

Pathology lab

Erythema

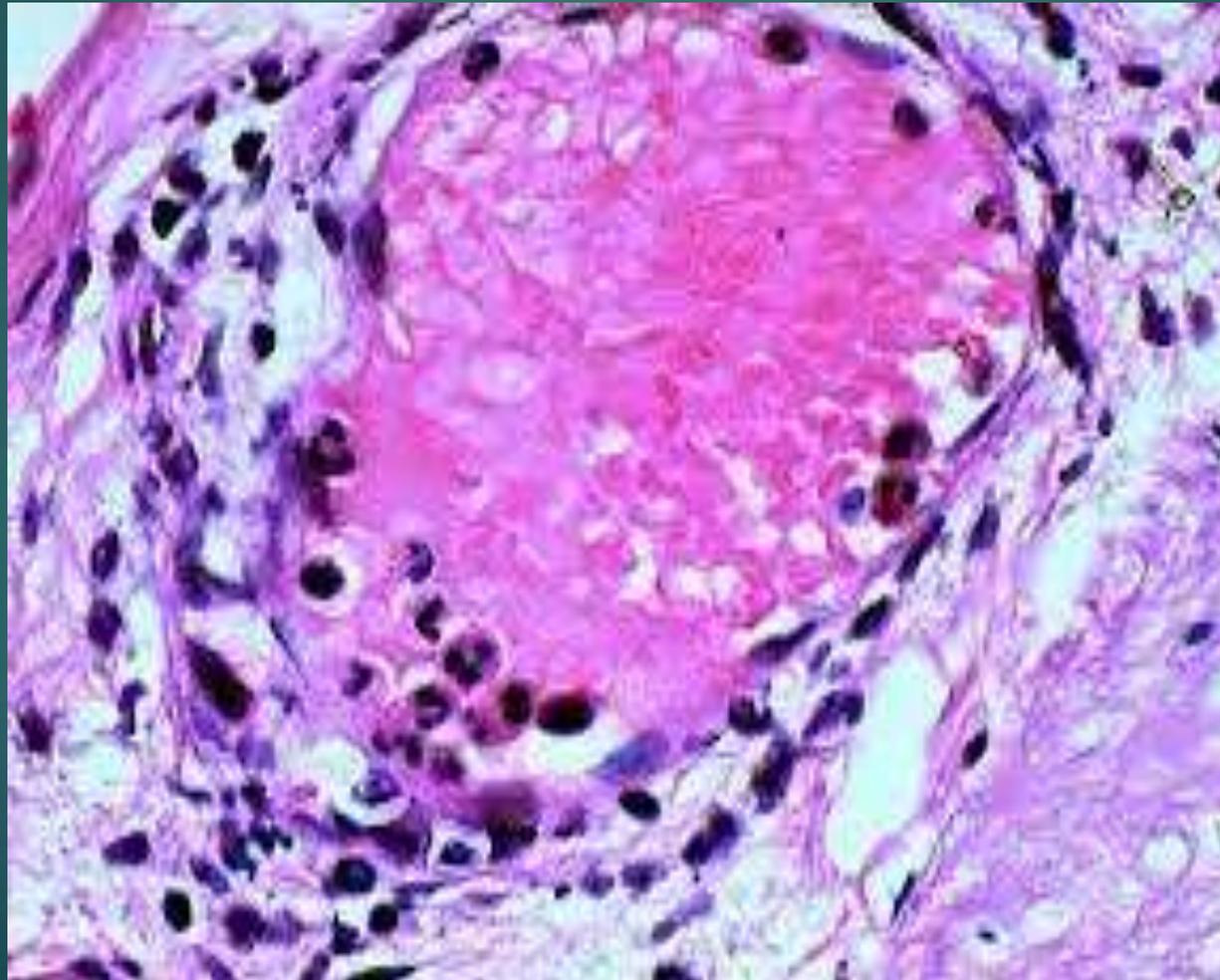


Lymphangitis

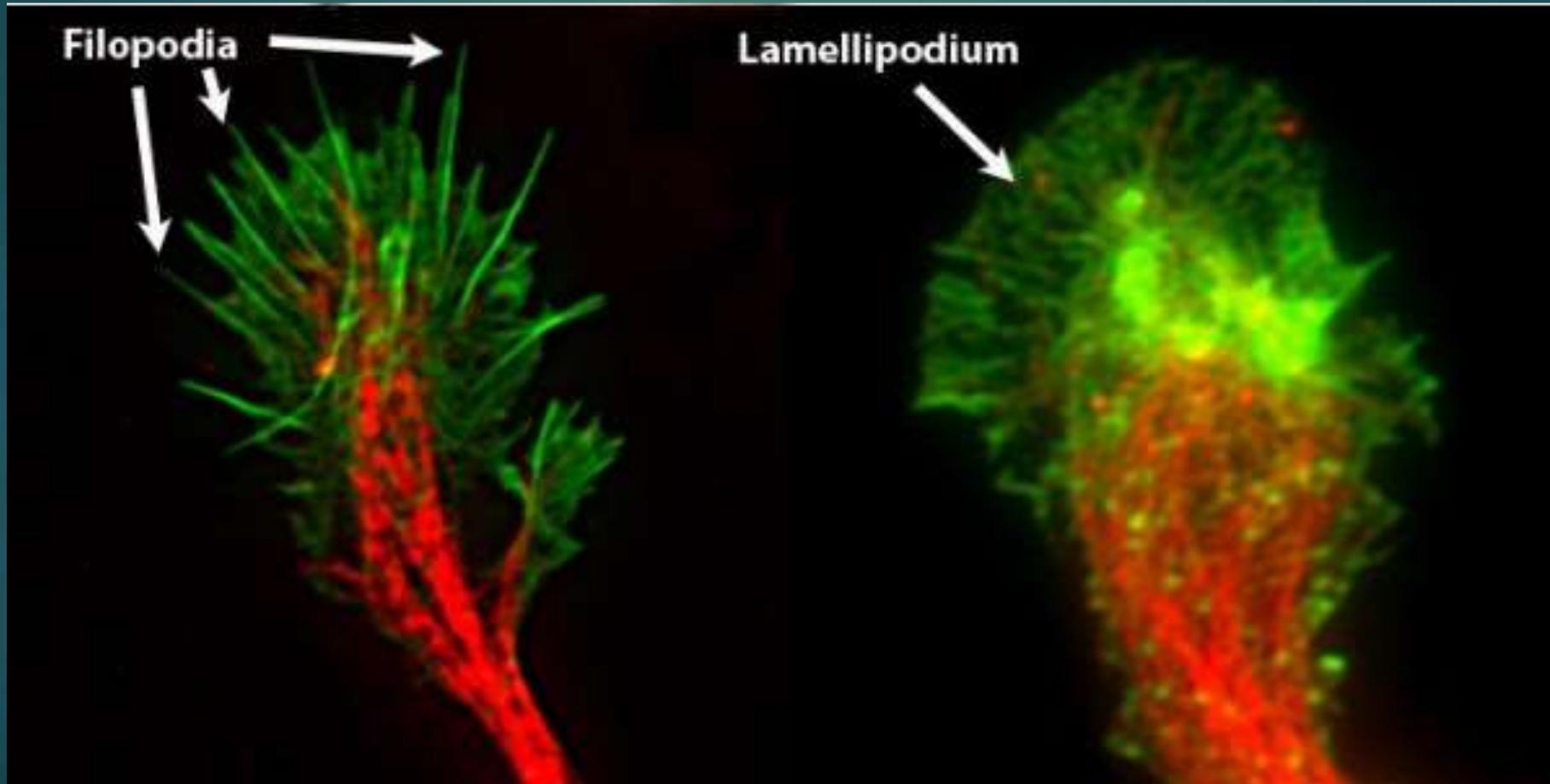
↳ inflammation of
lymphatic vessel



margination



The key difference between lamellipodia and filopodia is that the **lamellipodia** are cytoskeletal actin projections present in the mobile edges of the cells while filopodia are thin cytoplasmic protrusions that extend from the leading edge of the mobile cells

