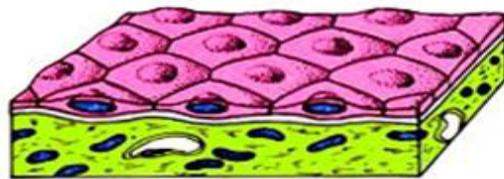


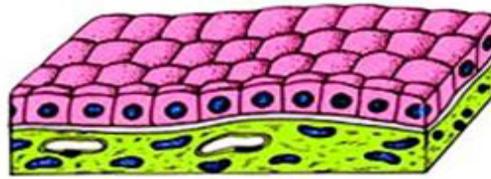
Epithelium practical

Classification of Epithelium

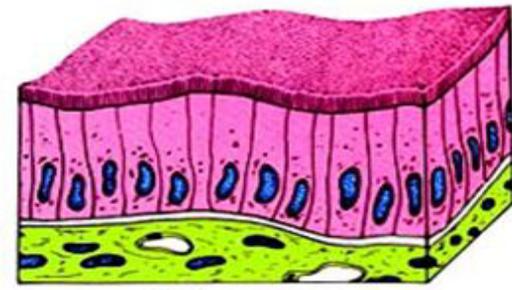
(SIMPLE)



Squamous

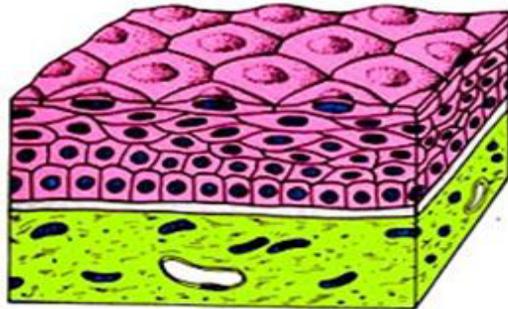


Cuboidal

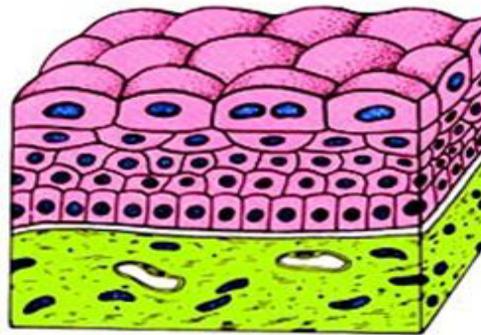


Columnar

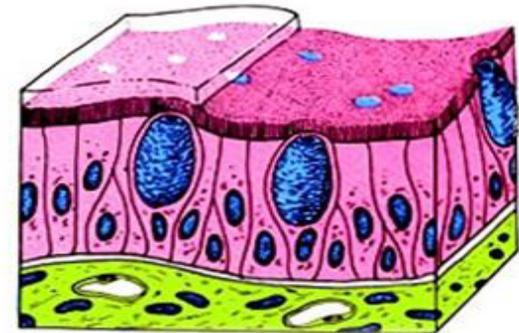
(STRATIFIED)



Squamous

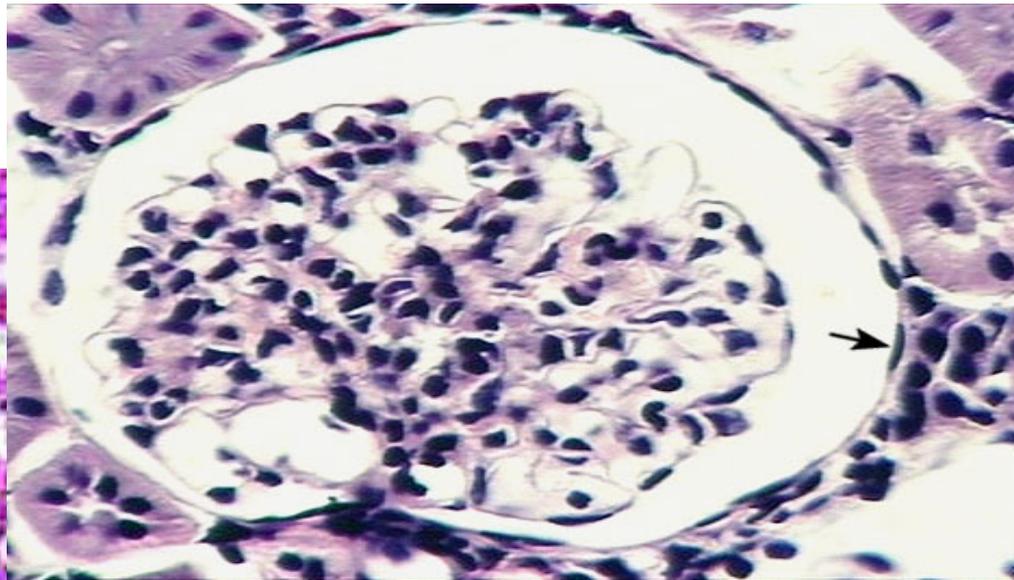


Transitional

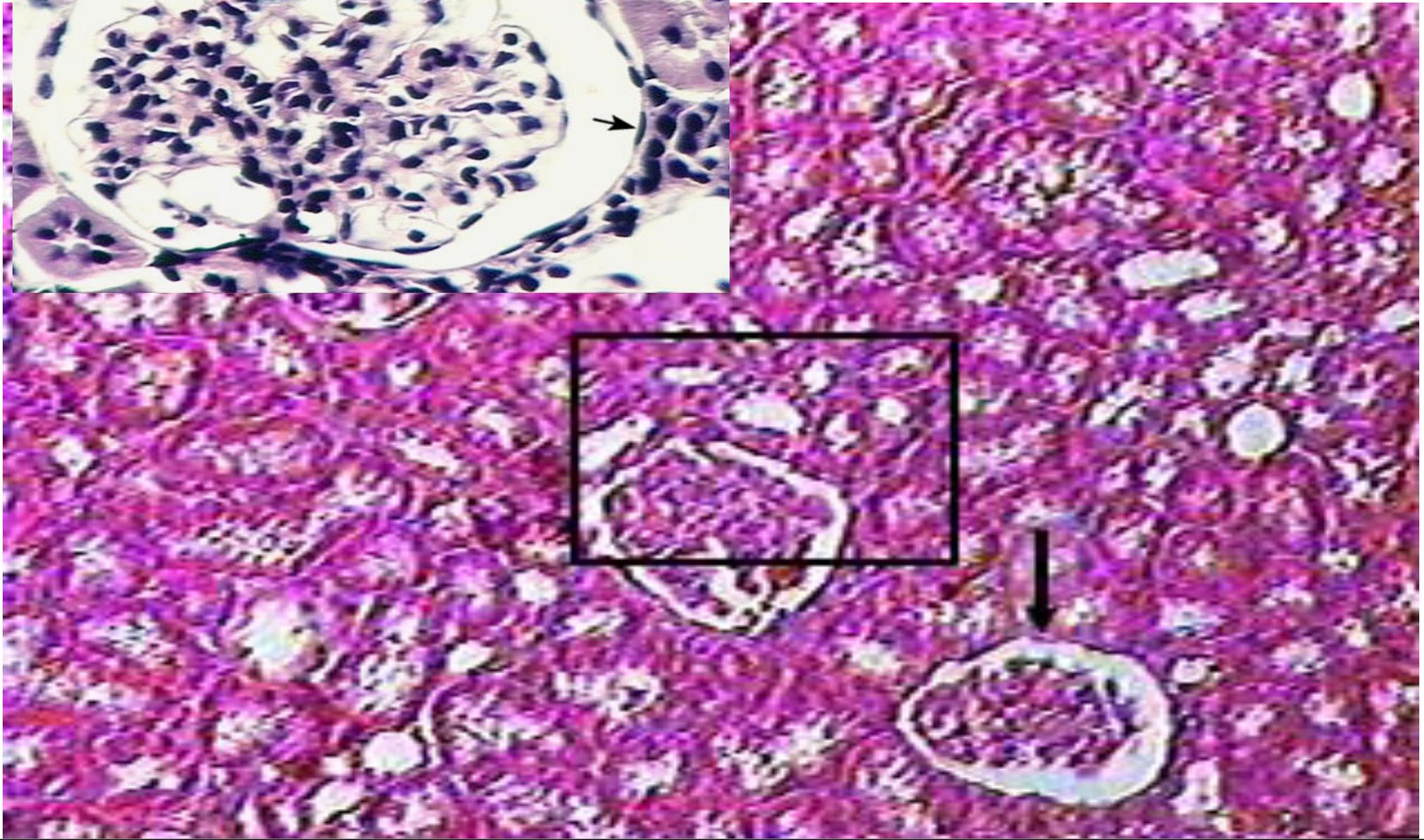


Pseudostratified columnar
(Respiratory)

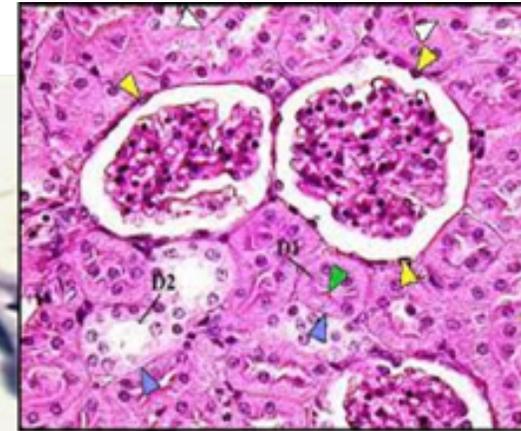
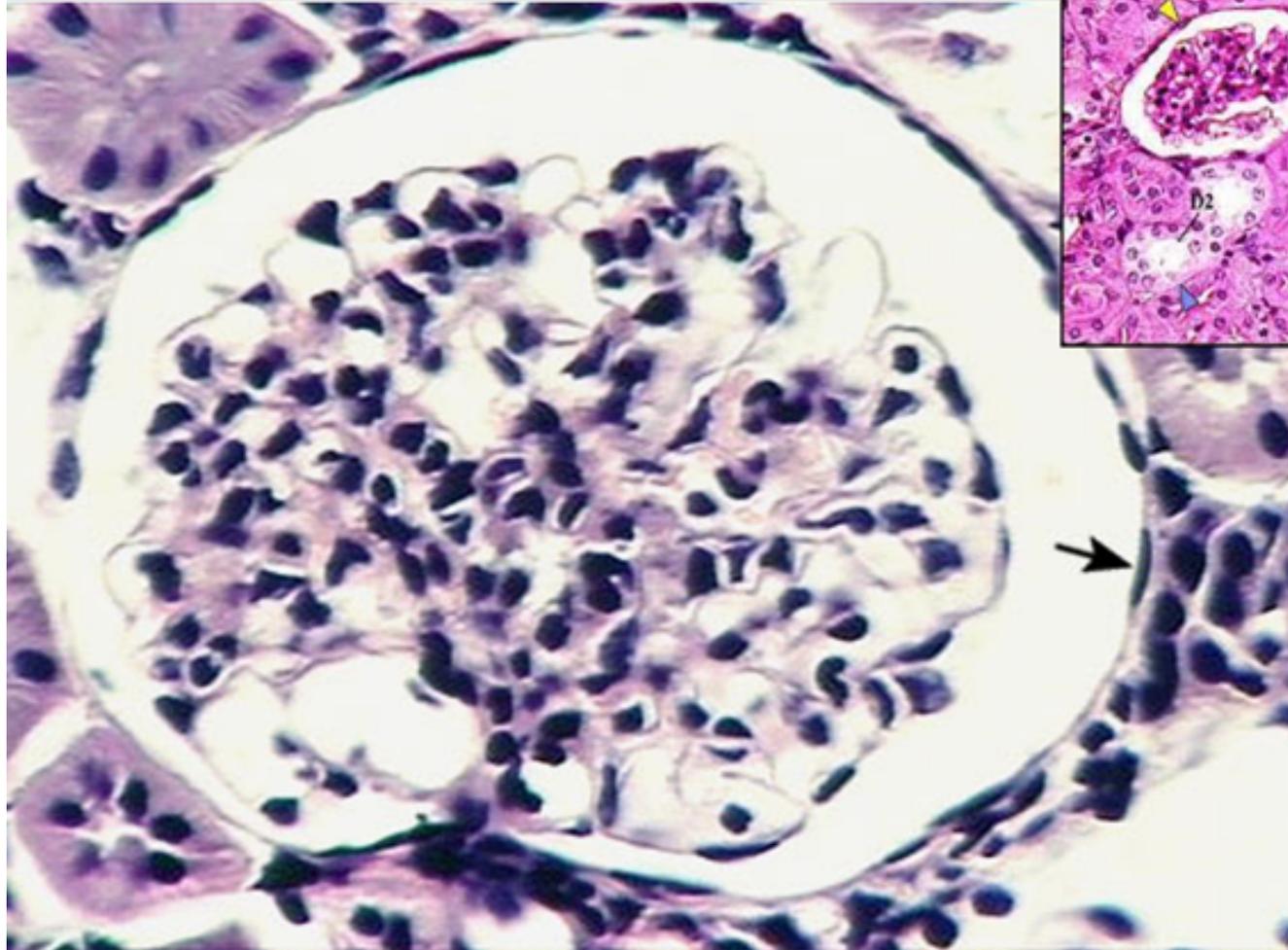
Simple squamous



Bowman's capsule

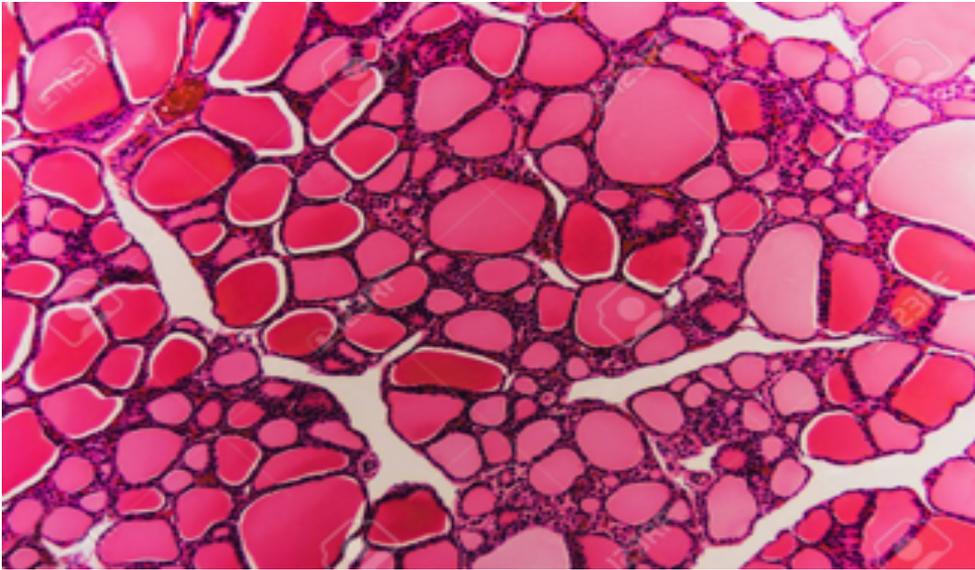


Bowman's capsule

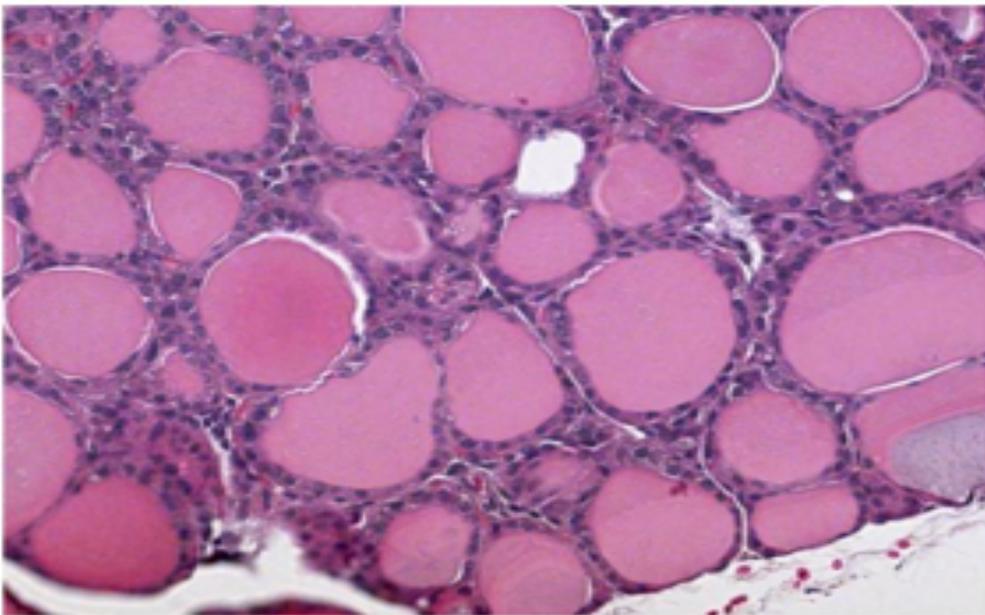
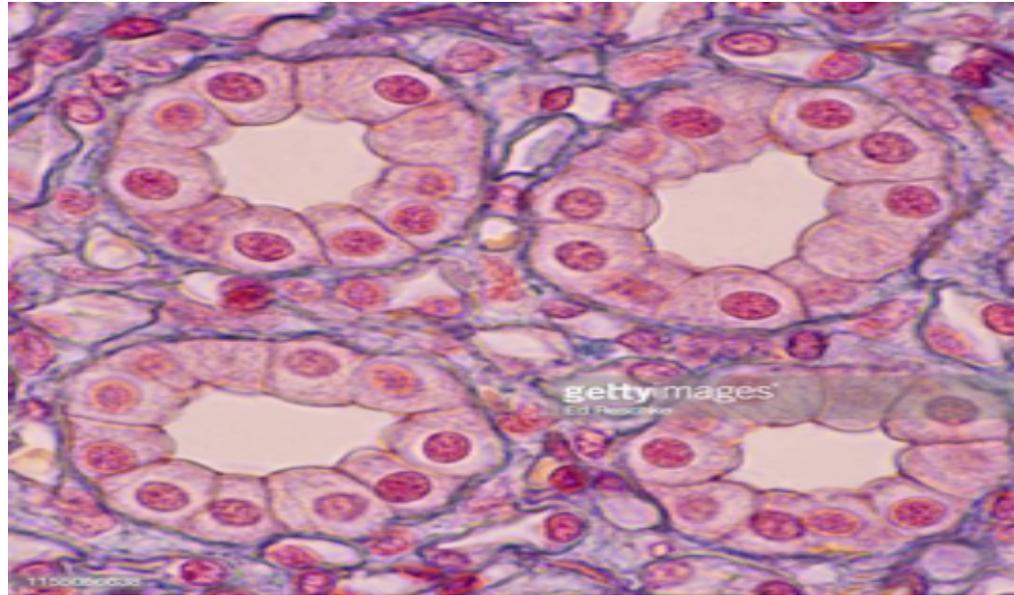


Simple cuboidal

Thyroid gland



kidney tubules



Site: Thyroid gland
secretion

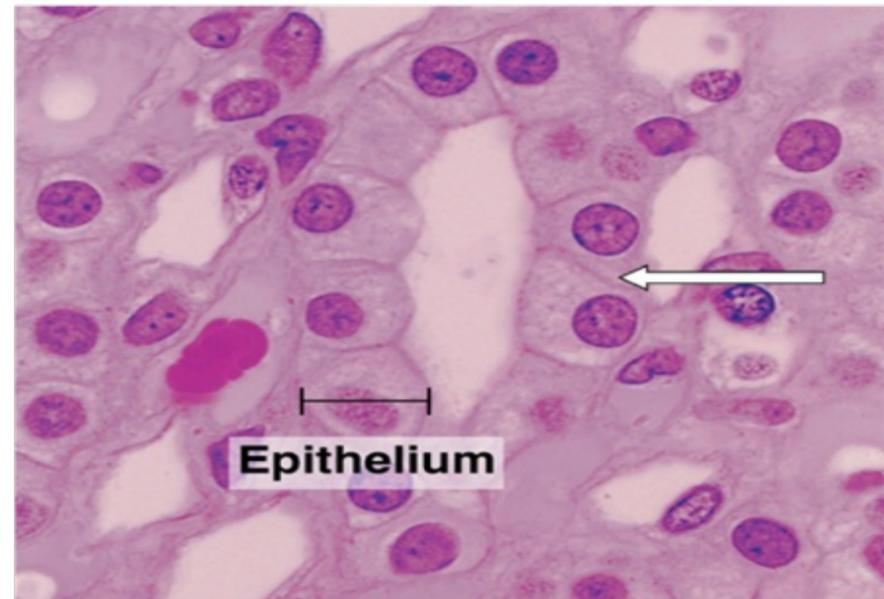
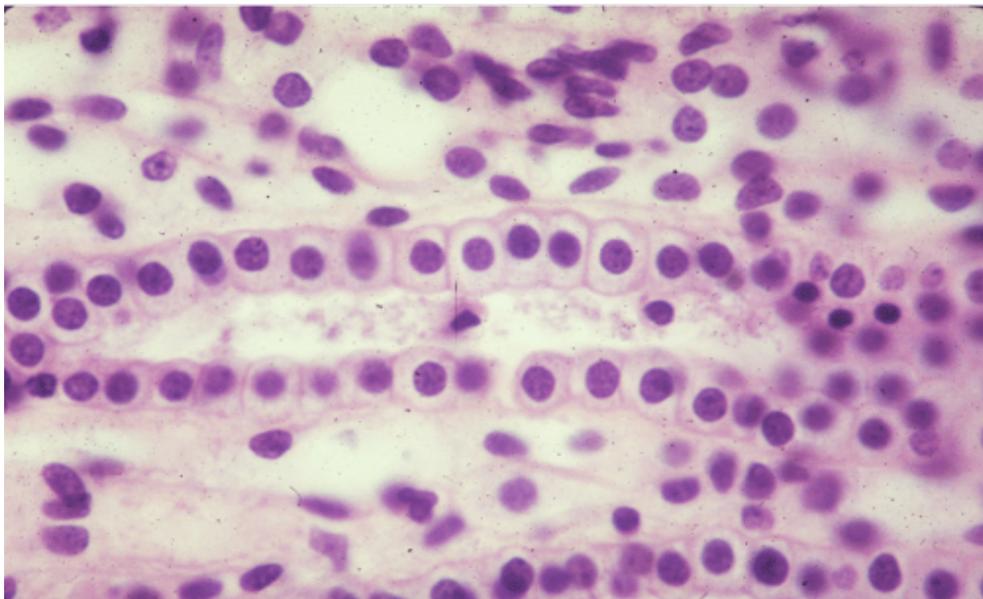
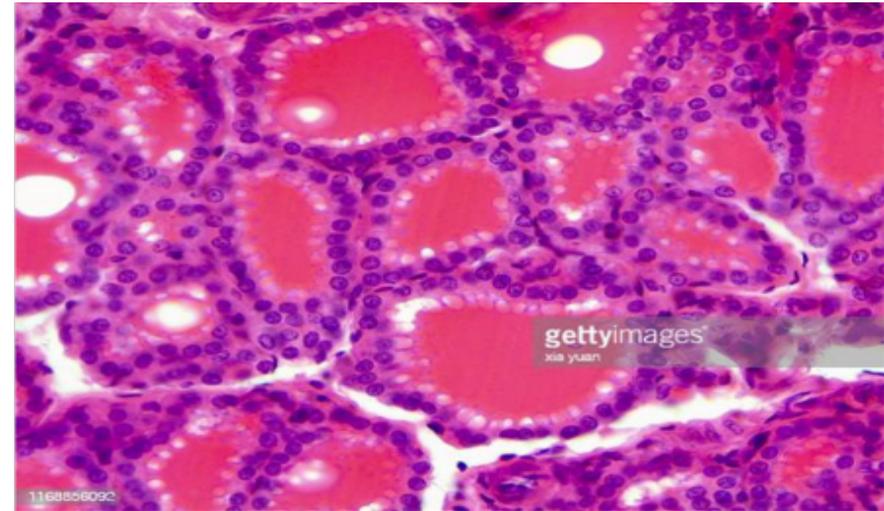
- kidney tubules
ion exchange

