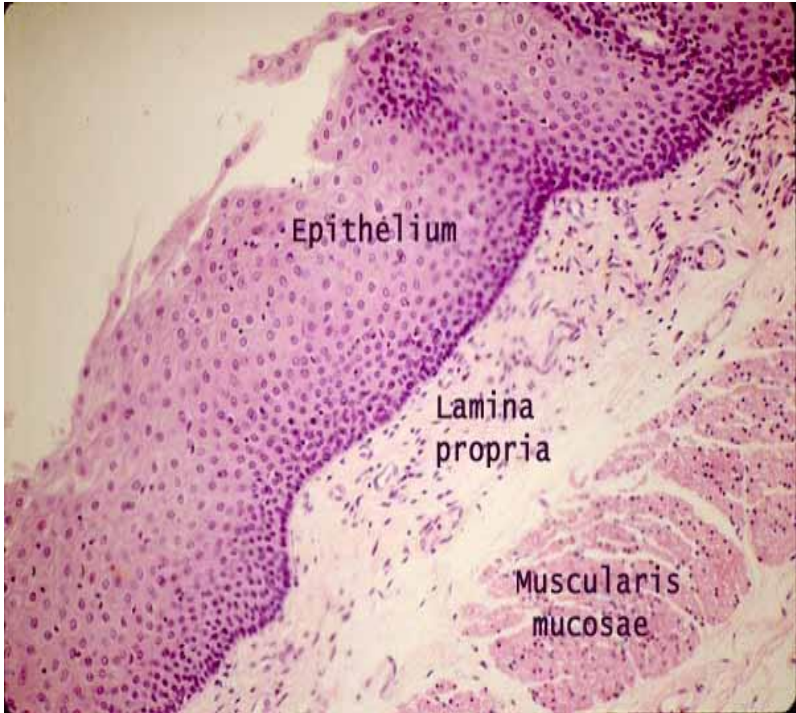
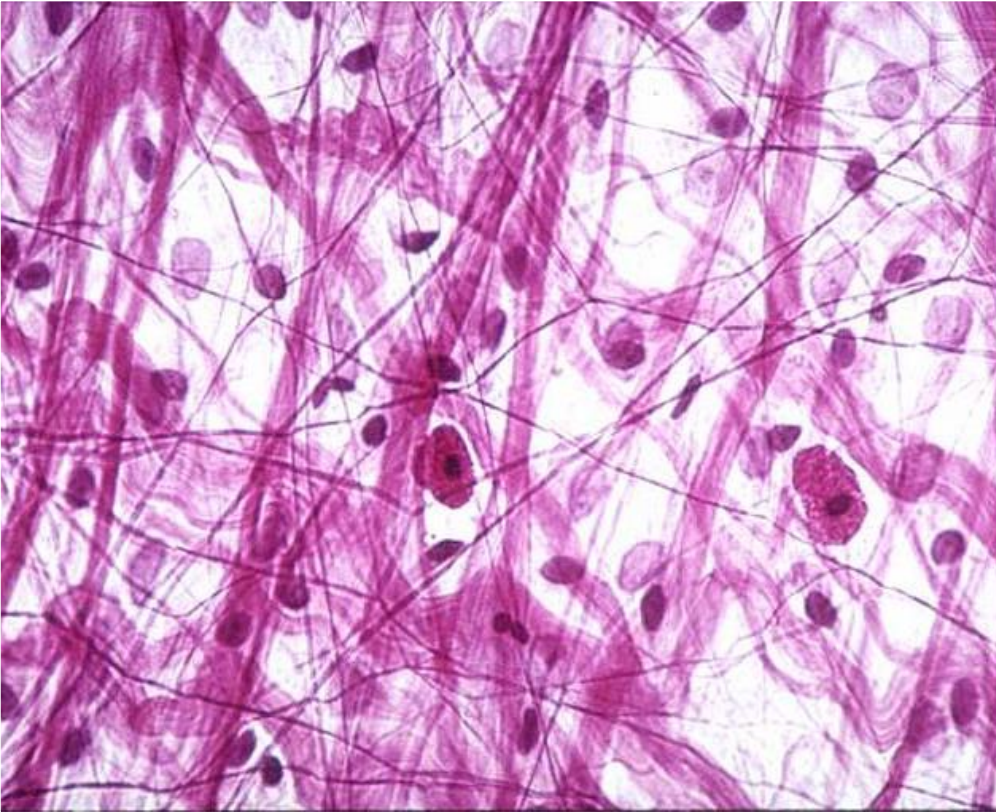


Muroid C.T.= Embryonic C.T

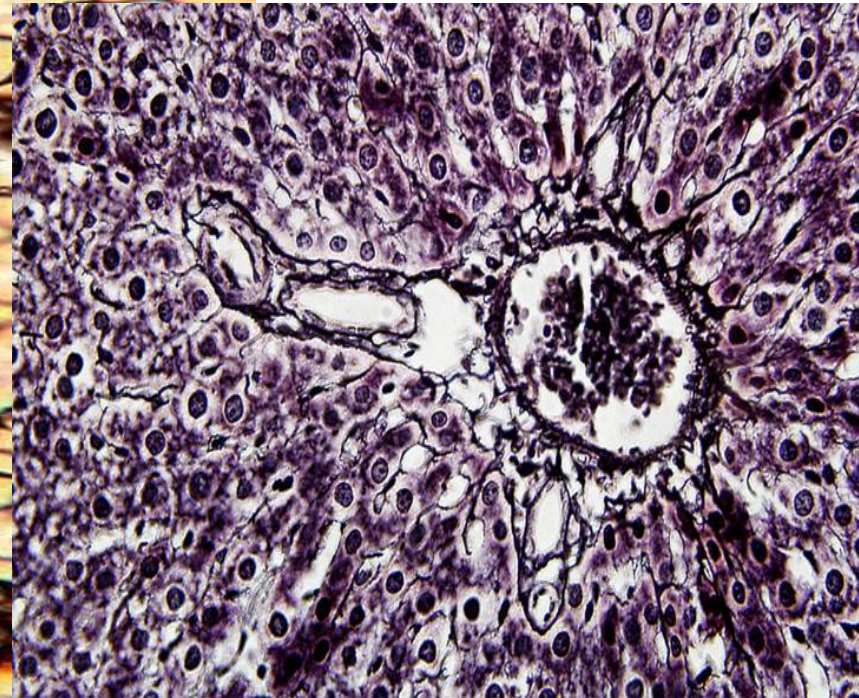
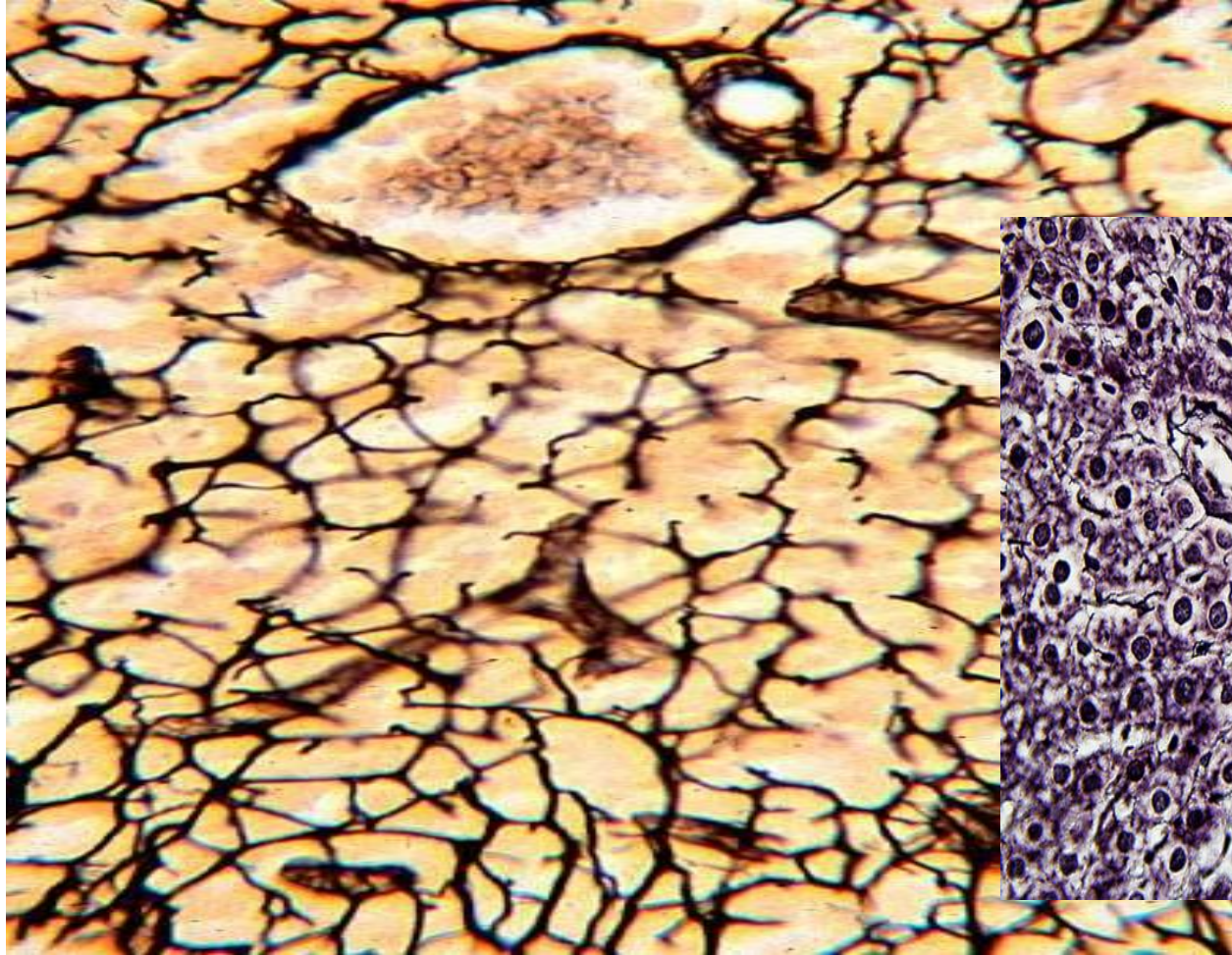
Umbilical Cord H&E



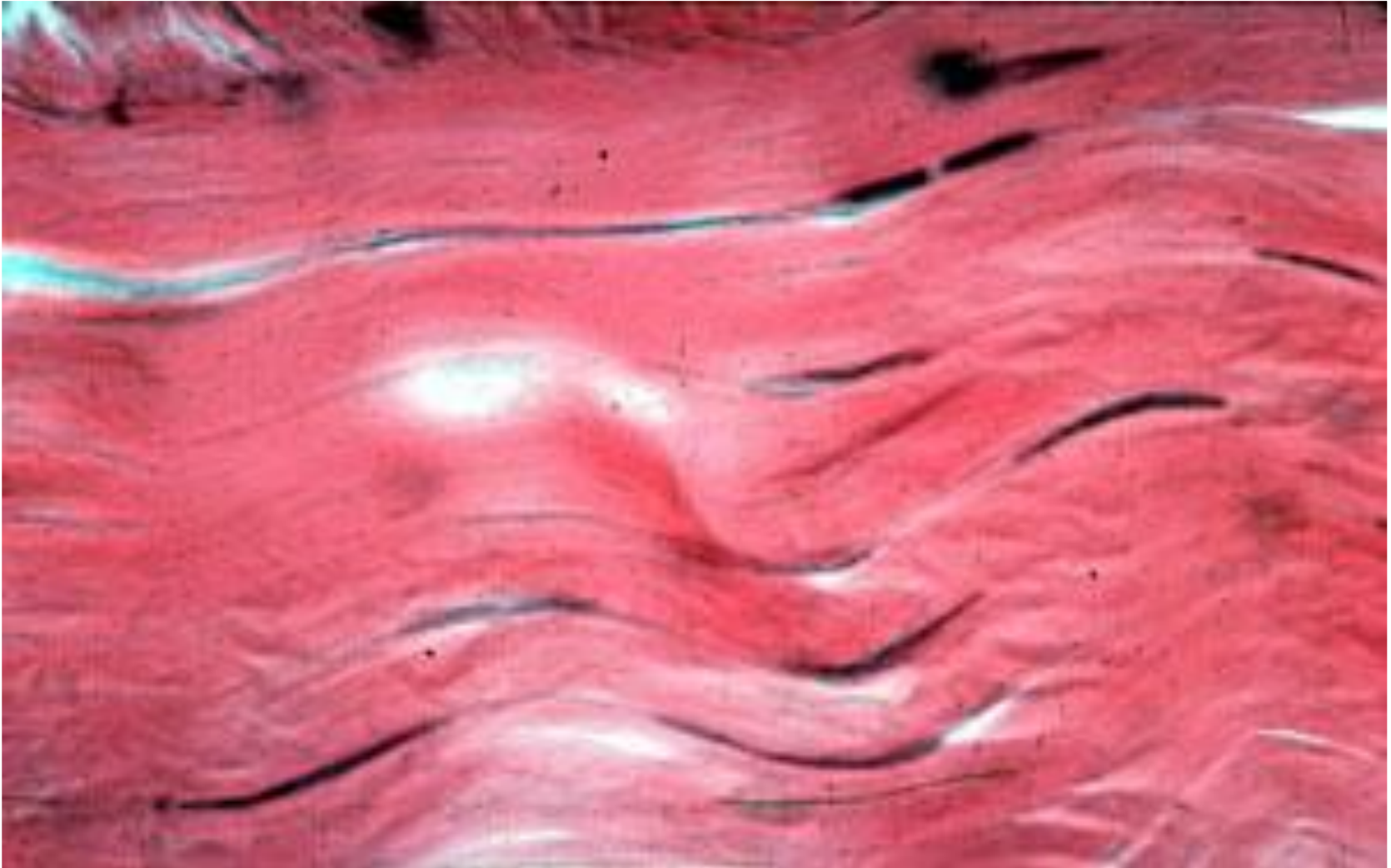
Loose Areolar C.T.



