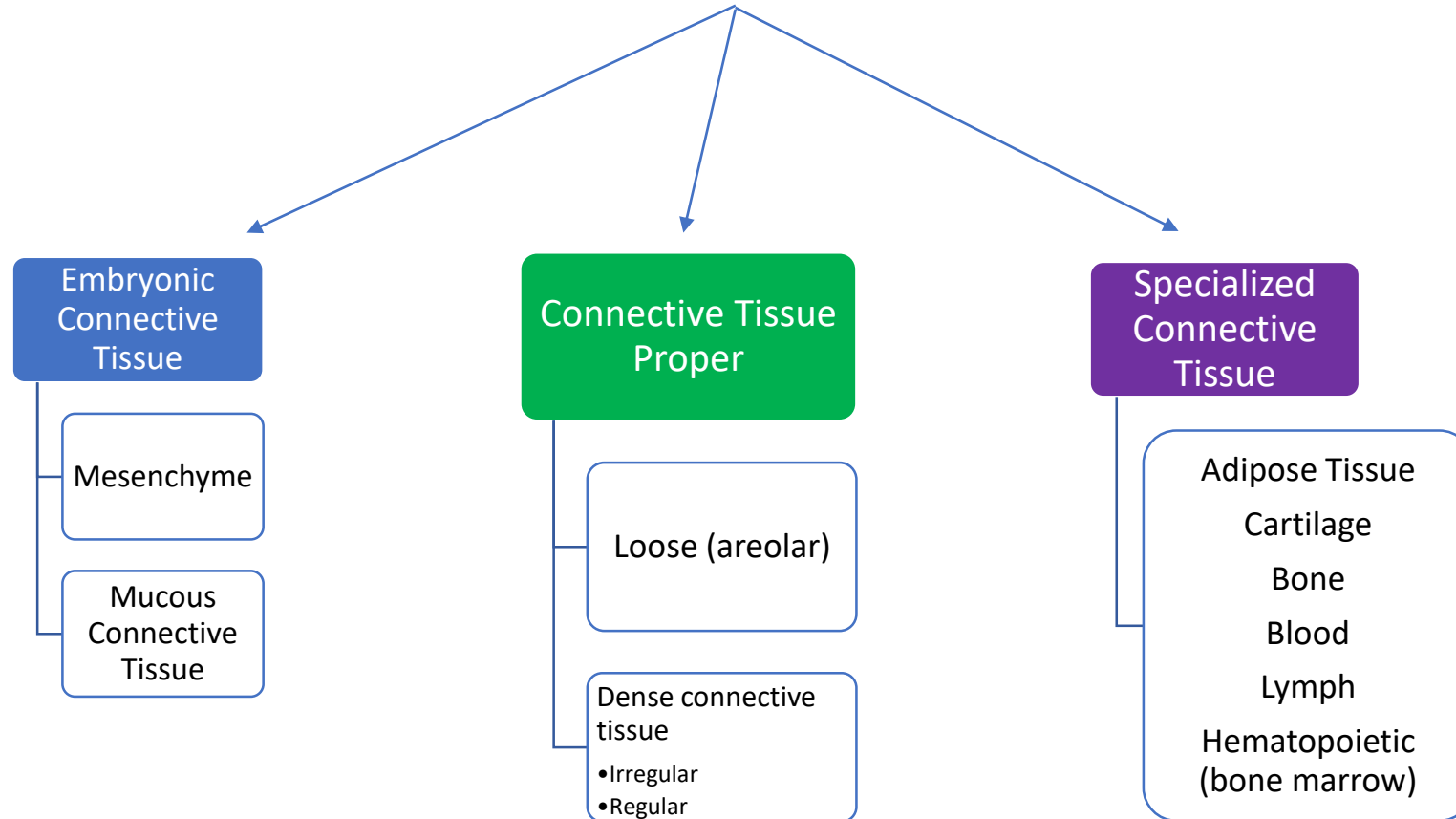


# Lab Practice Connective Tissue & Adipose Tissue

Assoc. Prof. Sinan Özkavukcu

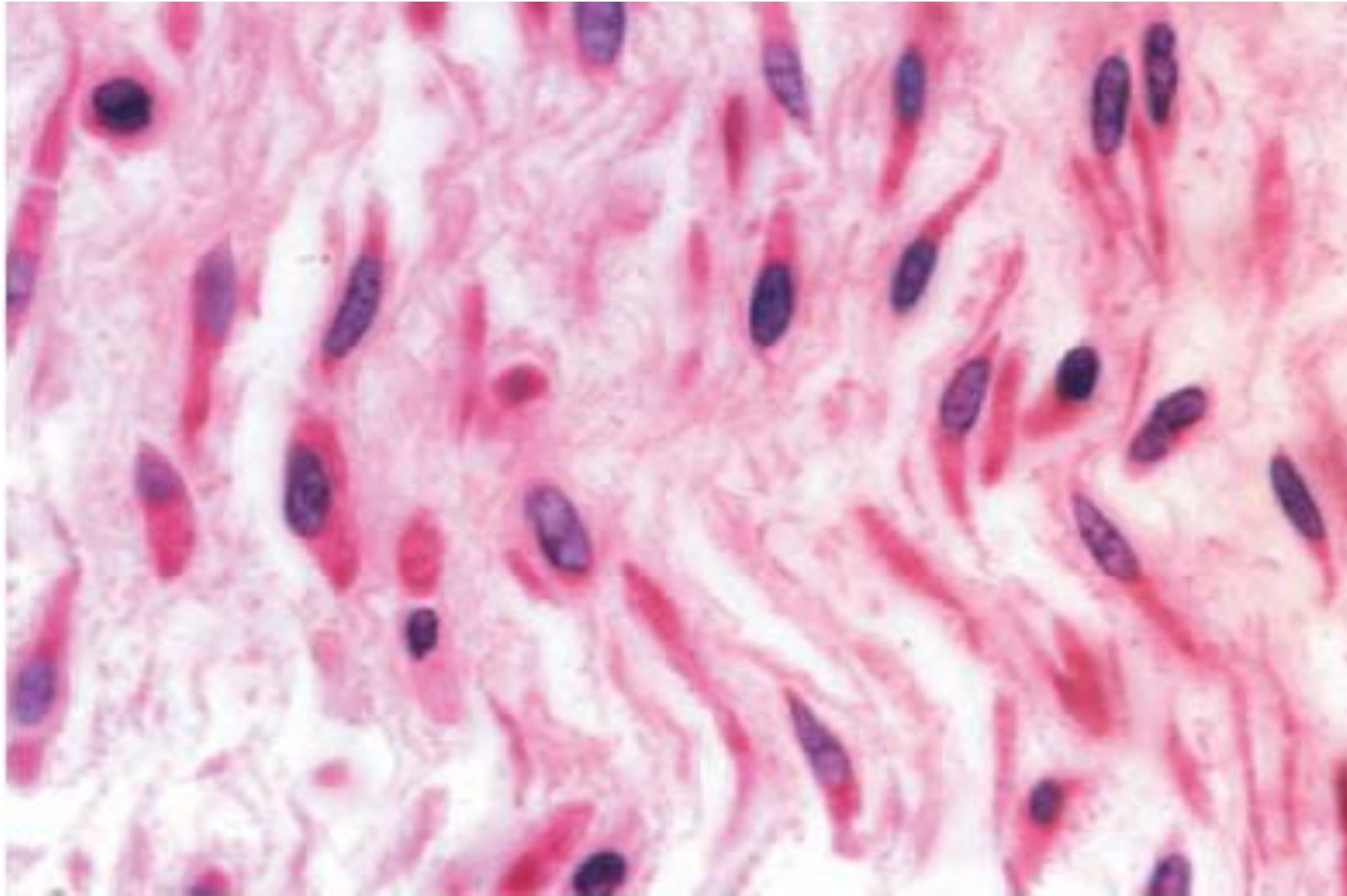
# Connective Tissue



Embryonic  
Connective  
Tissue

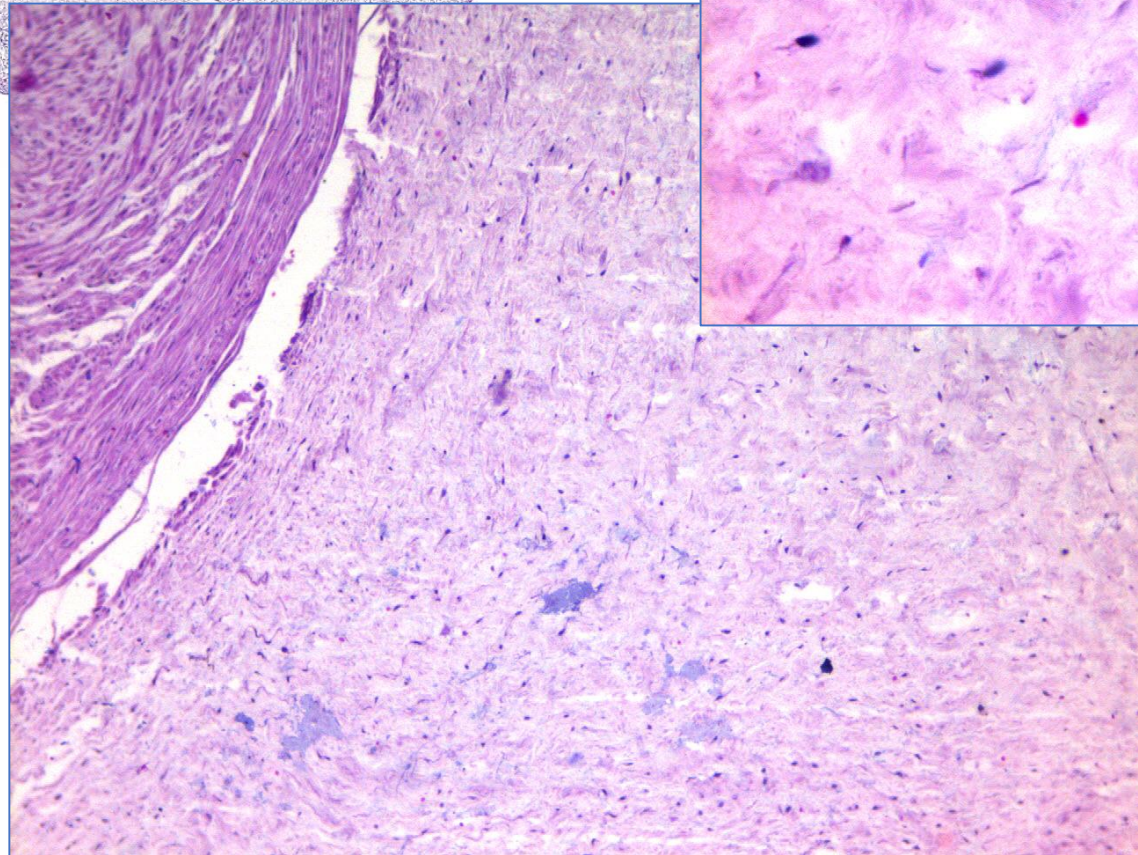
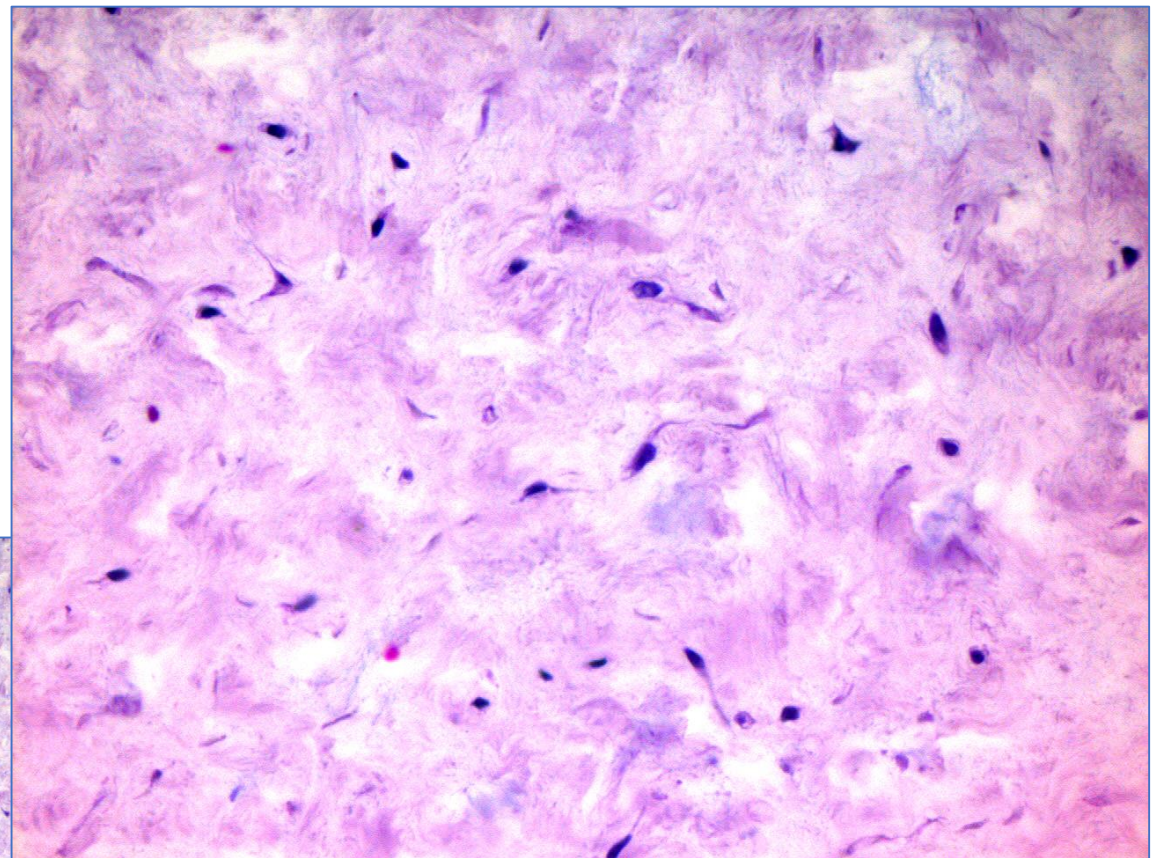
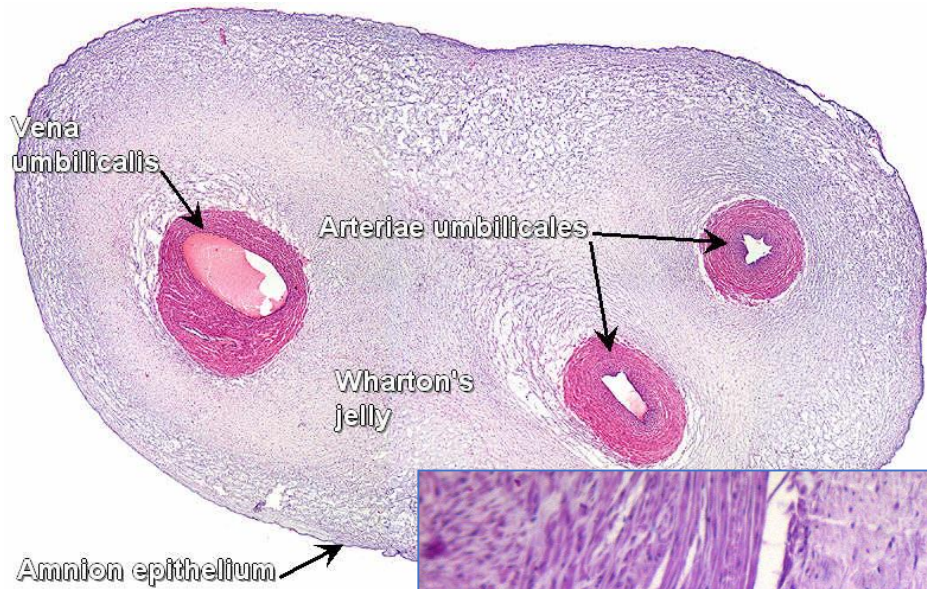
Mesenchyme