Simple cuboidal Epithelium

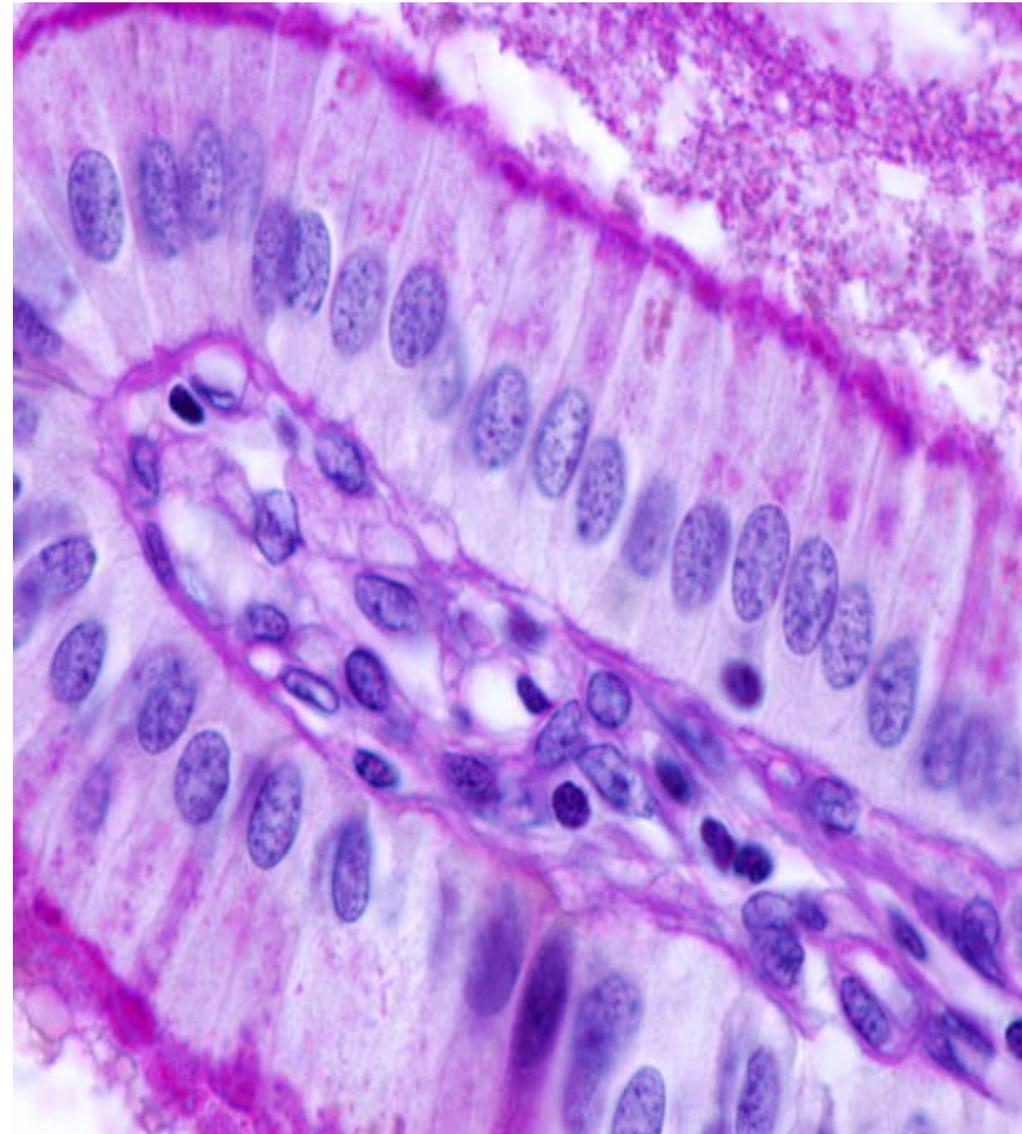
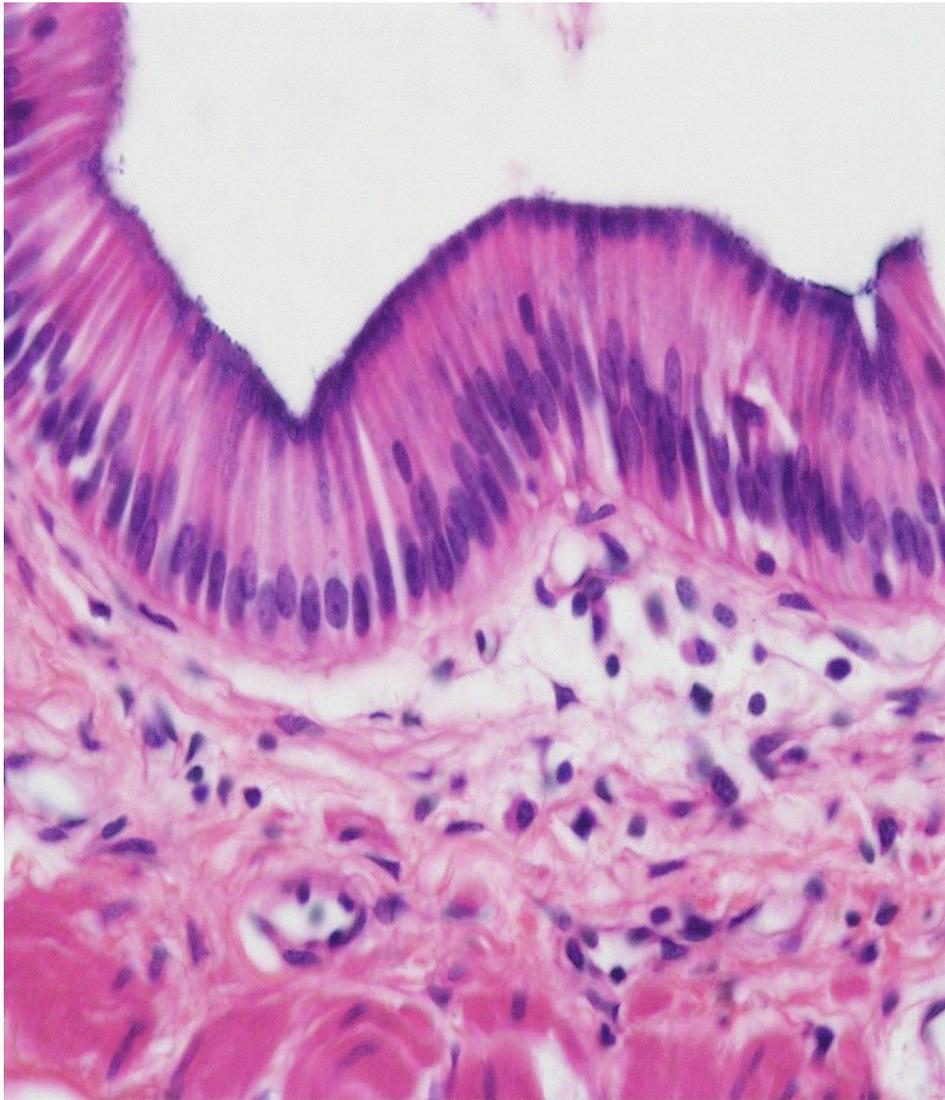
Site:

Thyroid gland : secretion

kidney tubules : ion exchange

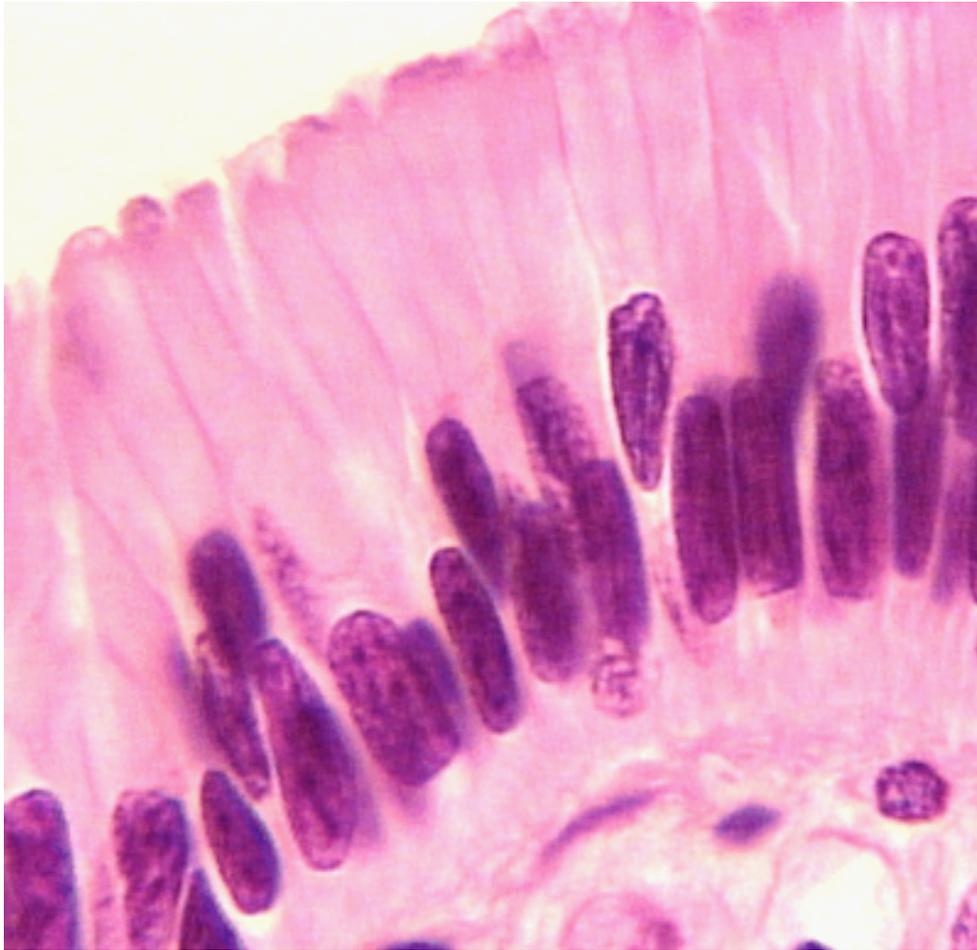


Simple columnar



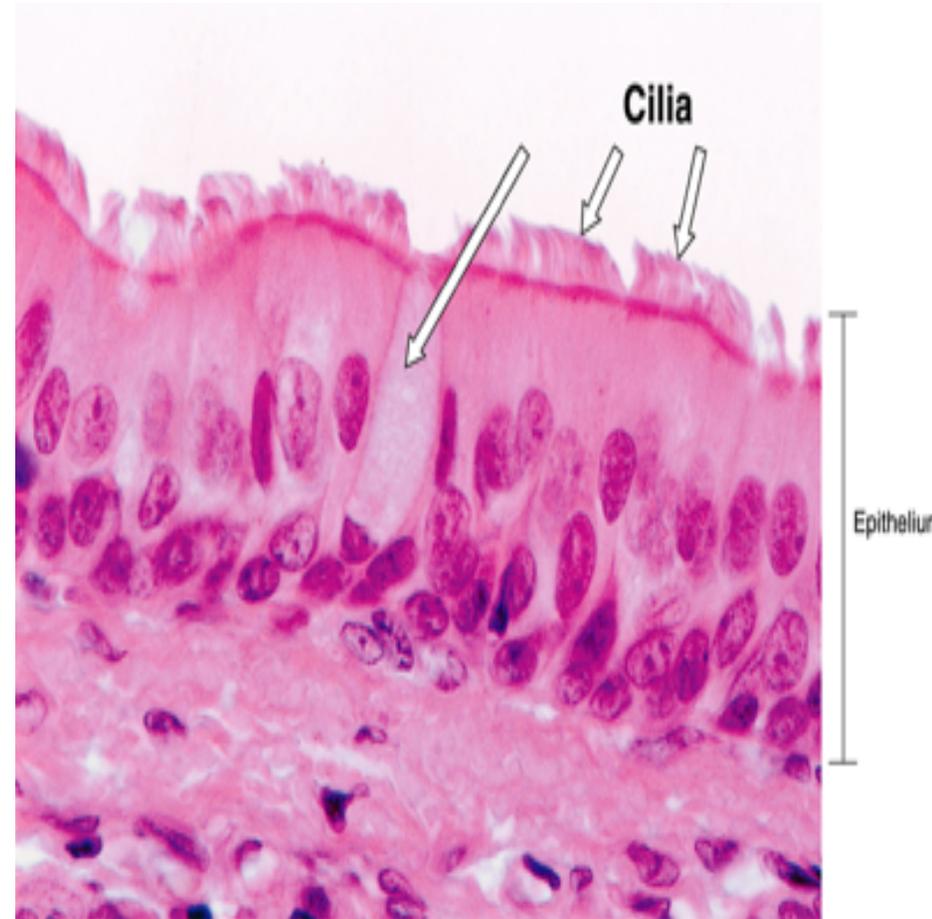
Pseudostratified columnar

non ciliated



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

ciliated

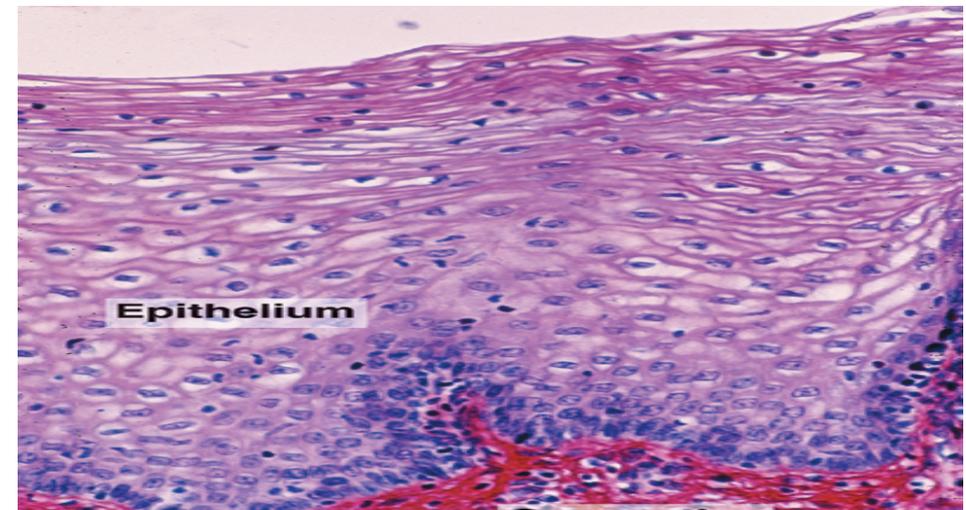


Sites: Nose- Trachea

Stratified squamous

Non Keratinized

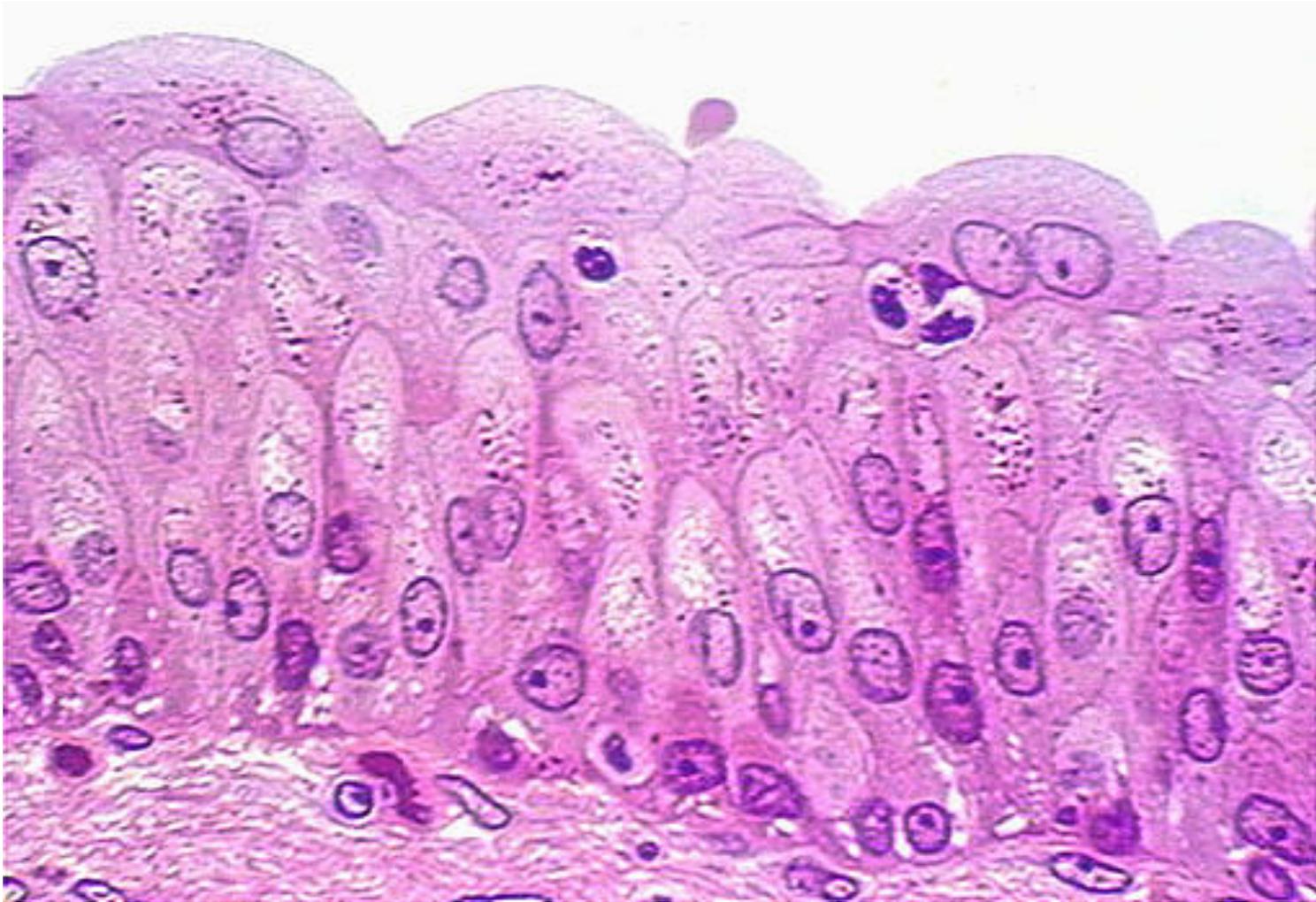
Keratinized



skin

Oesophagus- vagina

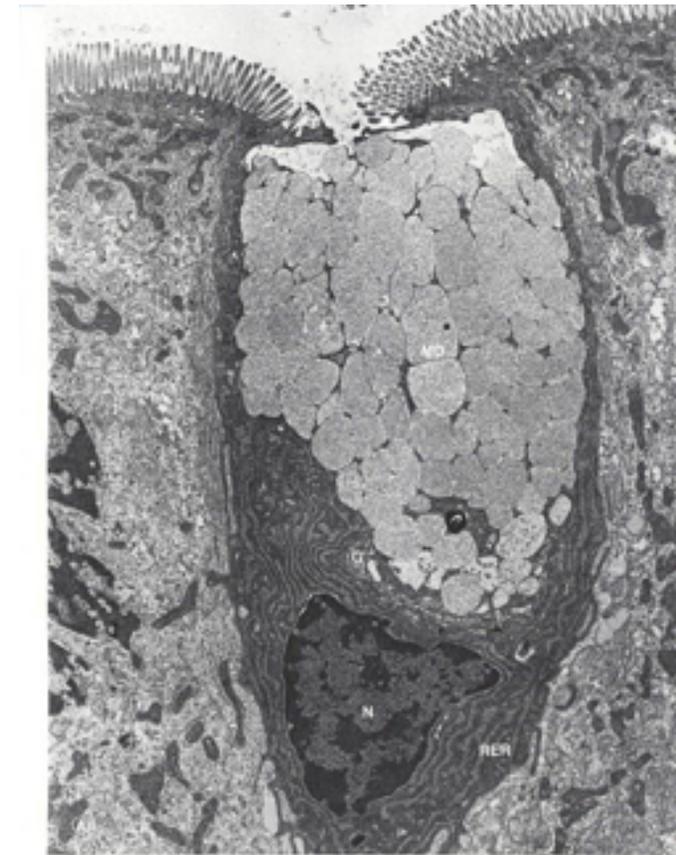
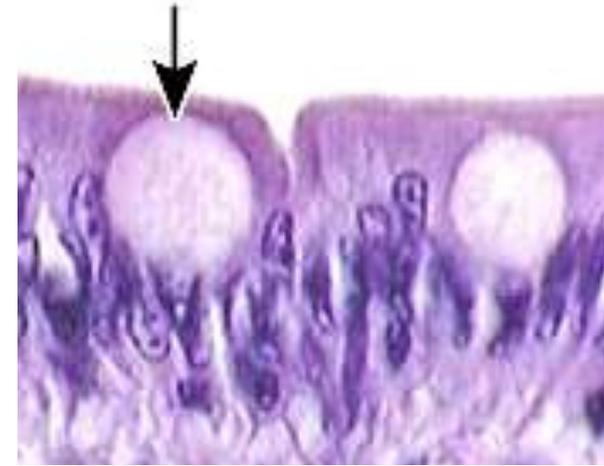
Transitional epithelium



(urinary bladder - empty)

Goblet cells

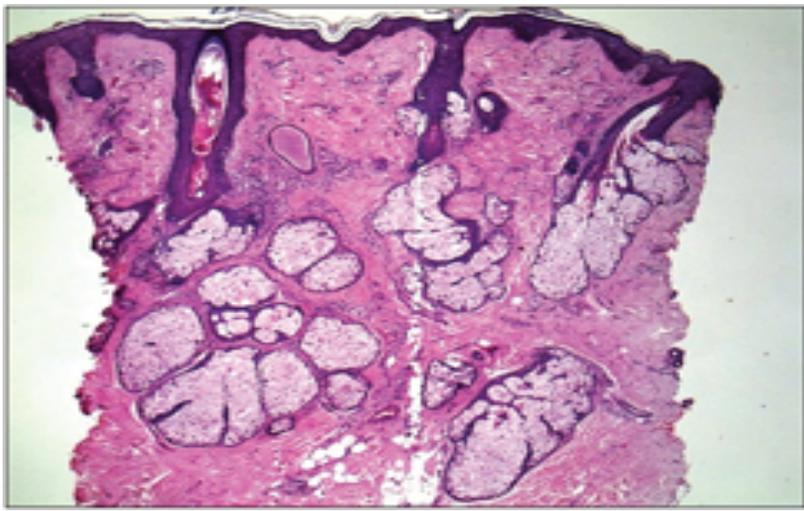
- Unicellular
- Exocrine
- Shape of the cell : flask shape with basal nuclei
- **Mode** of secretion: Merocrine
- **Nature** of secretion : Mucus
- **Site** : Respiratory system , GIT