Reticular CT= Silver stain

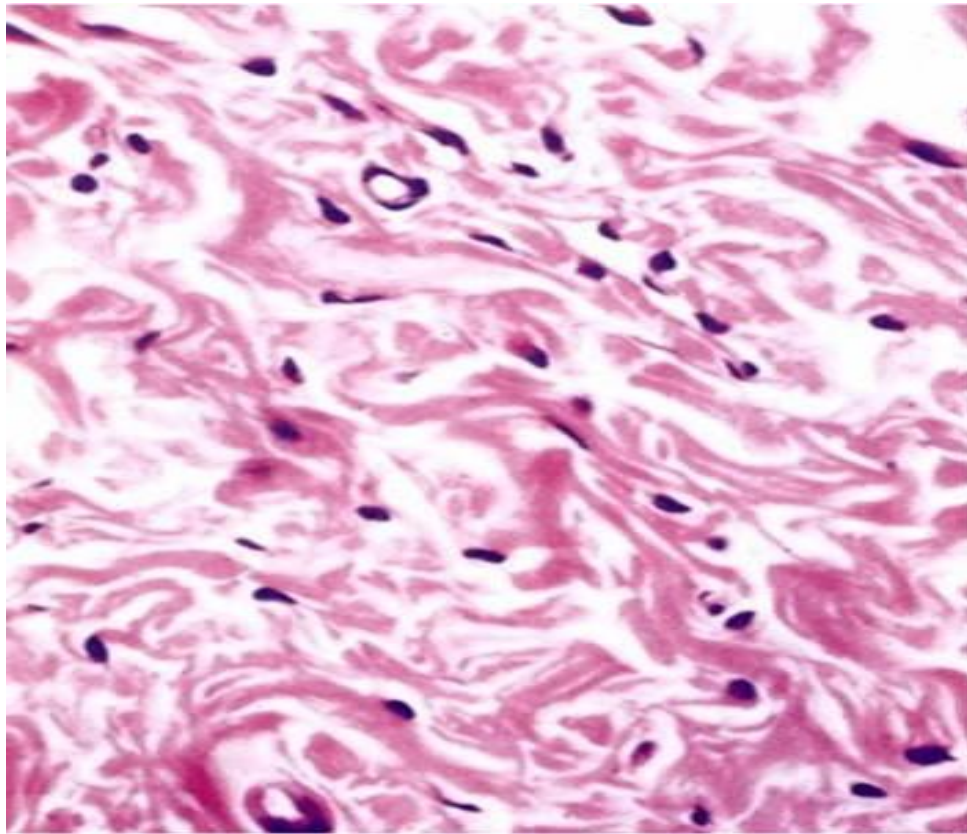


**White fibrous C.T= Dense Regular
= Tendon**

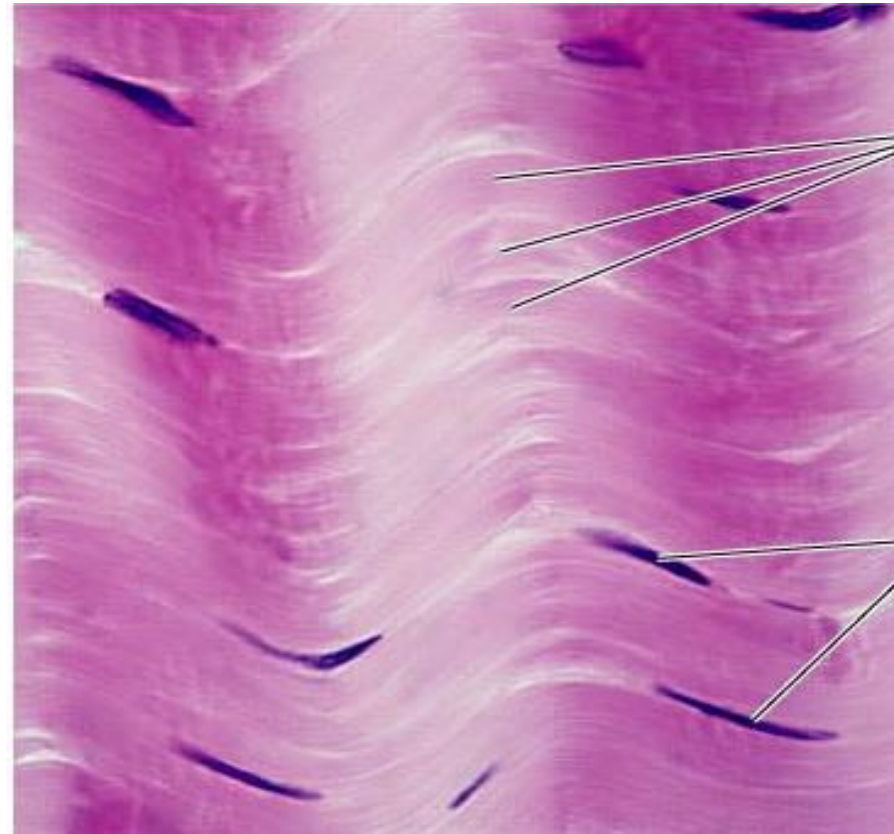


Dense CT

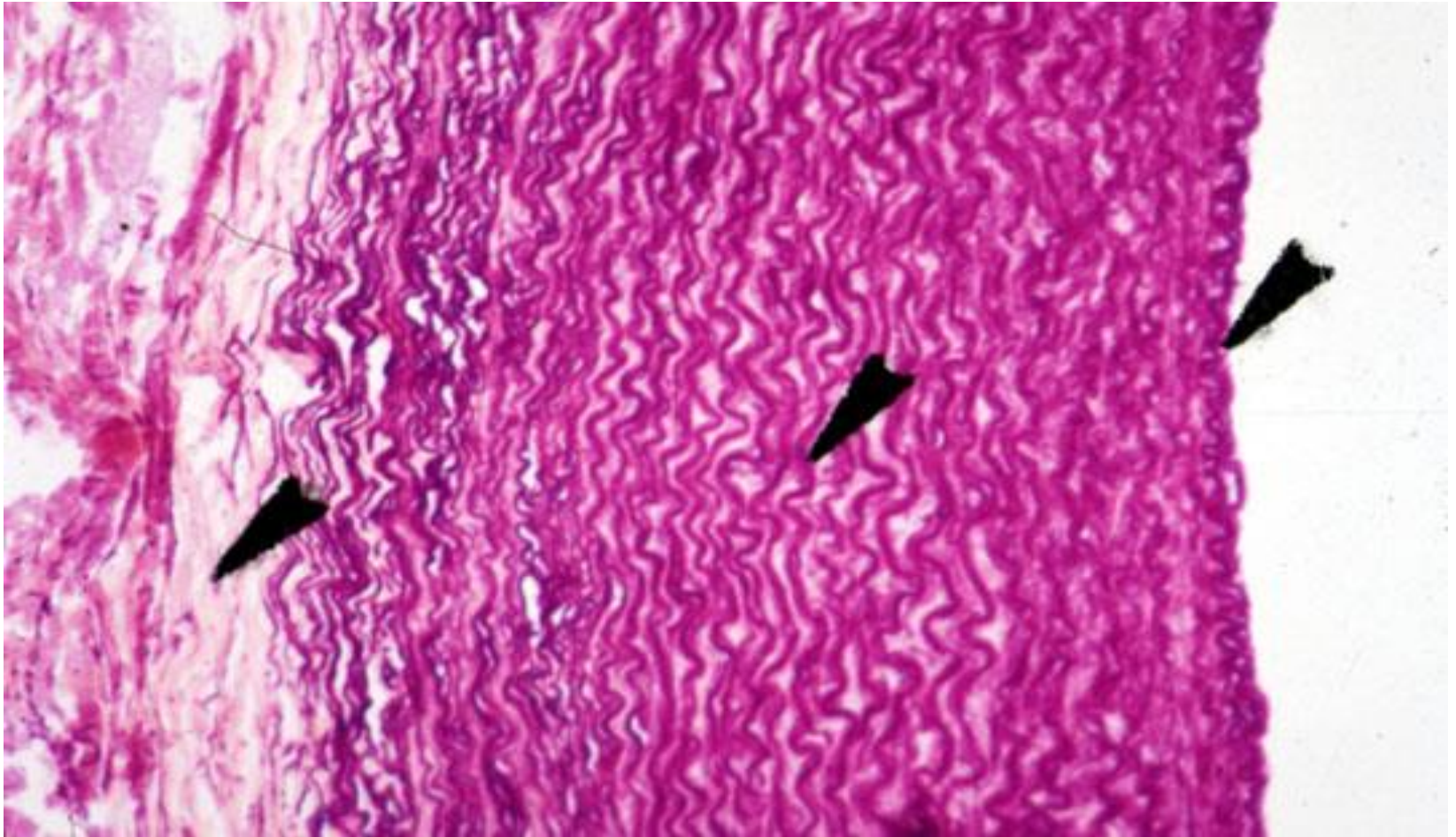
Dense irregular



Dense Regular

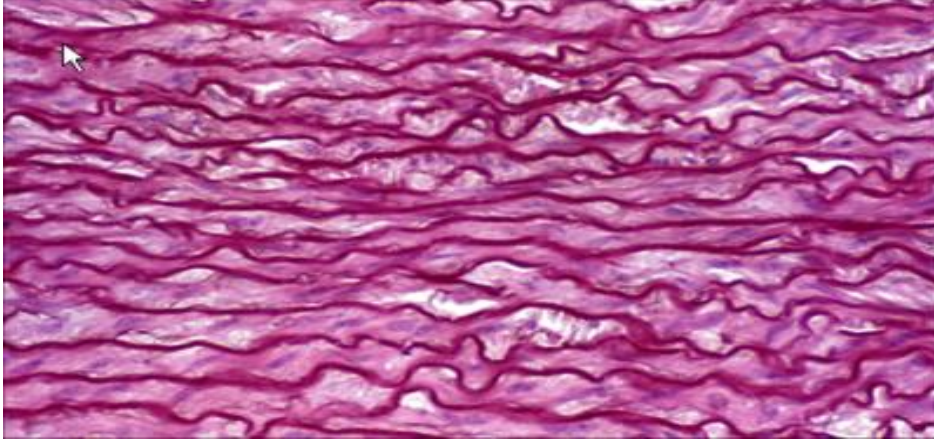


Elastic C.T. H&E

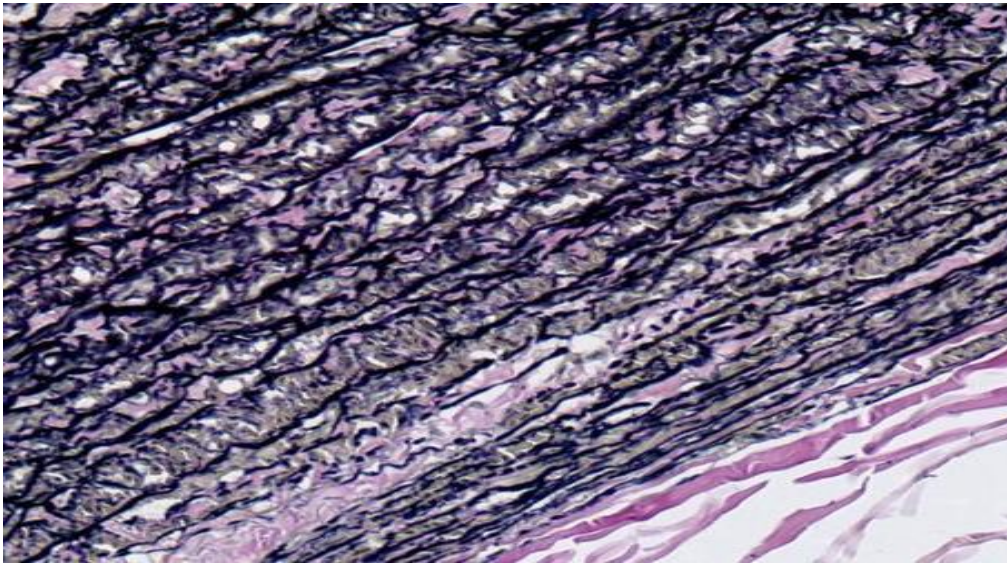
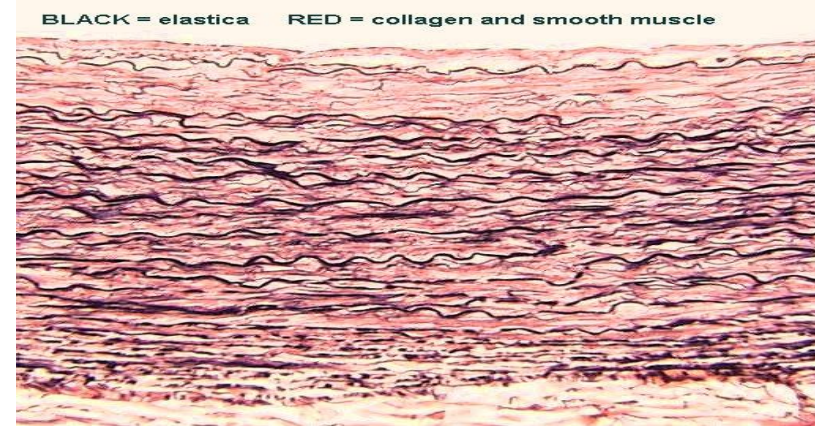


Elastic C.T.