Mucous  
Connective  
Tissue



Mesenchymal cells  
Euchromatic  
Small, spindle-shaped  
Gap junctions

Extracellular matrix  
Viscous ground substance  
Reticular fibers

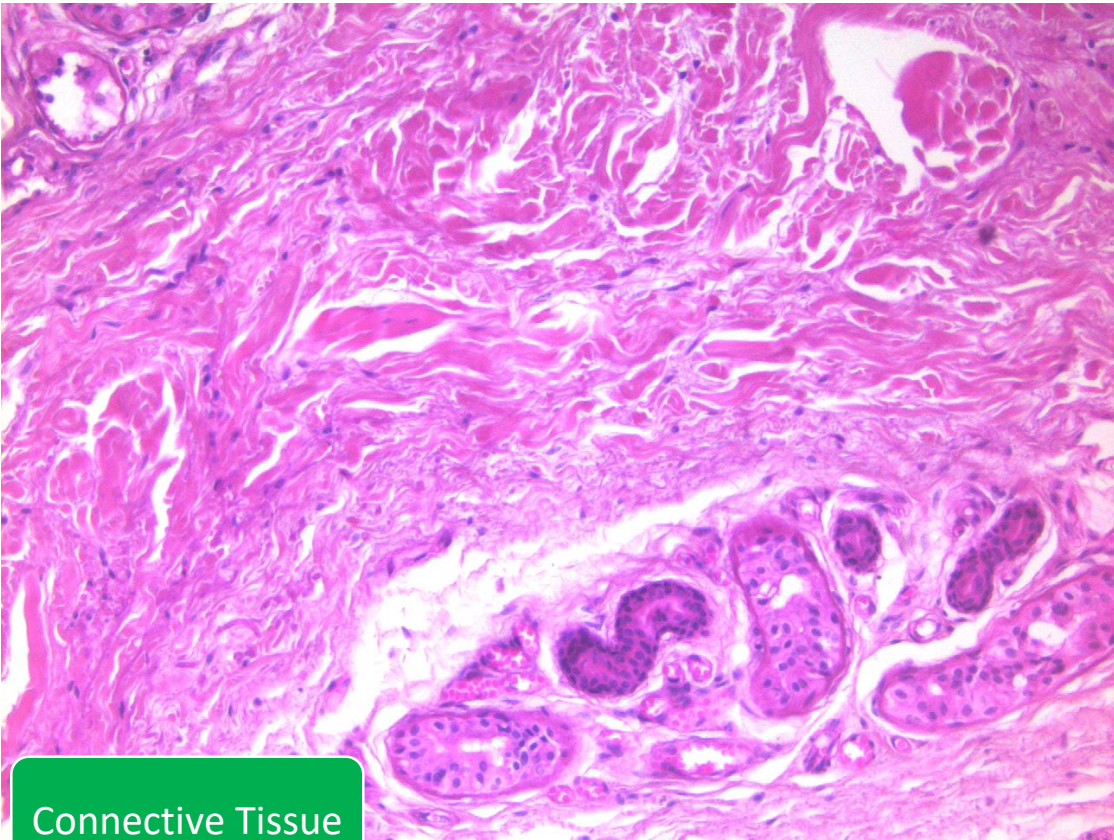


Embryonic  
Connective  
Tissue

Mesenchyme

Mucous  
Connective  
Tissue

- specialized, almost gelatin like ECM
- **Wharton's jelly.**
- The spindle-shaped cells are widely separated
- Wharton's jelly occupies large intercellular spaces located between thin, wispy collagen fibers.



Rich in ground substance and cells, relatively poor in fibrils

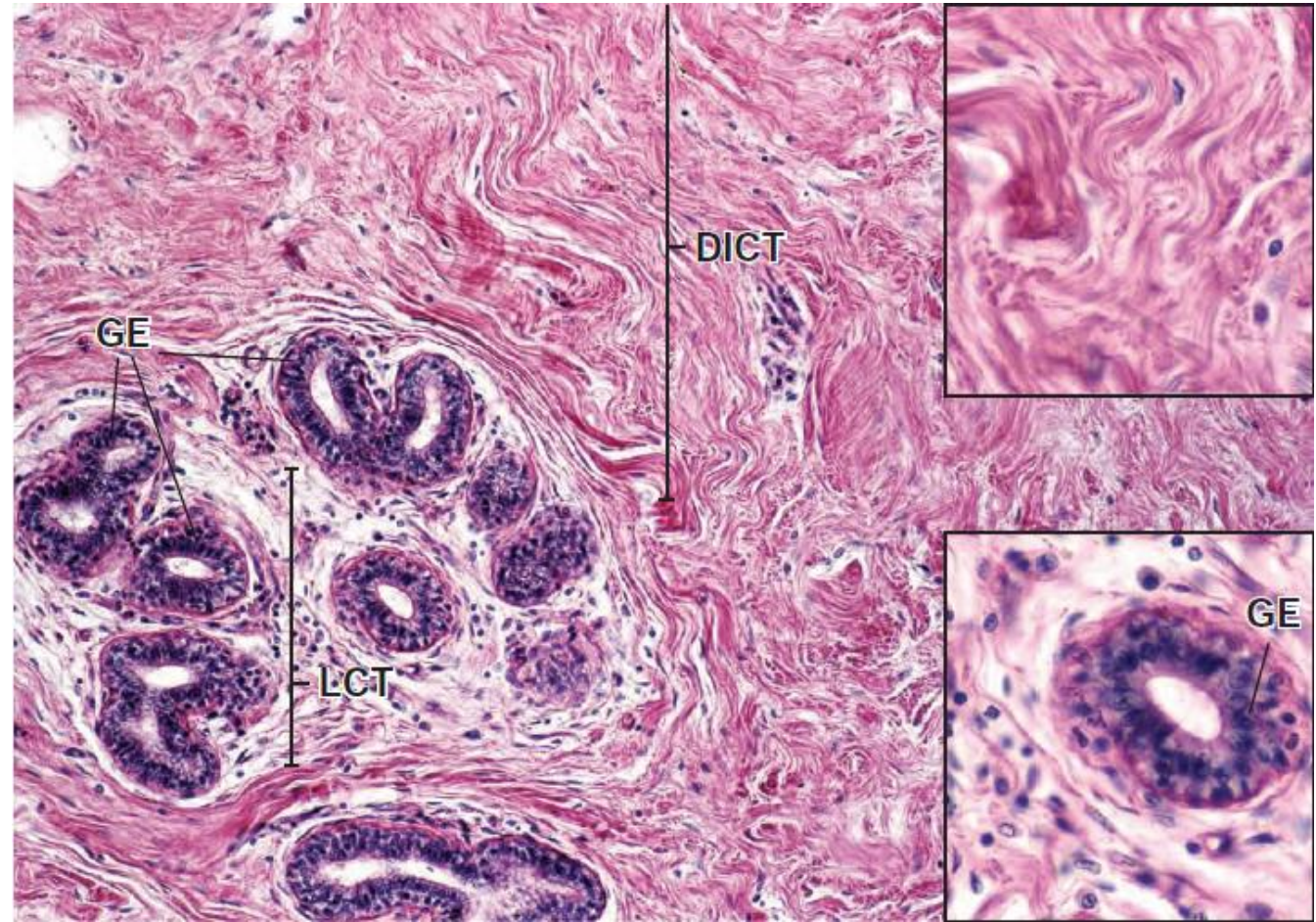
Loose connective tissue

Connective Tissue Proper

Loose (areolar)

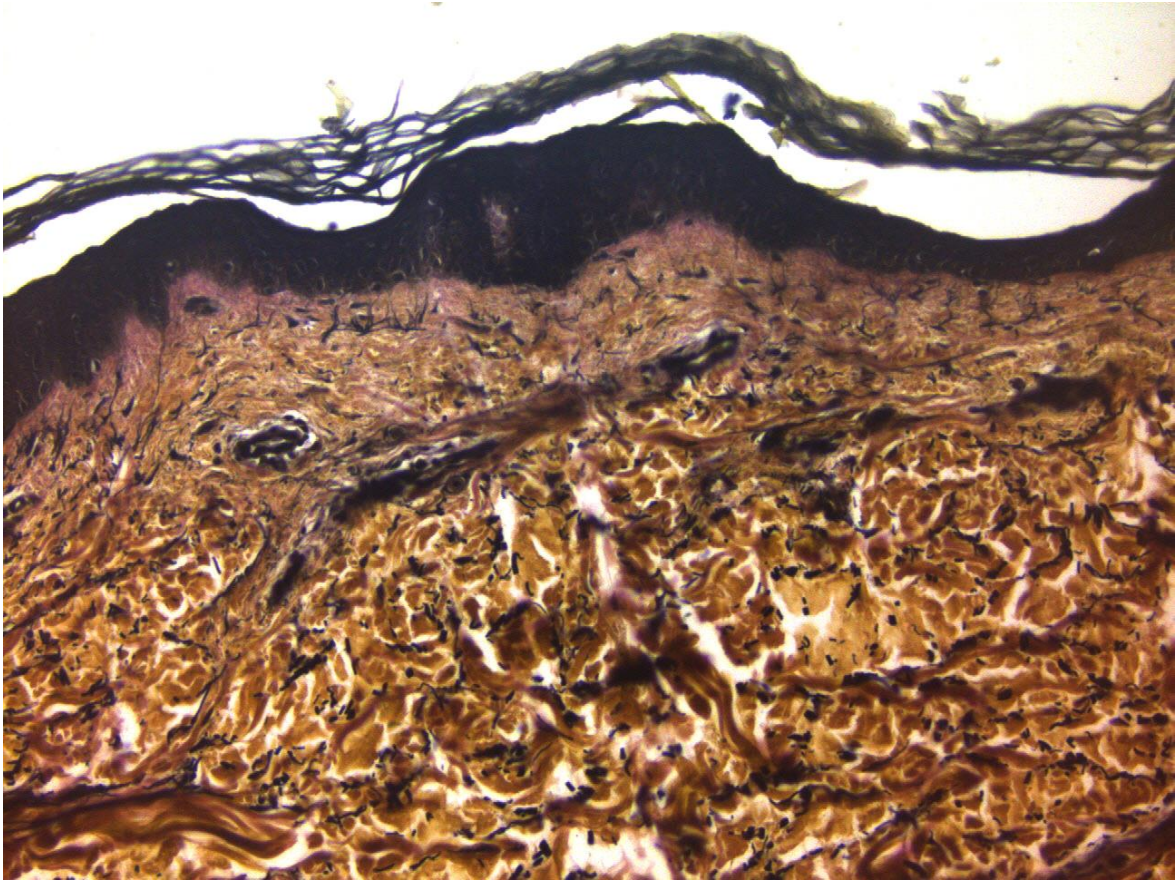
Dense connective tissue

- Irregular
- Regular



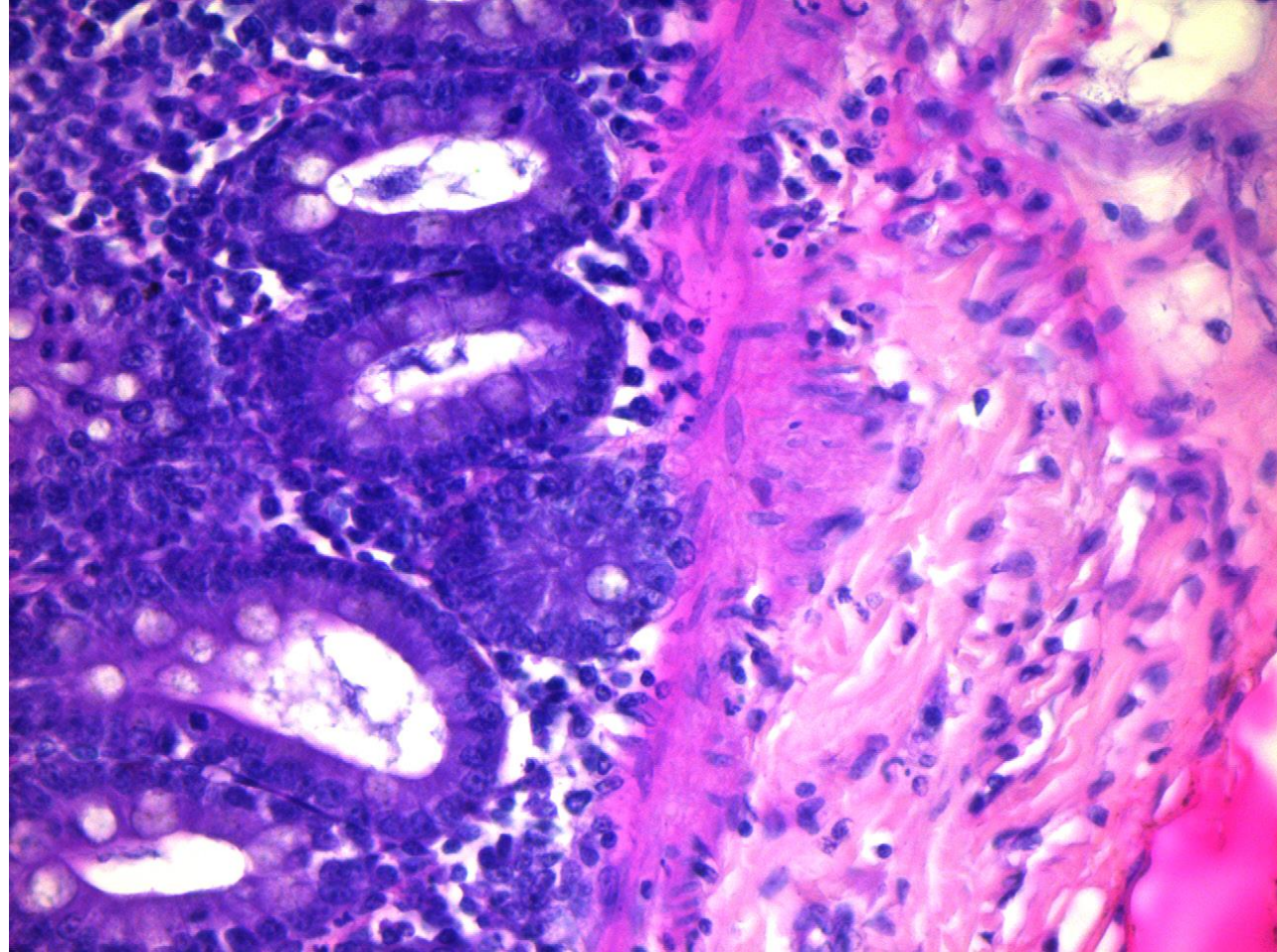
Mostly collagen bundles, extends in different directions  
 Cells are scattered and generally uniform = fibroblast  
 Small amount of ground substance