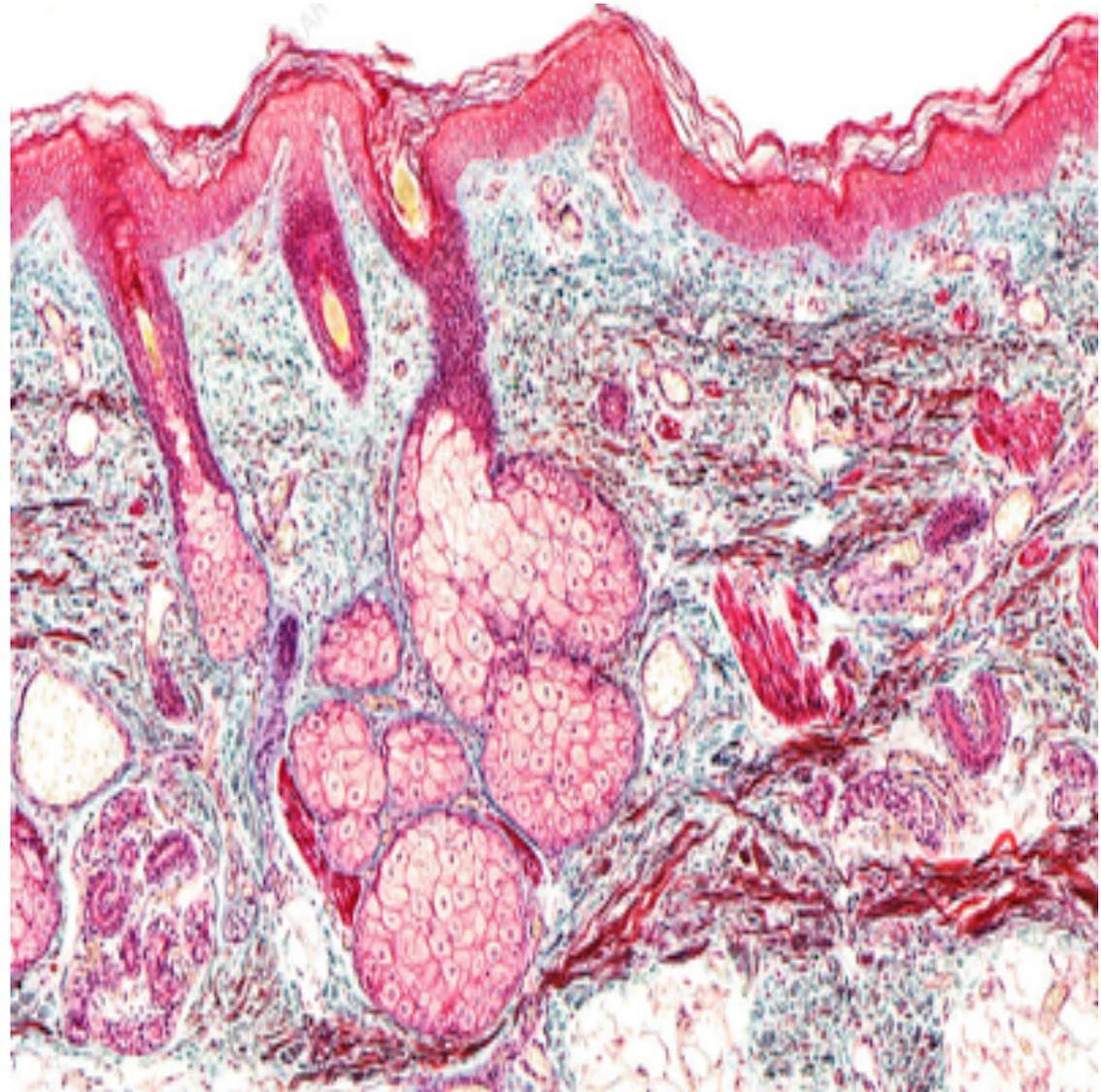
Sebaceous gland

- 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**

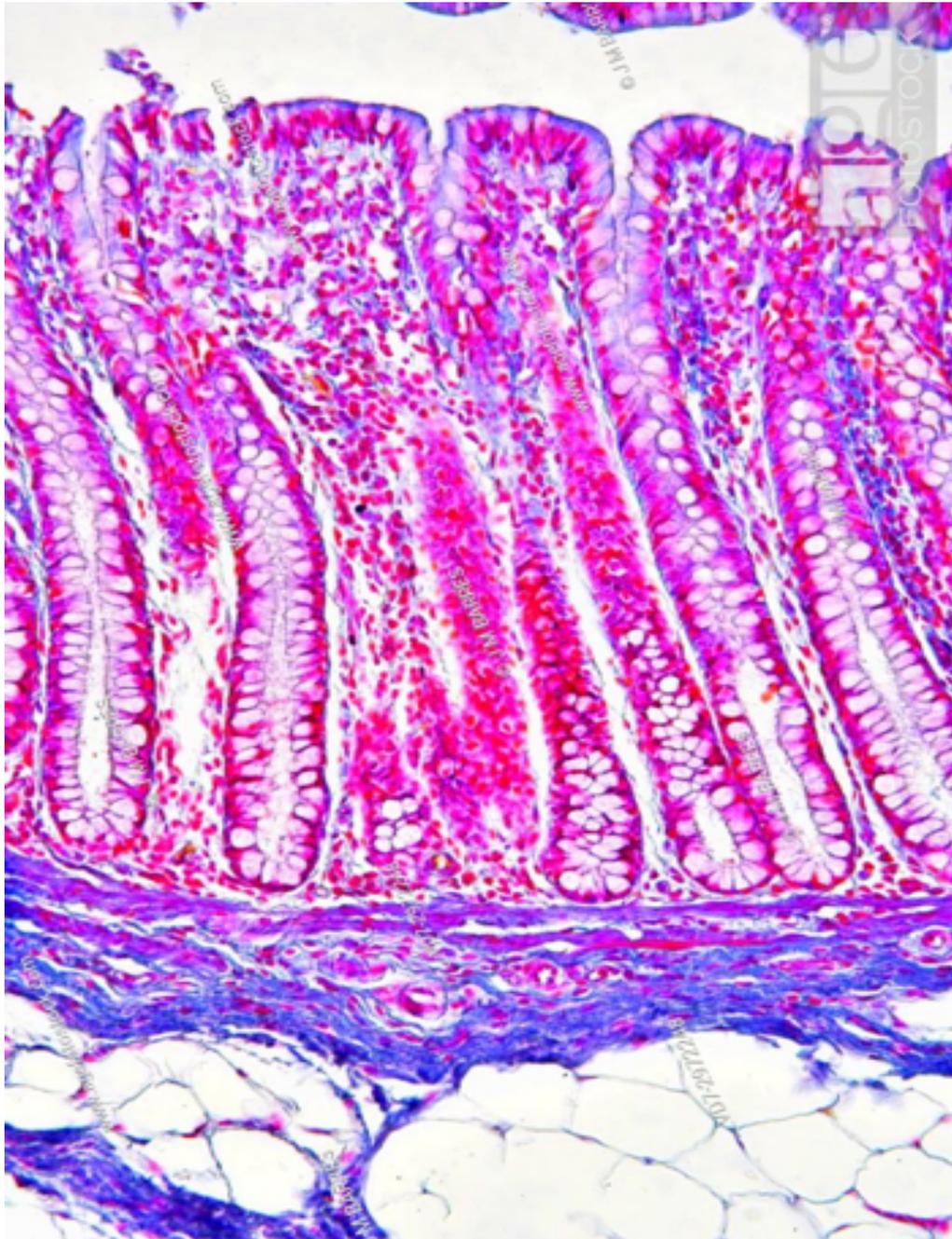




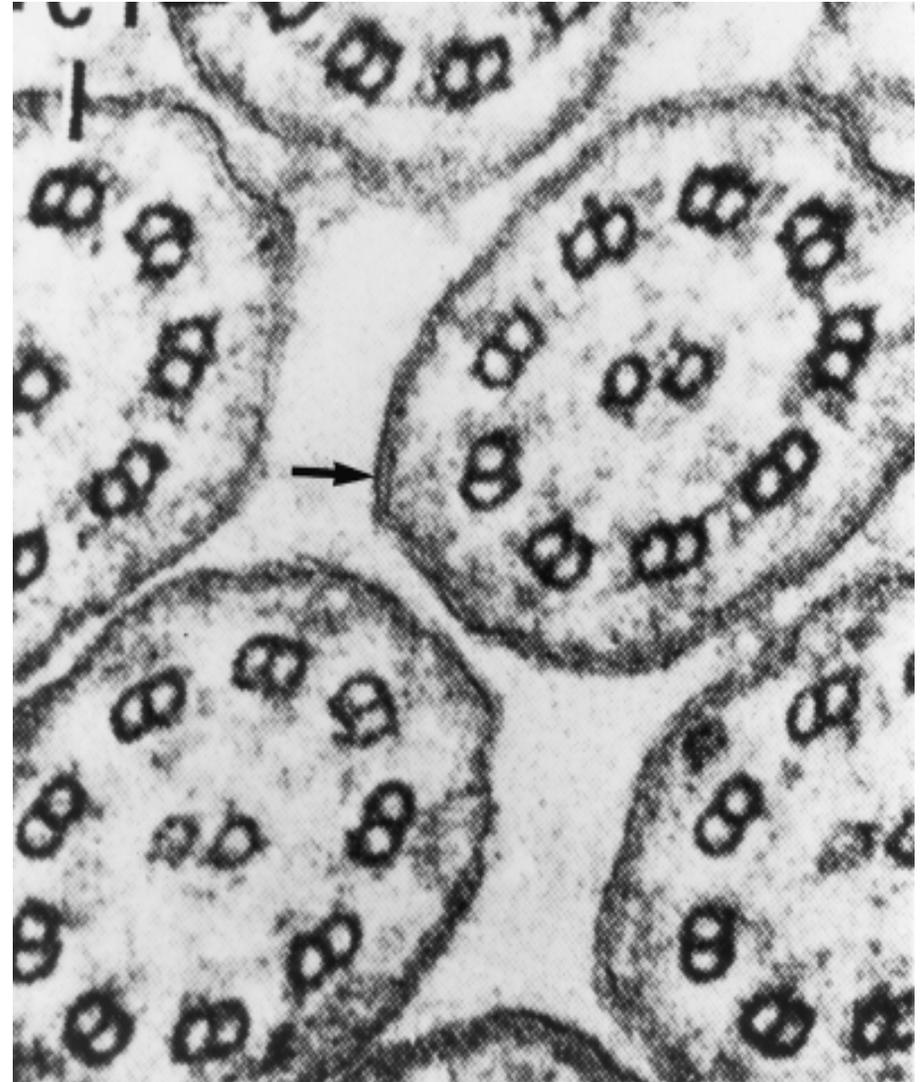
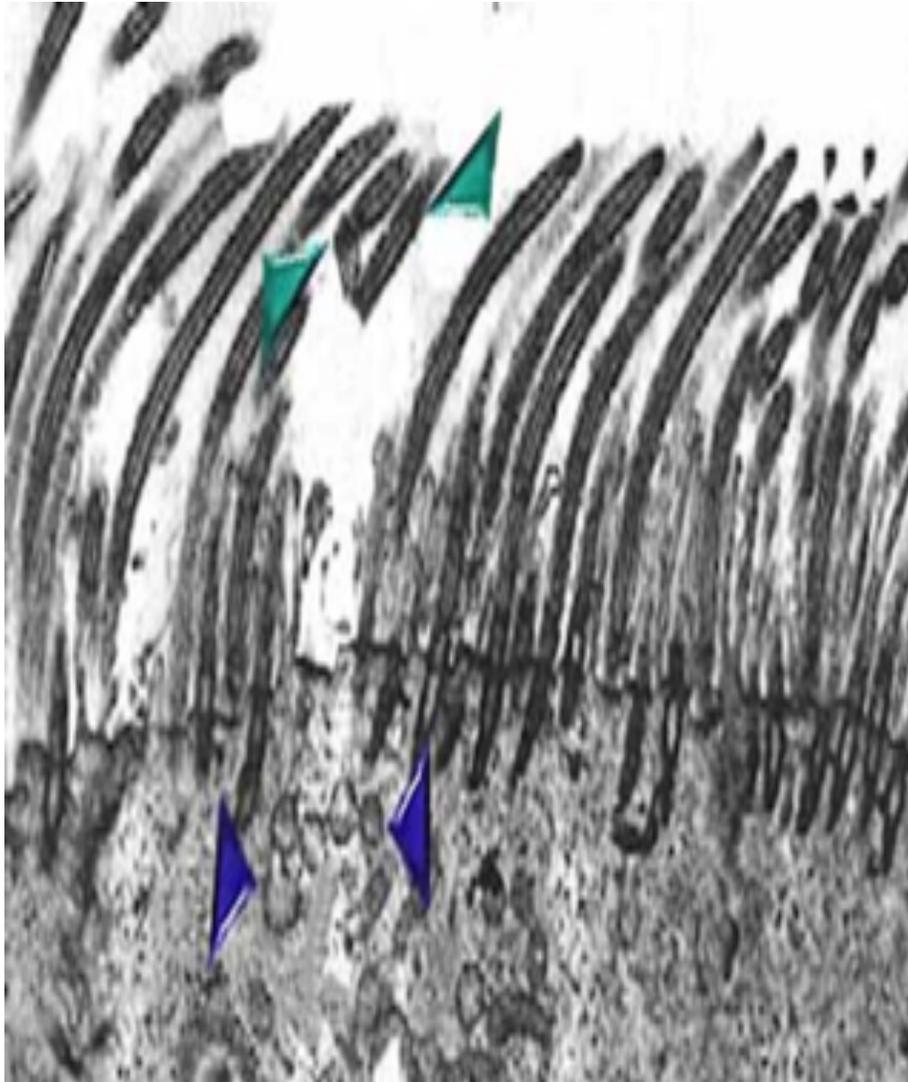
Sebaceous gland



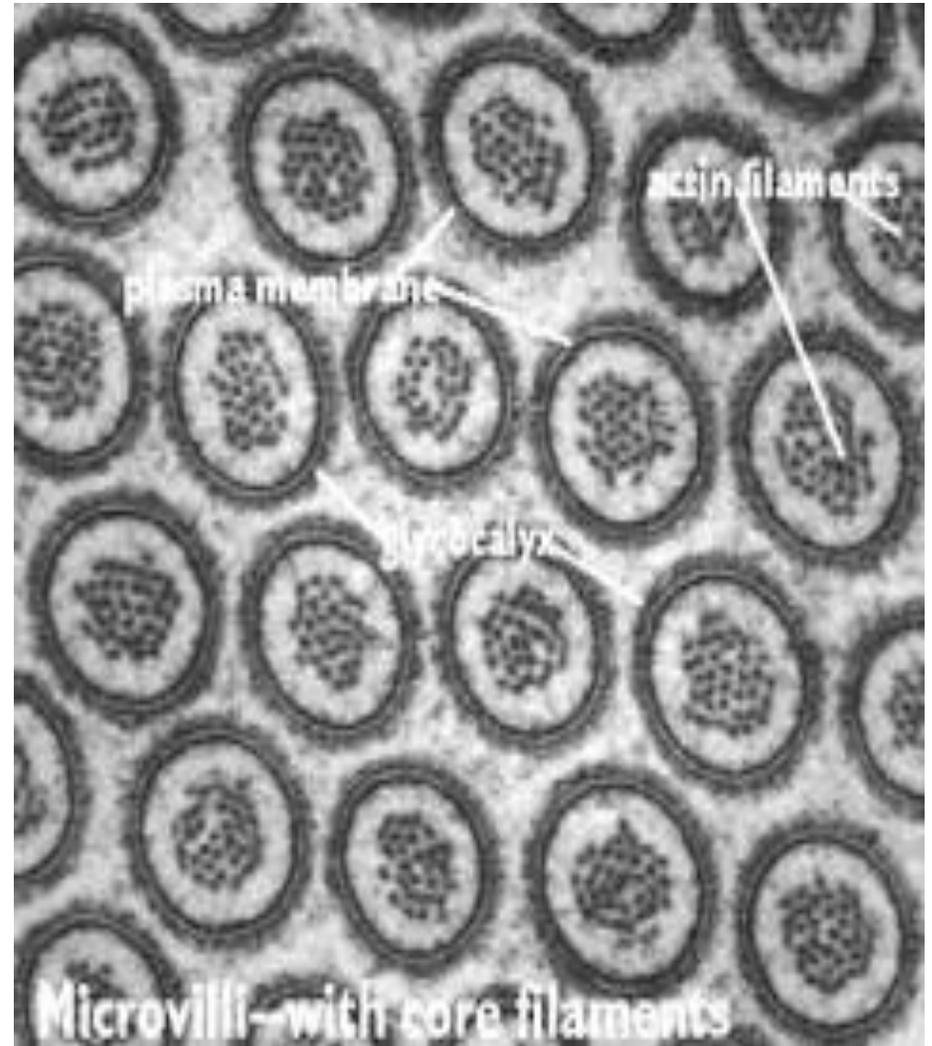
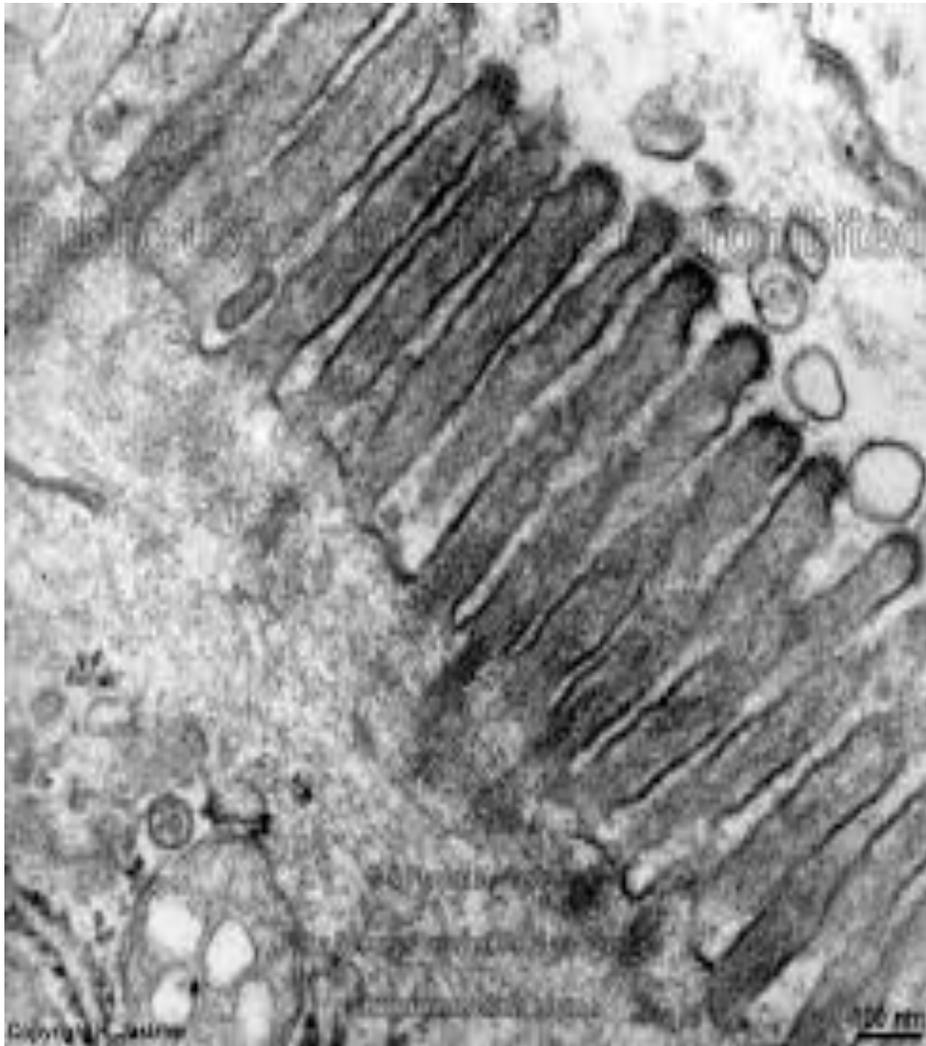
Tubular gland + goblet cell