H&E stain

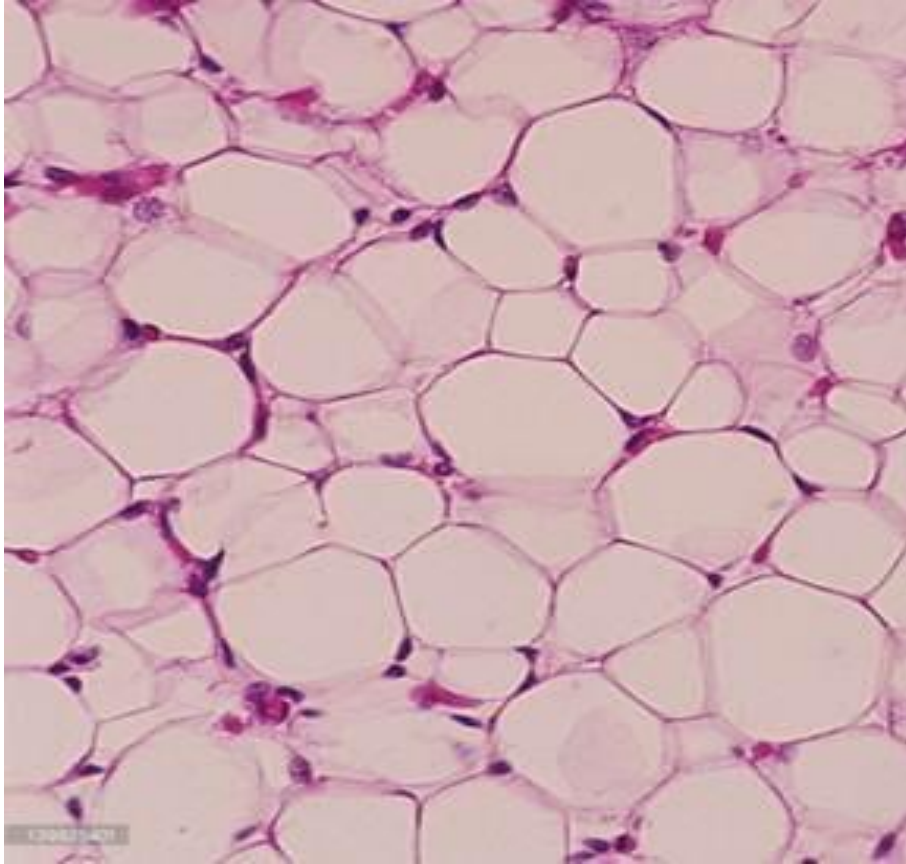


Orcein stain

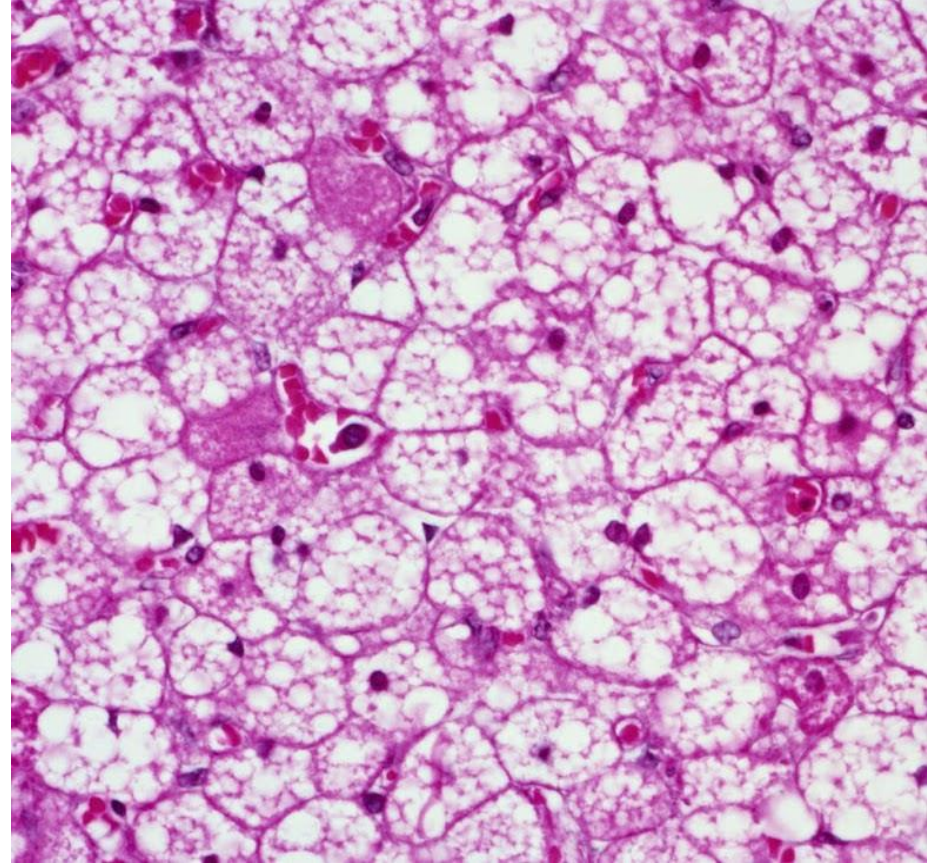


VVG Stain

Adipose C.T.

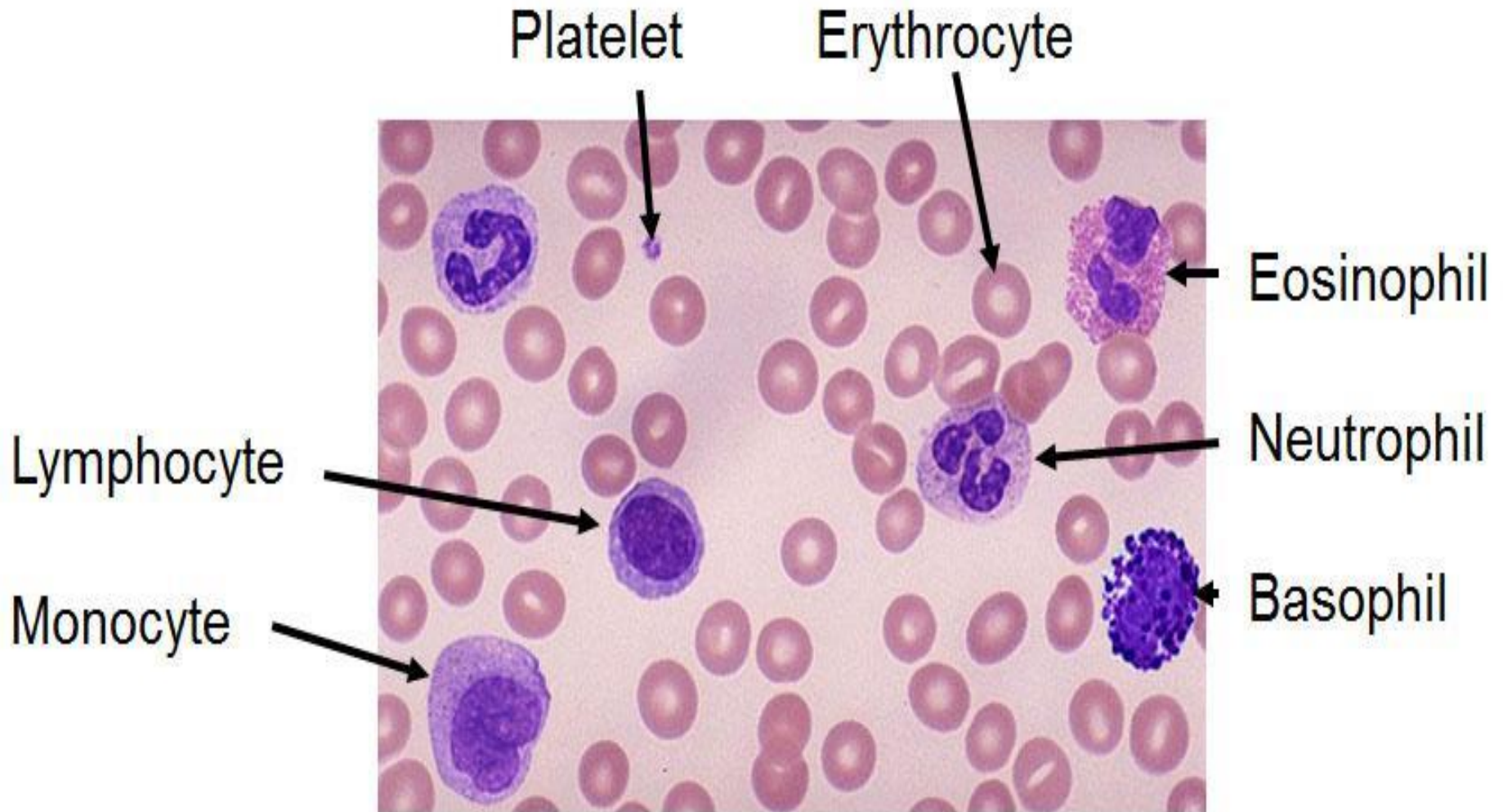


Yellow Fat

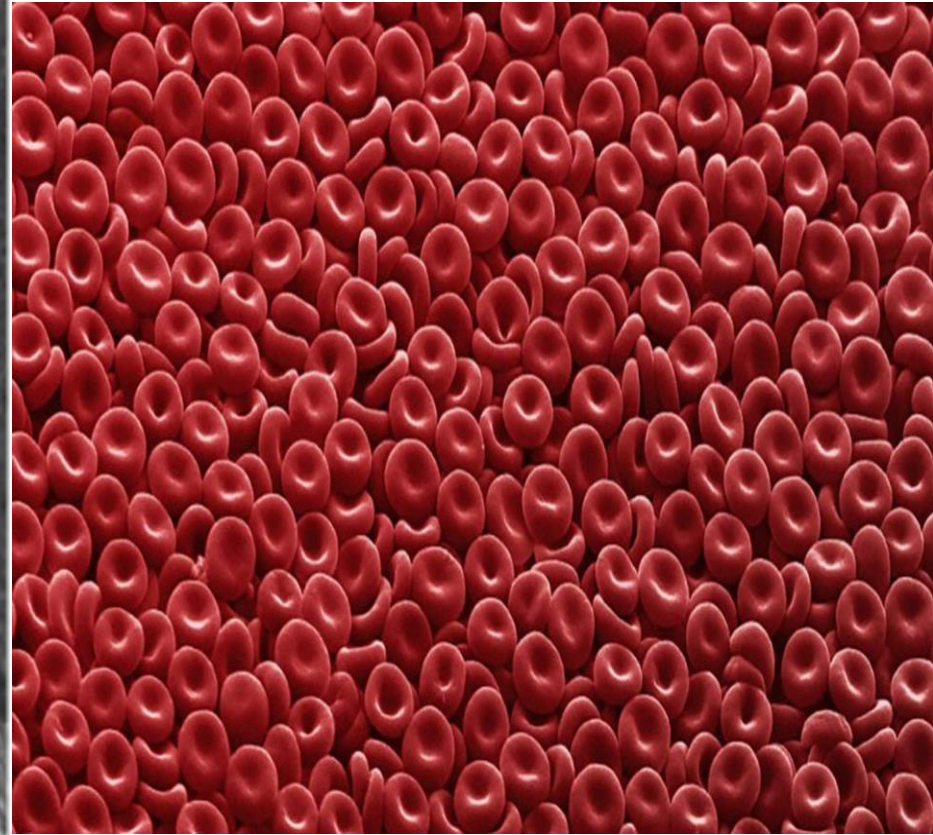
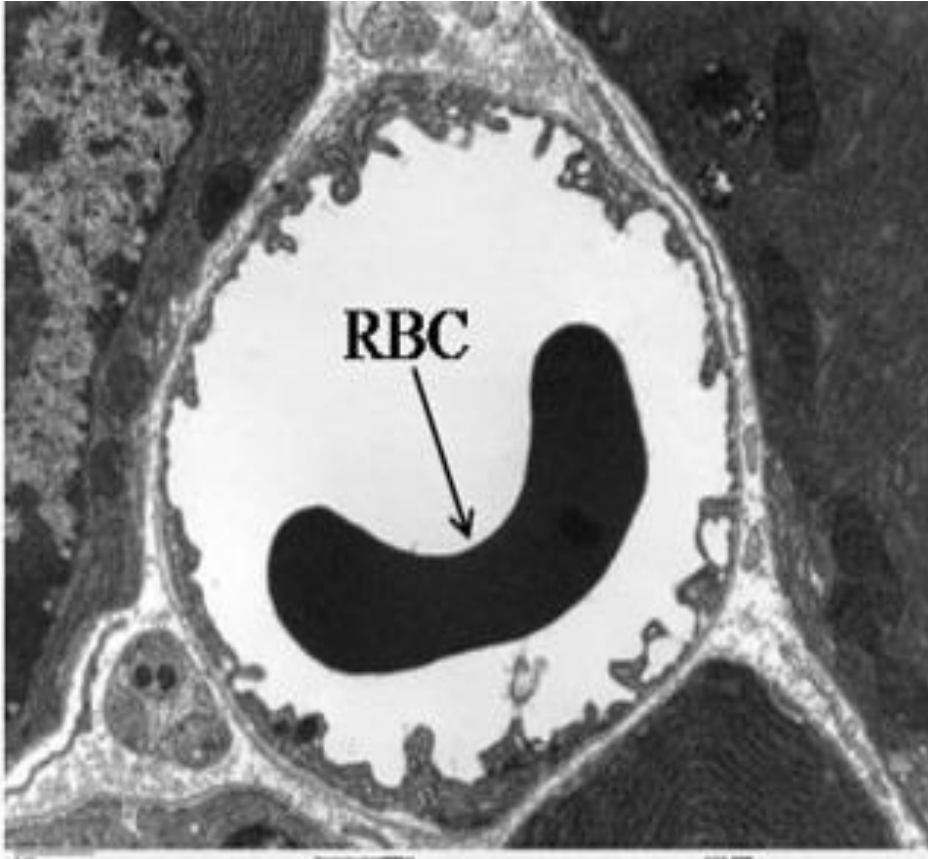