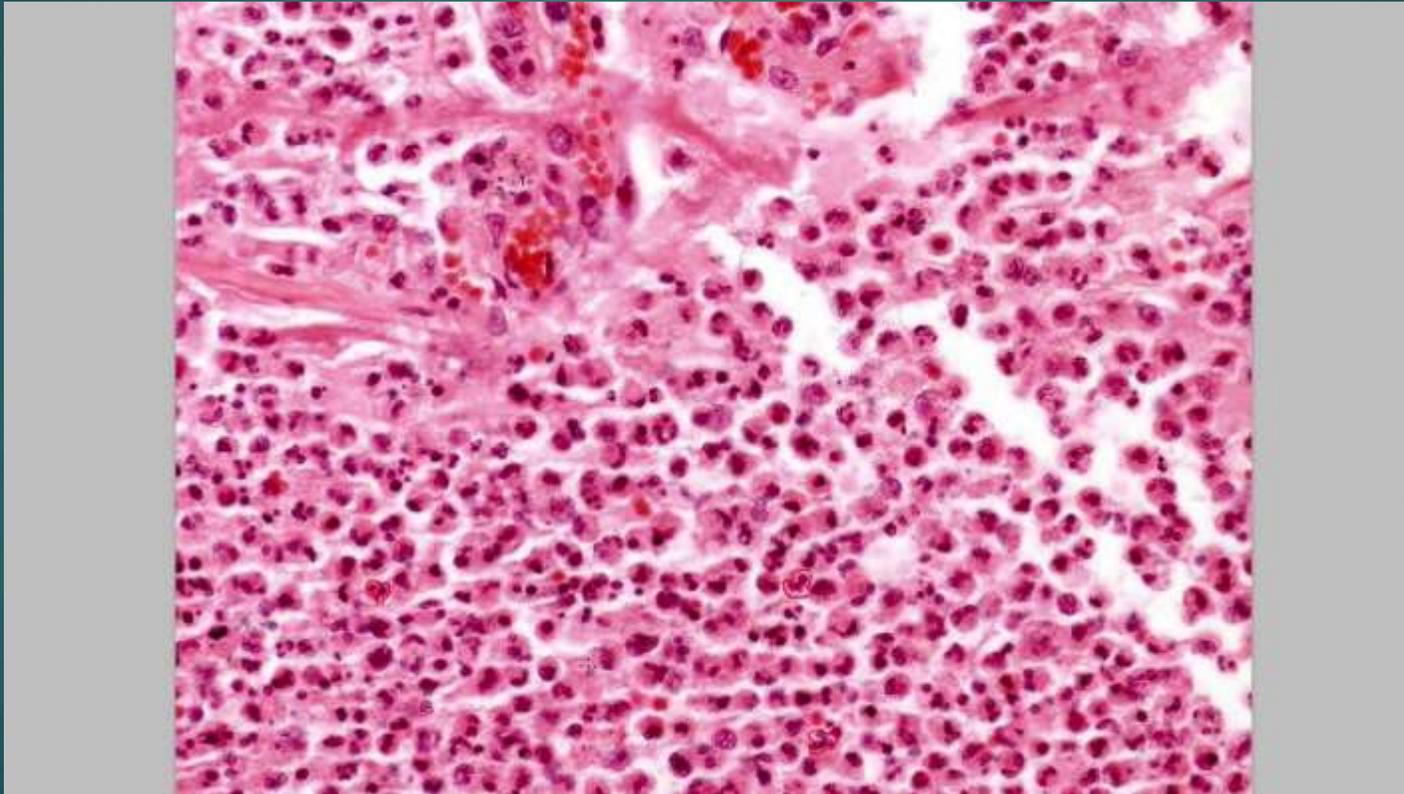


Acute inflammation

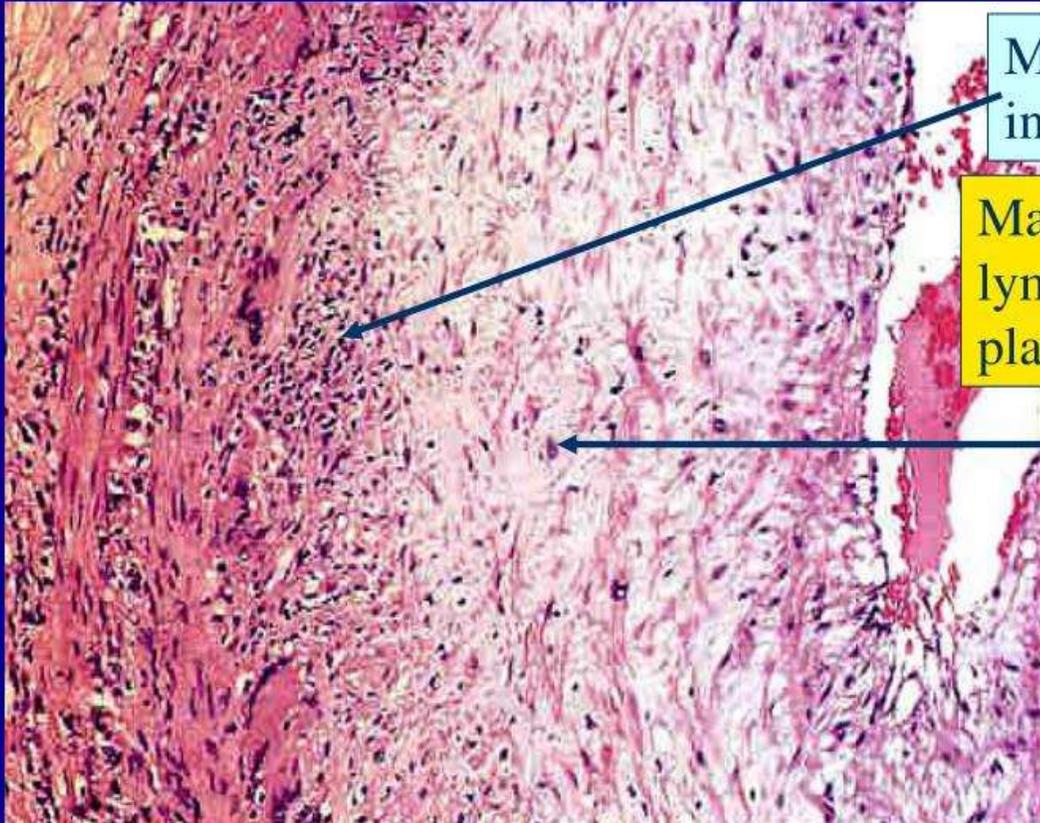
In acute inflammation polymorphonuclear

Q1) neutrophils usually predominate.