Cilia

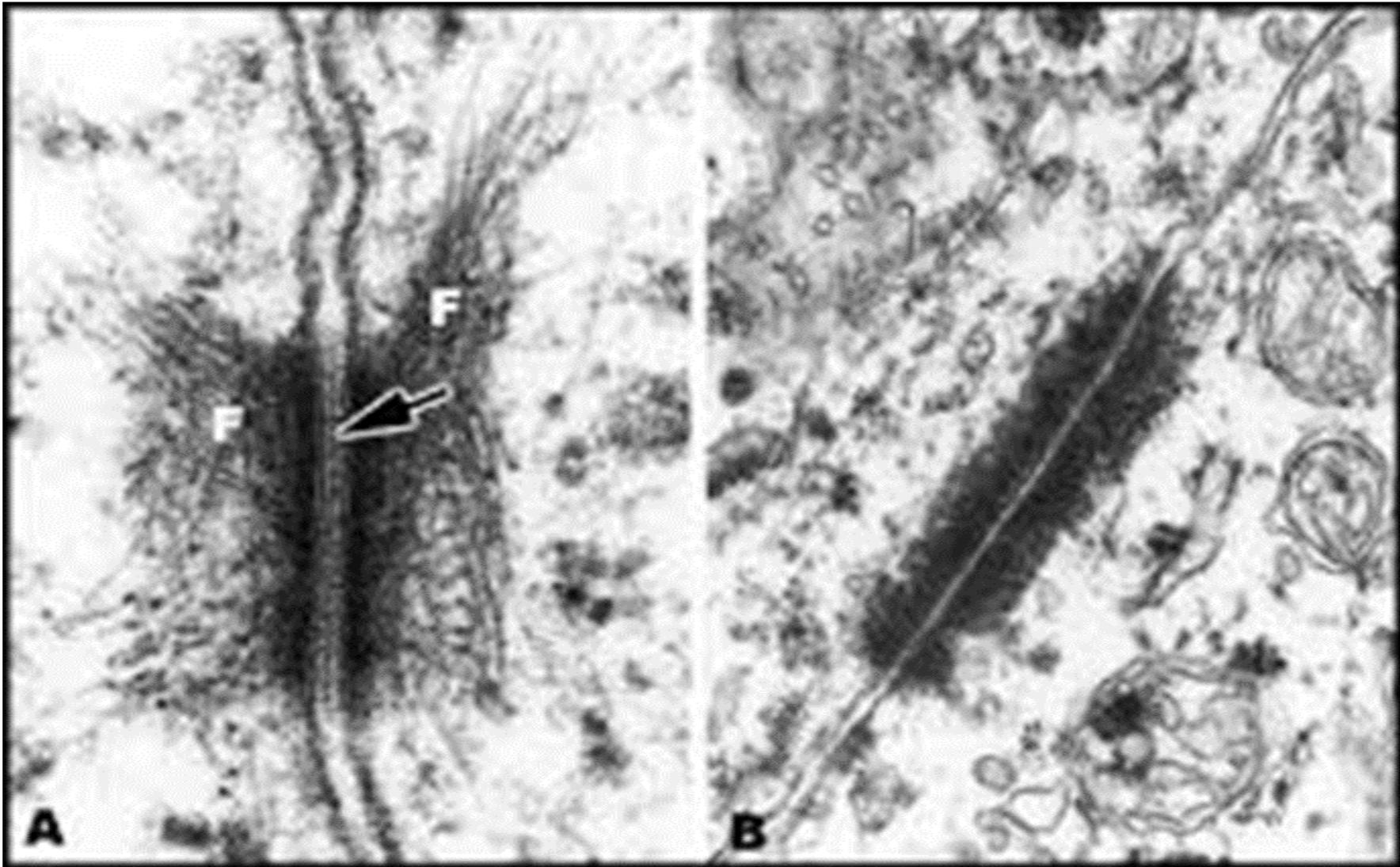


Microvilli



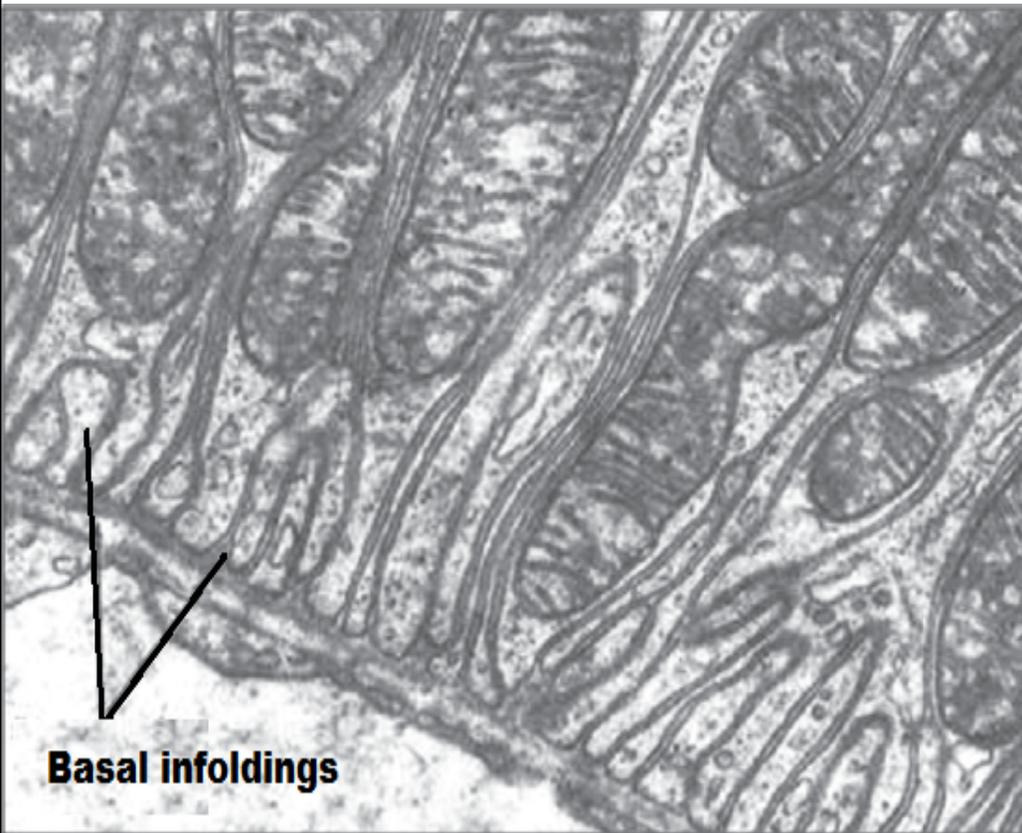
Adhering junction

Macula adherens = desmosomes

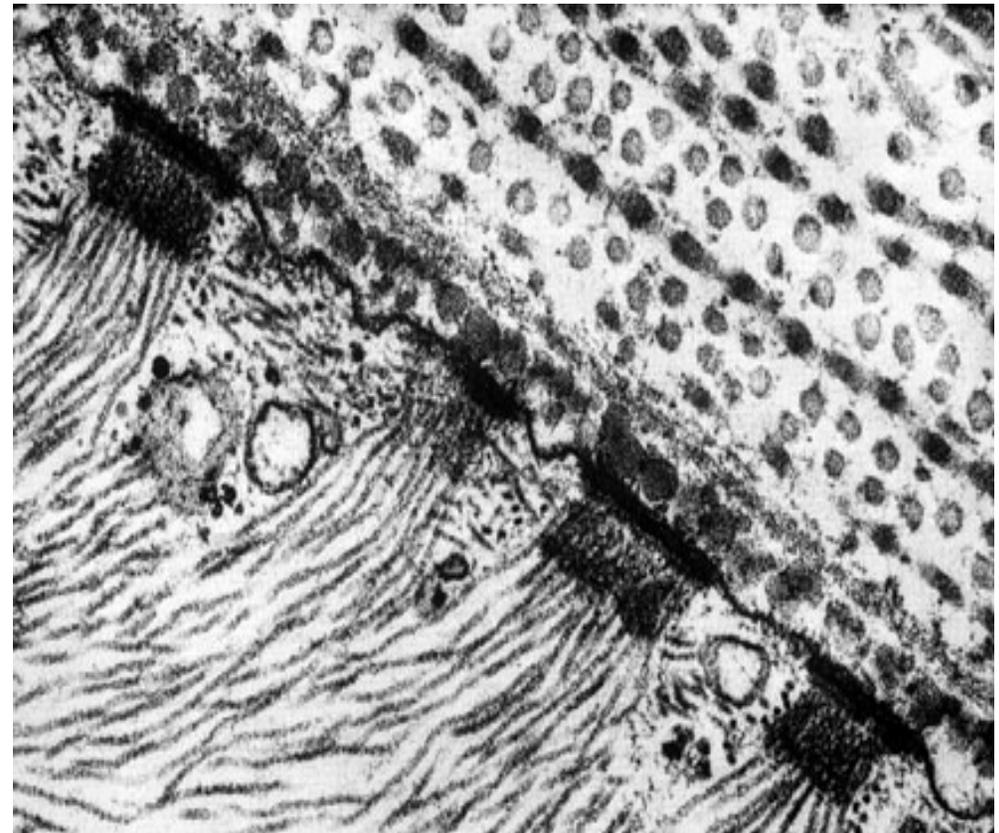


Basal modifications

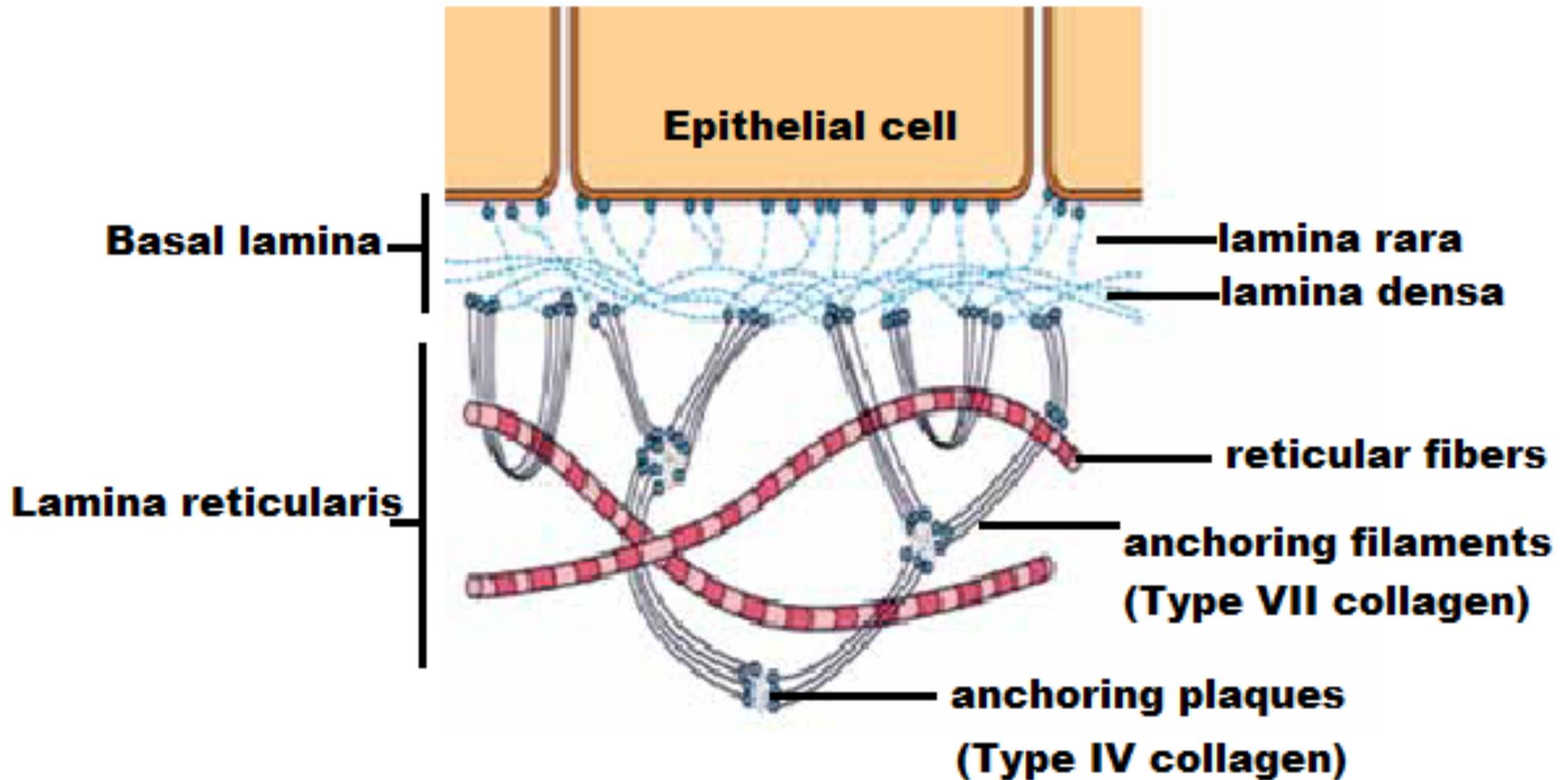
Basal infolding



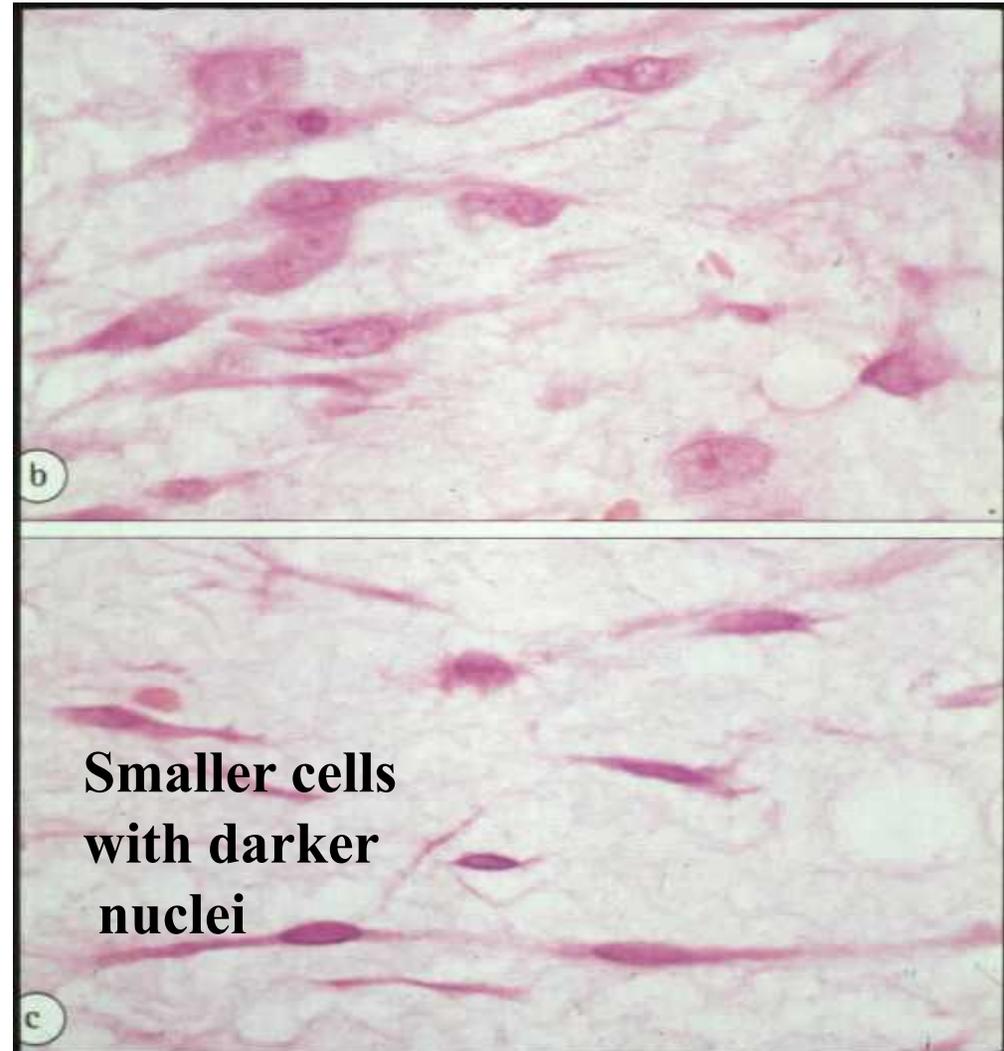
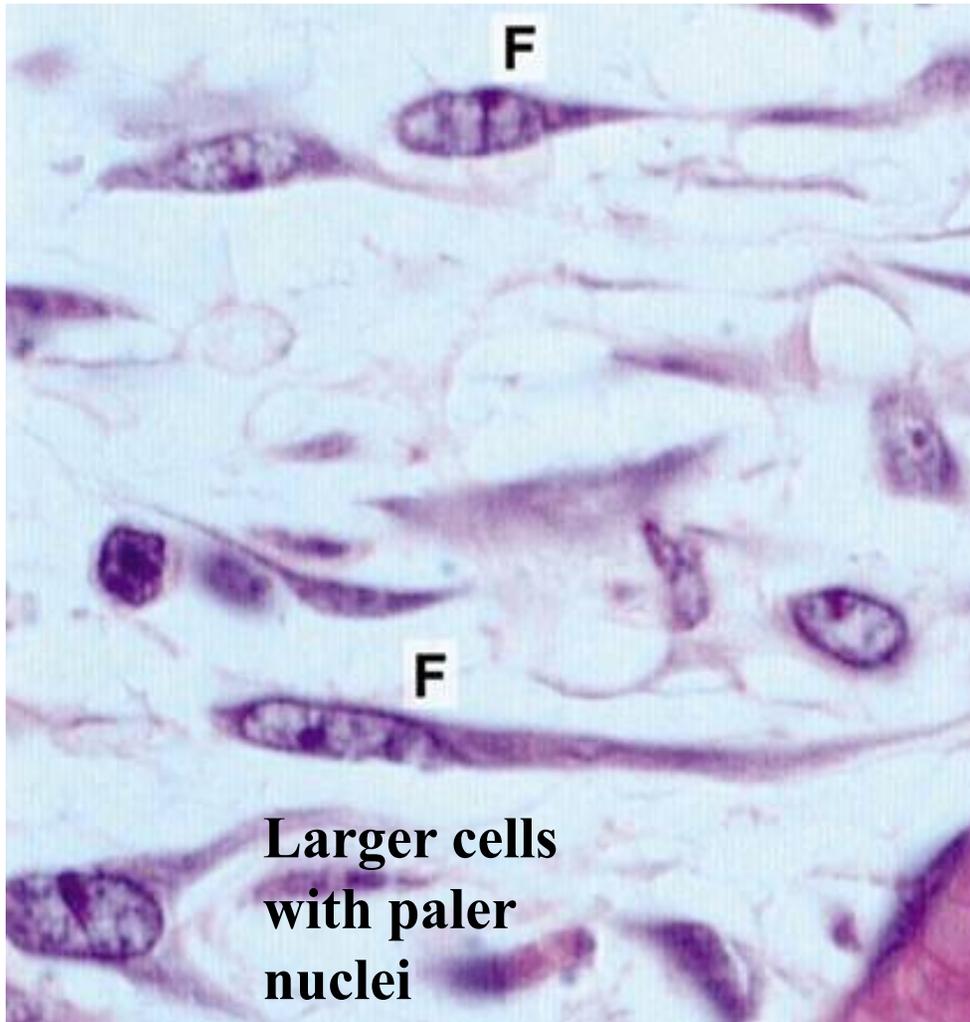
Hemidesmosome



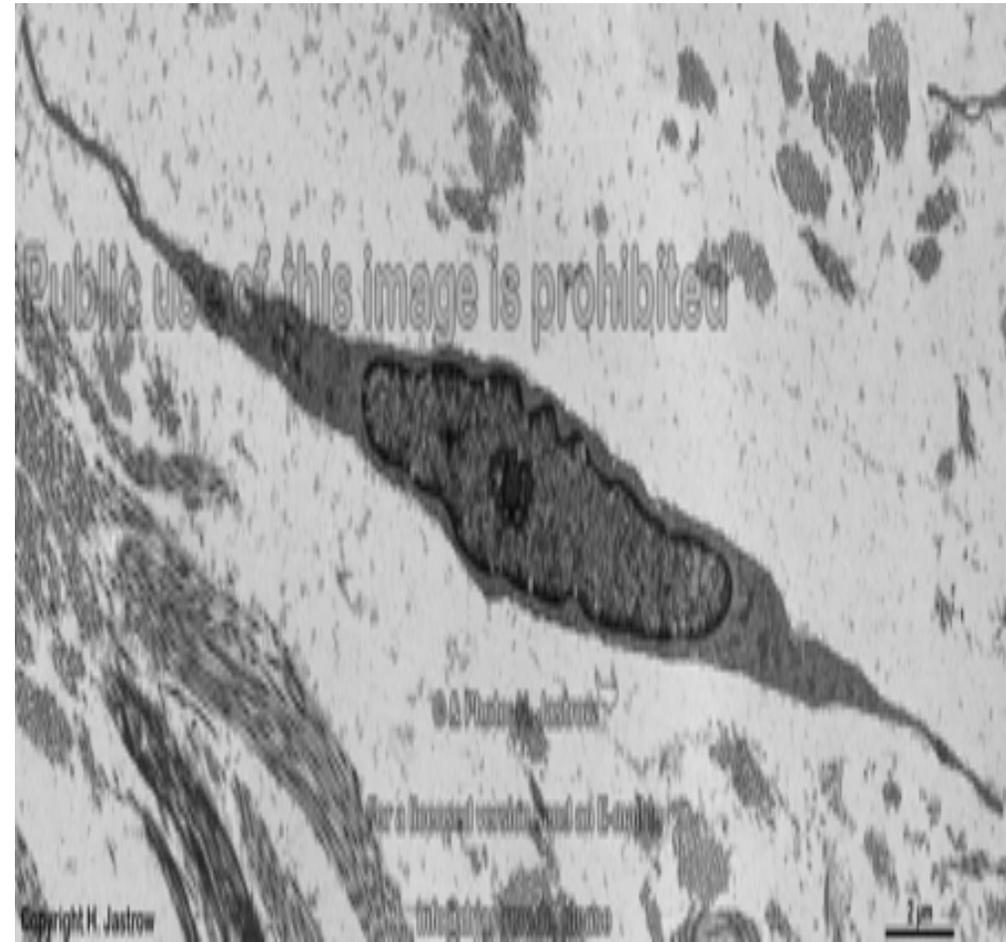
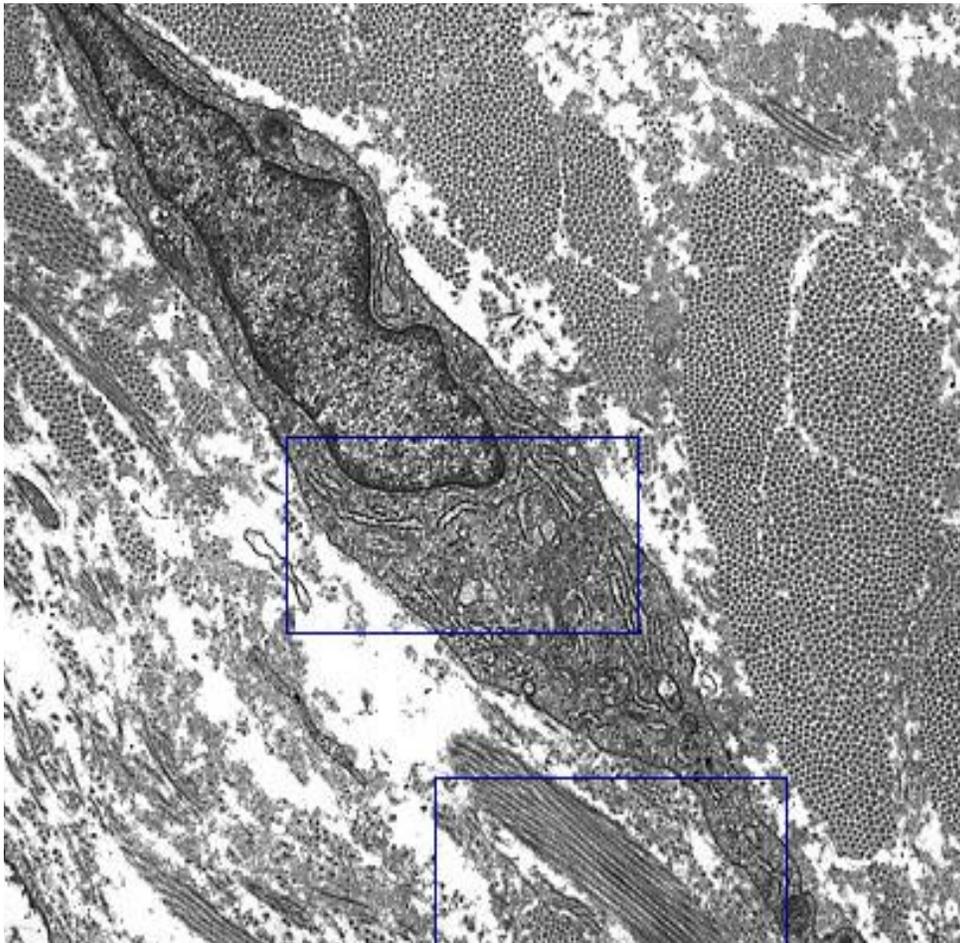
Basement membrane