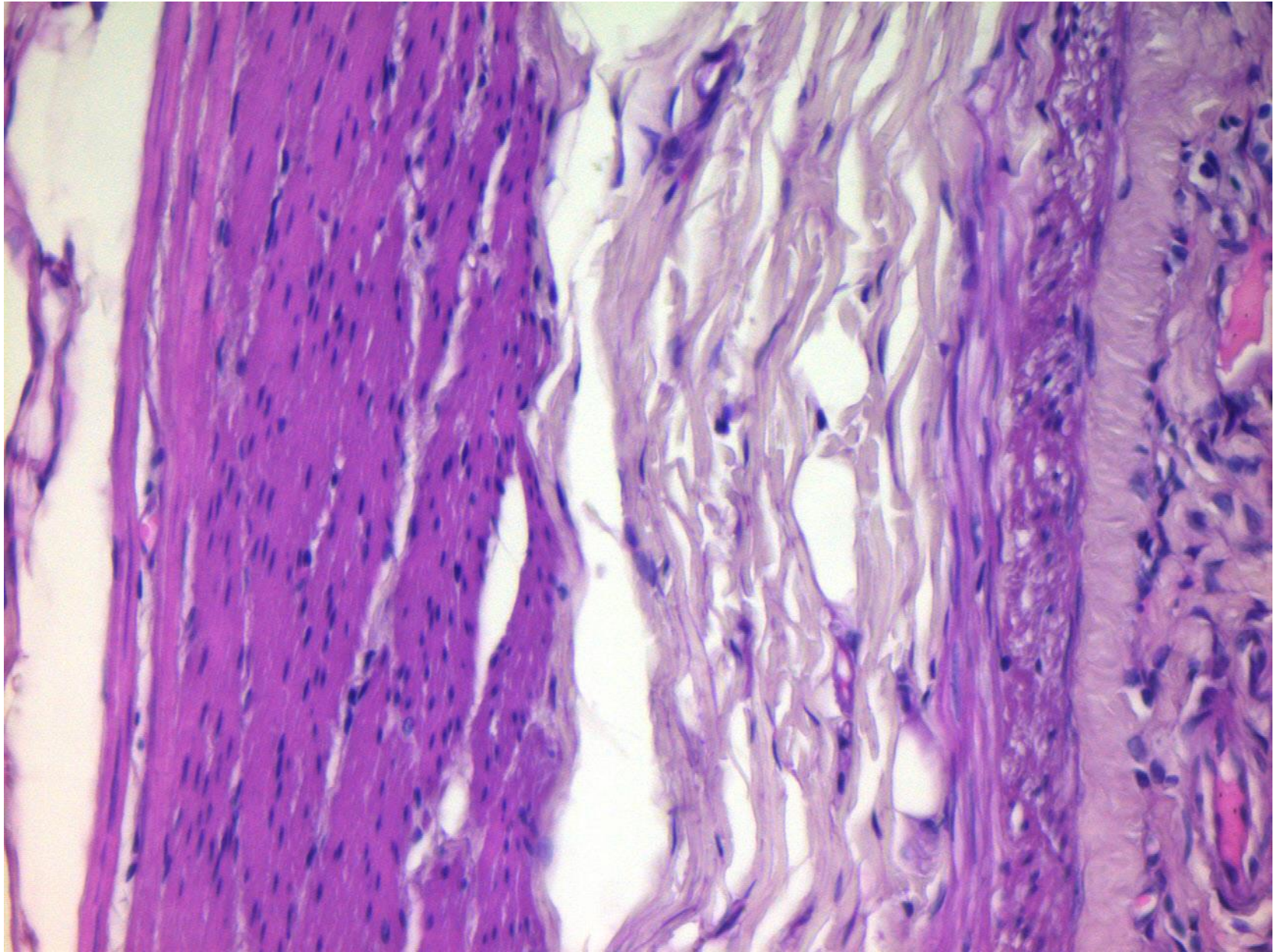
Dense irregular connective tissue



Skin  
Verhoeff

Colon  
H&E





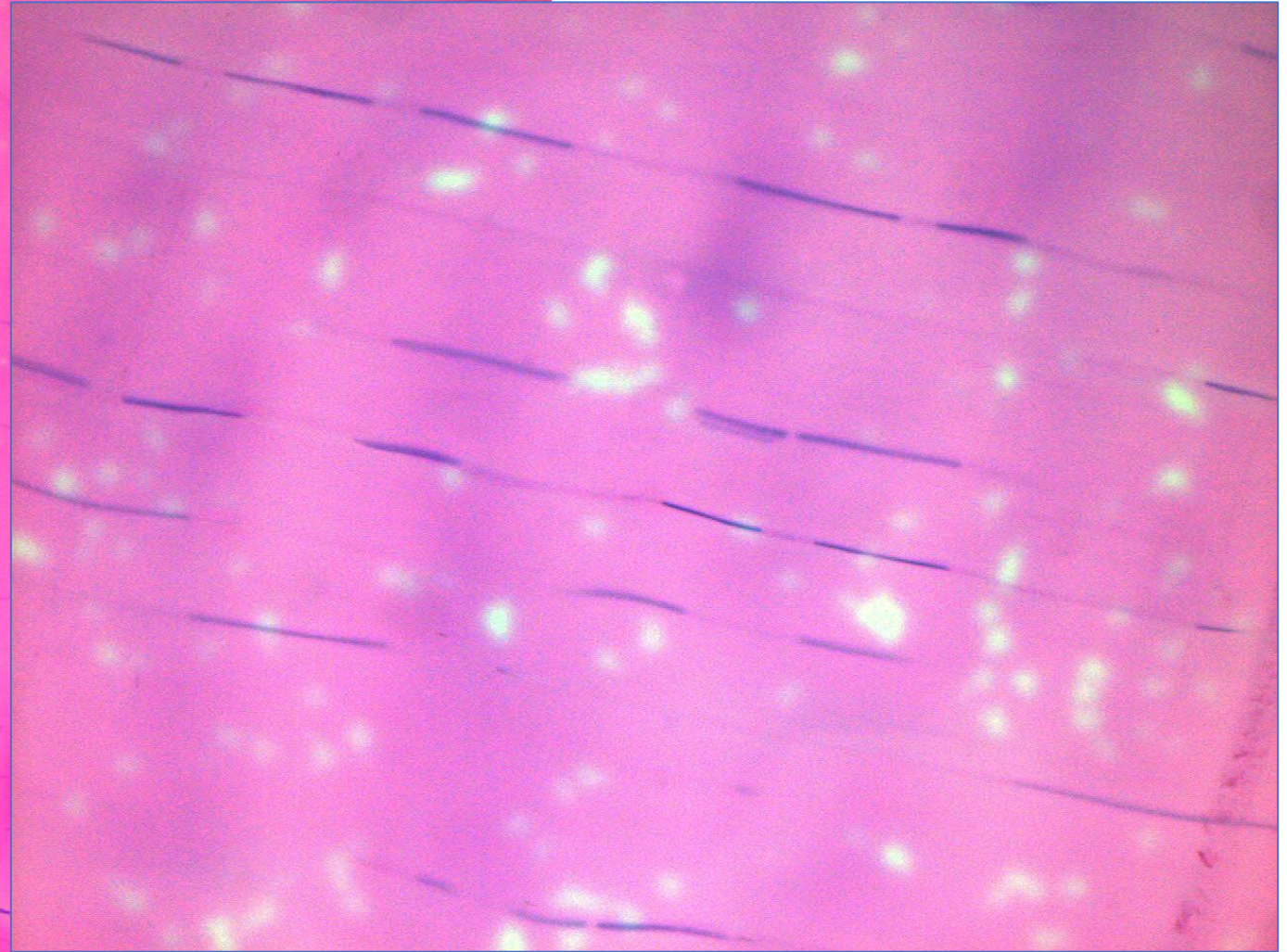
A large microscopic image showing connective tissue proper. The tissue is stained pink and purple, with numerous small, dark-stained nuclei scattered throughout. The overall appearance is dense and fibrous.

## Connective Tissue Proper

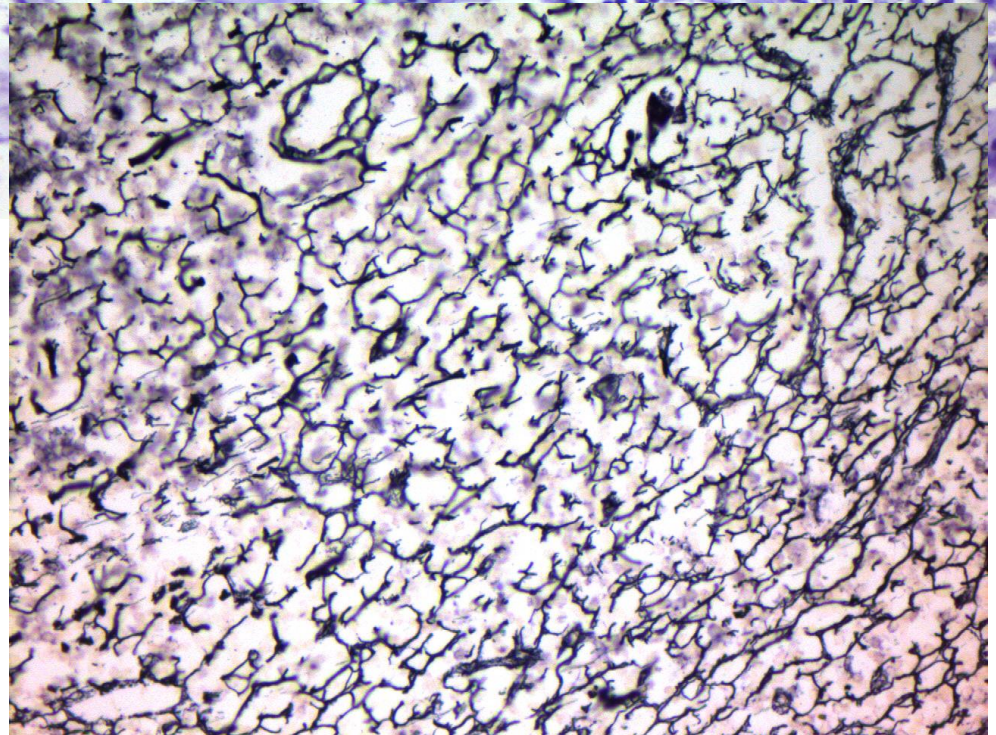
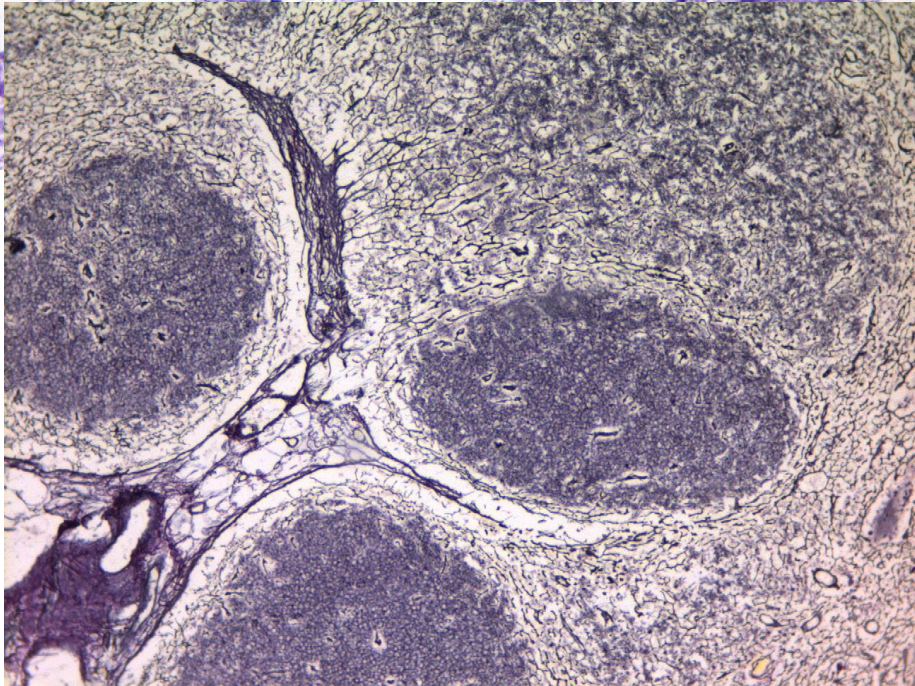
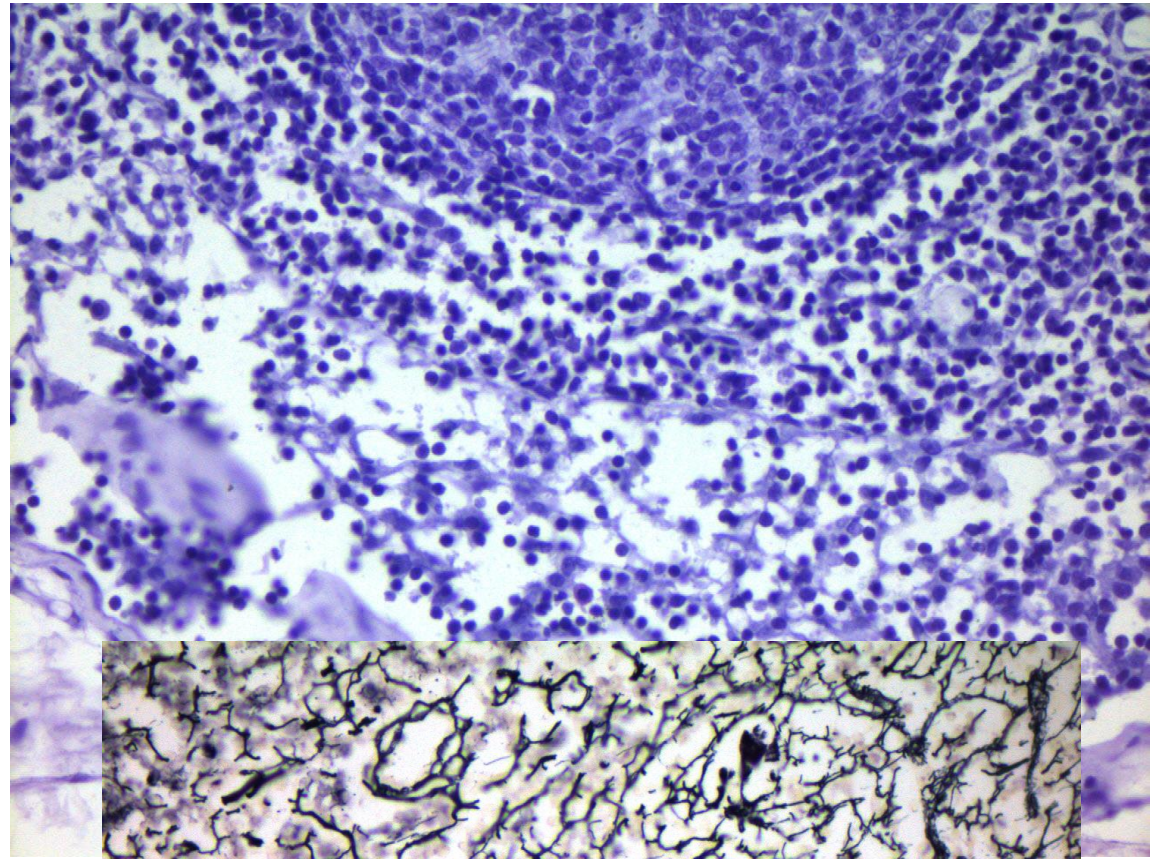
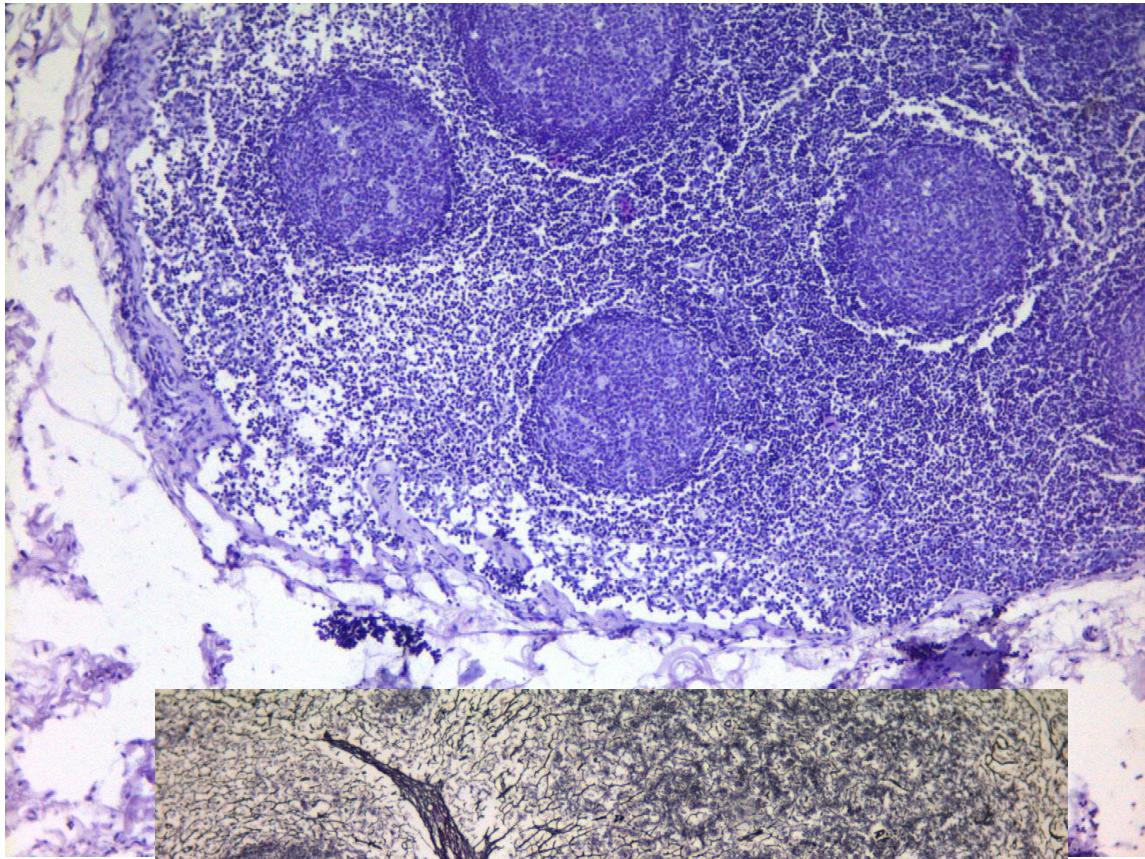
Loose (areolar)