Predominant



Histopathology of chronic inflammation

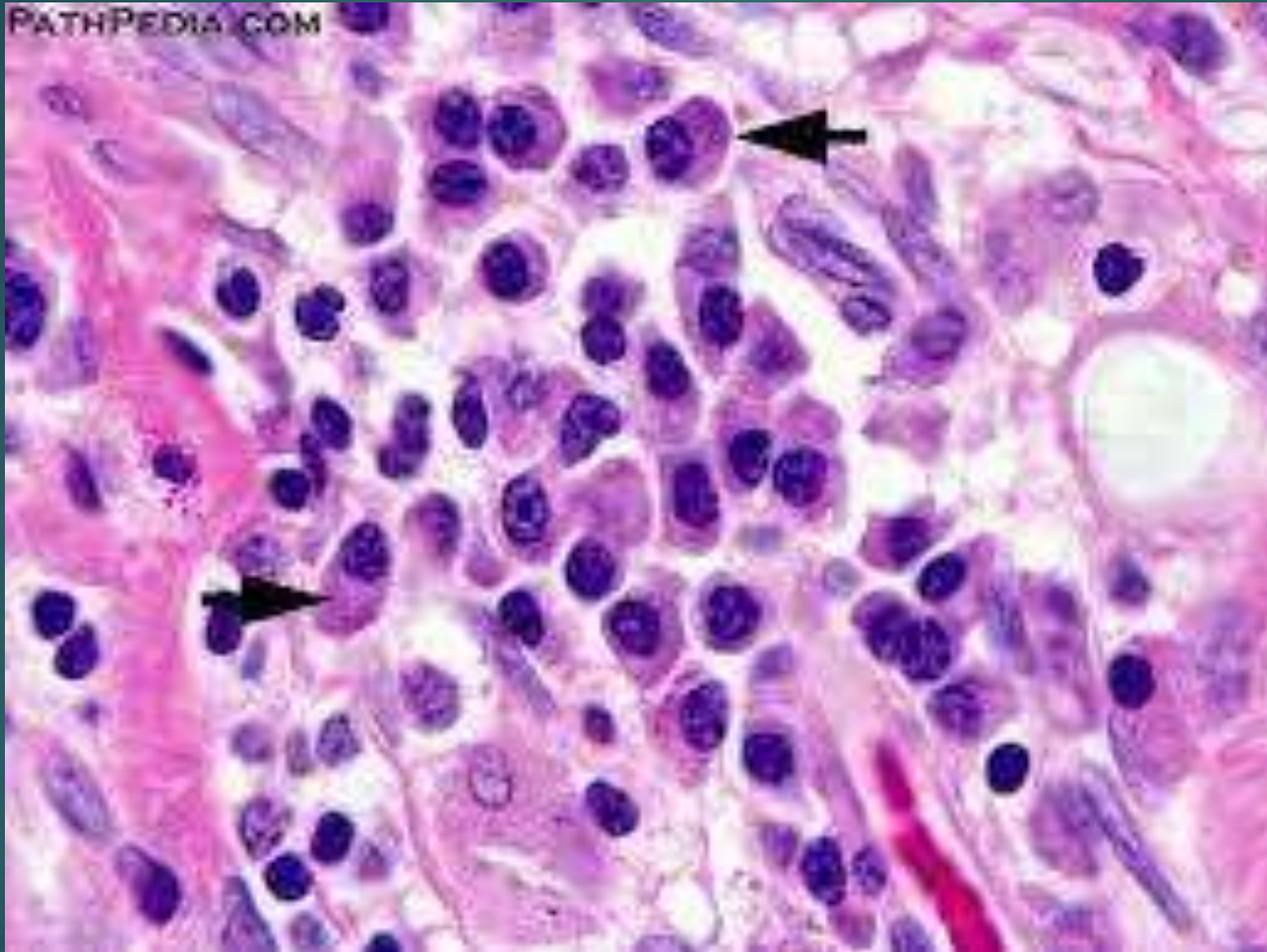


Mononuclear cell infiltration (3 cell types):

Macrophages, lymphocytes, plasma cells

Tissue destruction with replacement of damaged tissue by well-vascularized young fibrous tissue