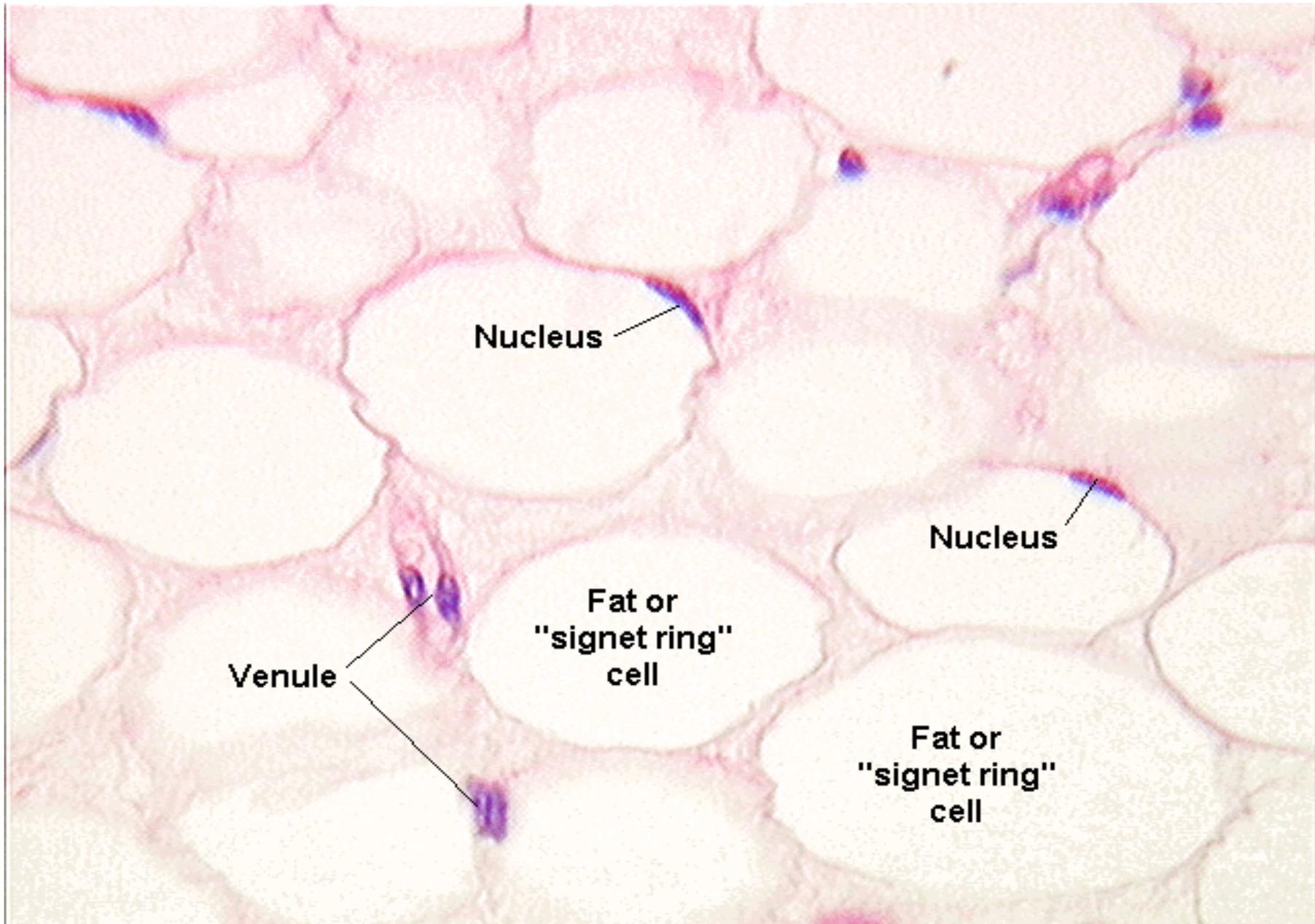
Fibroblast & Fibrocyte



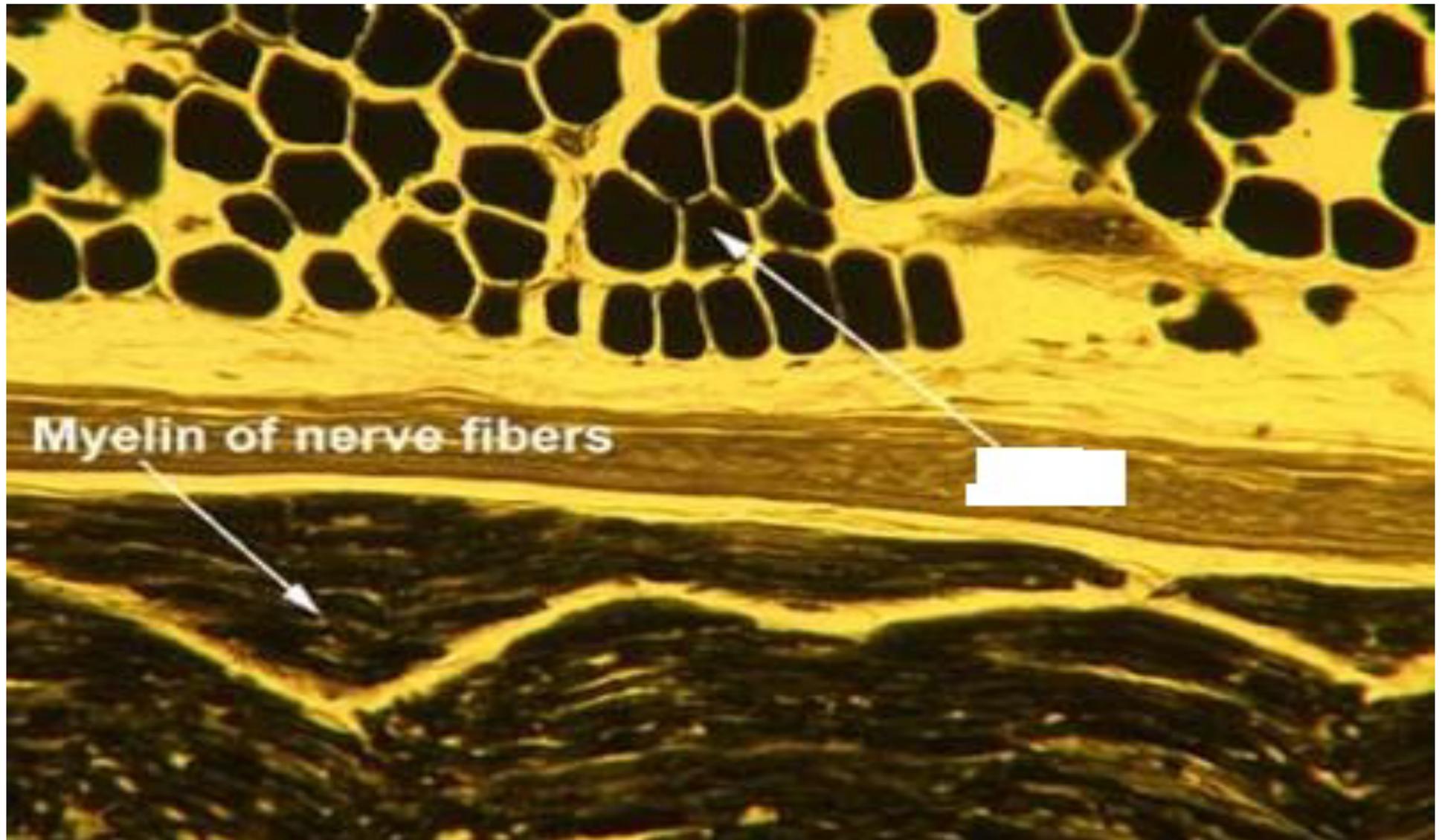
EM: Fibroblast & Fibrocyte



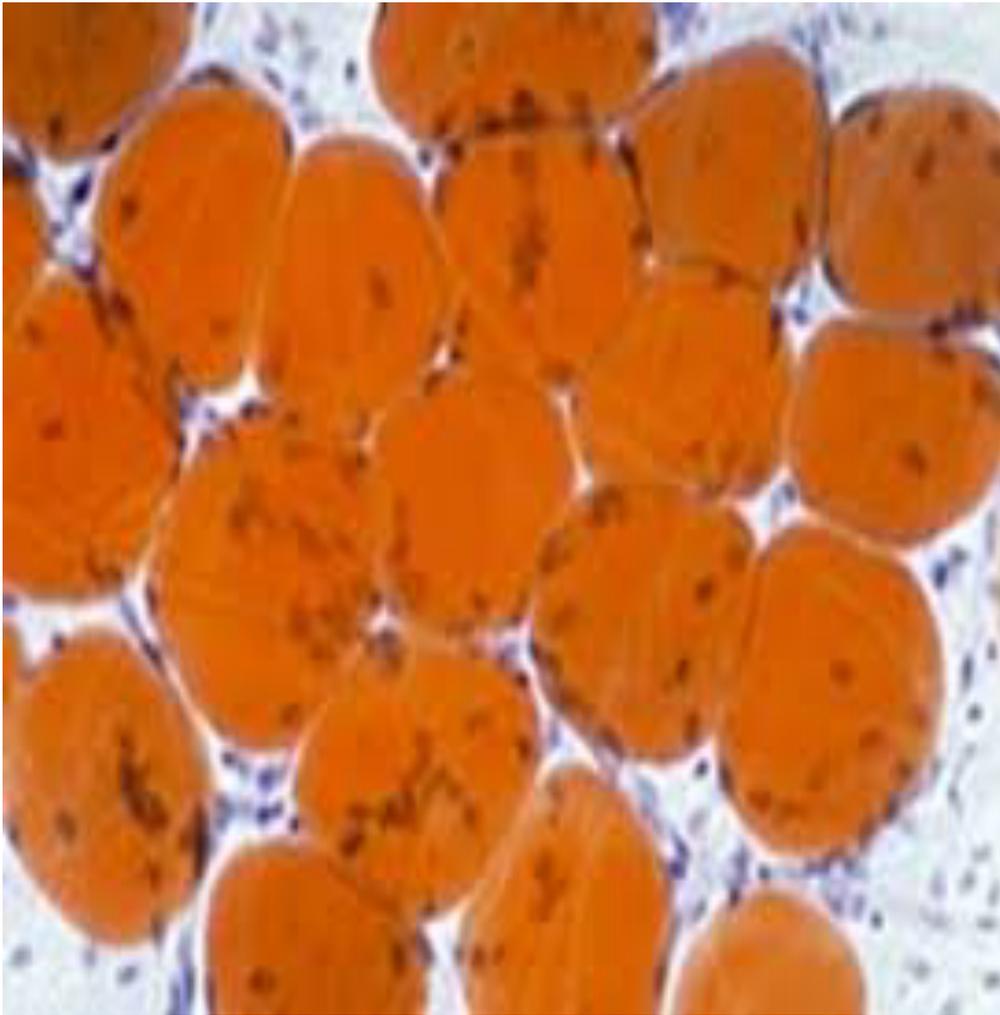
Unilocular Adipose Tissue



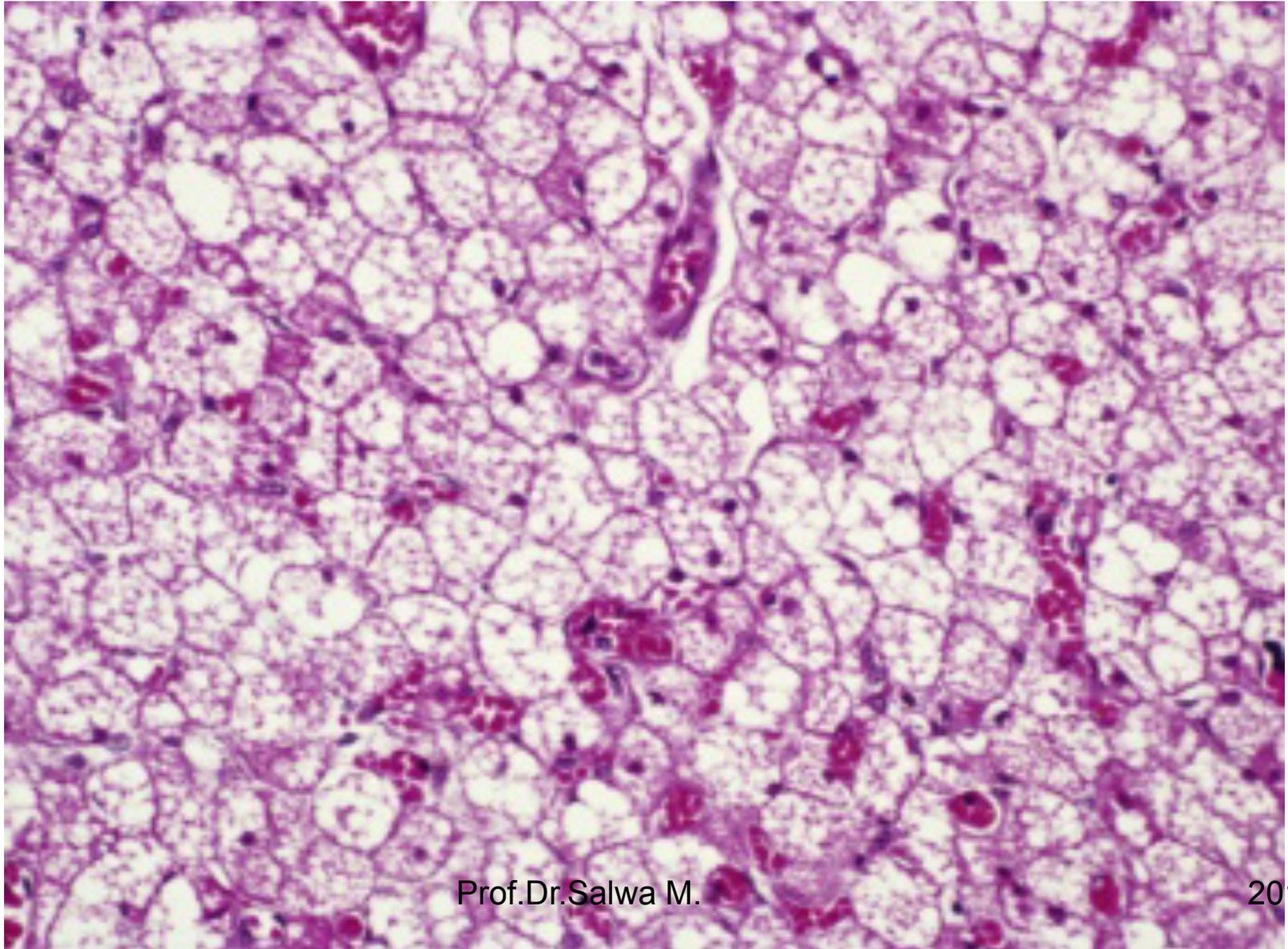
Fat cell (osmic acid)



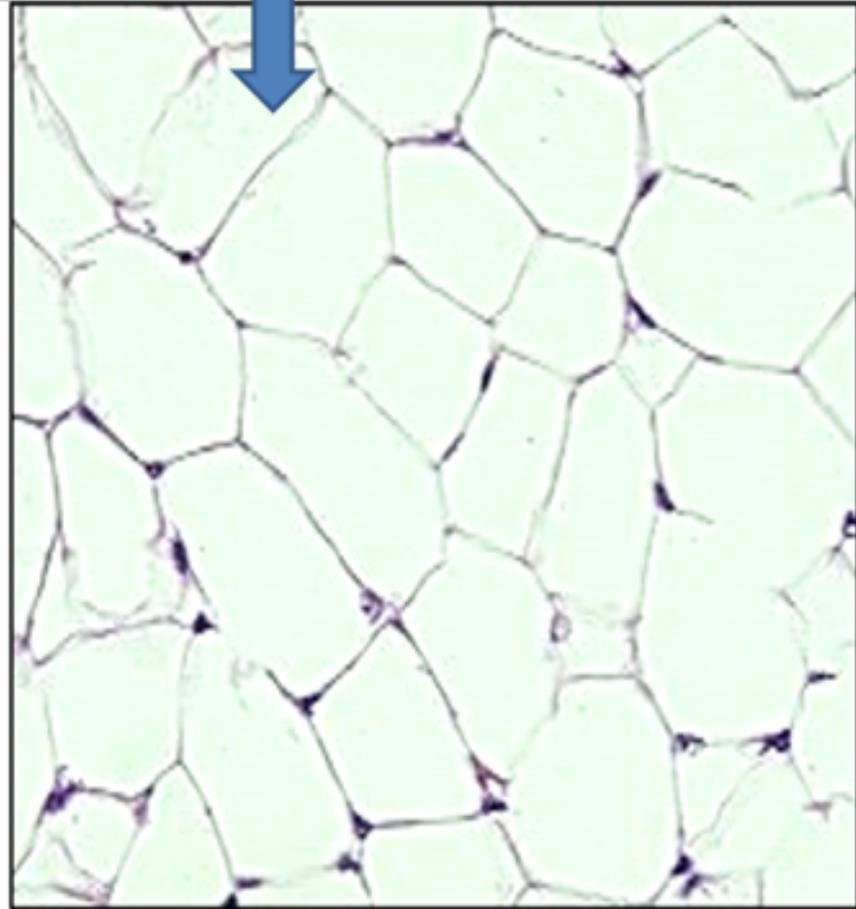
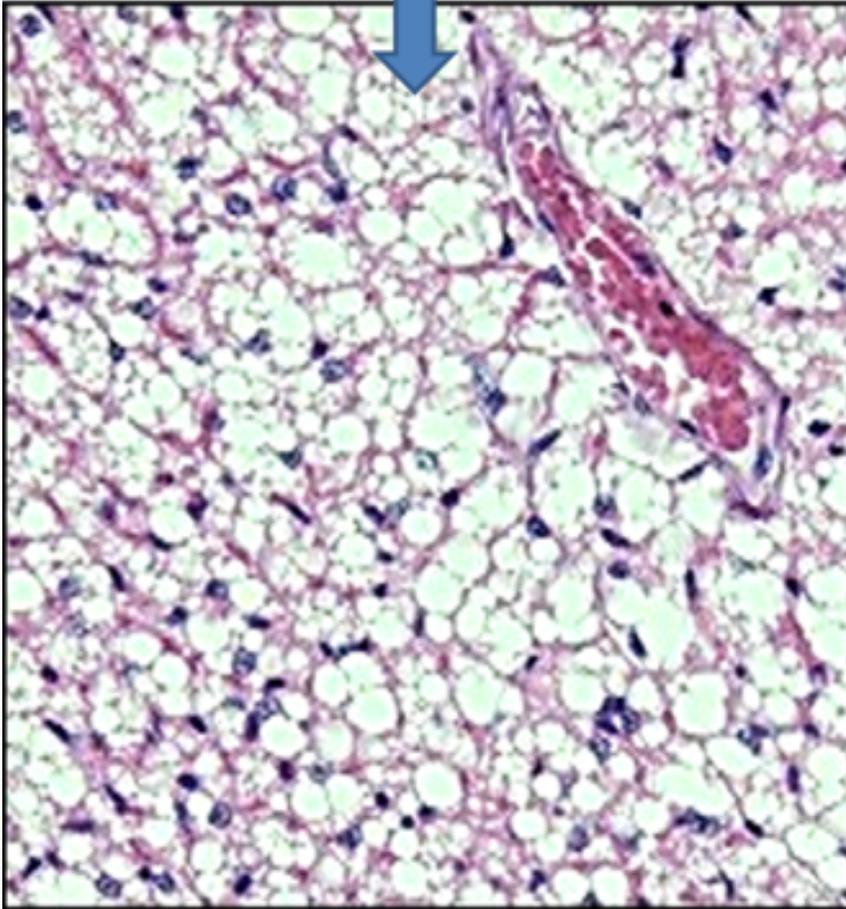
Fat cell (Sudan III)



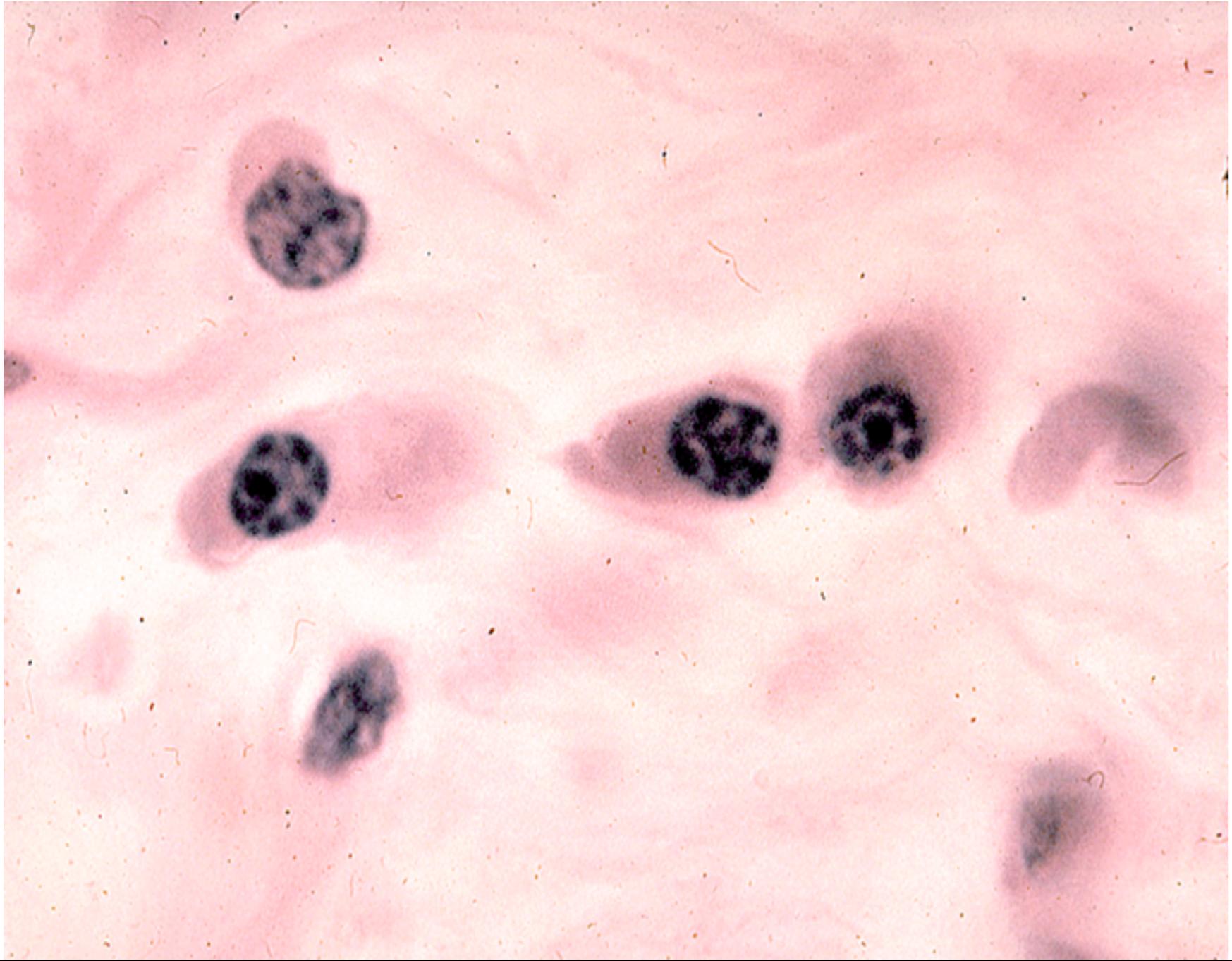
Multilocular Adipose Tissue (H&E stain)



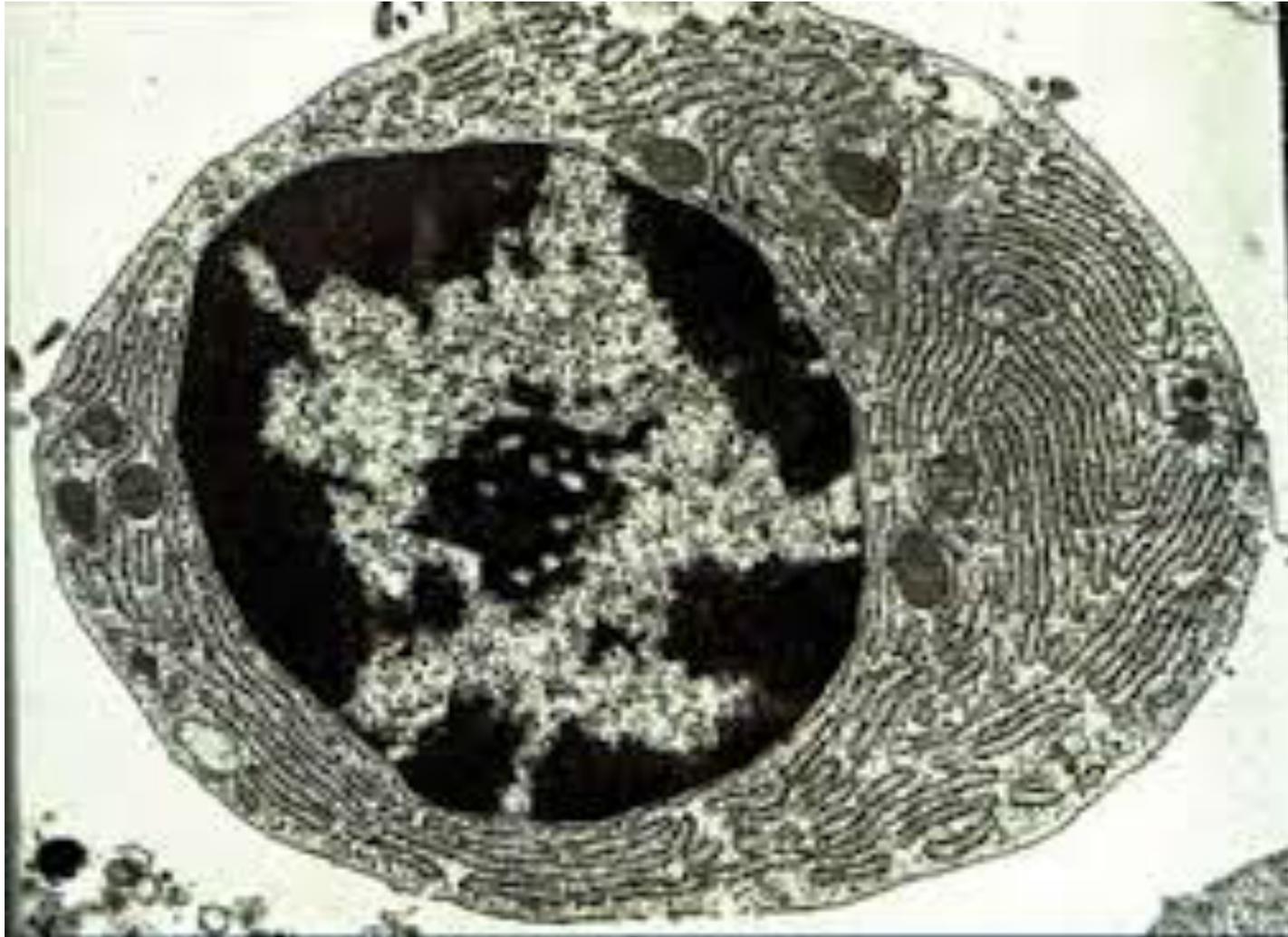
Adipose Tissue (multilocular & unilocular) H&E stain