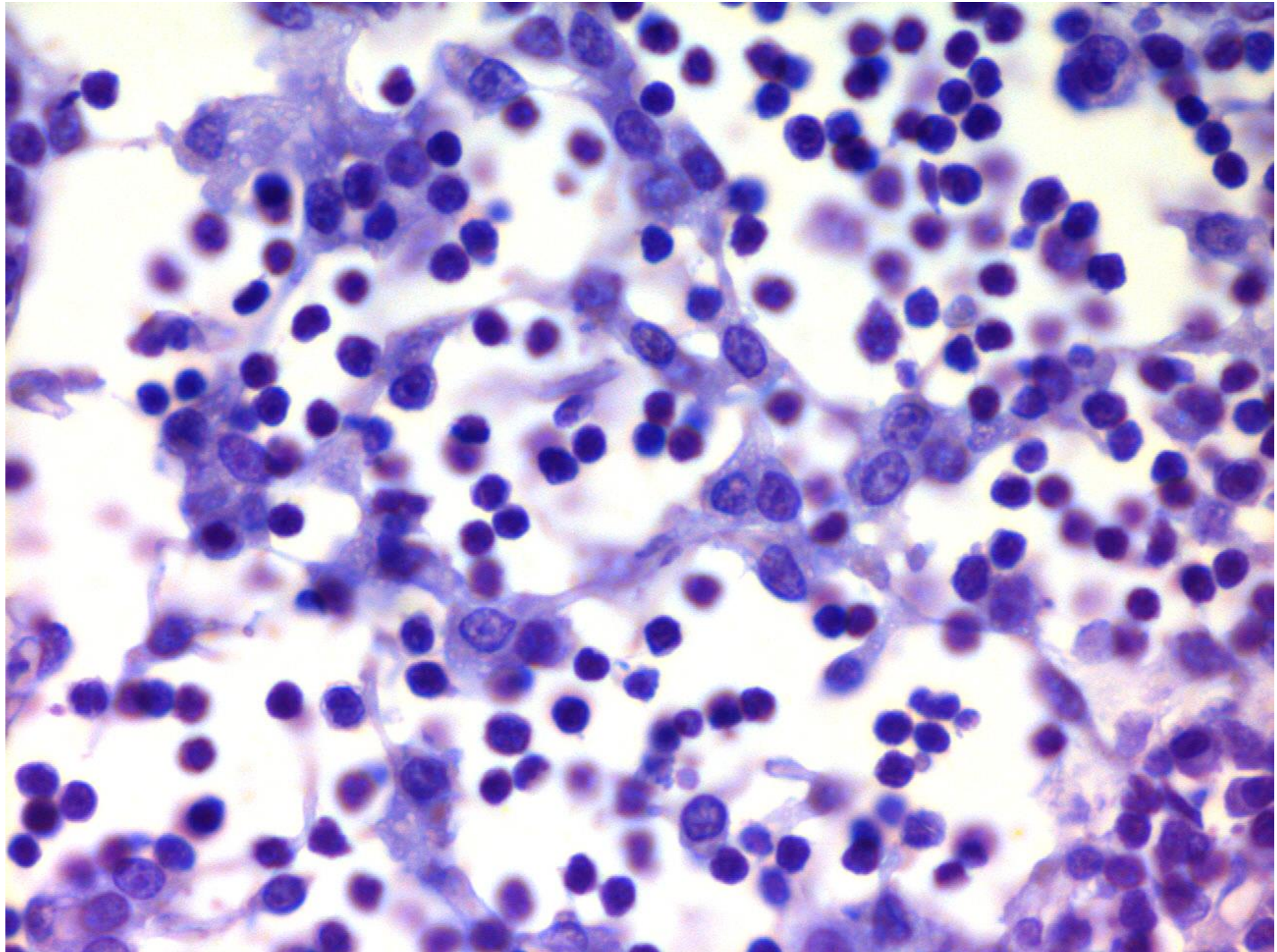
Dense connective tissue

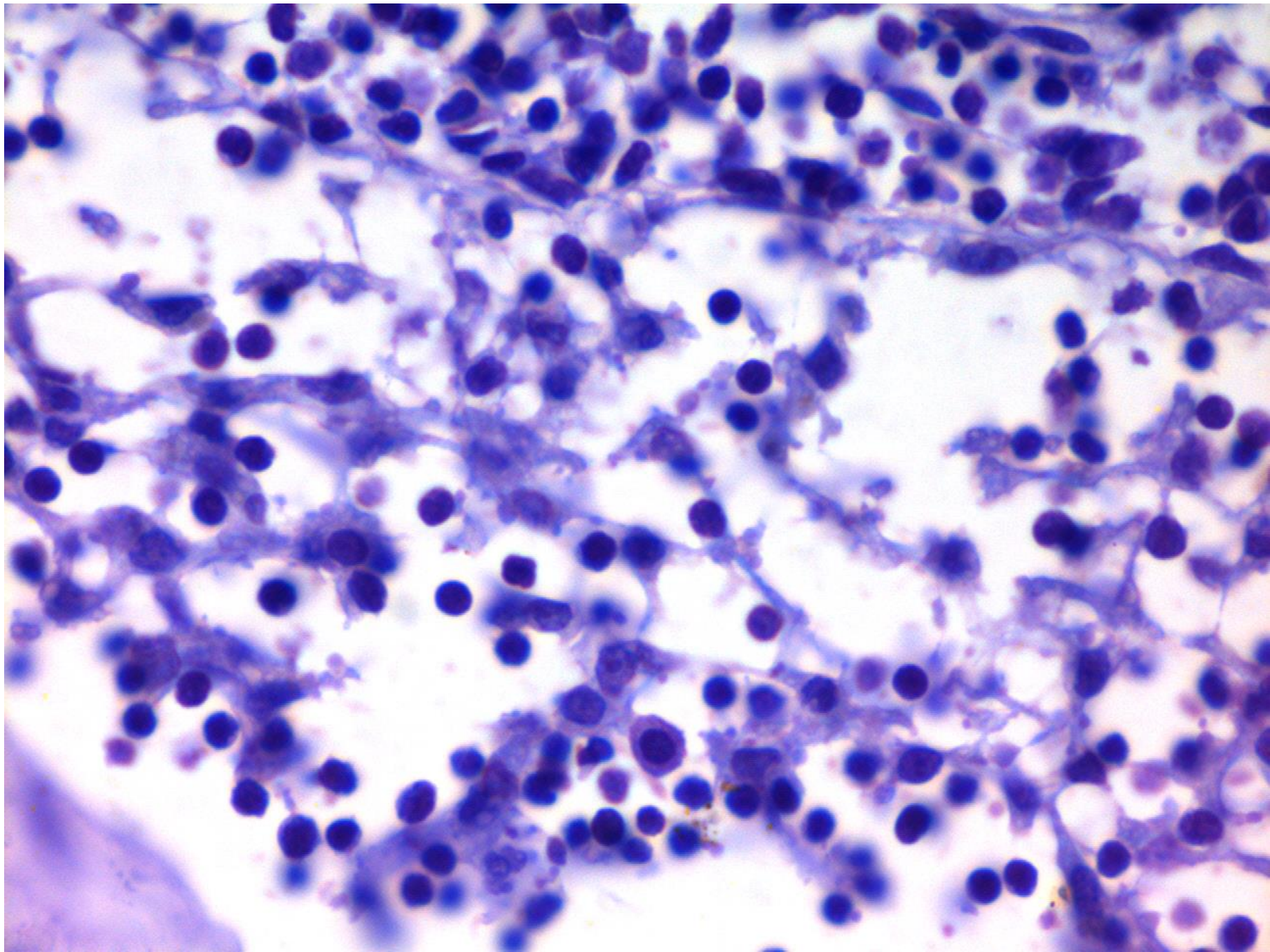
- Irregular
- Regular











# Connective Tissue Cells

## Resident cells in connective tissue

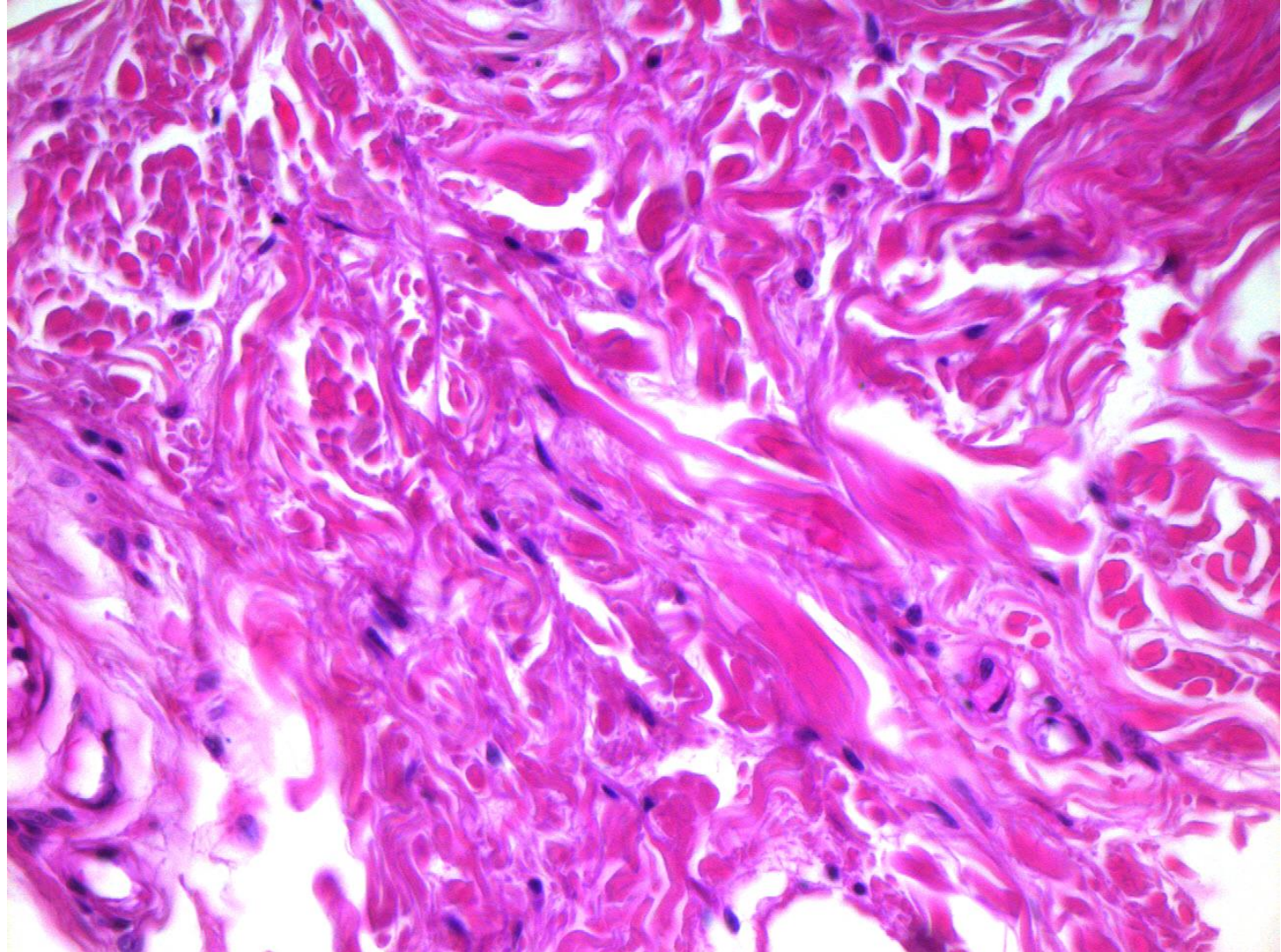
- **Fibroblasts** and related cells **myofibroblasts**,
- **Macrophages**,
- **Adipocytes**,
- **Mast cells**, and
- **Adult stem cells**