Brown Fat

Blood smear

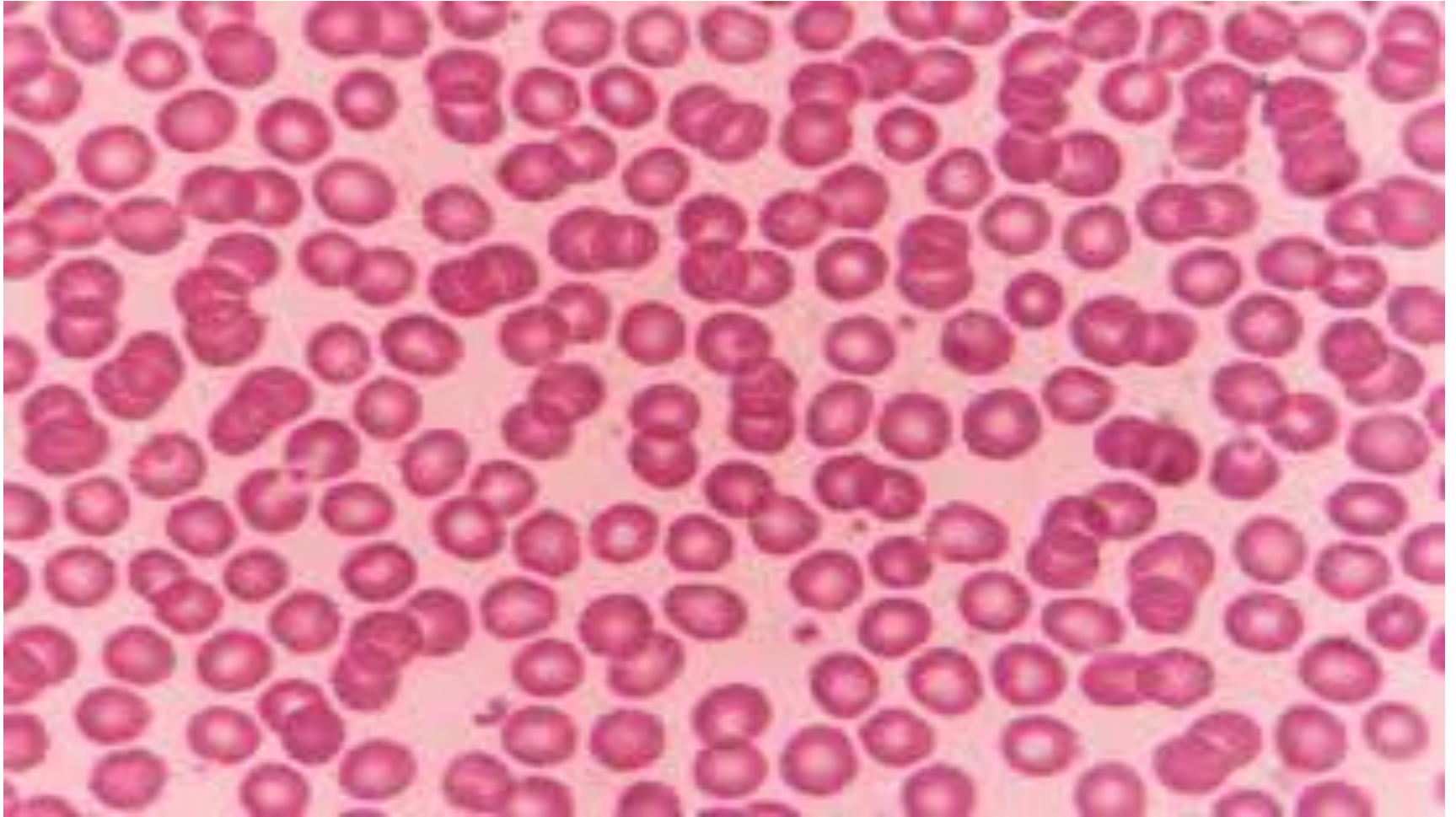


RBCs



Transmission

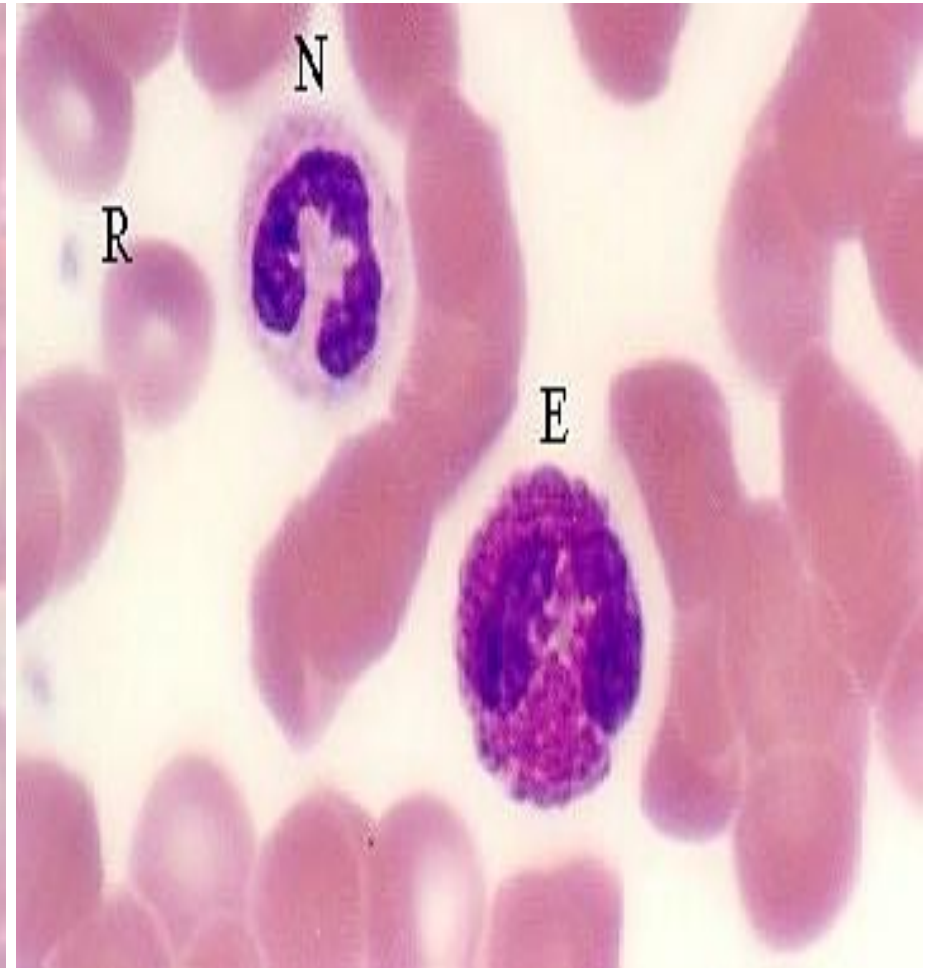
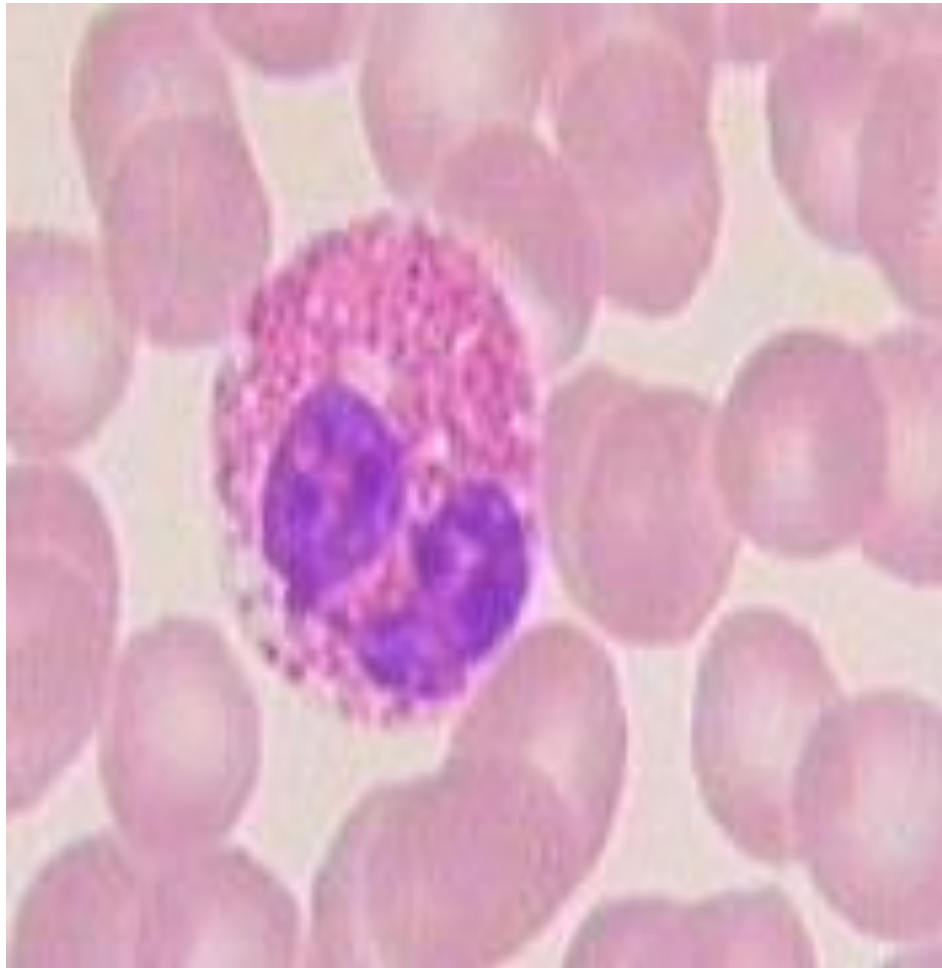
RBCs



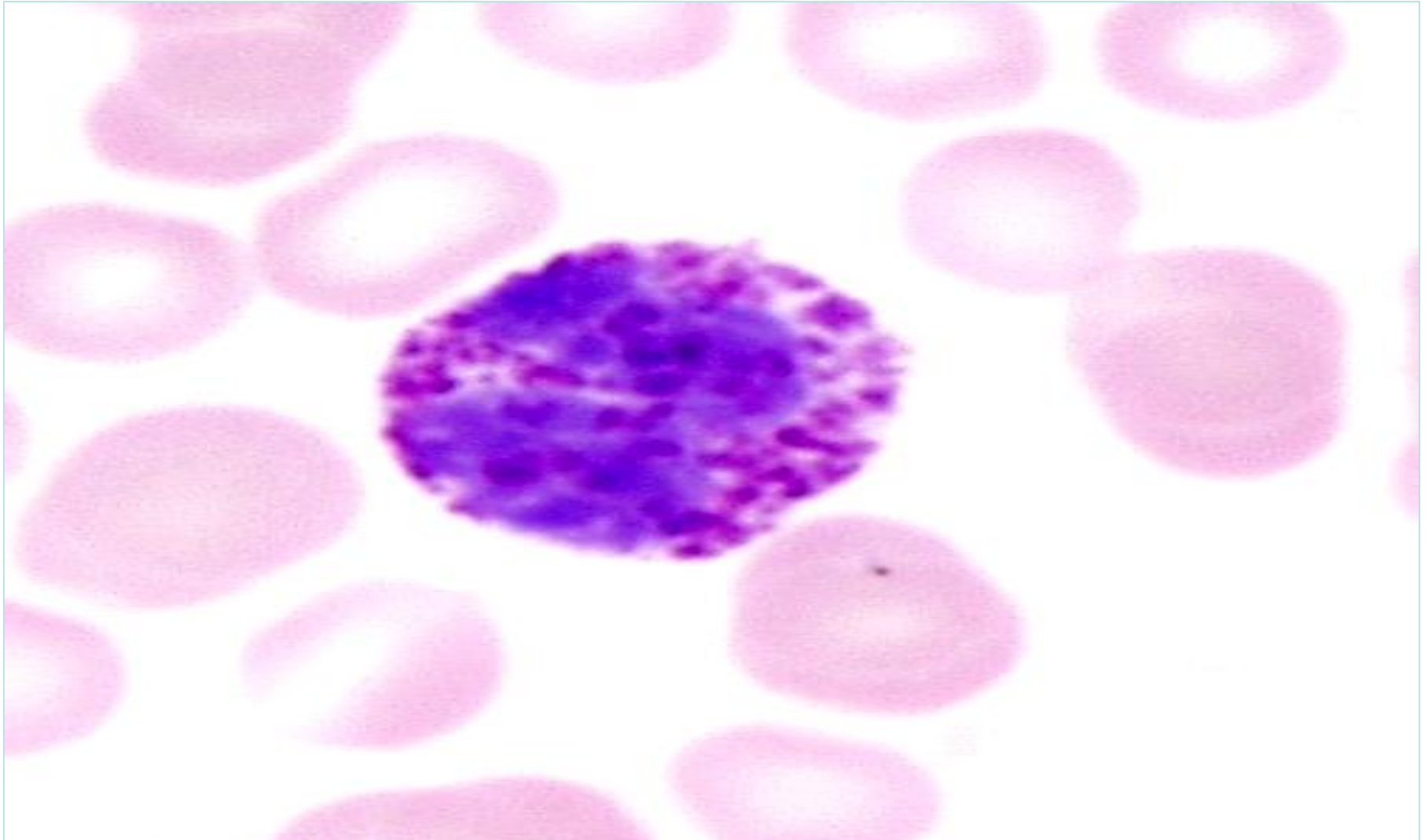
Neutrophil



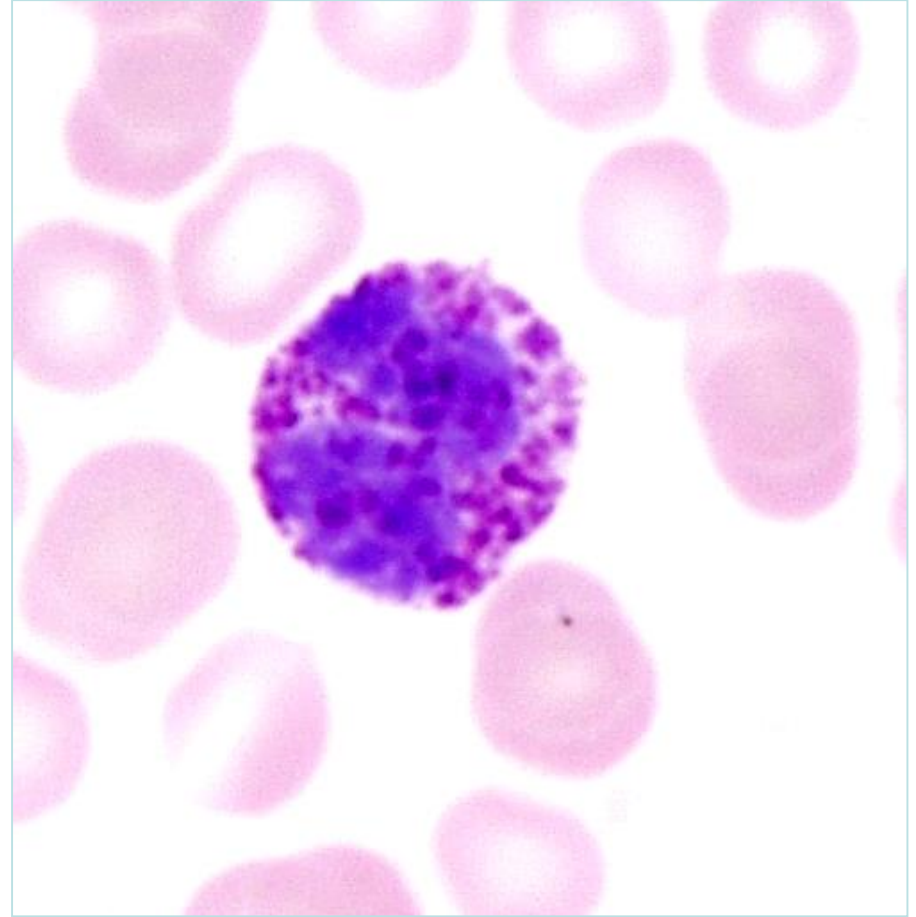
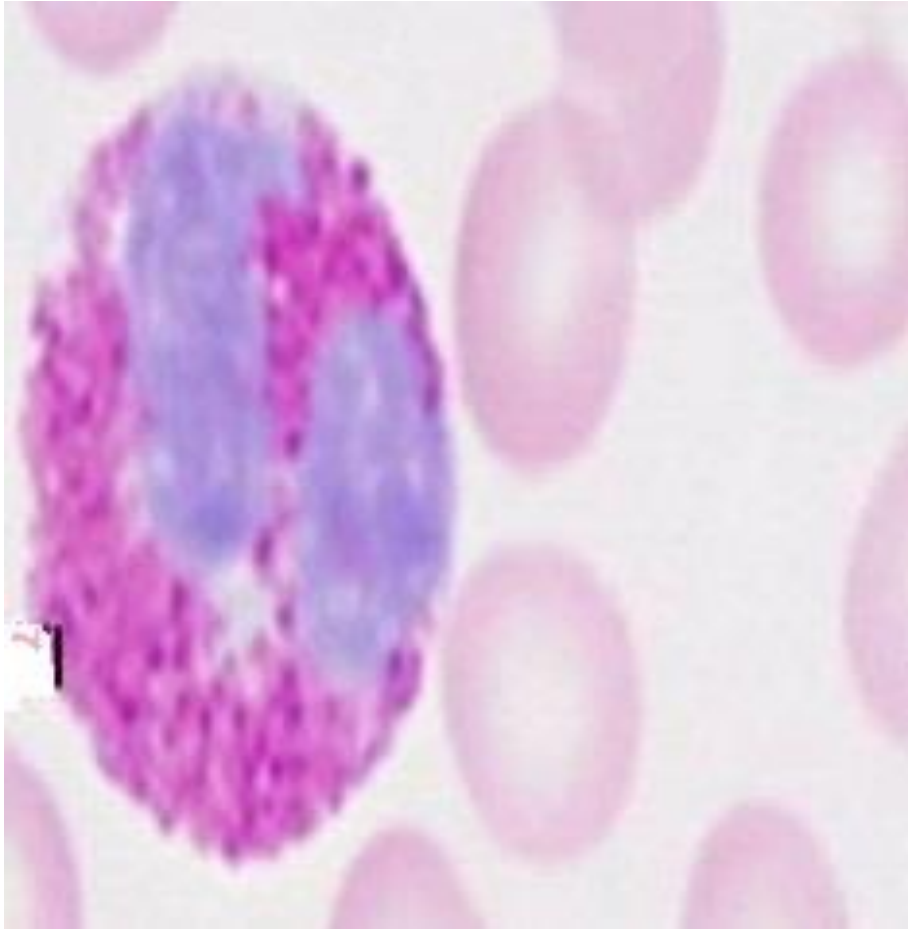
Eosinophils