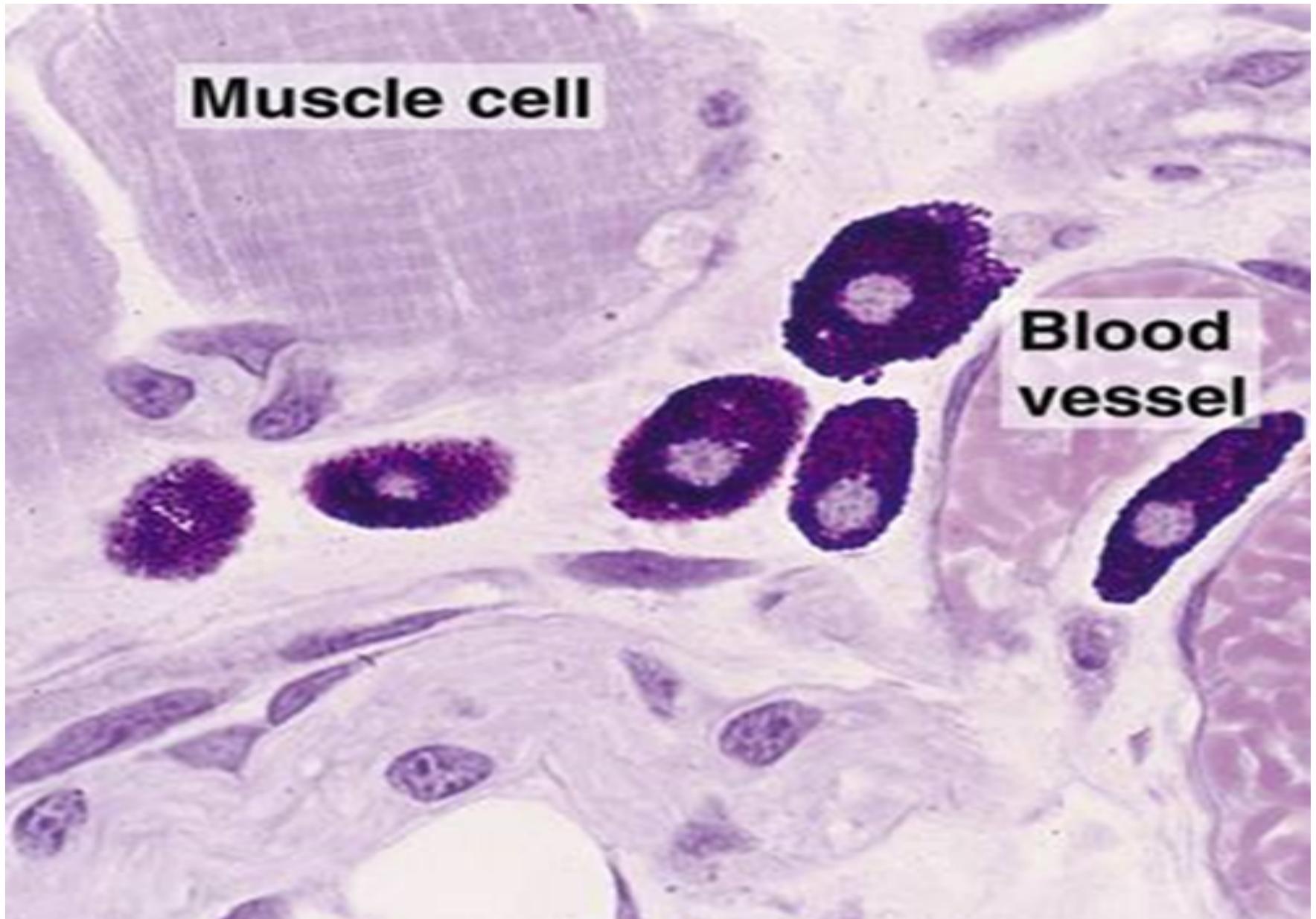
LM: Plasma Cells



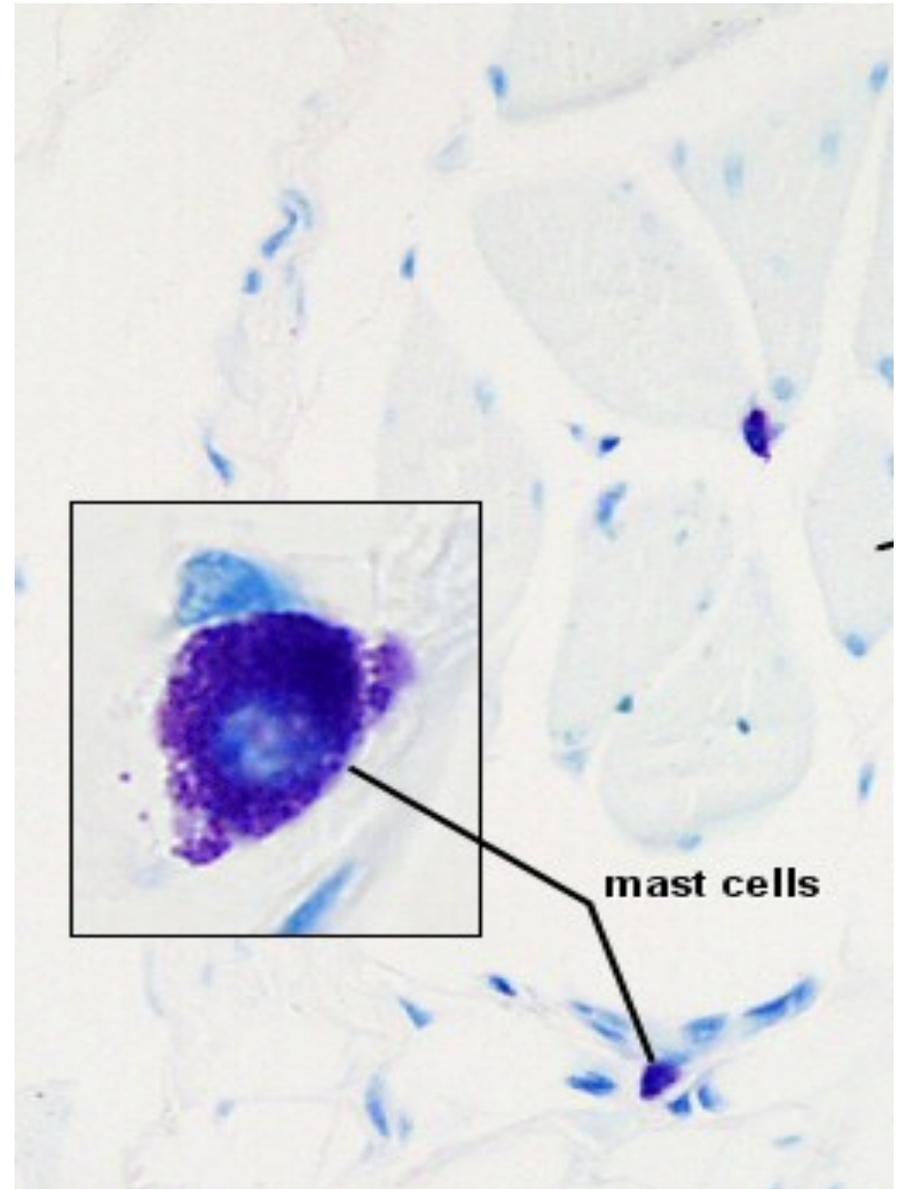
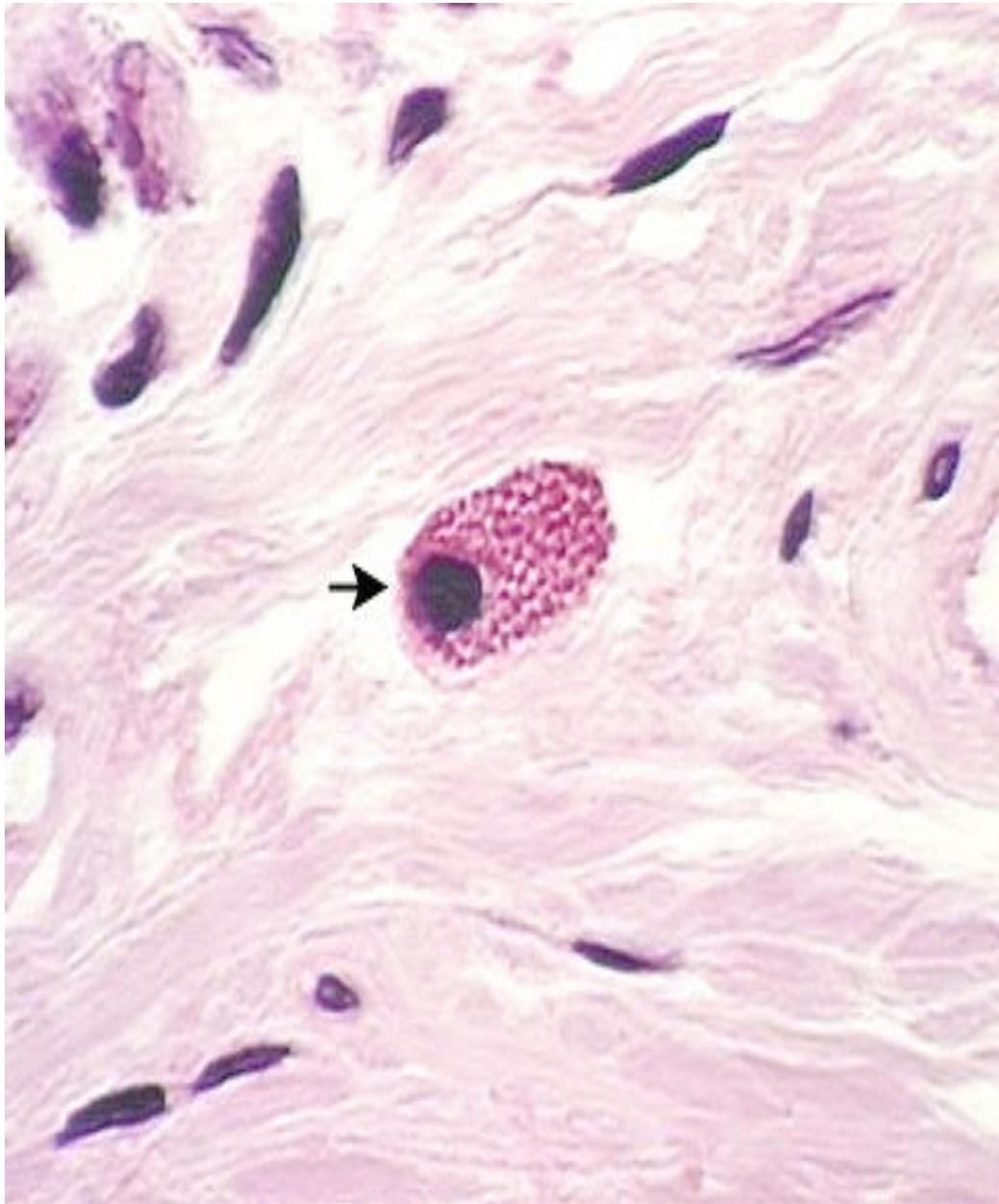
EM: Plasma Cells



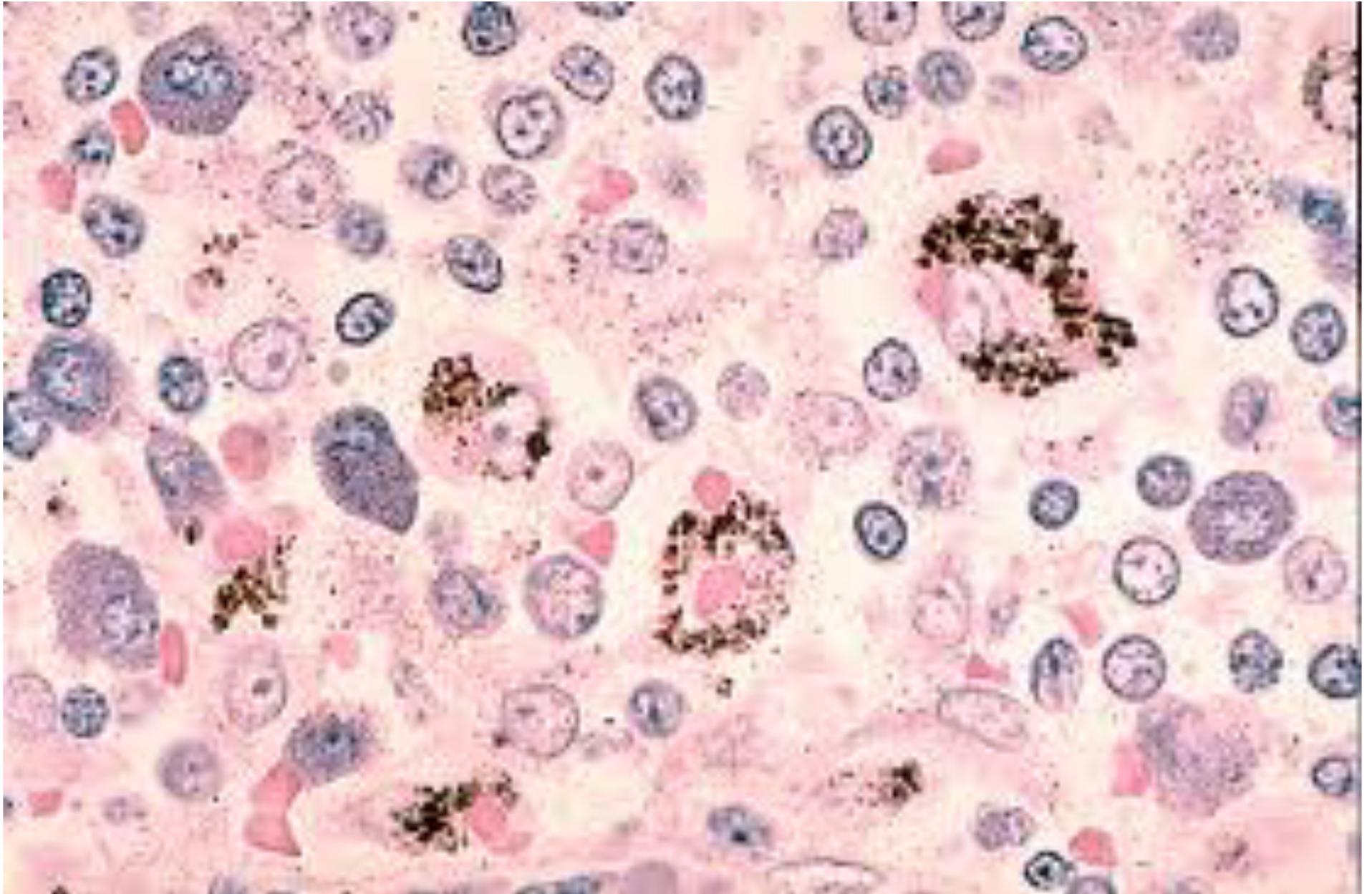
Mast Cell (H&E)



Mast Cells (Touldine Blue)



LM: Macrophage



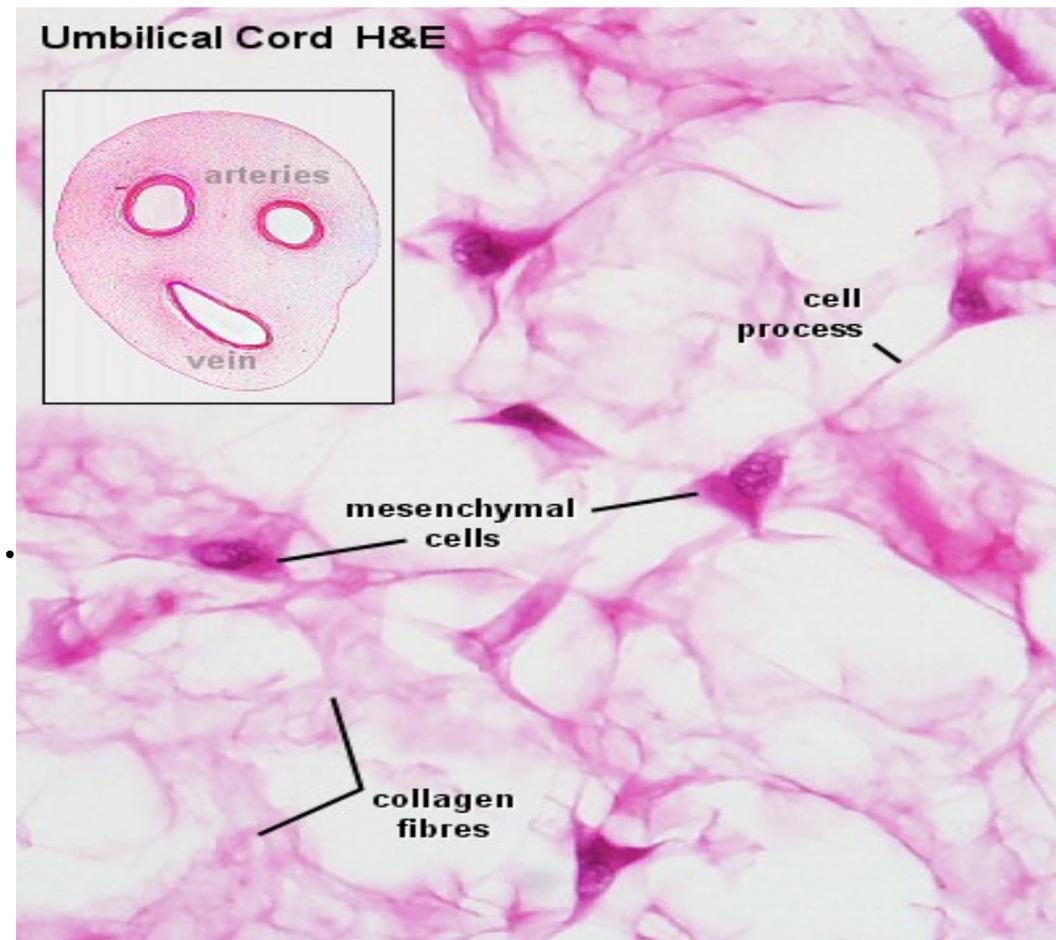
Mucoid CT

Sites:

- Umbilical cord (Wharton's jelly).
- Pulp of growing teeth.
- Vitreous humor of the eye.

Structure:

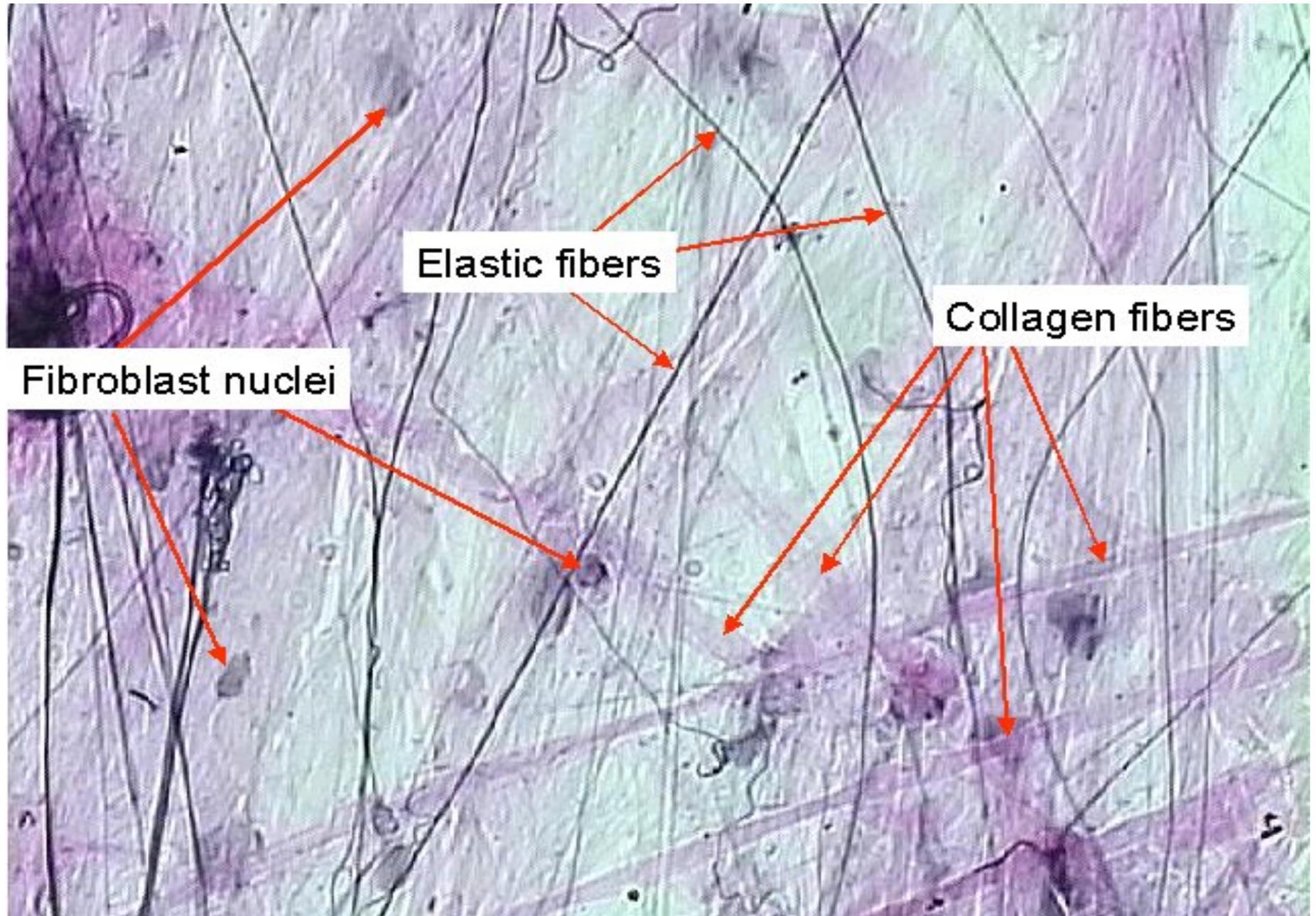
- Jelly like matrix rich in mucin.
- Young fibroblasts, (UMCs).



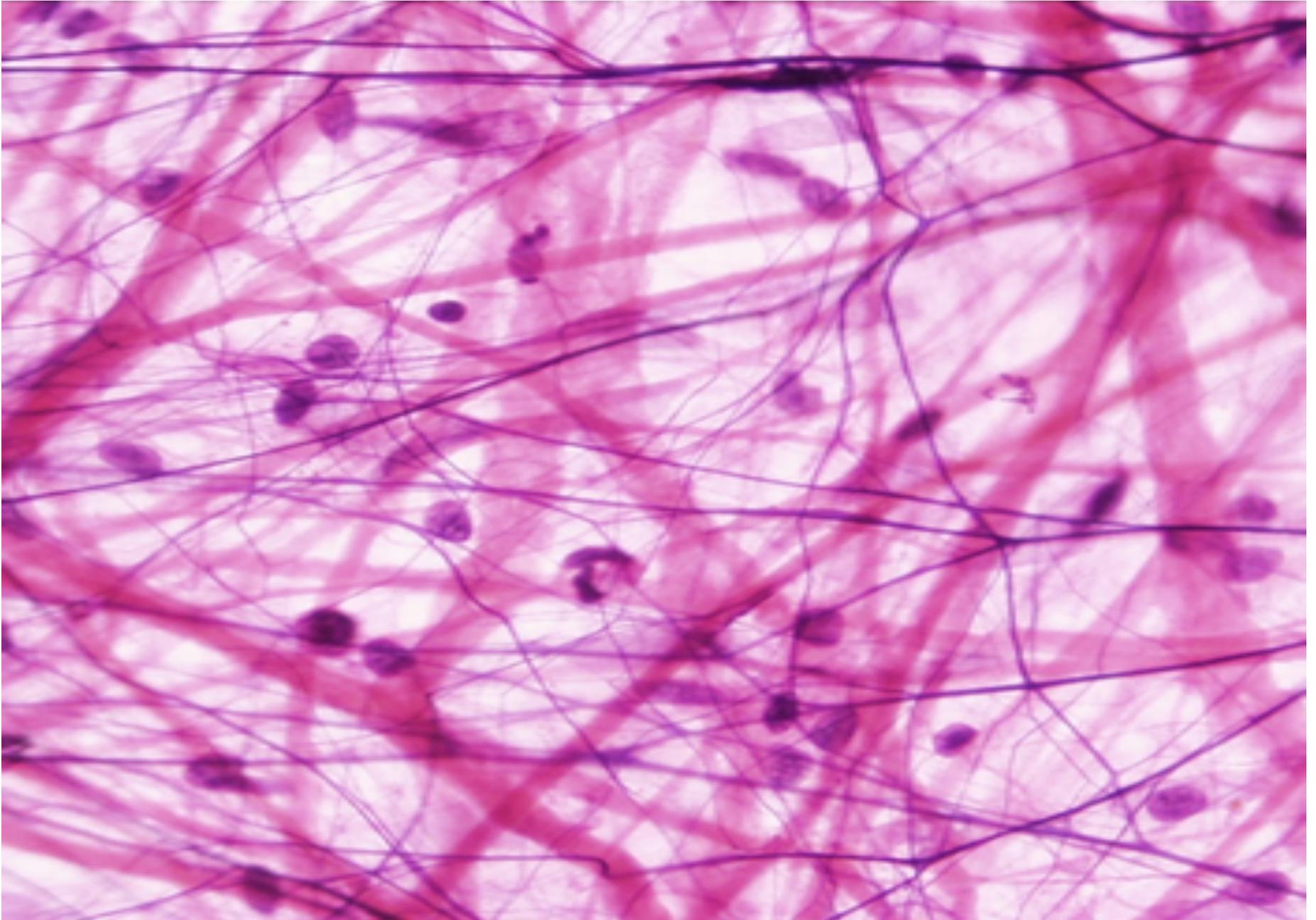
Mucoid C.T. Umbilical cord



Loose Areolar CT

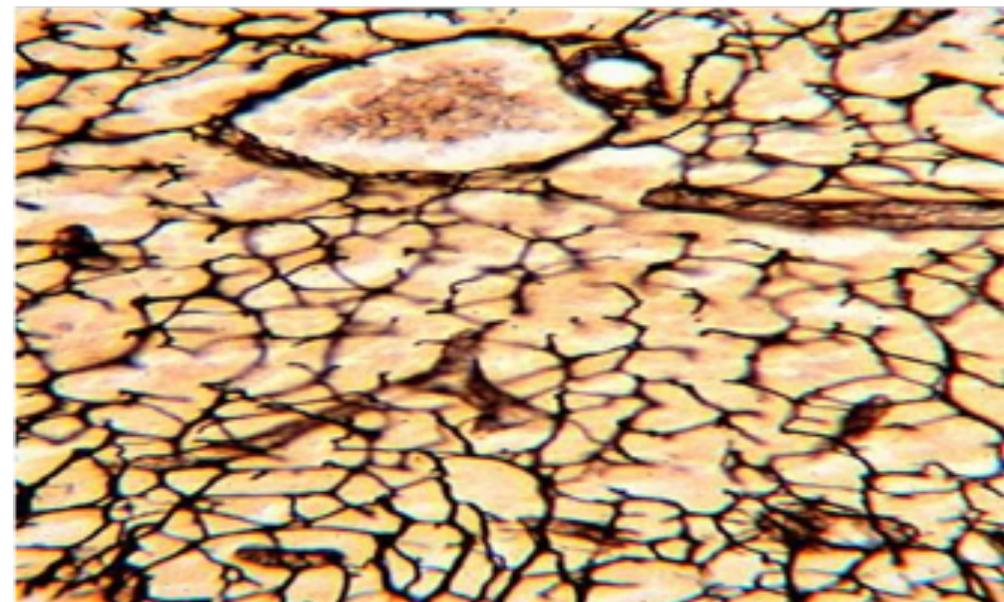
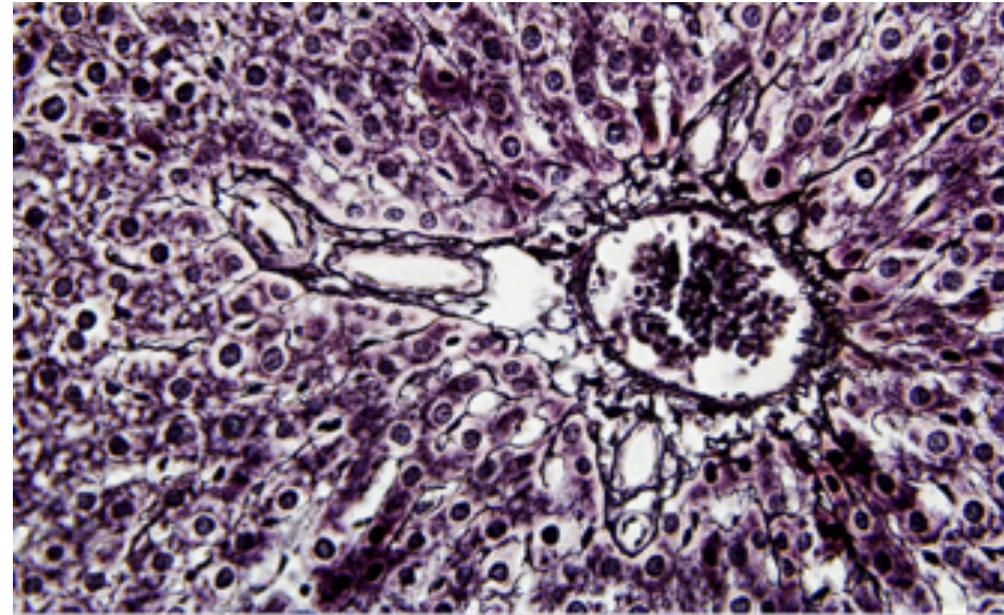