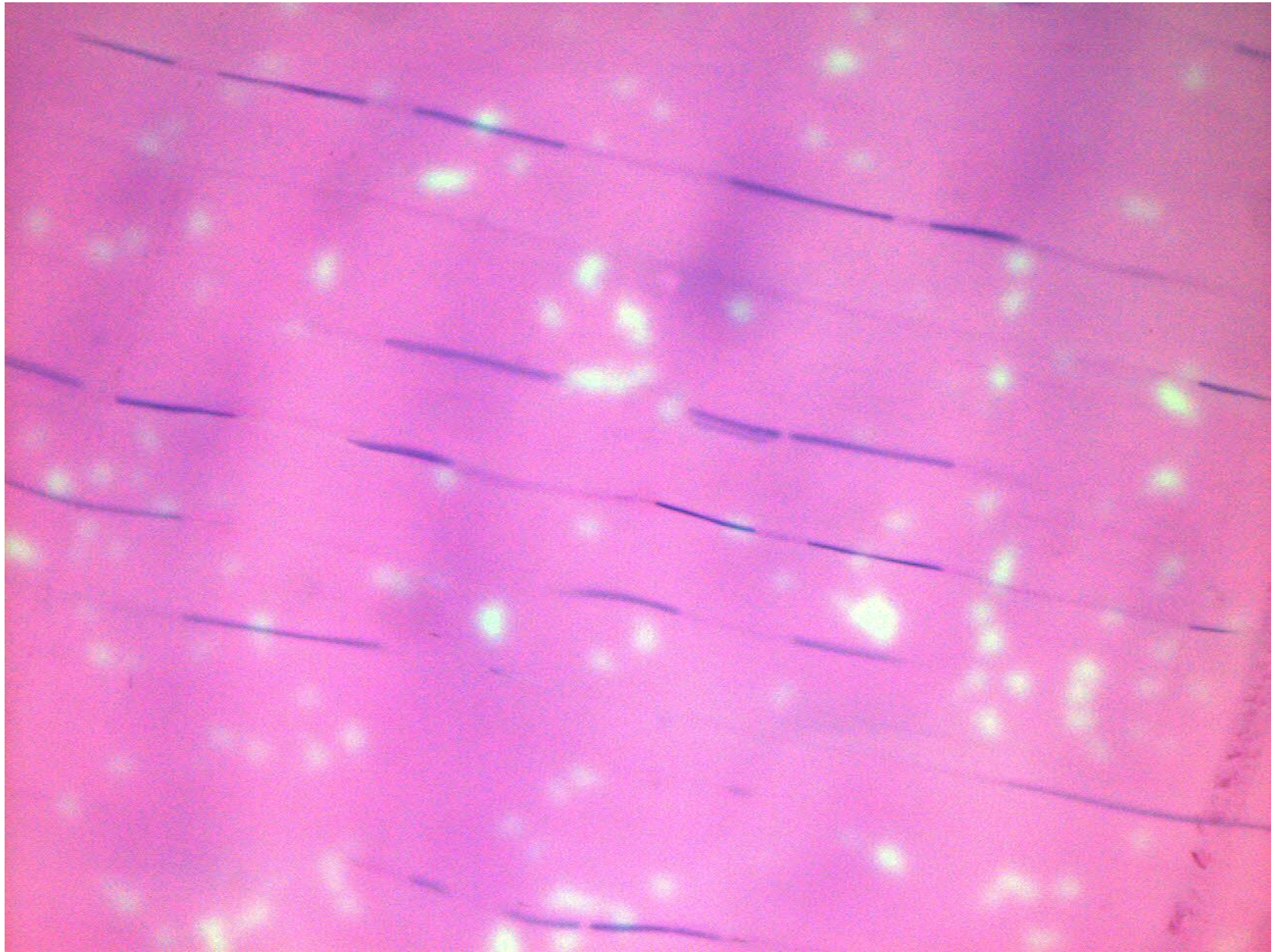
## Transient cells in connective tissue

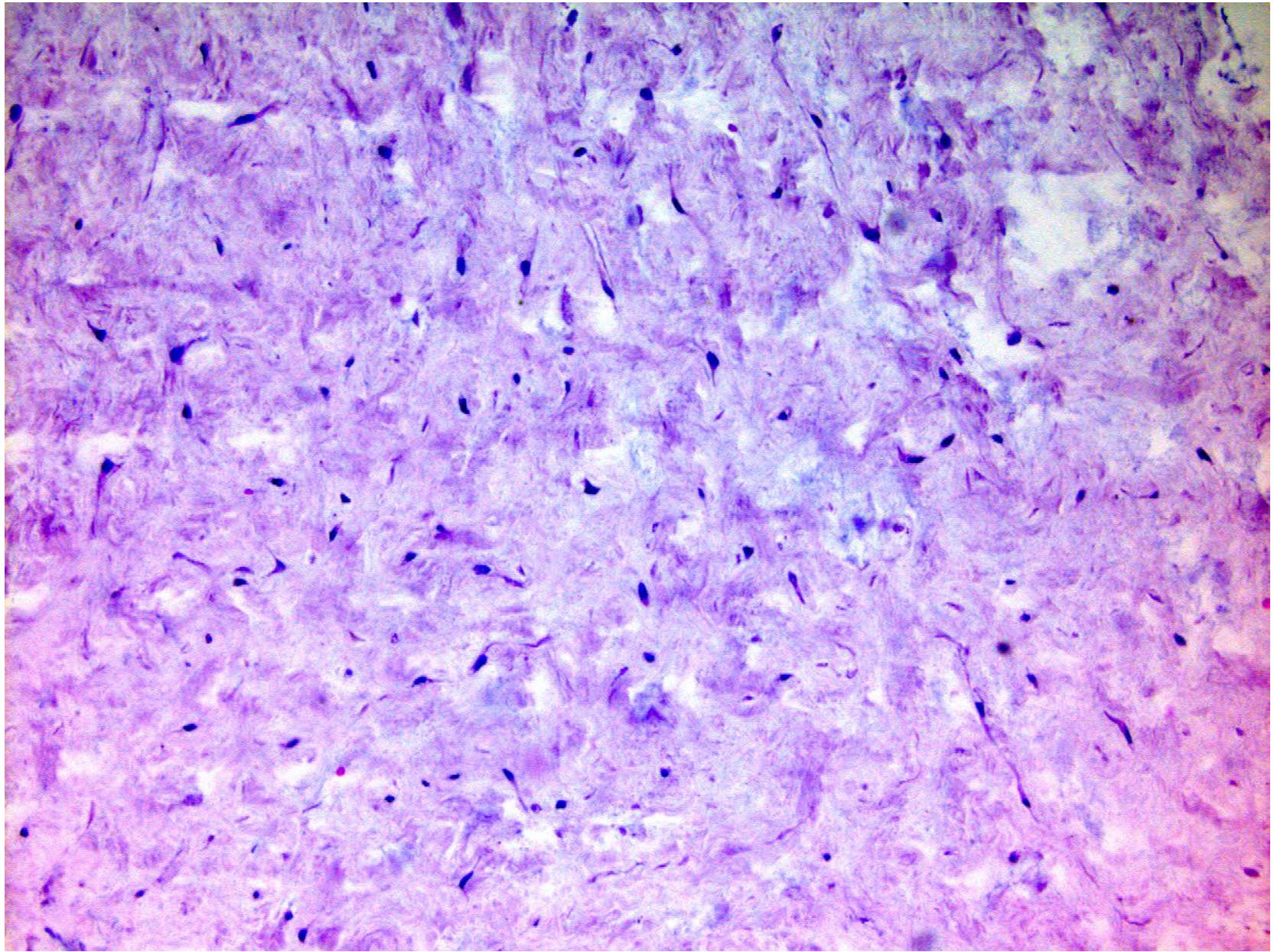
- **Lymphocytes**,
- **Plasma cells**,
- **Neutrophils**,
- **Eosinophils**,
- **Basophils**,
- **Monocytes**.

migrated into the tissue  
from the blood in response to  
specific stimuli

# Cells of Connective Tissue



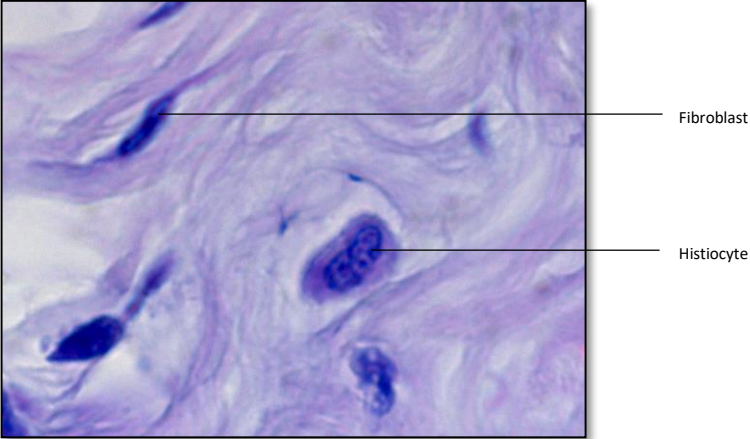




# Cells and Fibers of Connective Tissue

## 1. Cells of Connective Tissue - Fibroblast, Histiocyte

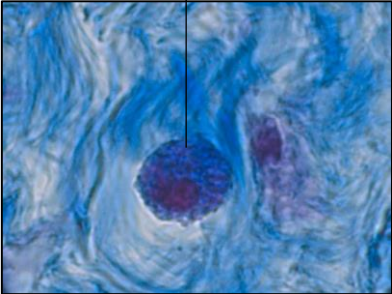
Stain: Hematoxylin-Eosin  
Organ/Tissue: Fundus Region of Stomach