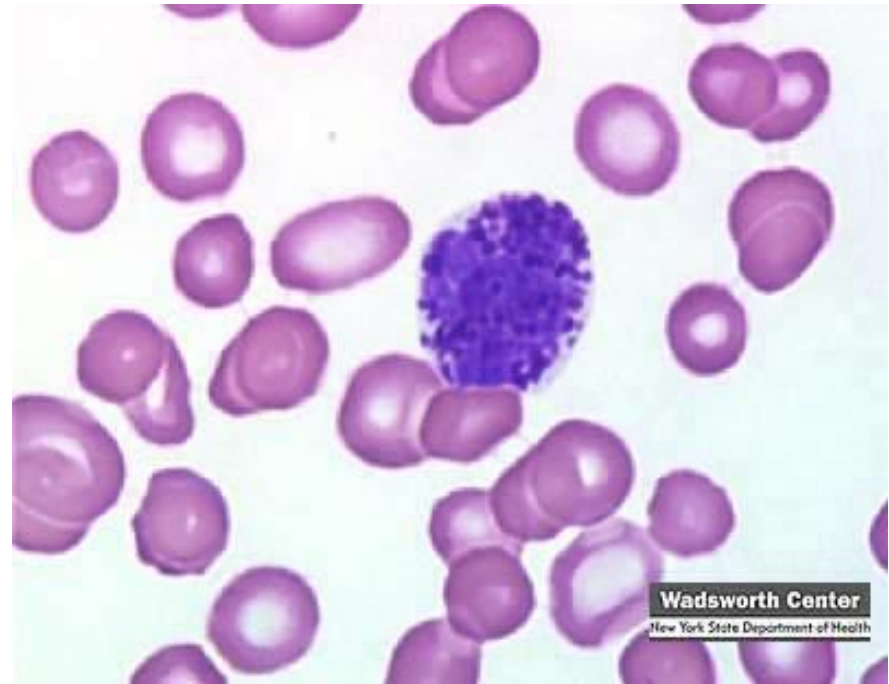
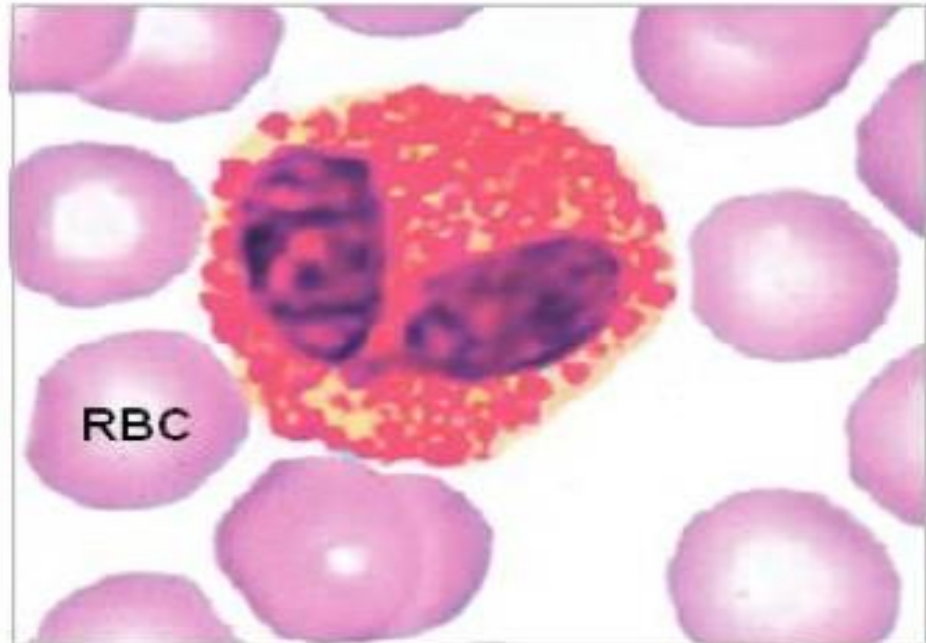
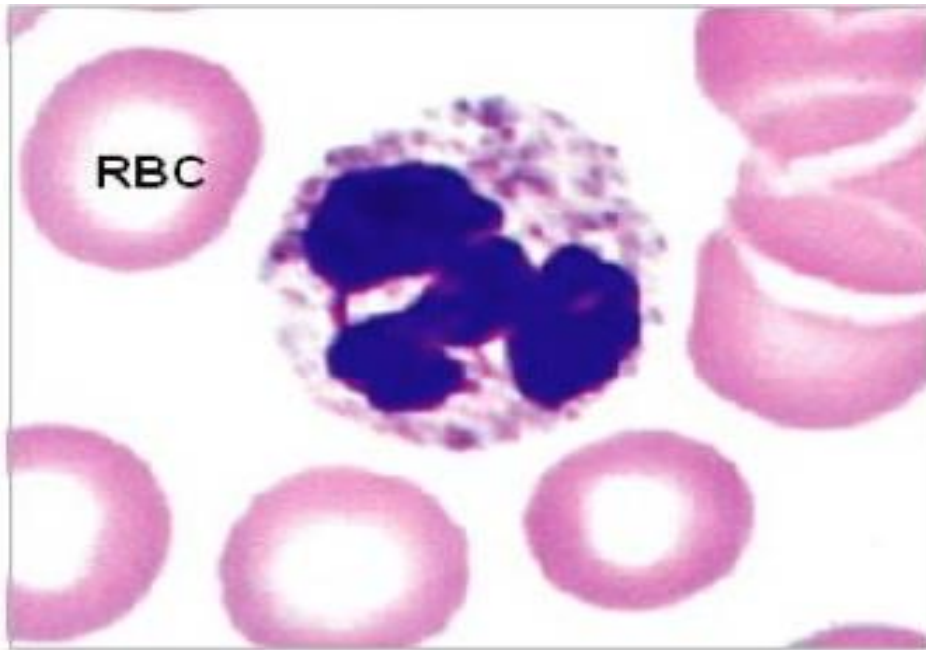
Basophils