Loose Areolar CT



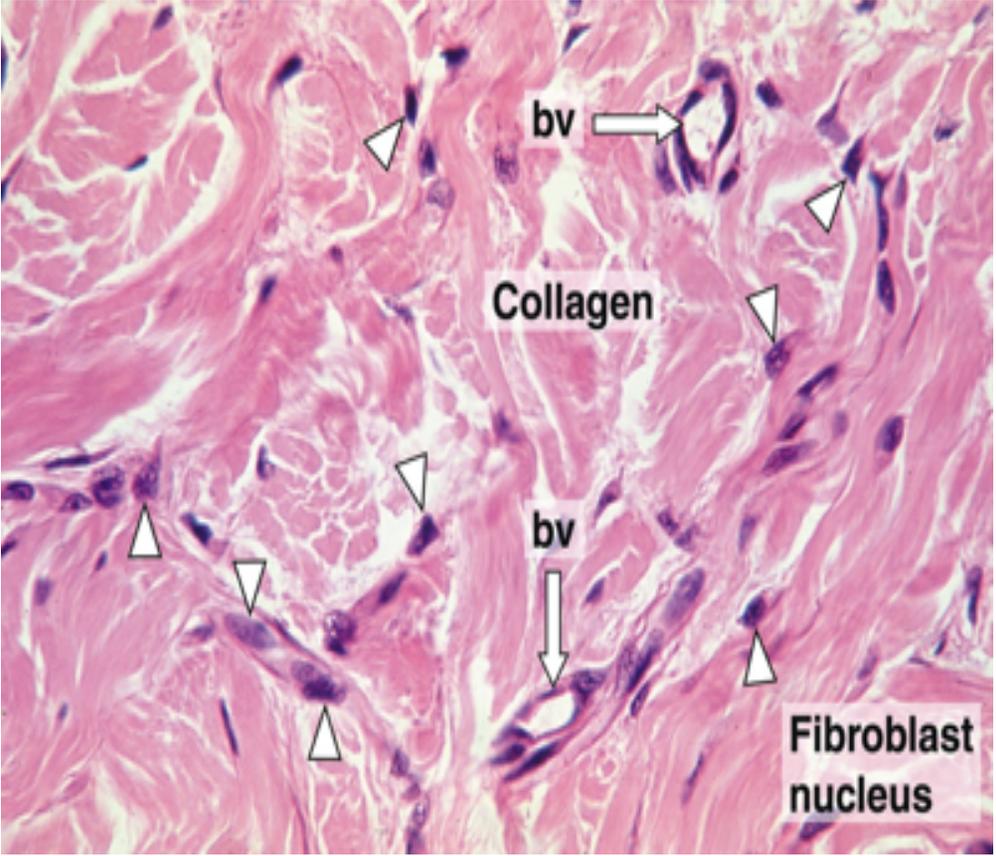
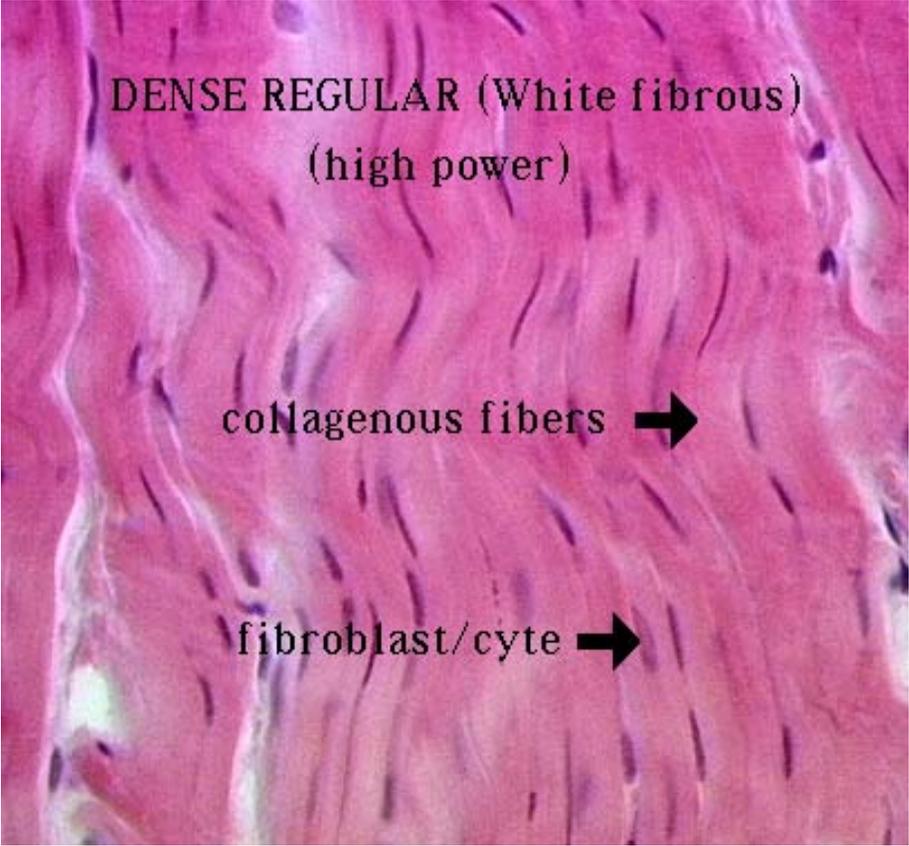
Reticular CT

- **Sites:** liver ,Lymph node , Bone marrow
- **Structure:** Formed mainly of reticular fibers & modified fibroblasts = reticular cells0.
- Stain : silver stain
- Function = Support



- **1-Regular** : tendons , ligaments & cornea (substantia propria).

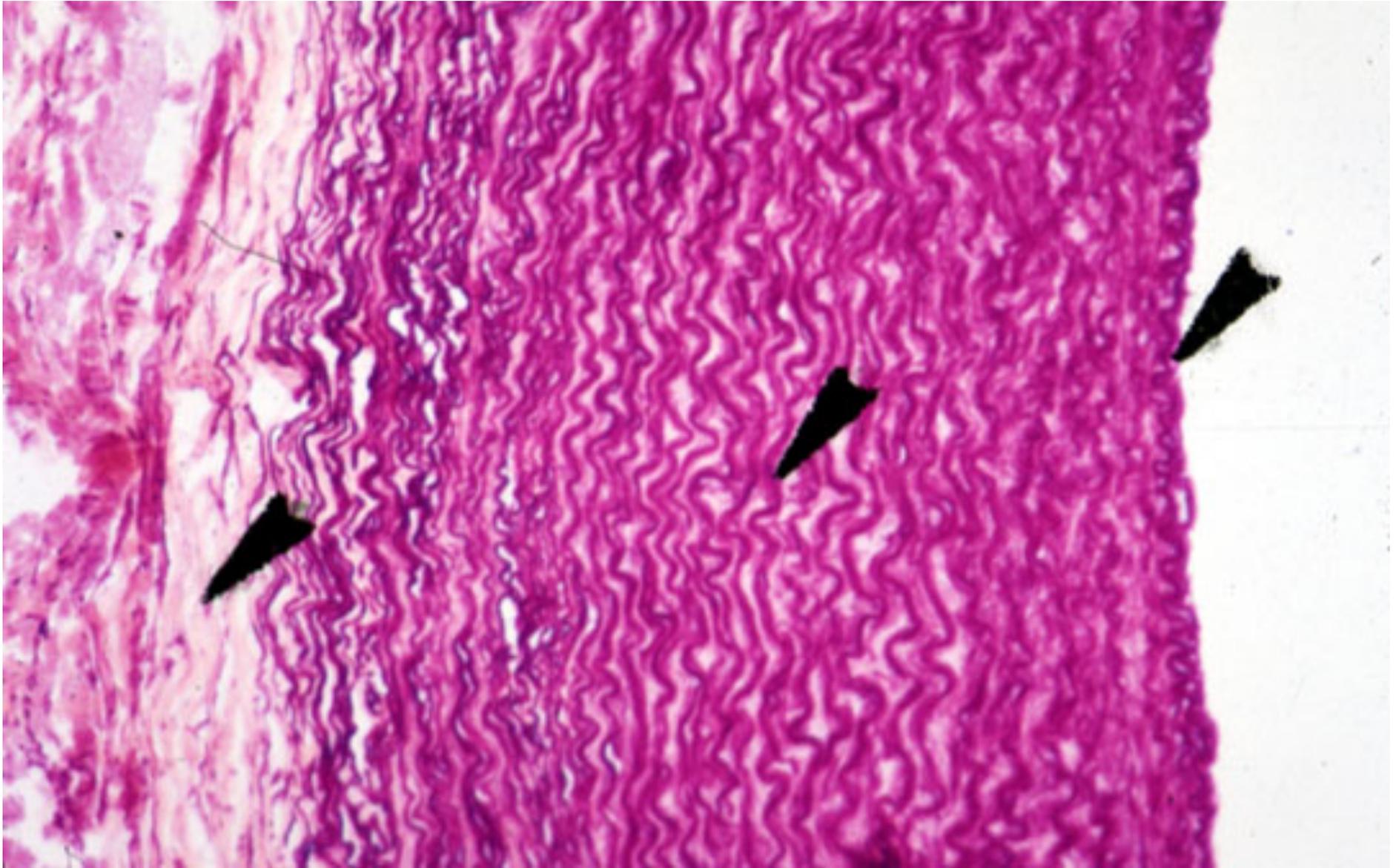
- **2-Irregular** : dermis of skin , capsules of organs , periostium & perichondrium.



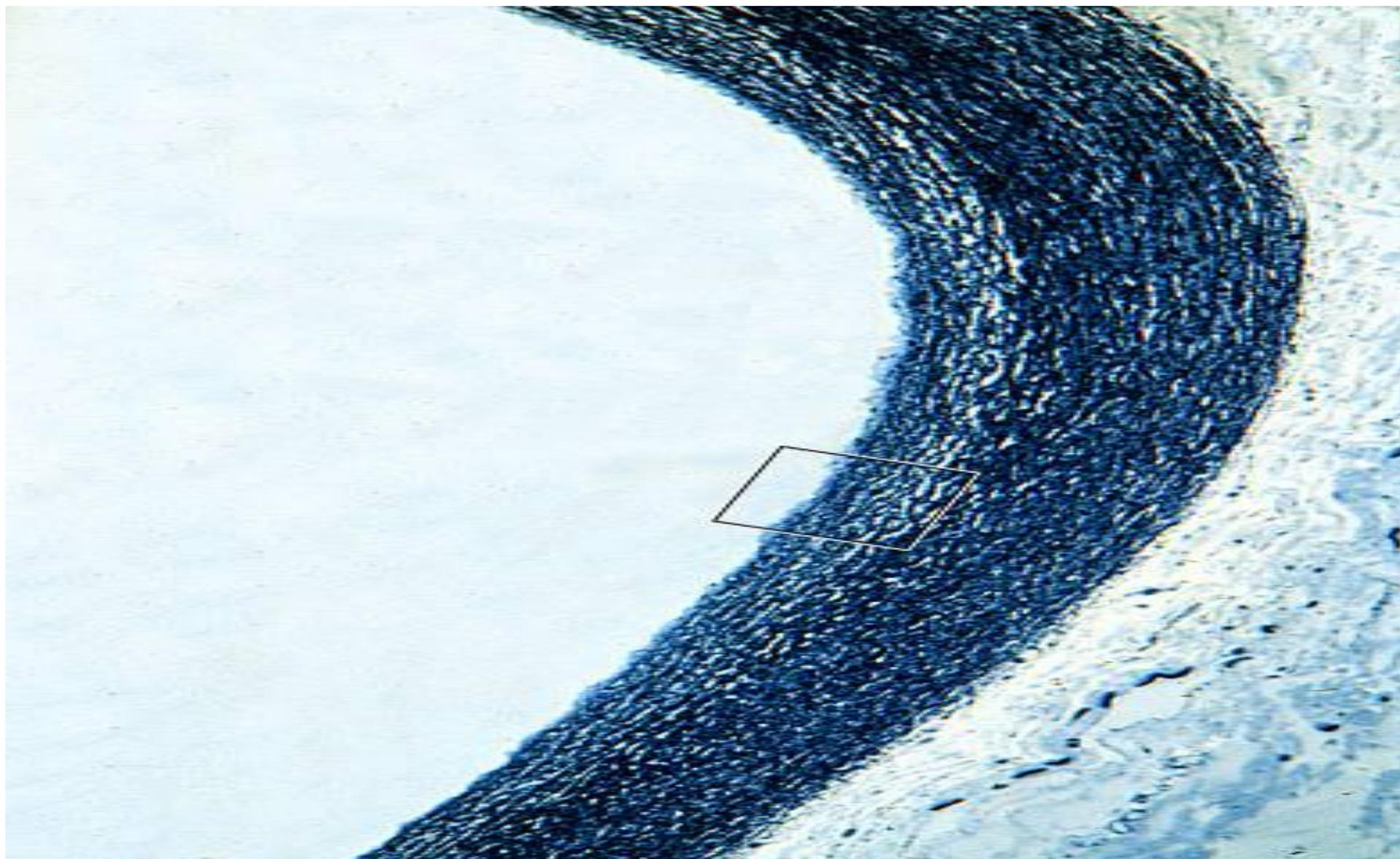
White Fibrous CT(in tendon)



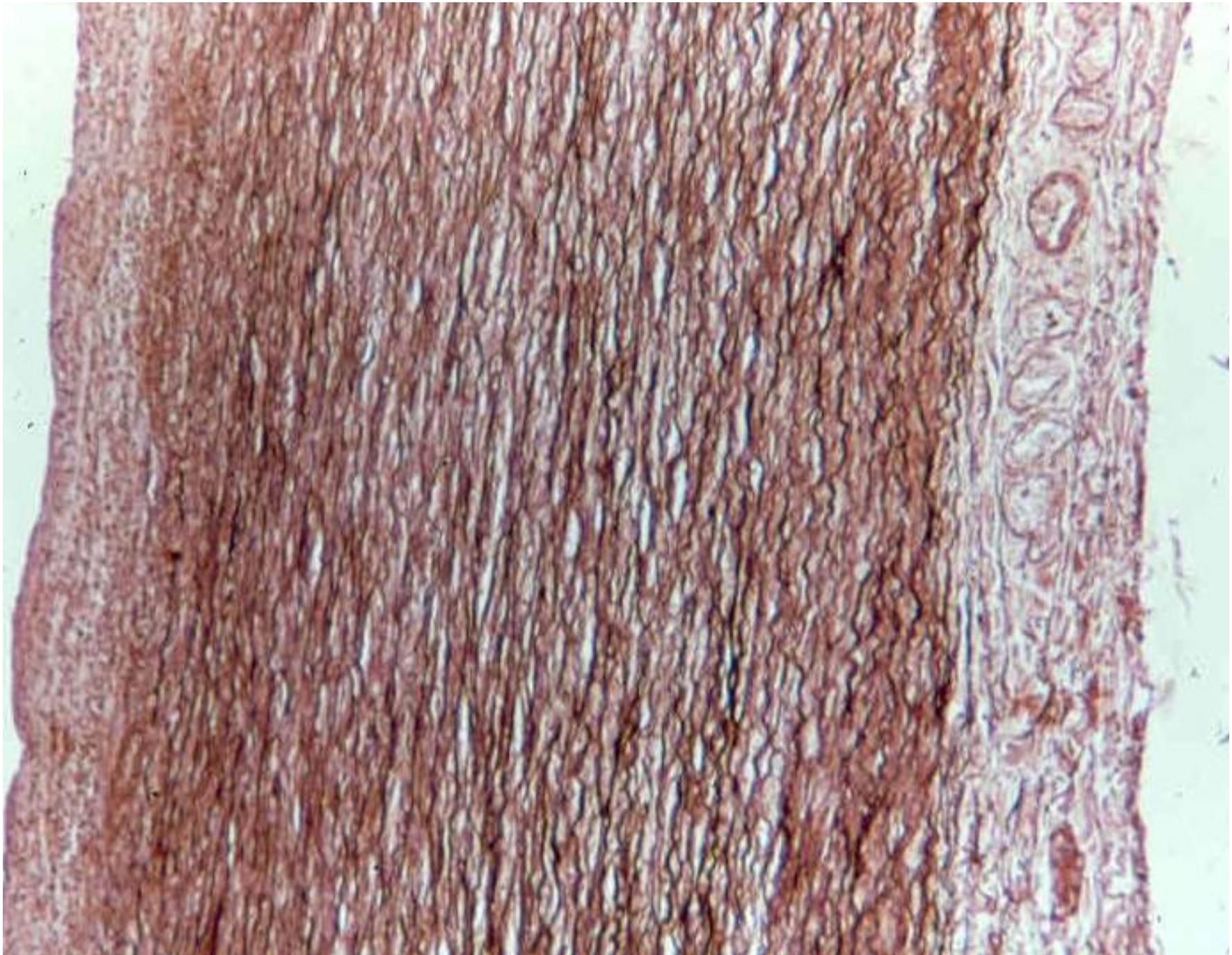
Elastic CT (H&E)



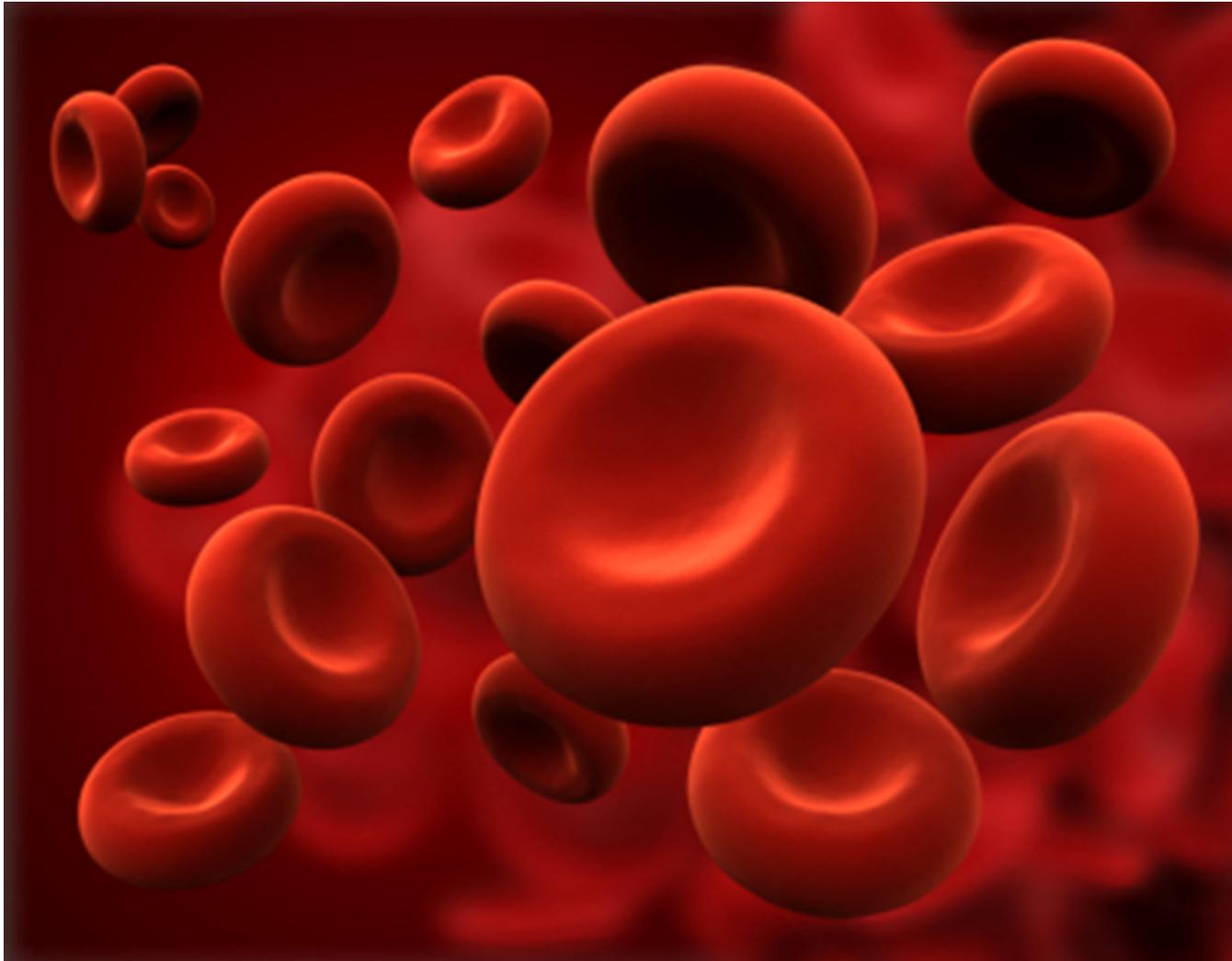
Elastic CT VVG



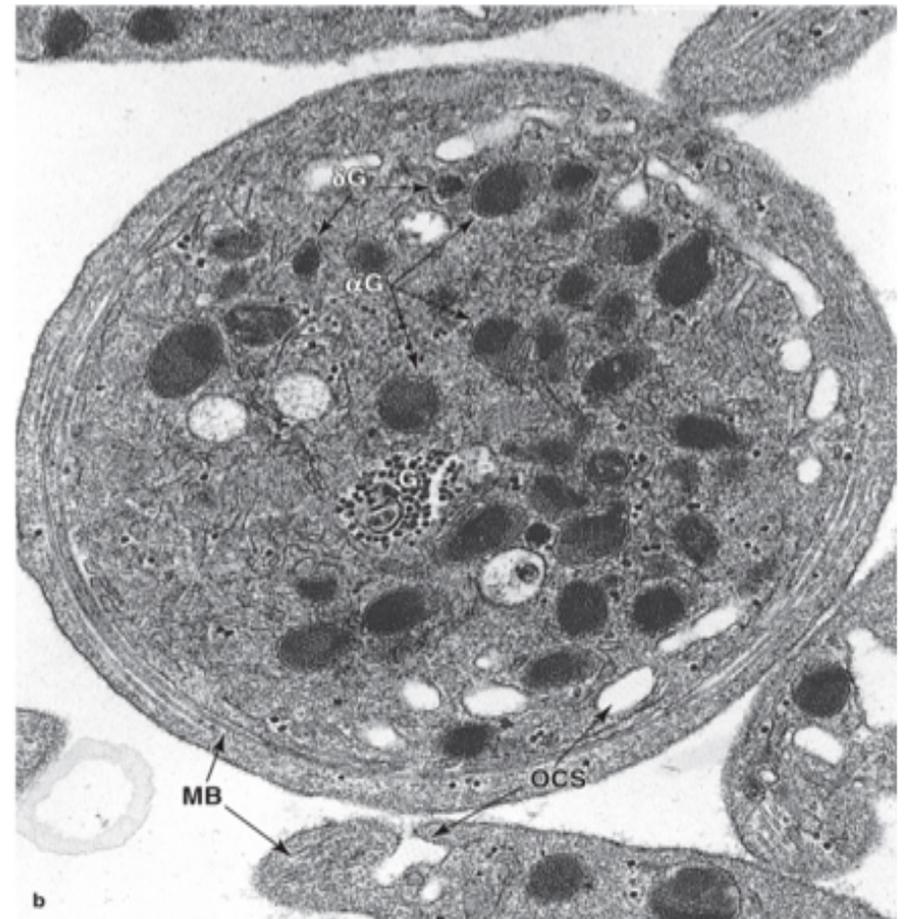
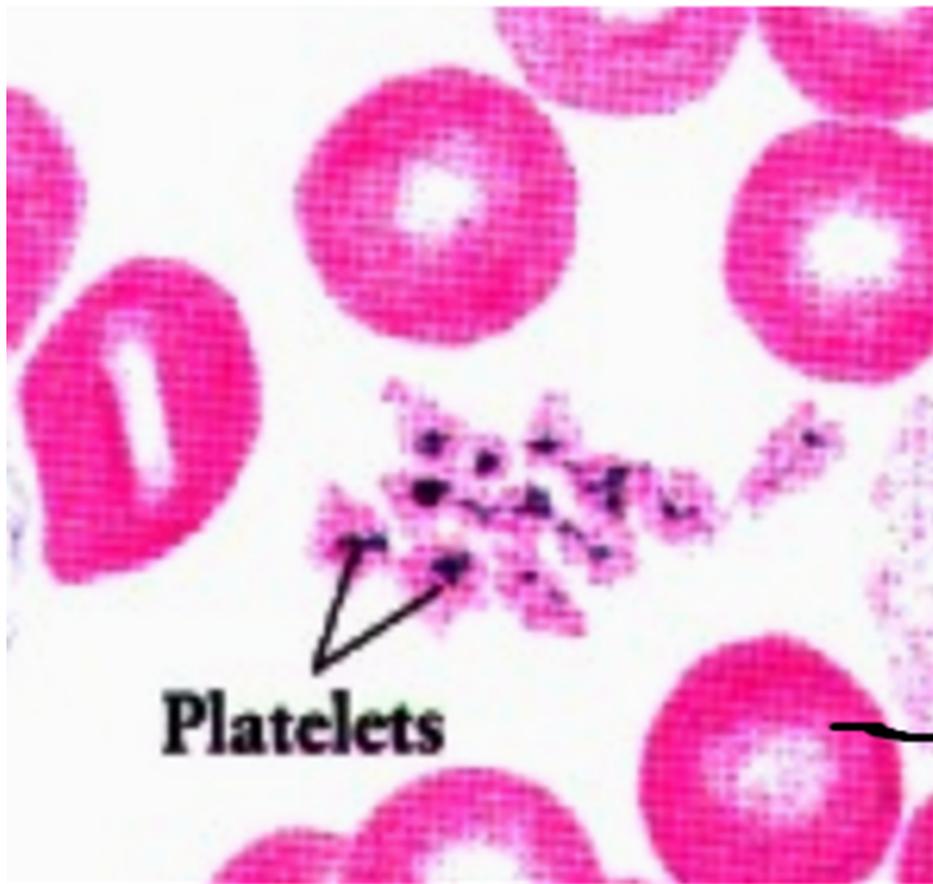
Elastic C.T. (orcein stain)