## 2. Cells of Connective Tissue - Mastocyte

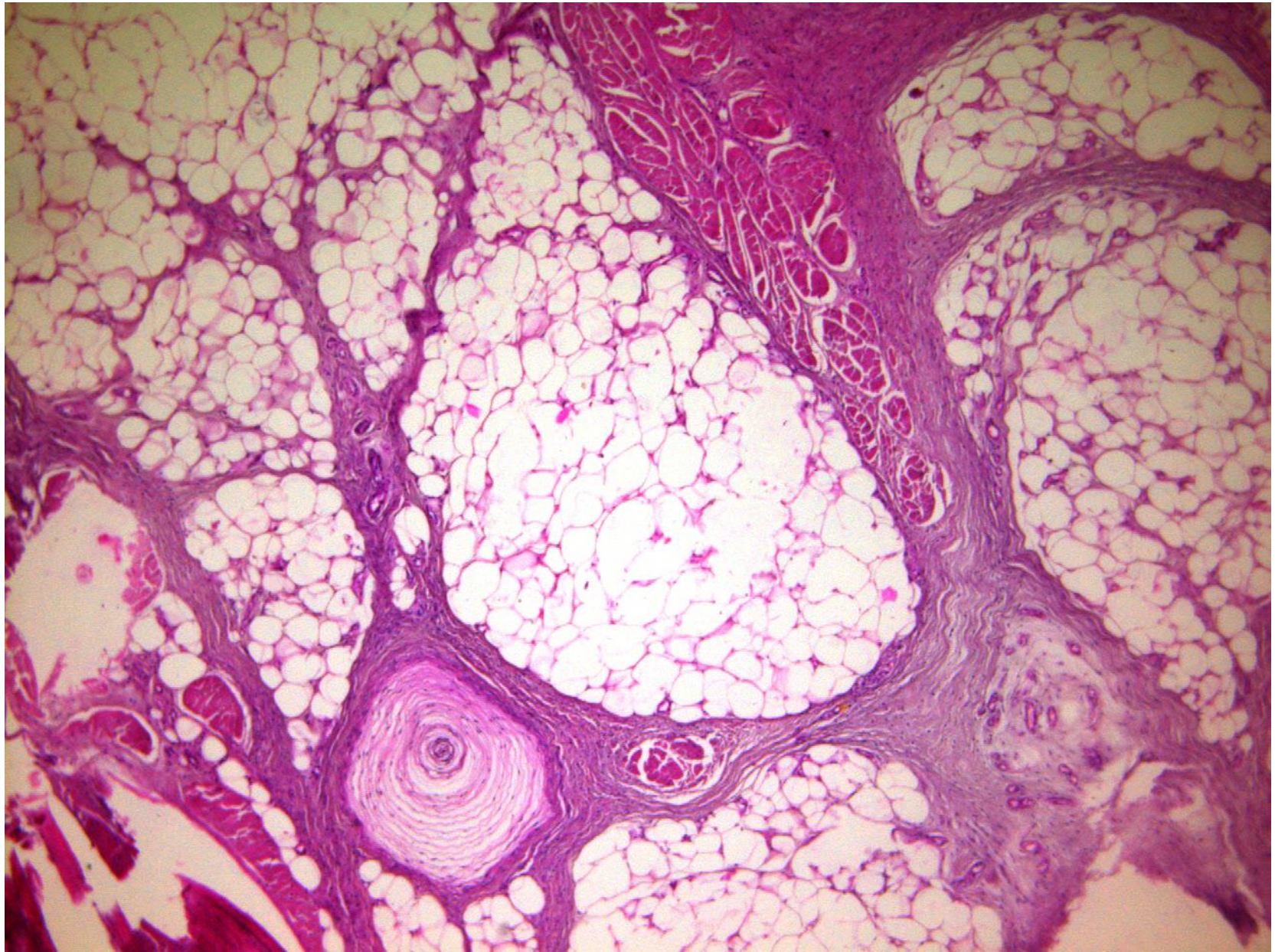


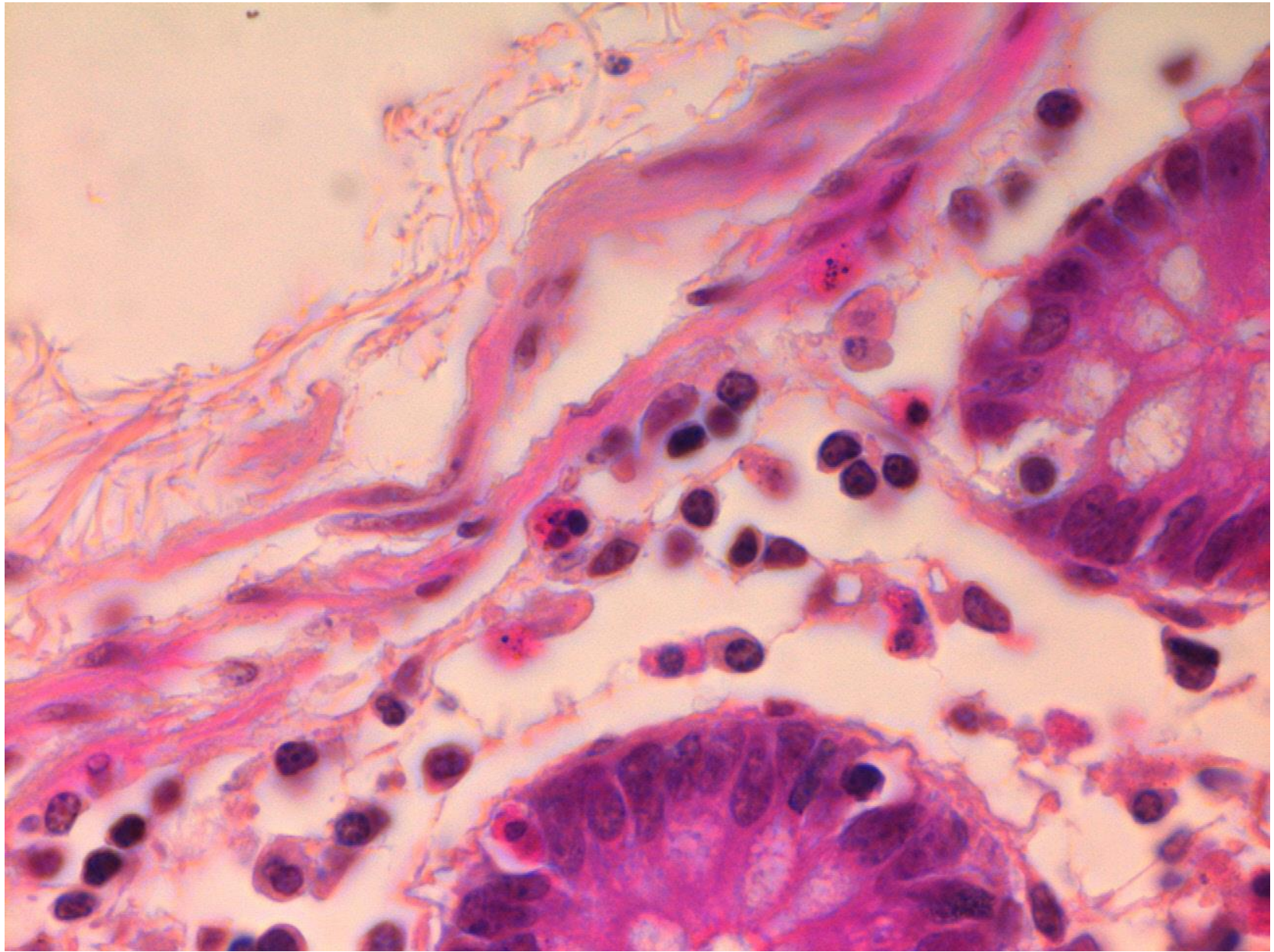
Stain: Hematoxylin-Eosin

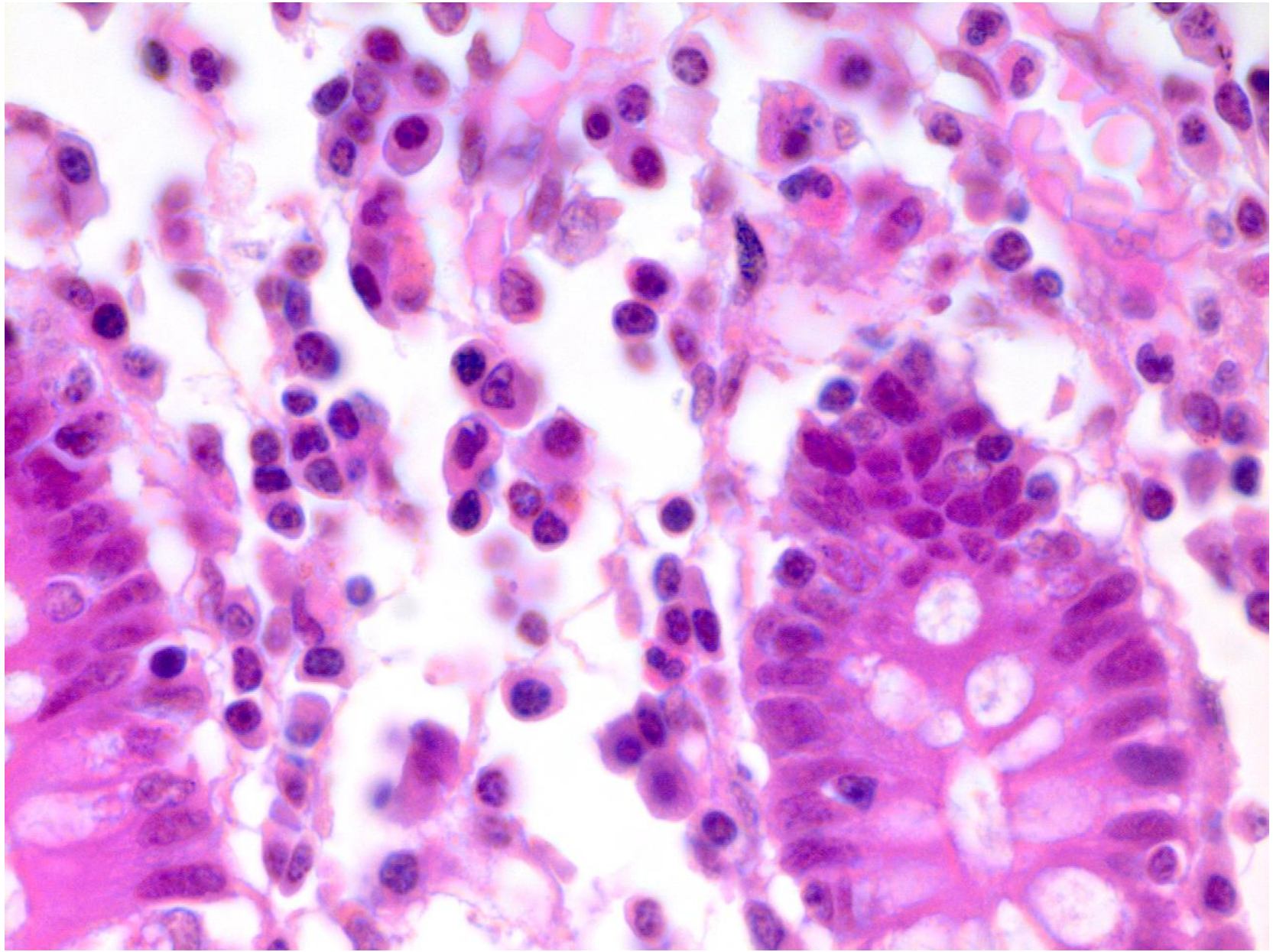


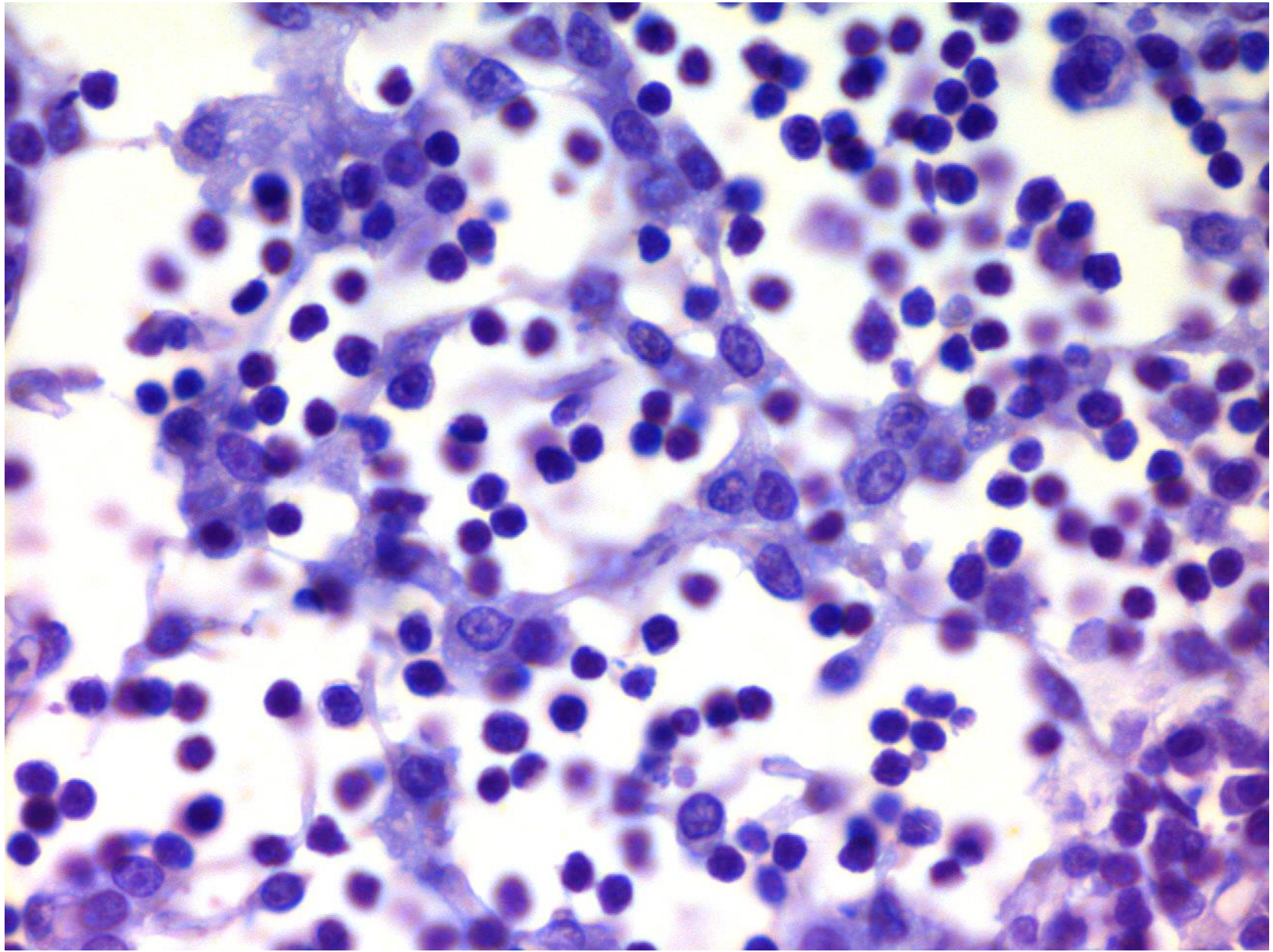