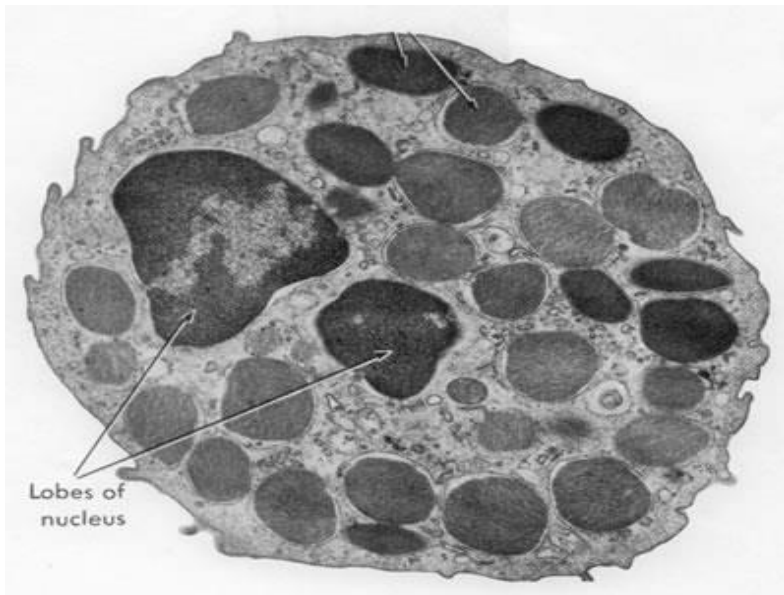


Eosinophils & basophils

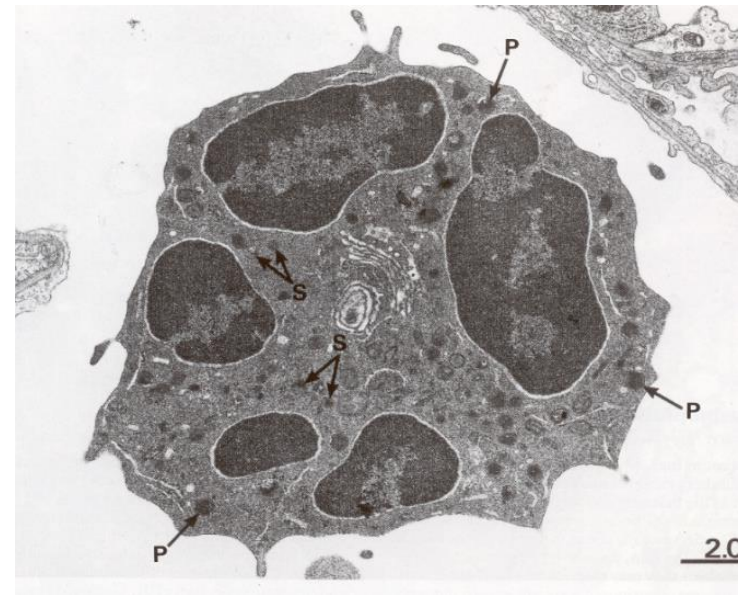


Granular leukocytes





basophils

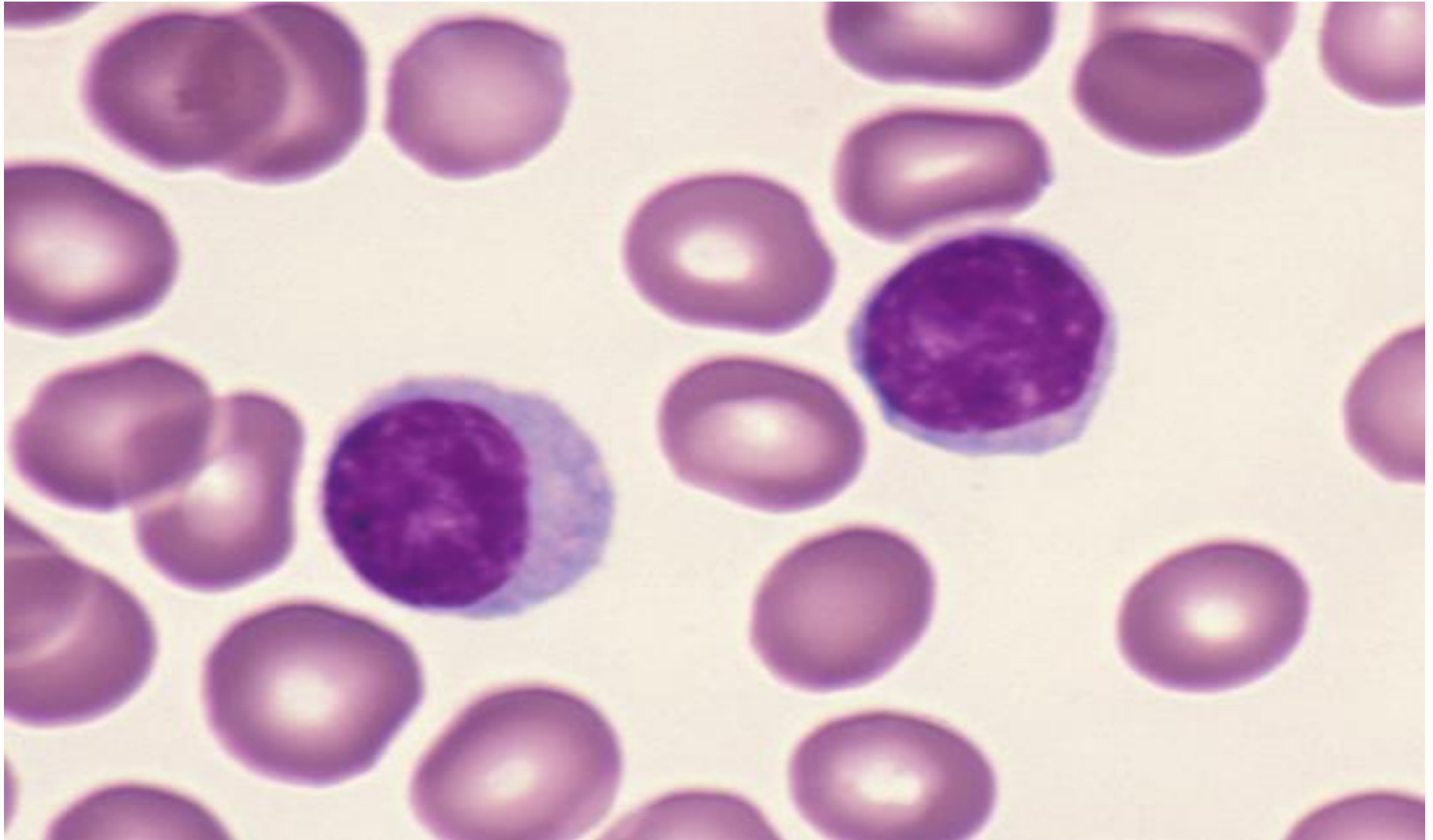


Neutrophil

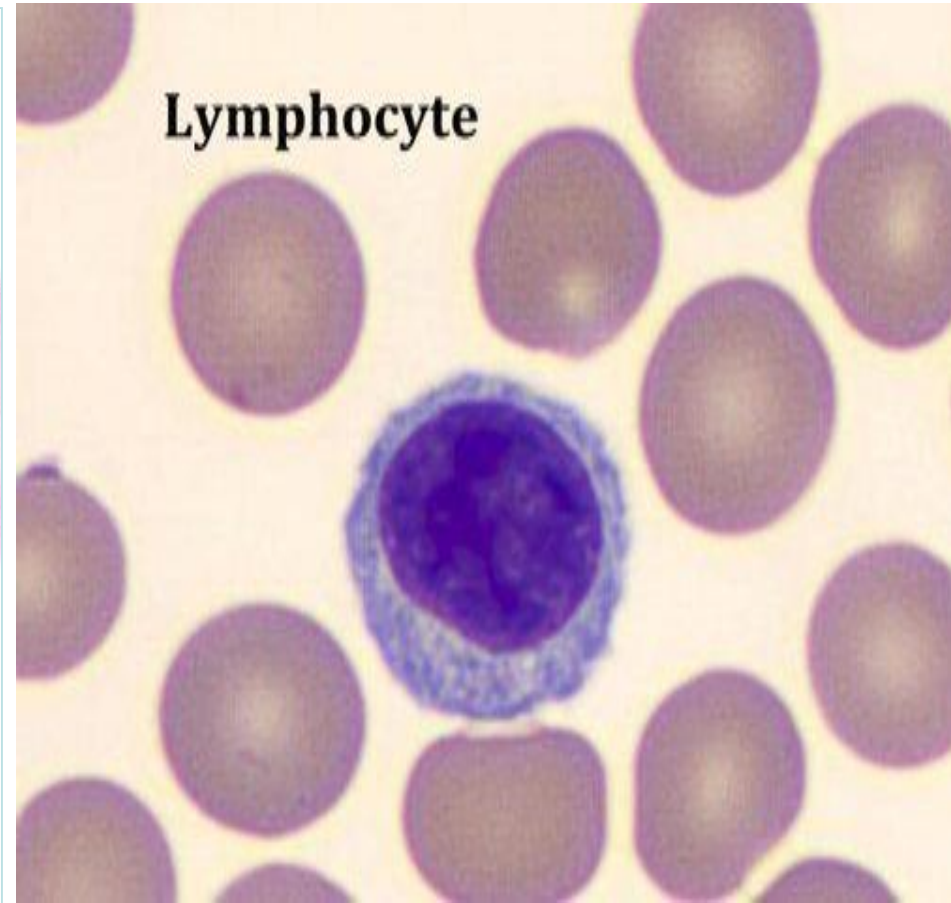
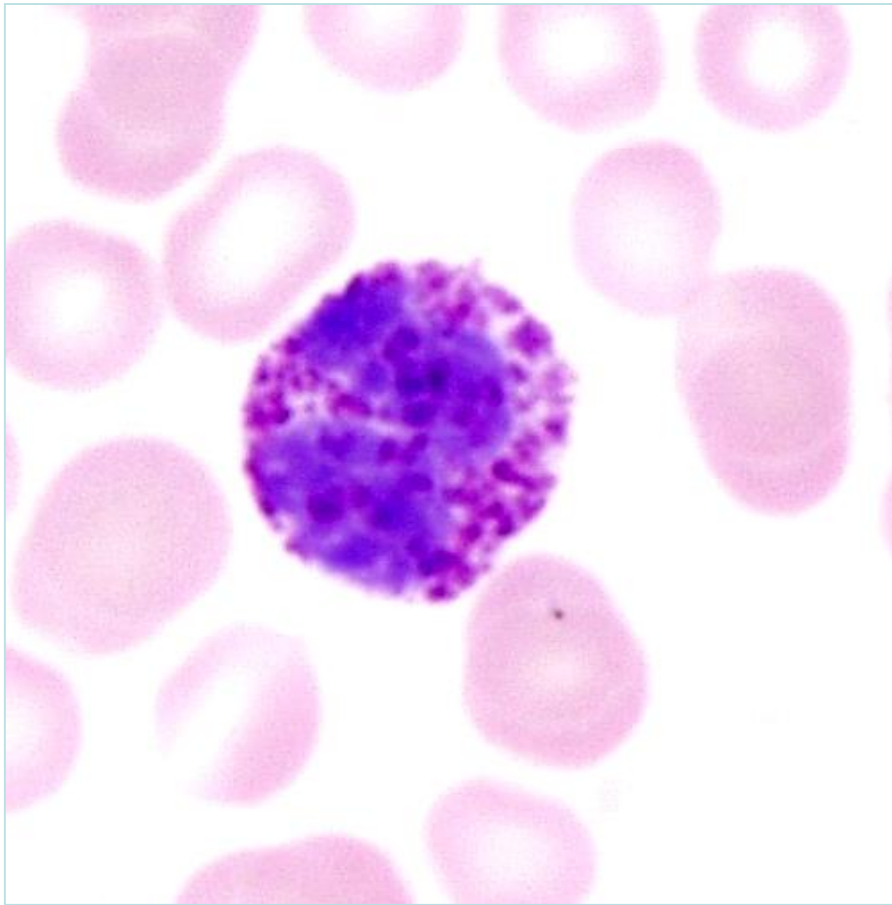