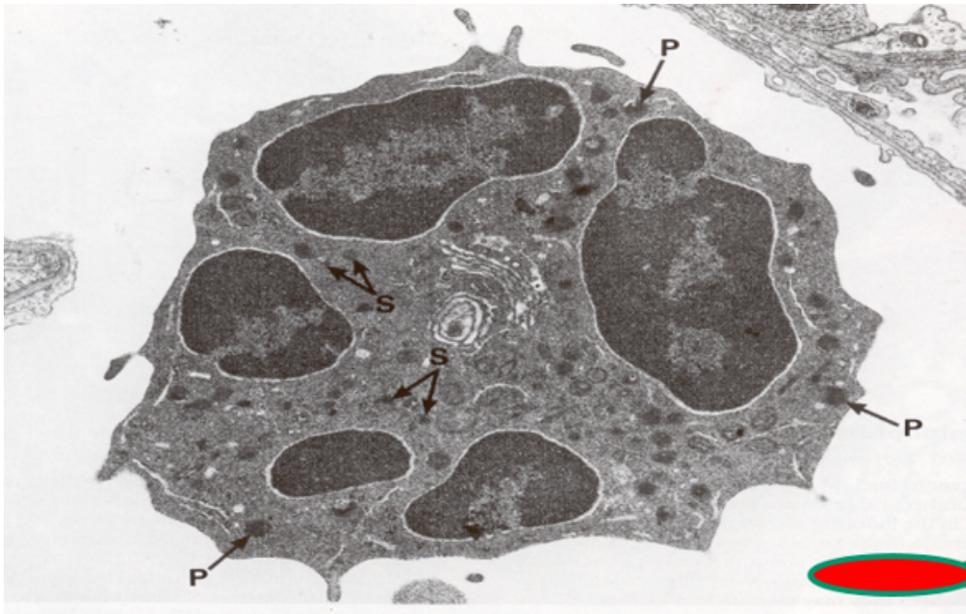
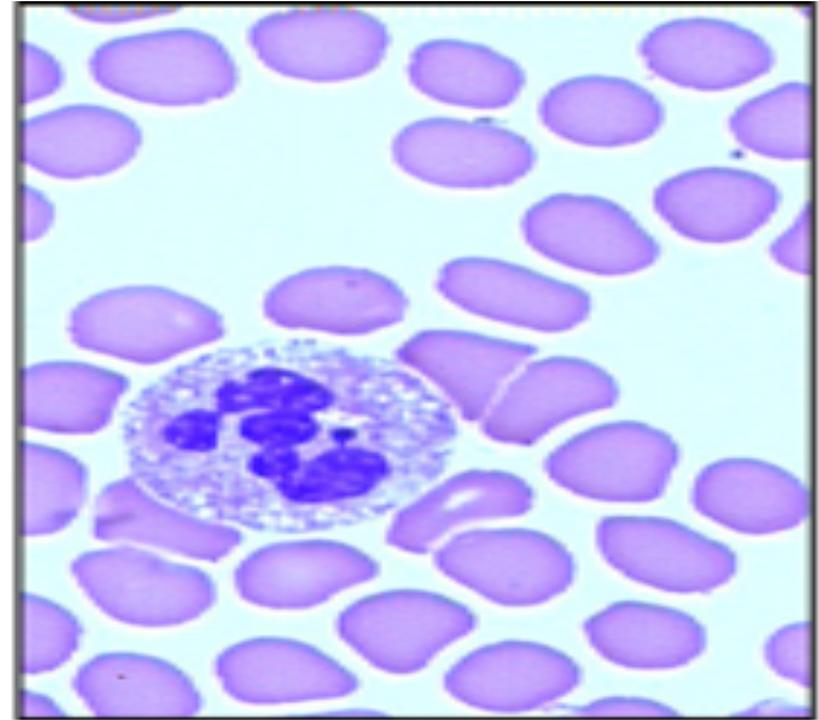
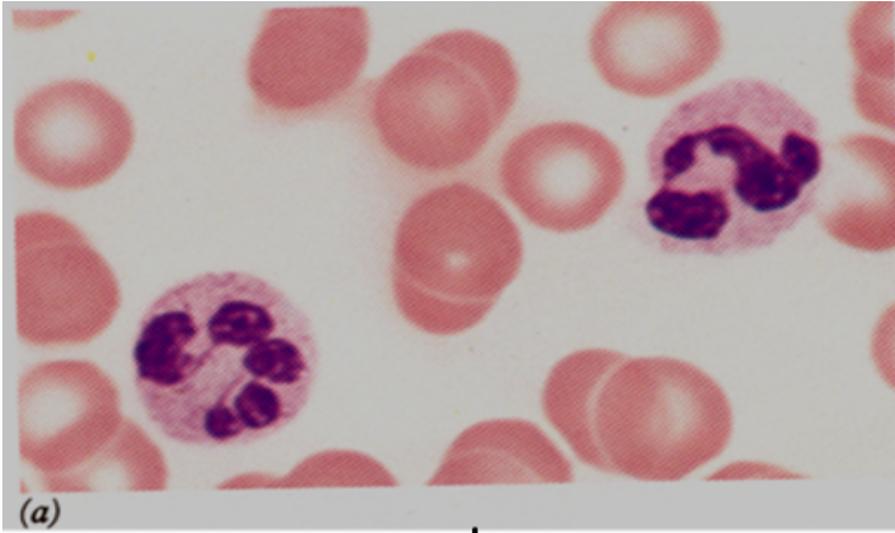
Red blood cell



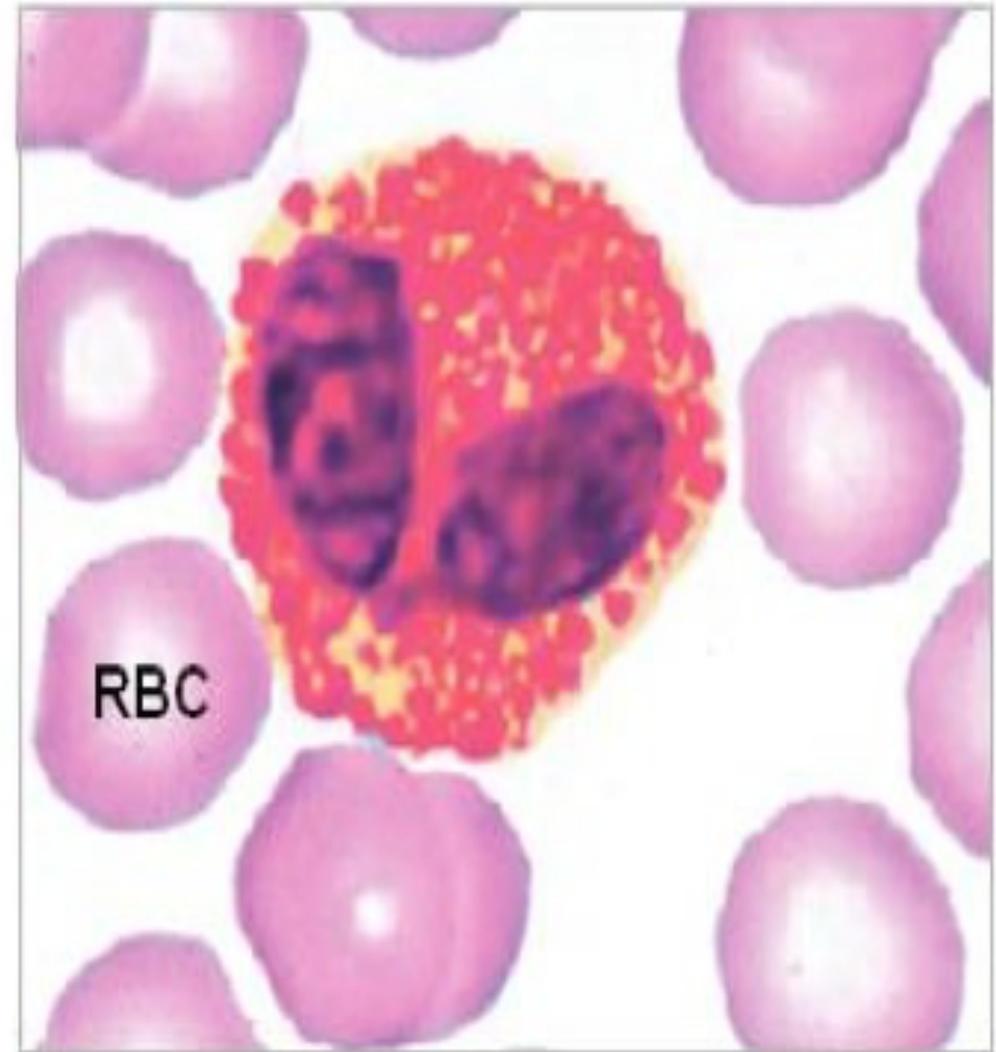
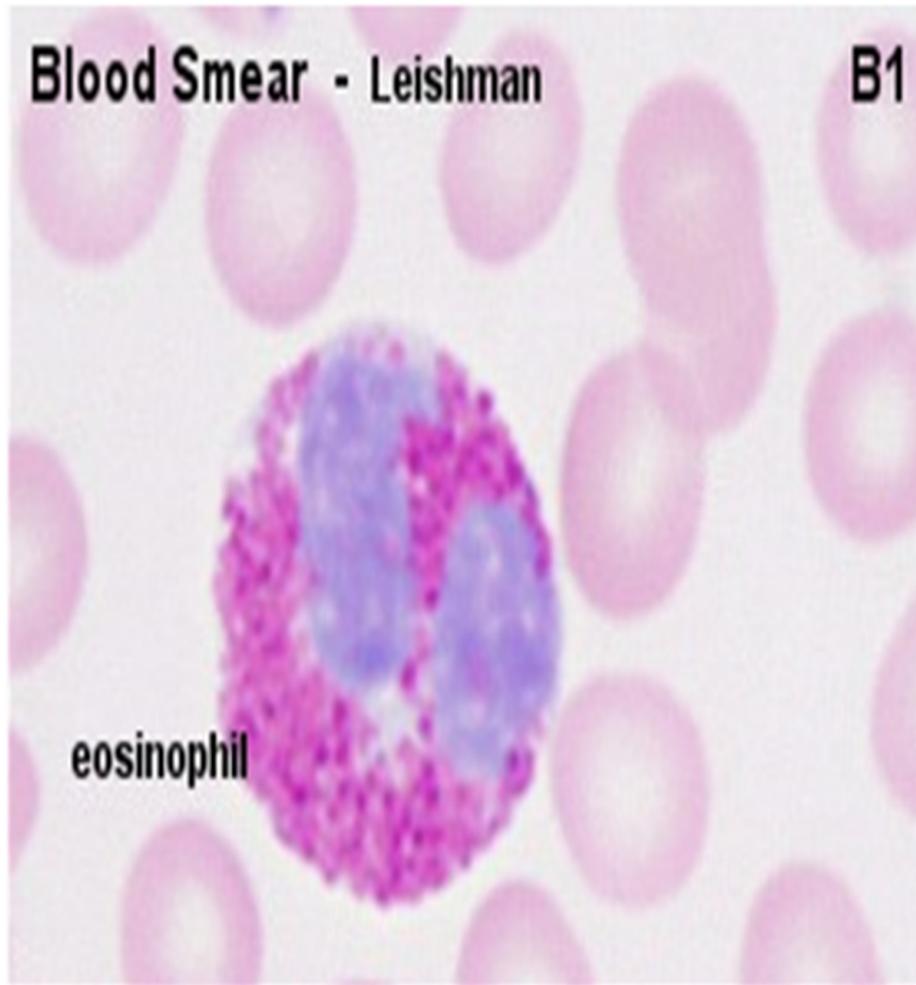
BLOOD PLATELETS



Neutrophils

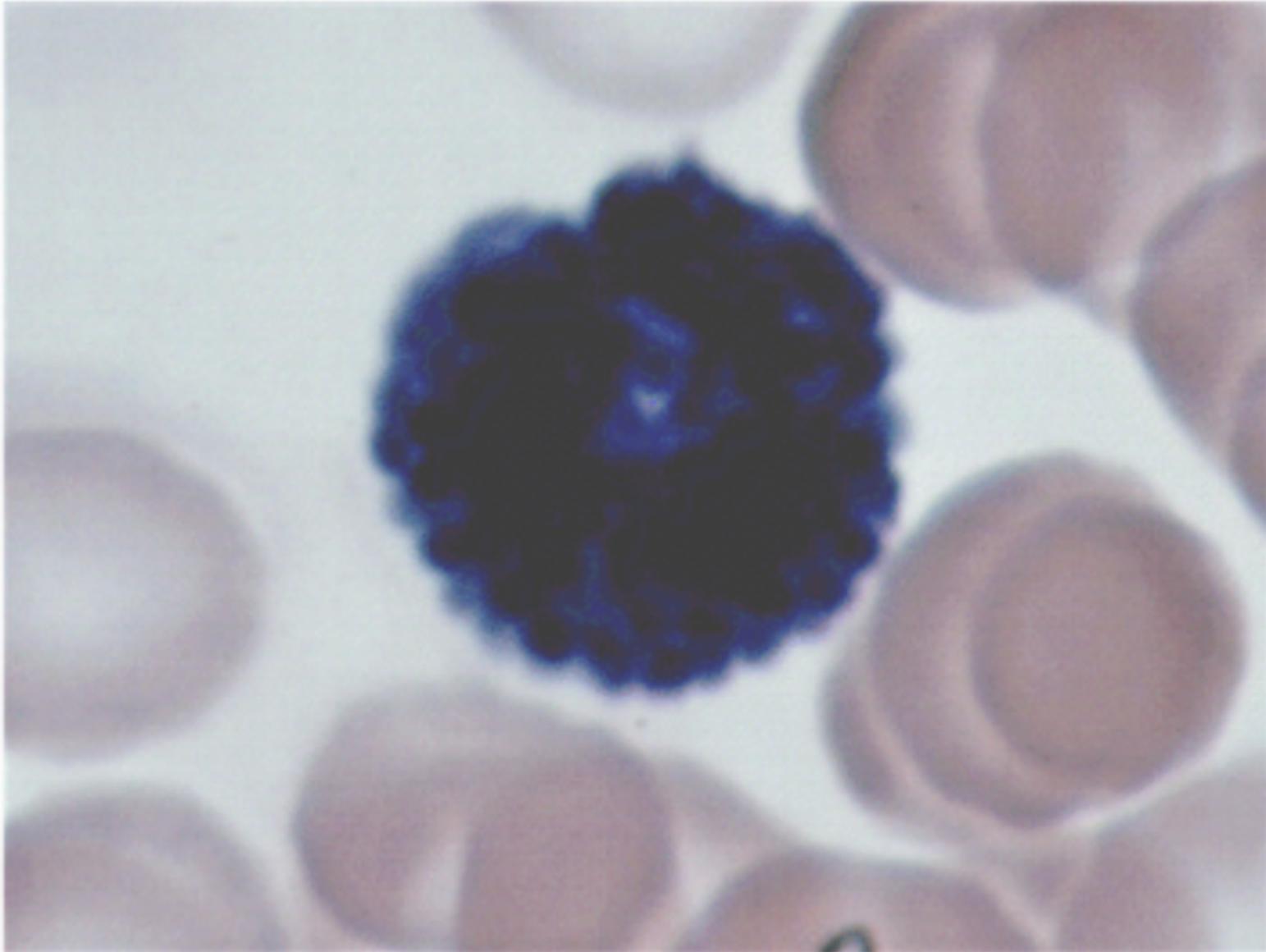


Eosinophils

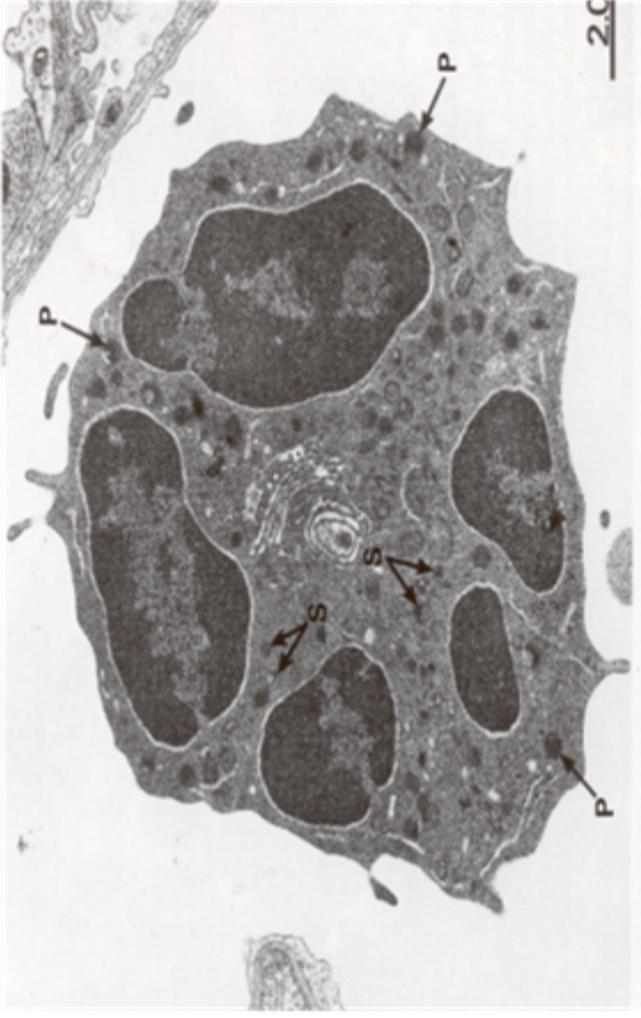


Basophils

Mast cell of the blood

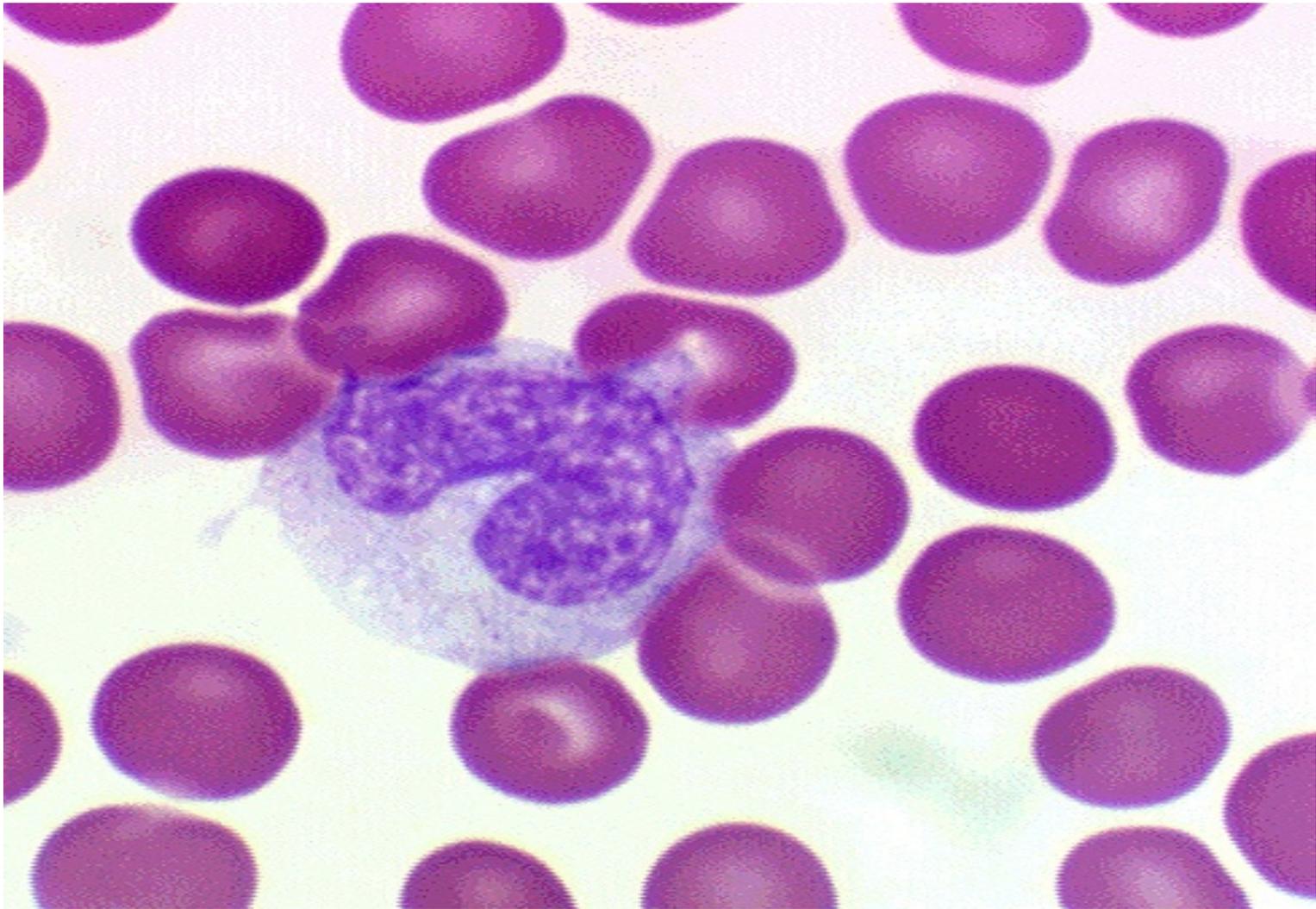


EM of granular leukocytes



Agranular leukocytes

Monocyte

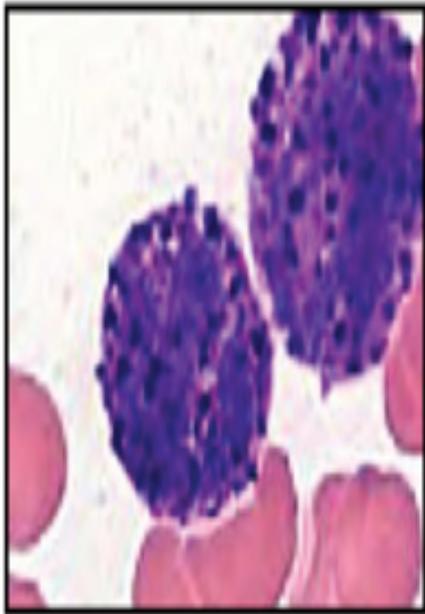


Lymphocyte

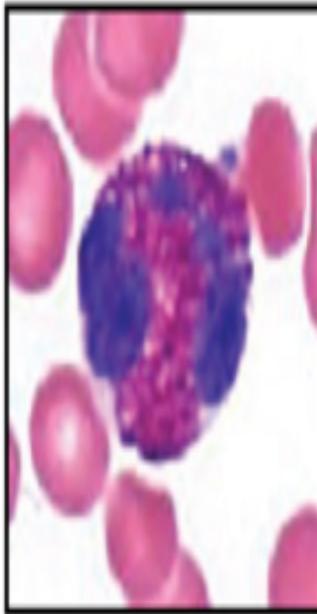


White blood cells

Key



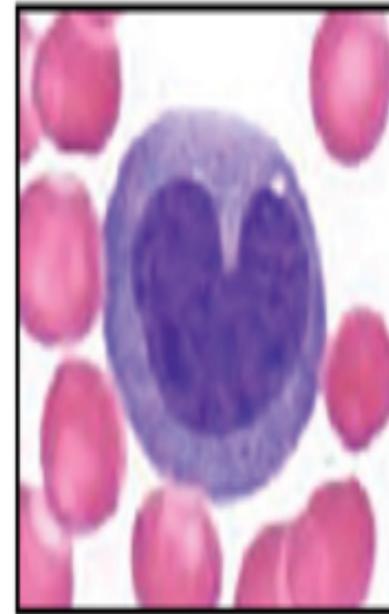
Basophil



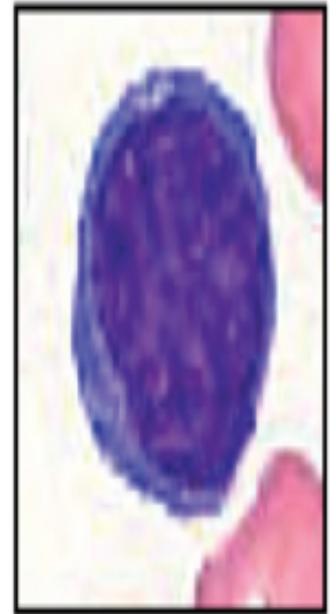
Eosinophil



Neutrophil



Monocyte



Lymphocyte

Thank
You