Stain: Mallory Azan

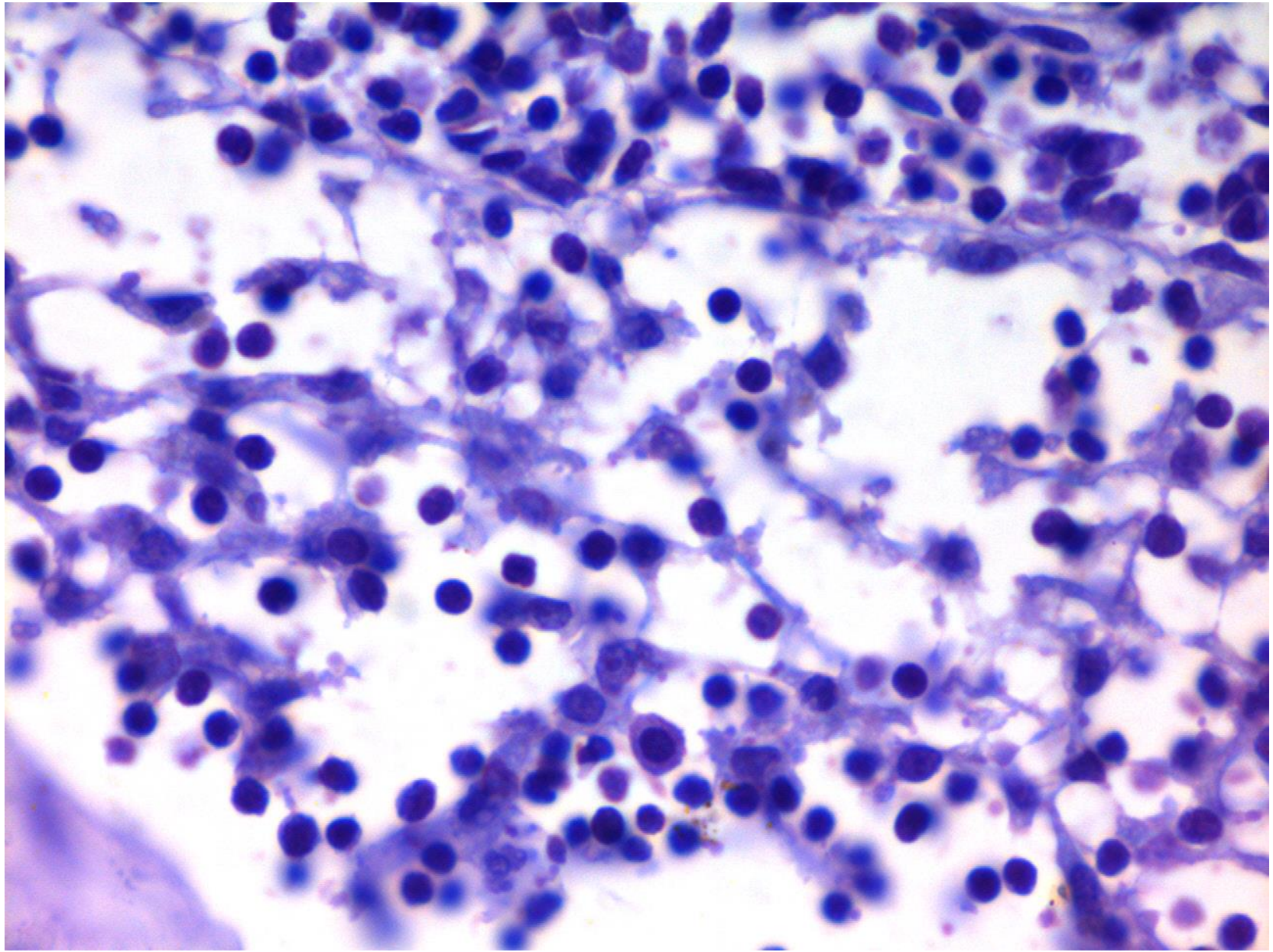


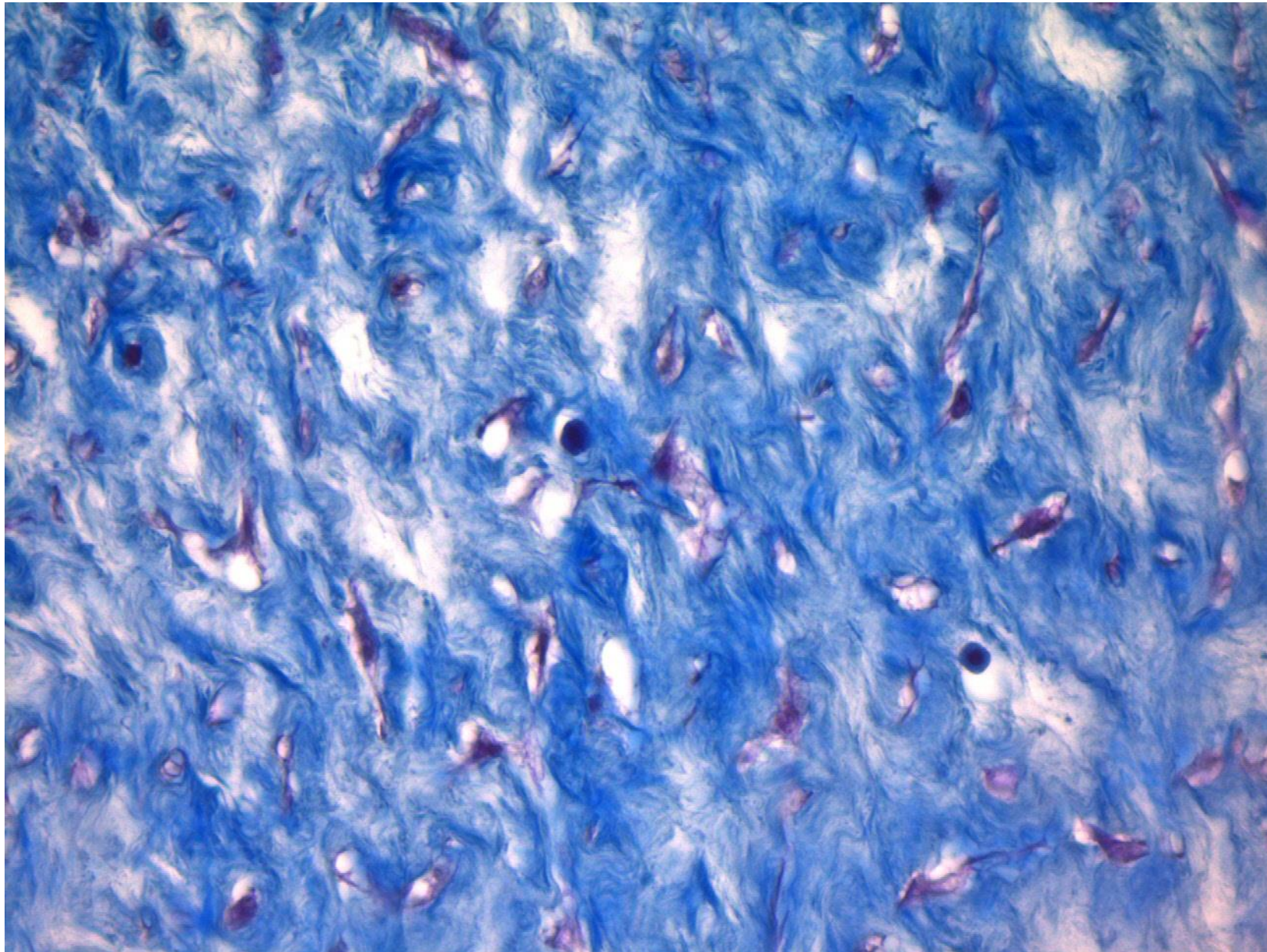






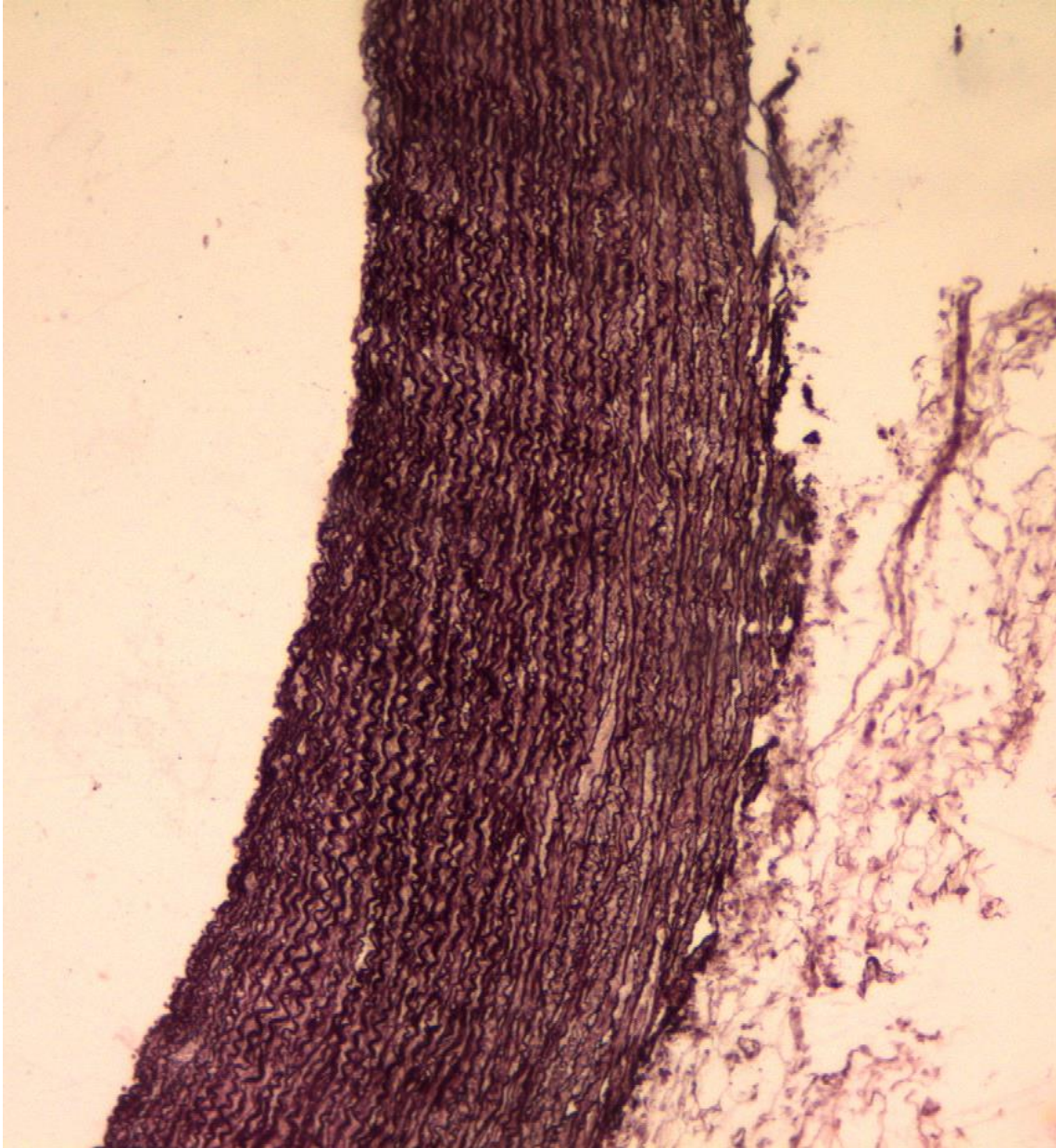


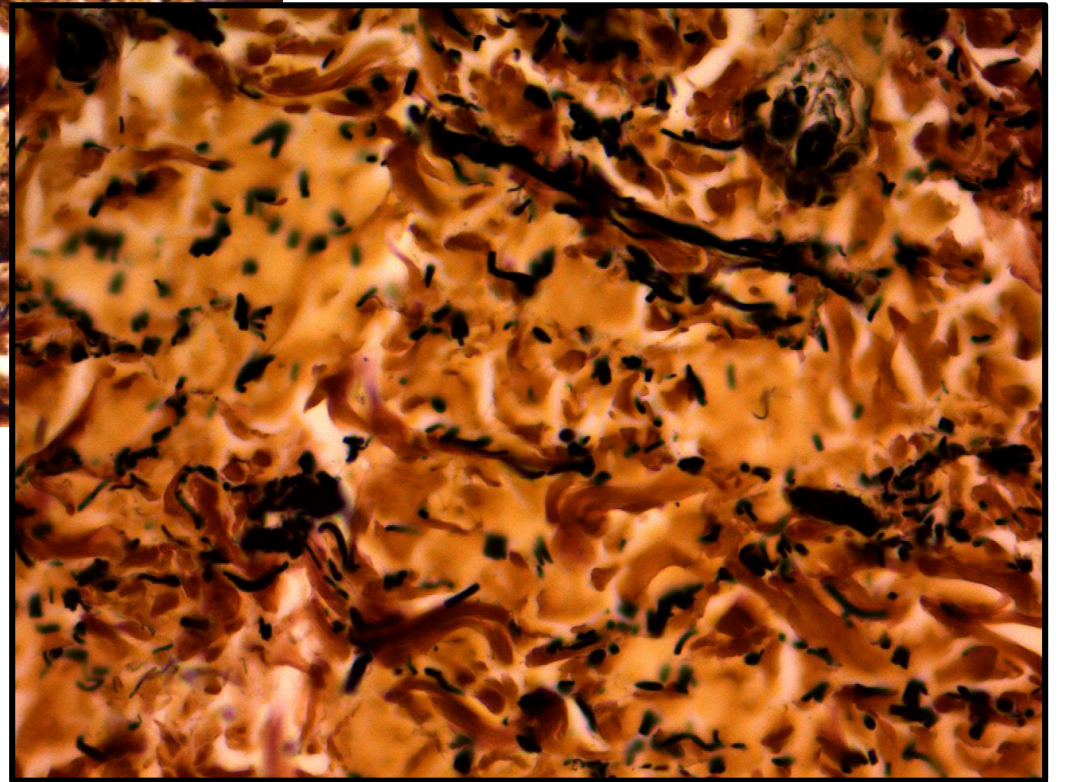
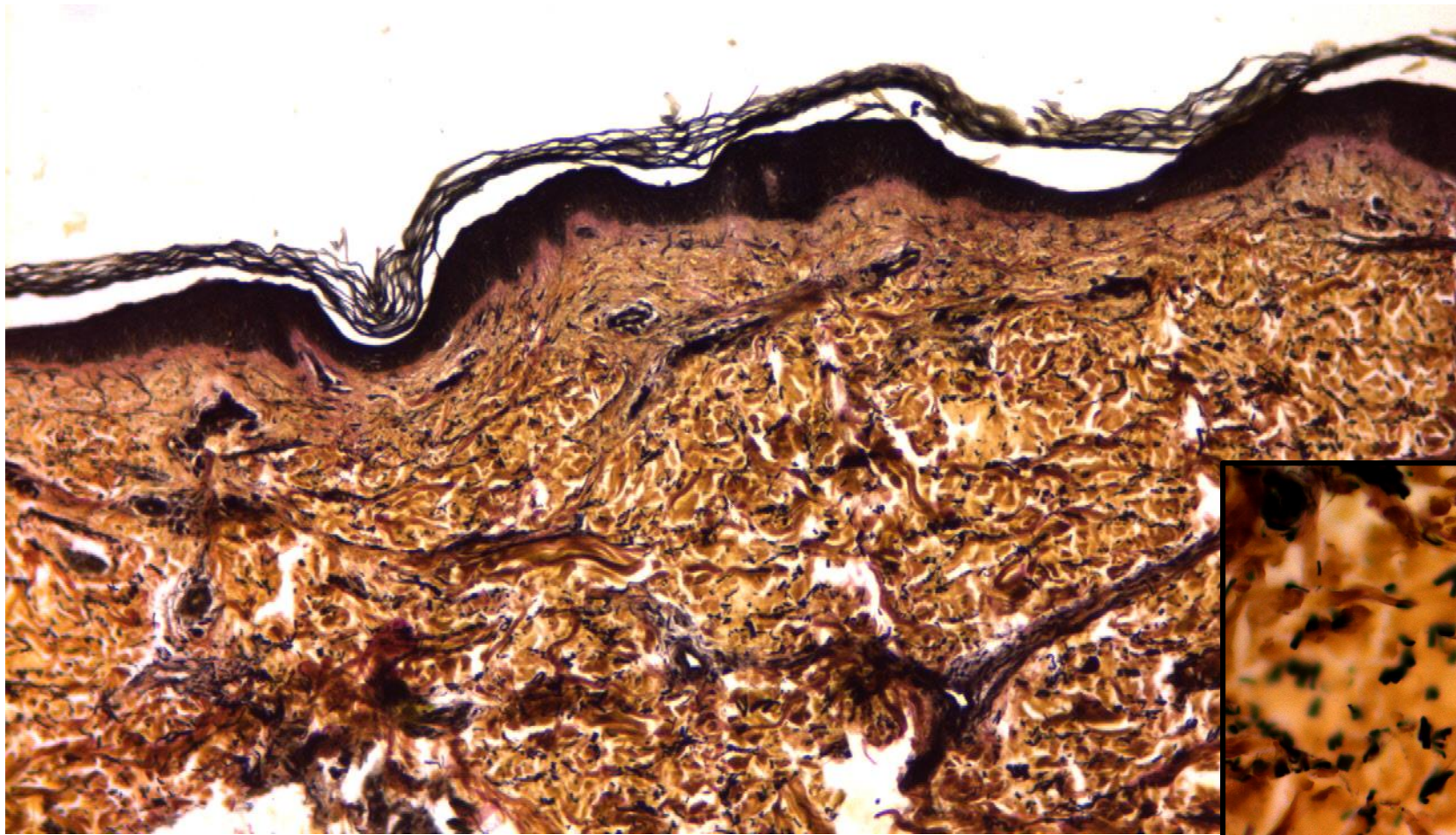