Eosinophils

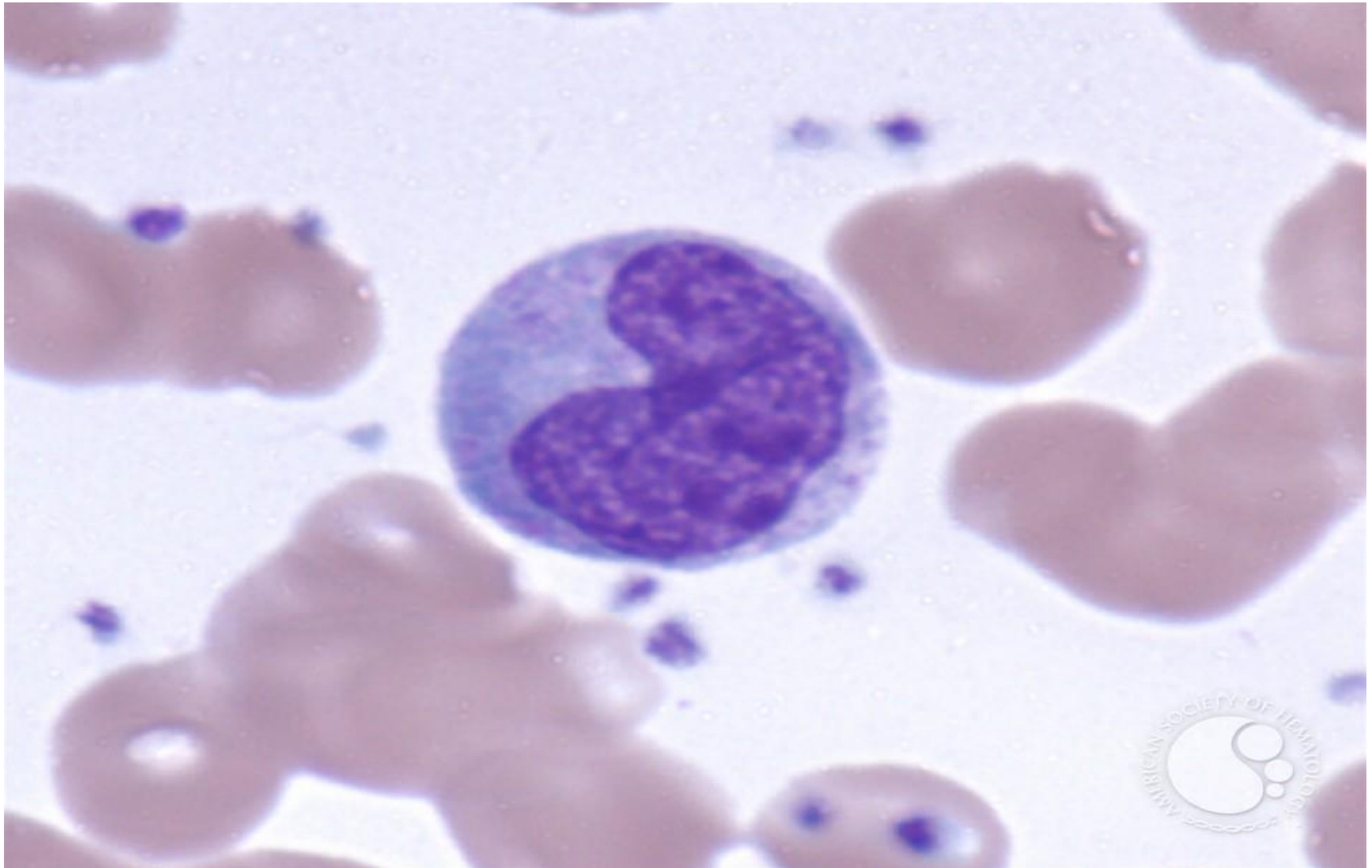
Lymphocytes



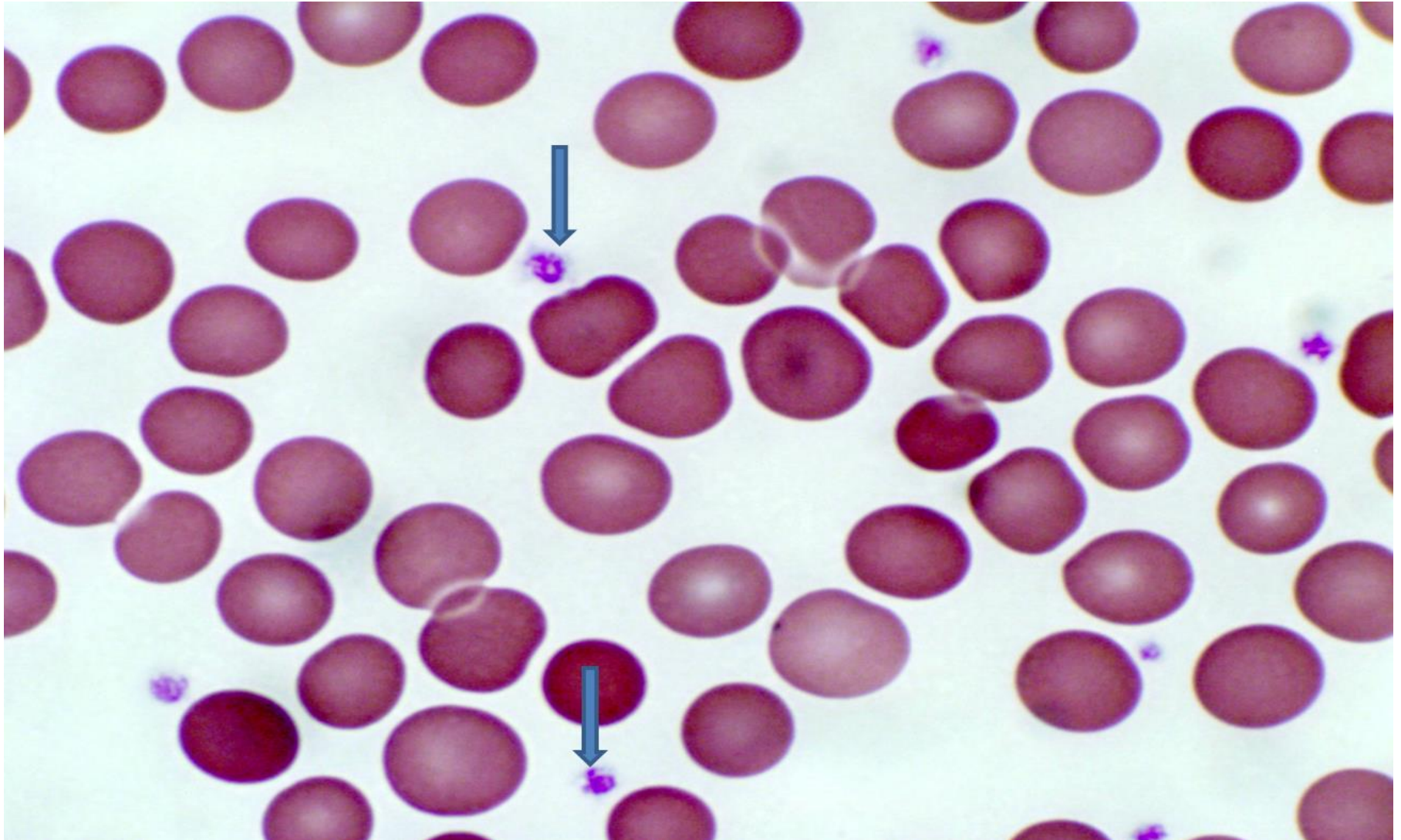
Basophils & Lymphocytes



Monocytes



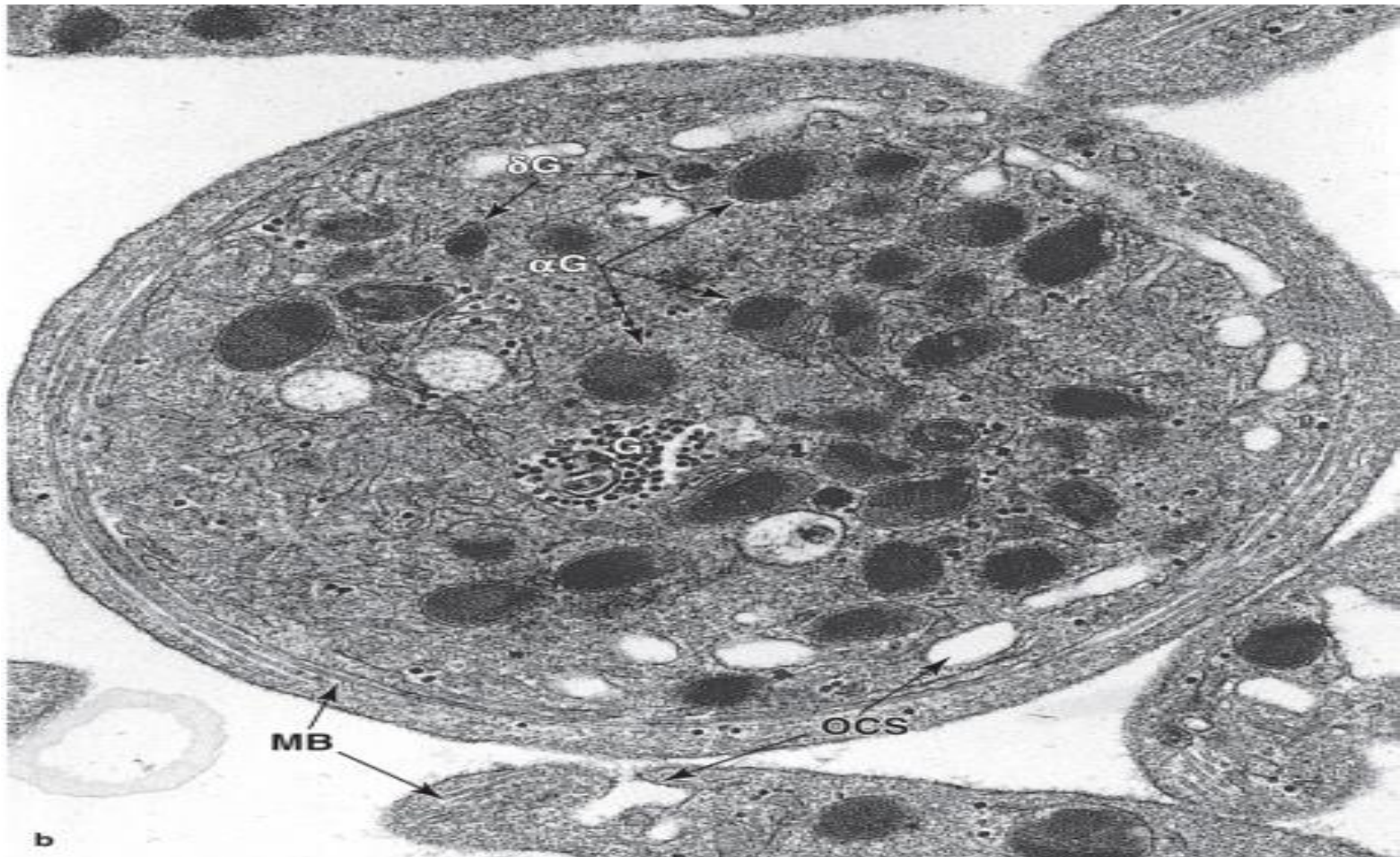
Platelets



Platelets

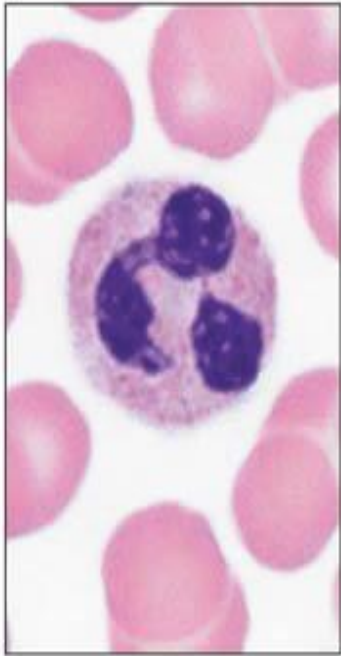


EM Of the platelets

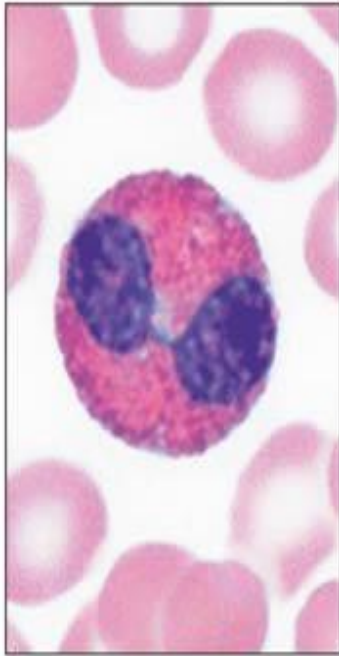


WBCs

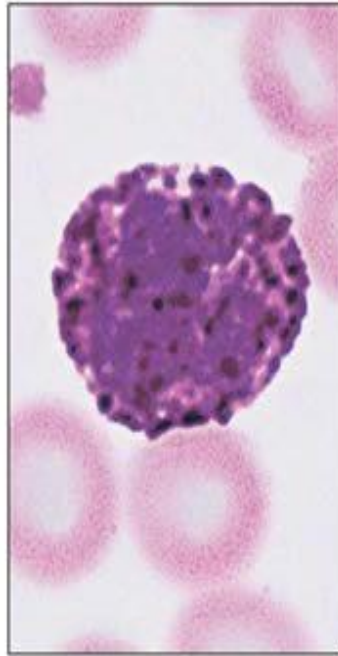
Granulocytes



(a) Neutrophil:
Multilobed nucleus,
pale red and blue
cytoplasmic granules

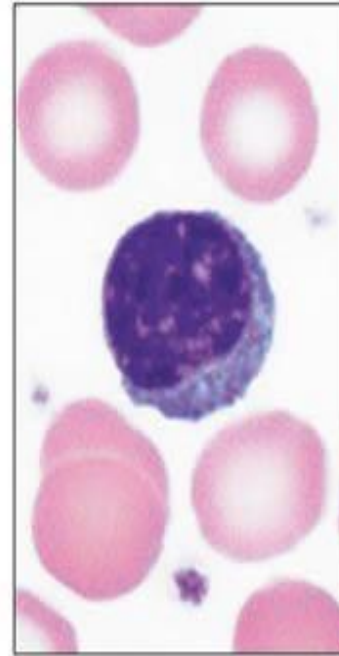


(b) Eosinophil:
Bilobed nucleus, red
cytoplasmic granules

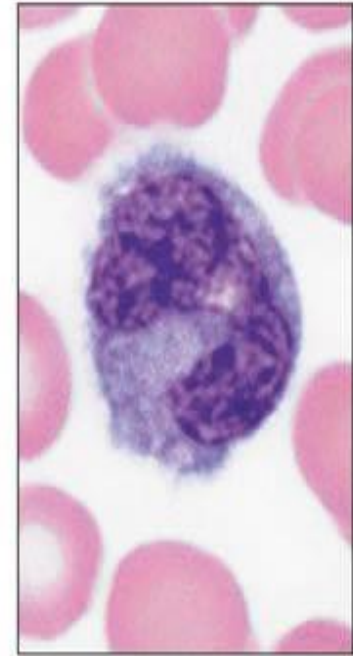


(c) Basophil:
Bilobed nucleus,
purplish-black
cytoplasmic granules

Agranulocytes



(d) Lymphocyte (small):
Large spherical
nucleus, thin rim of
pale blue cytoplasm



(e) Monocyte:
Kidney-shaped
nucleus, abundant
pale blue cytoplasm

The olfactory epithelium

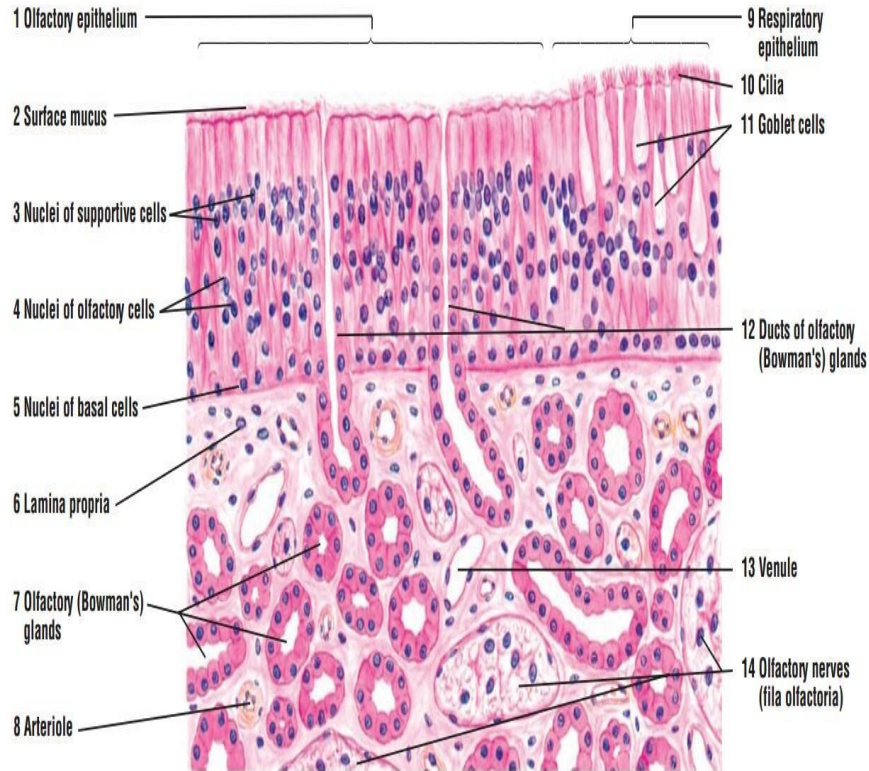
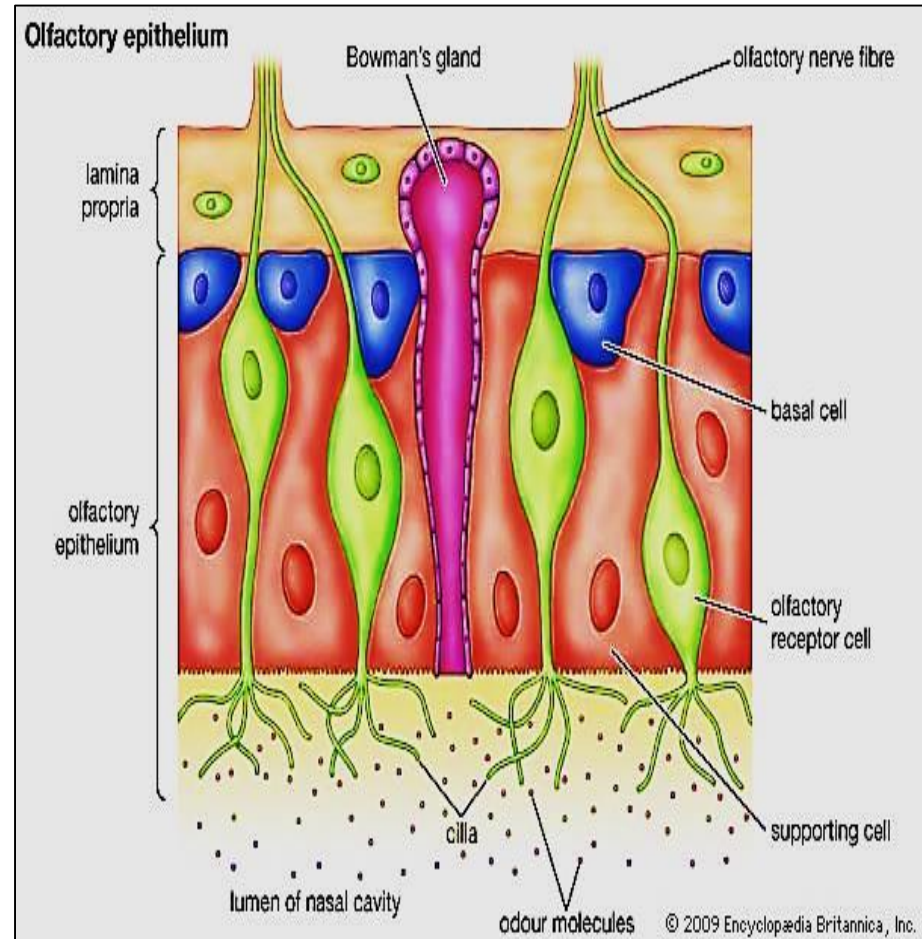
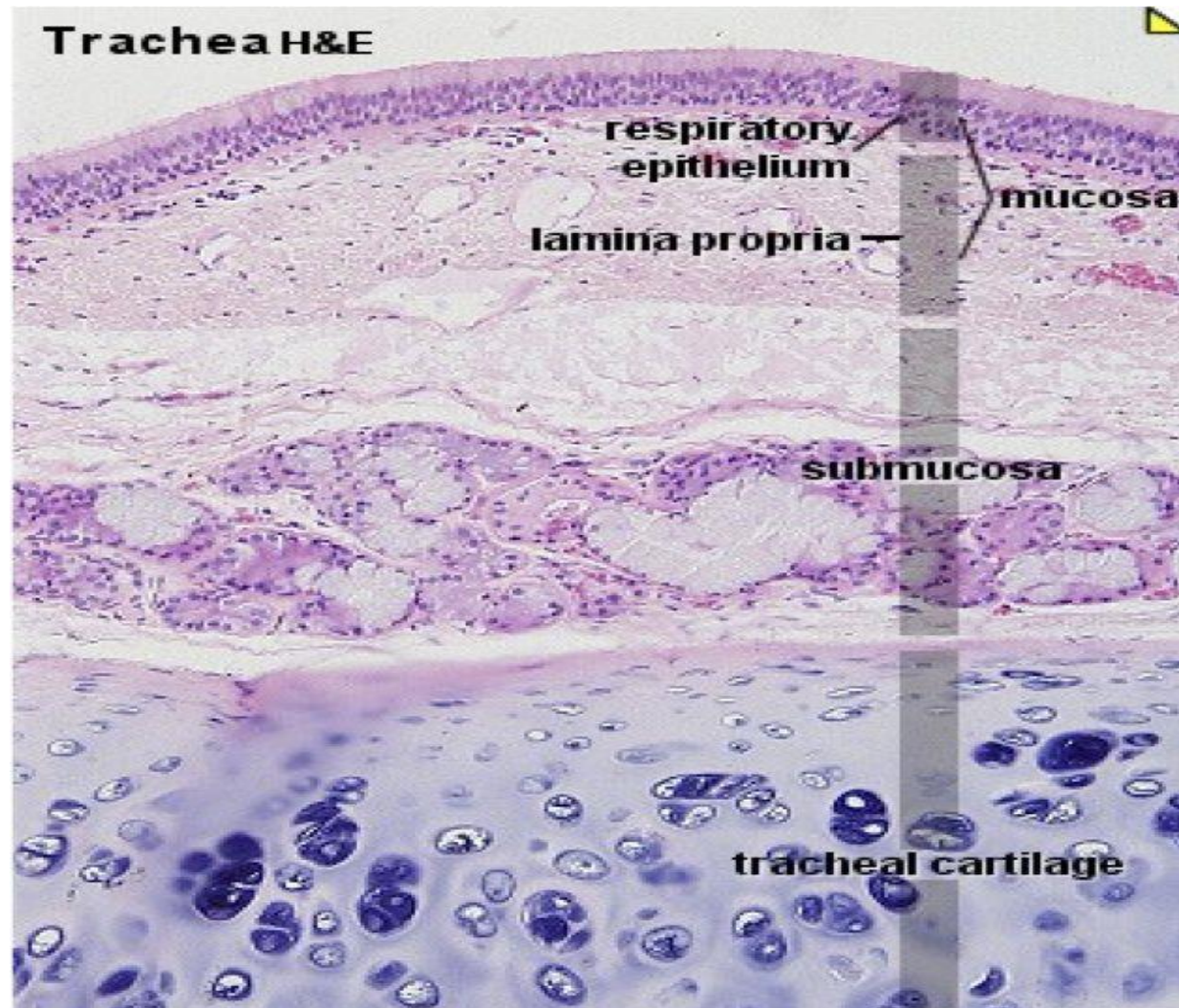