Umbilical cord  
Mallory

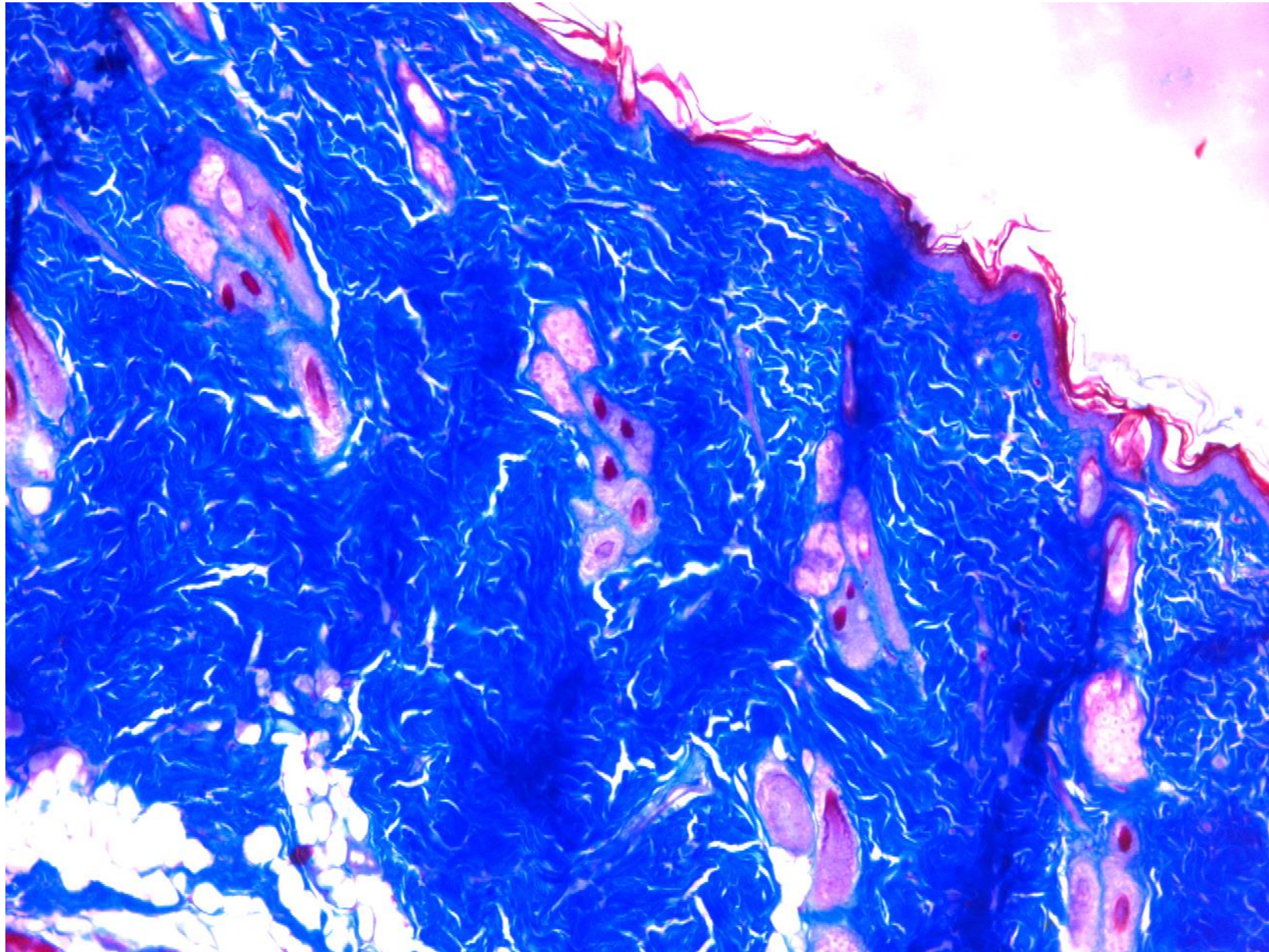
Aorta  
Orcein



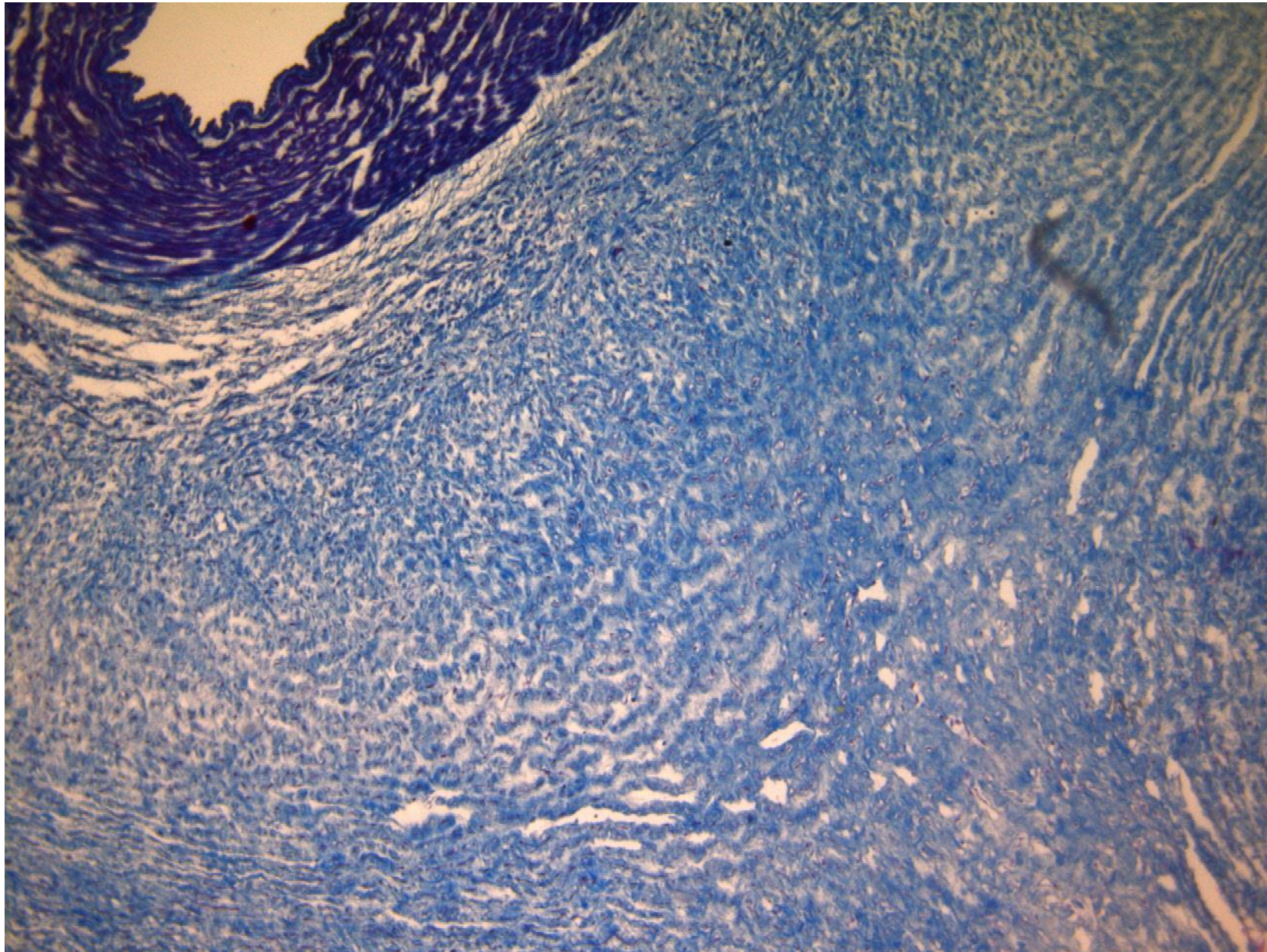


Skin  
Verhoeff

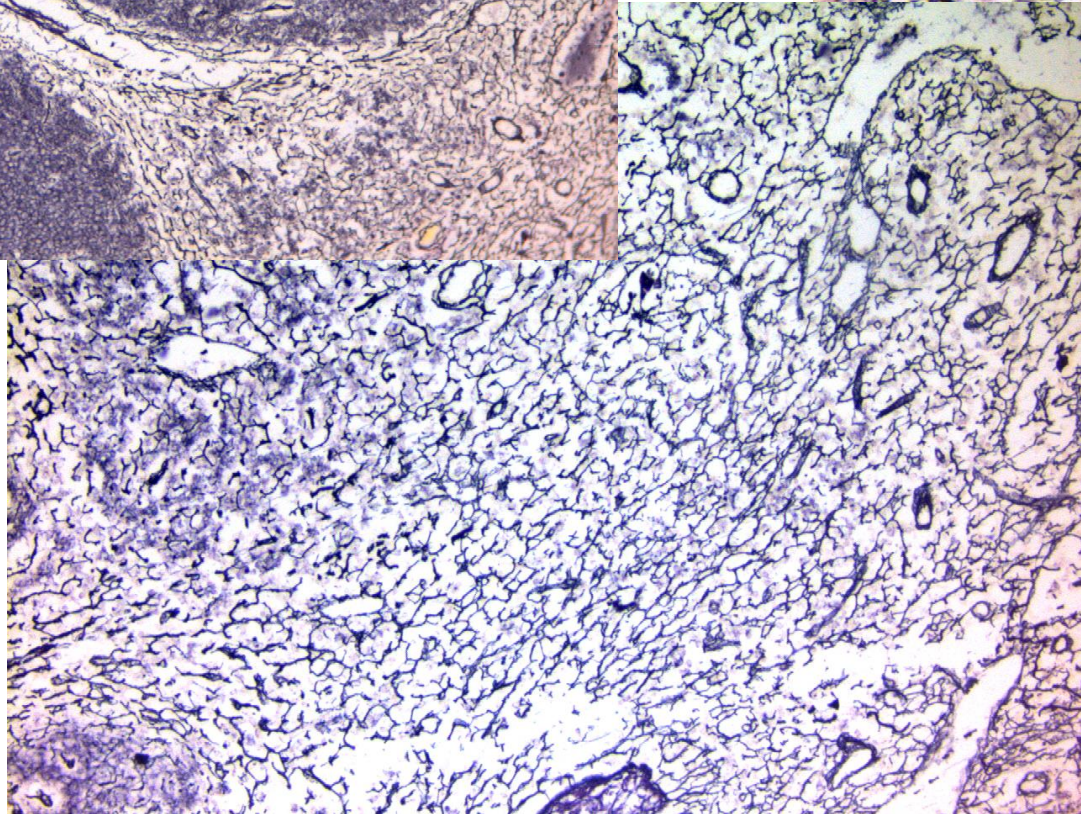
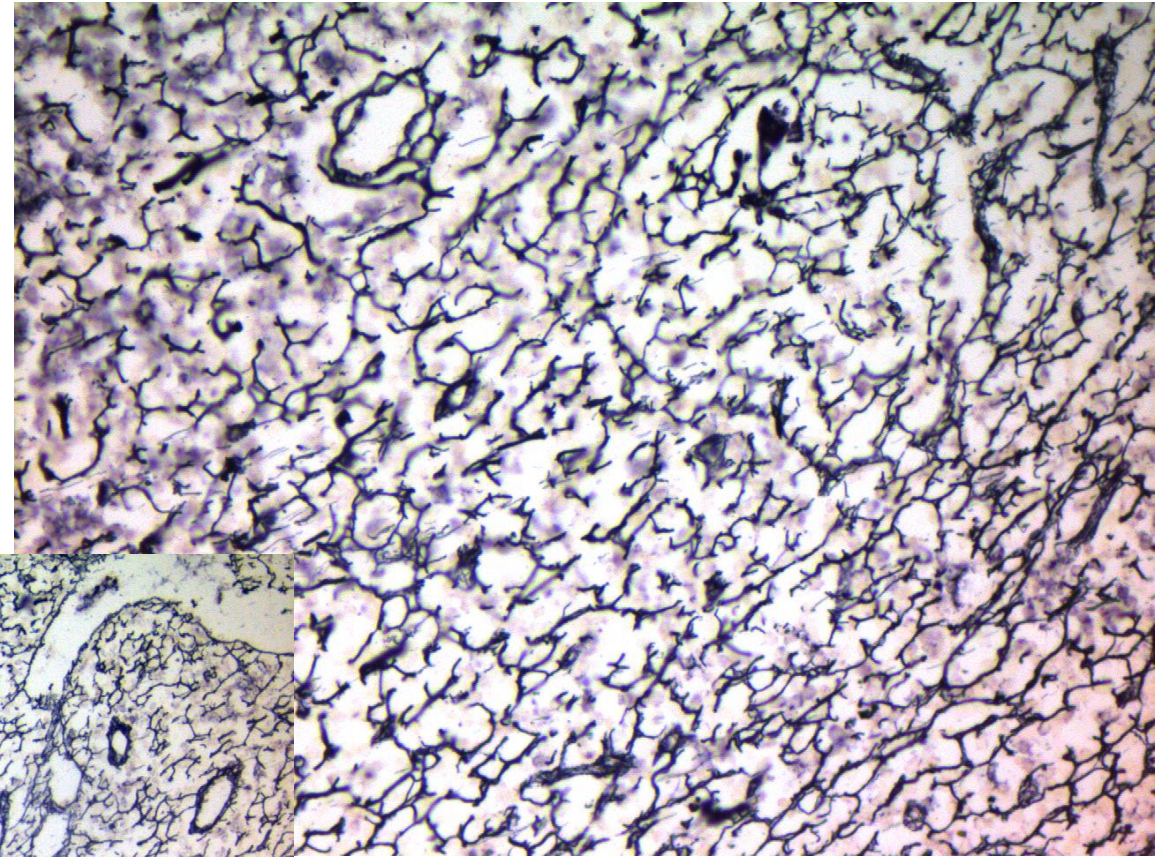
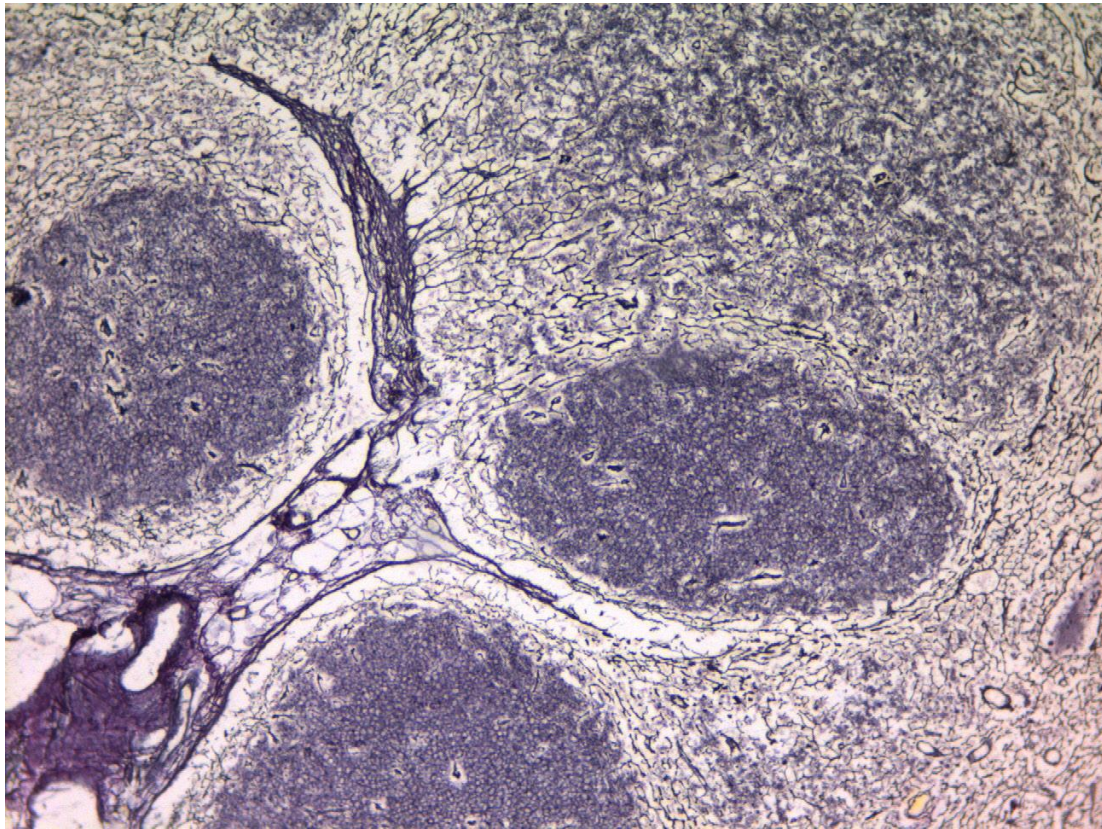




Skin  
Mallory



Umbilical cord  
Mallory



### **Reticular Fibers**

Stain: Silver Impregnation

Organ/Tissue: Lymph

Node