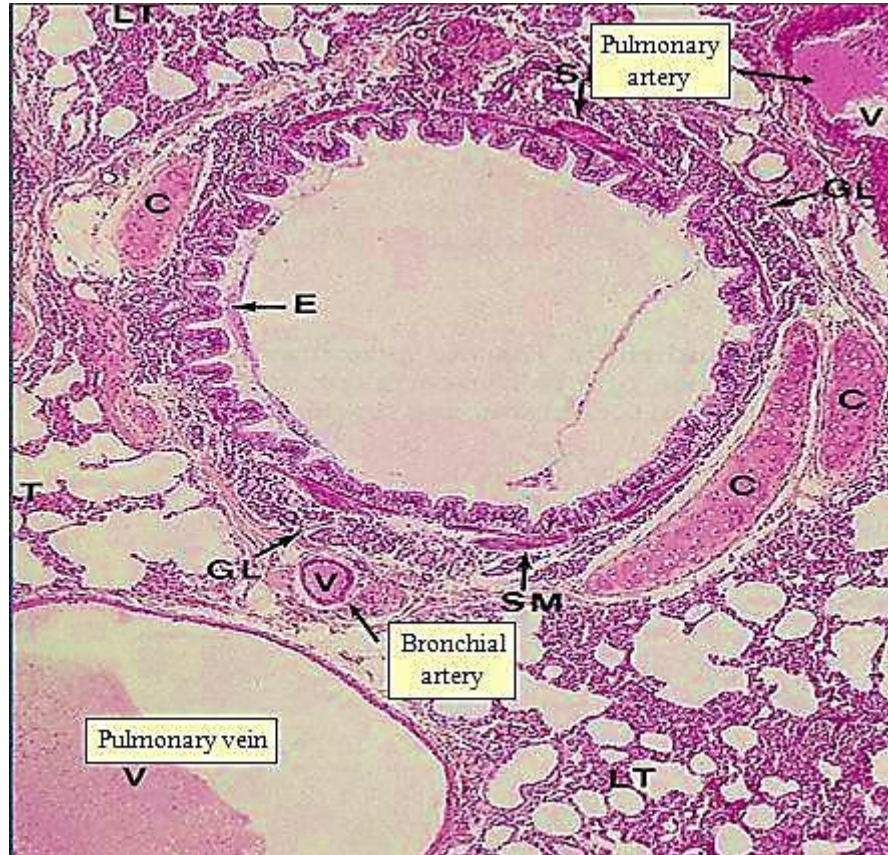
FIGURE 15.2 ■ Olfactory mucosa: details of a transitional area. Stain: hematoxylin and eosin. High magnification.



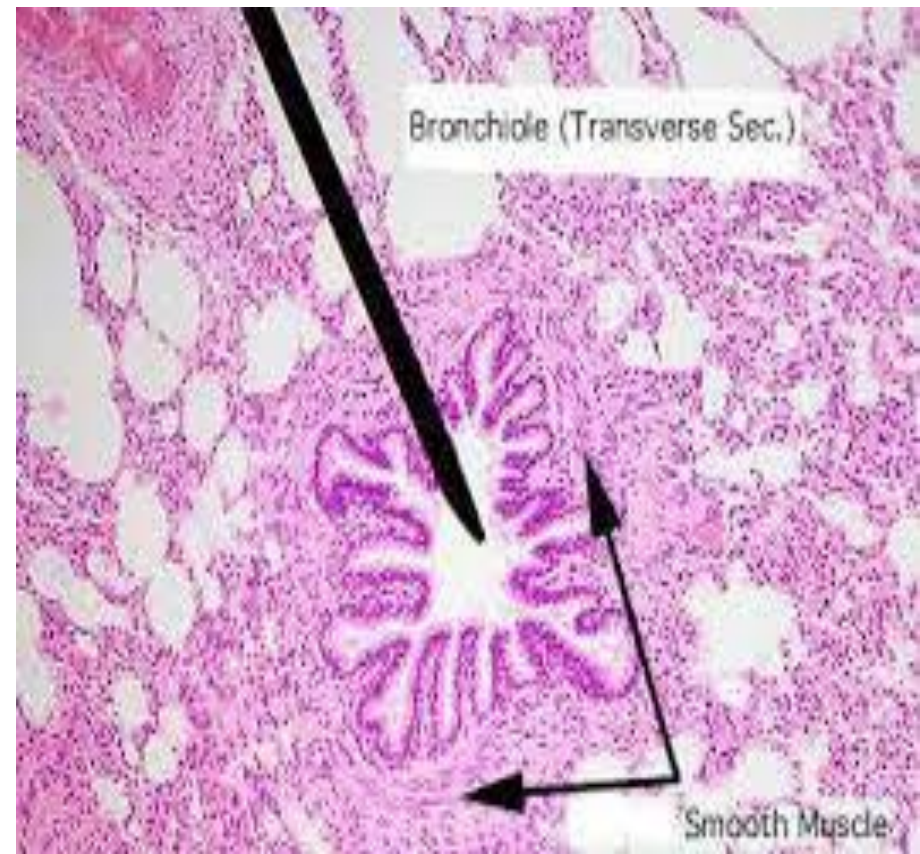
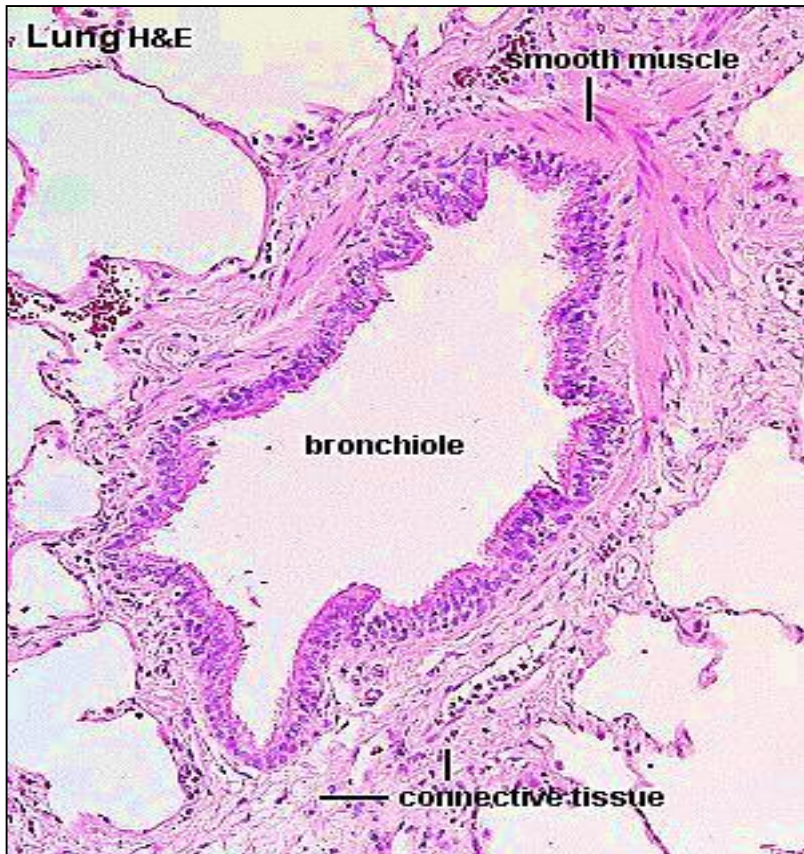
Trachea



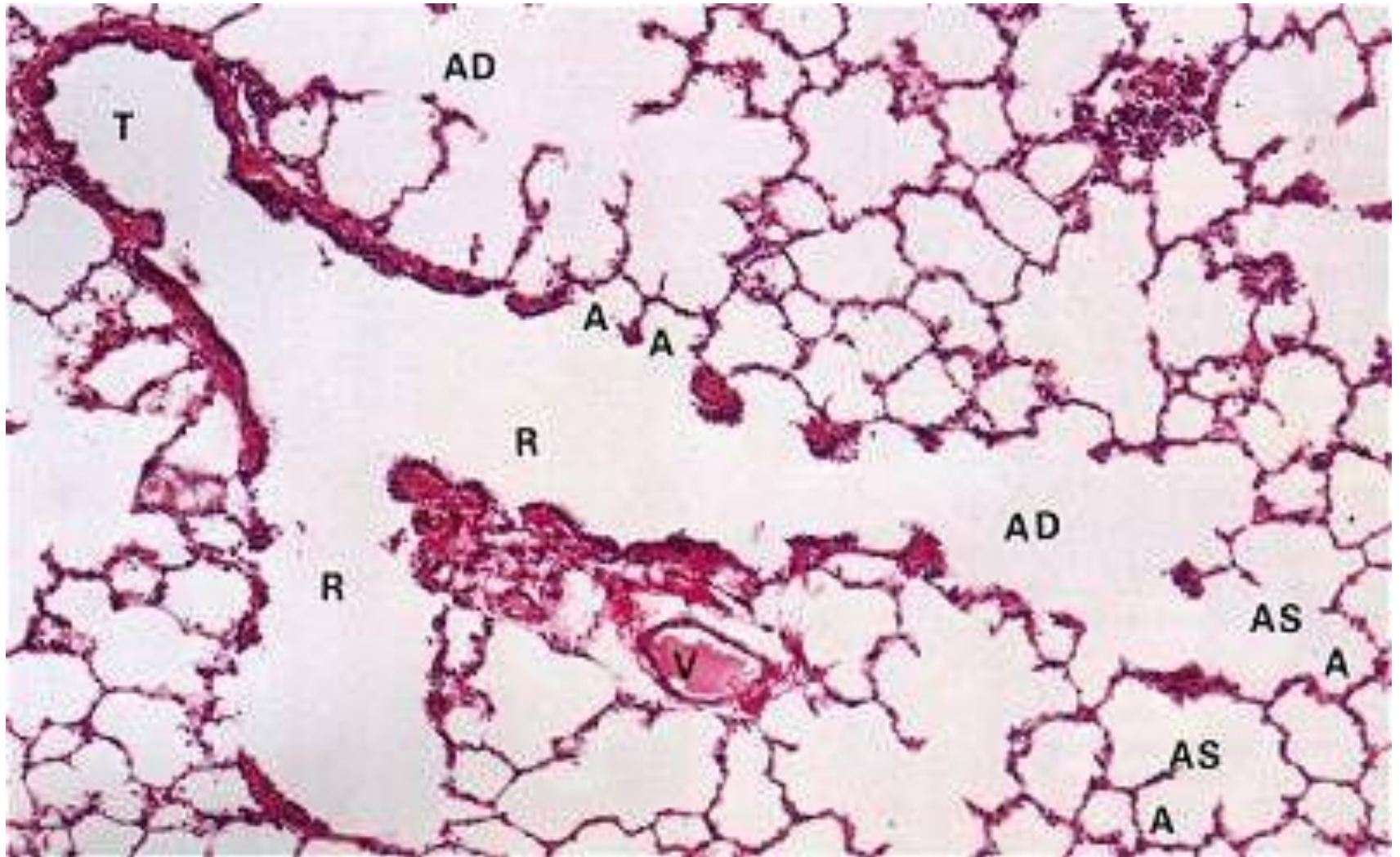
Intrapulmonary bronchi



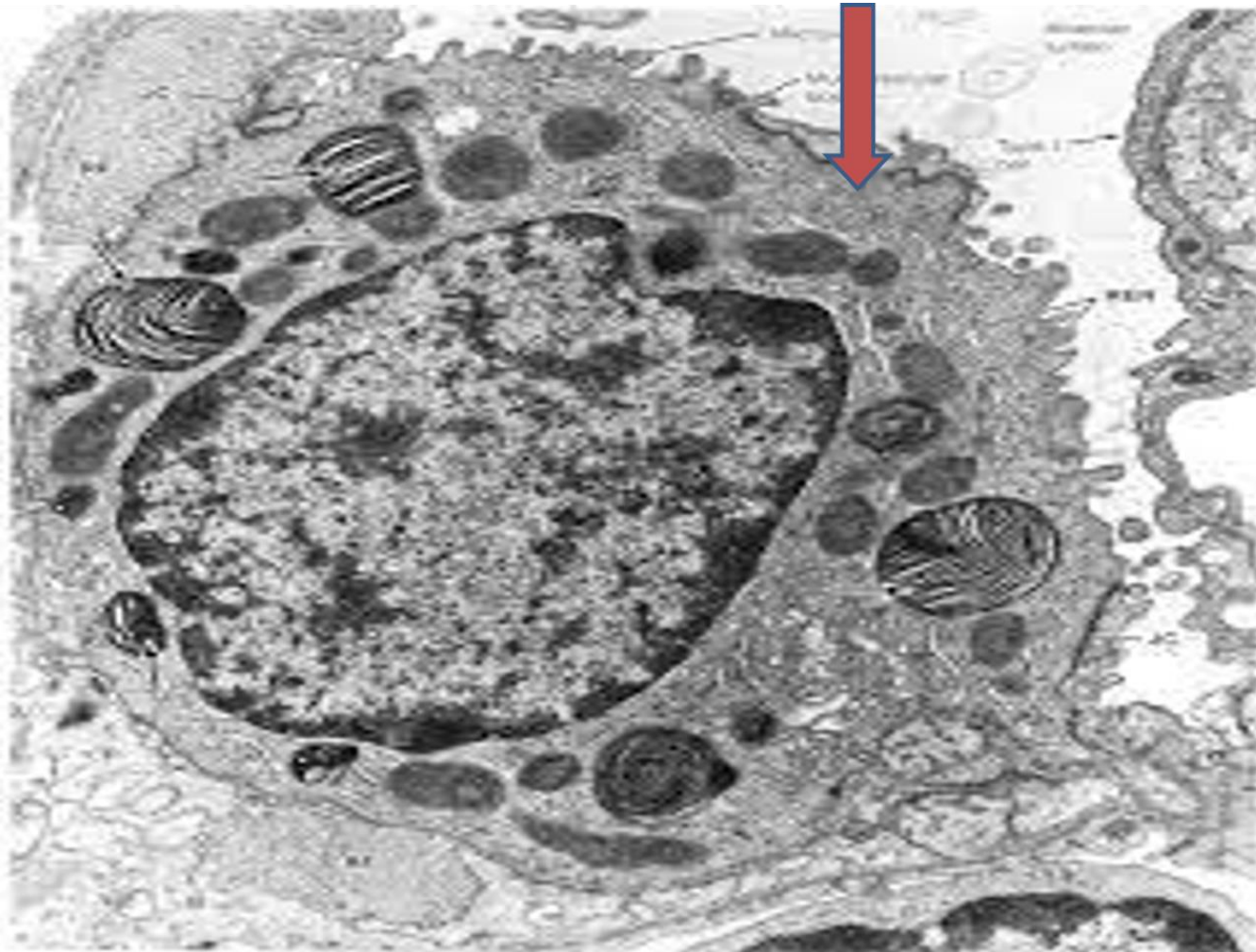
Bronchiole



Lung



Type II Pneumocyte



Thank
You