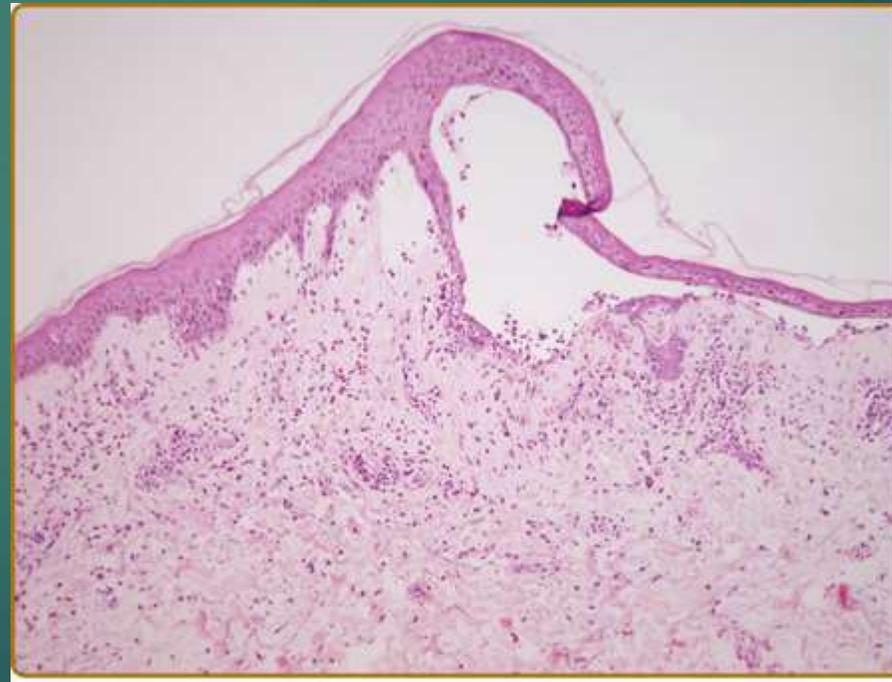
Chronic inflammation



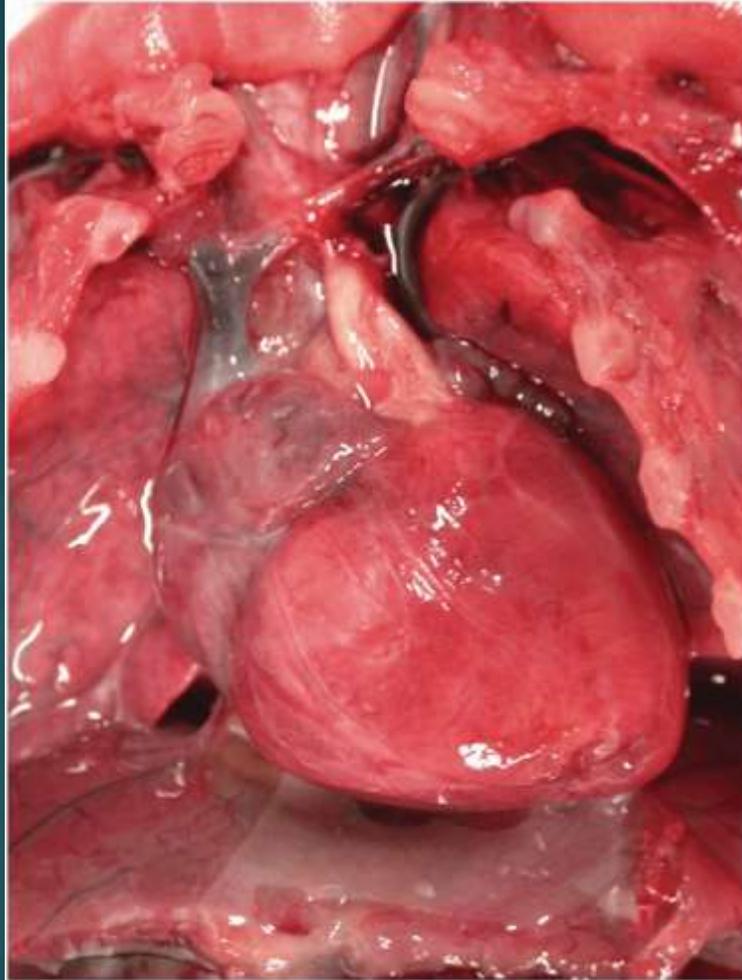
cachexia



Serous Inflammation



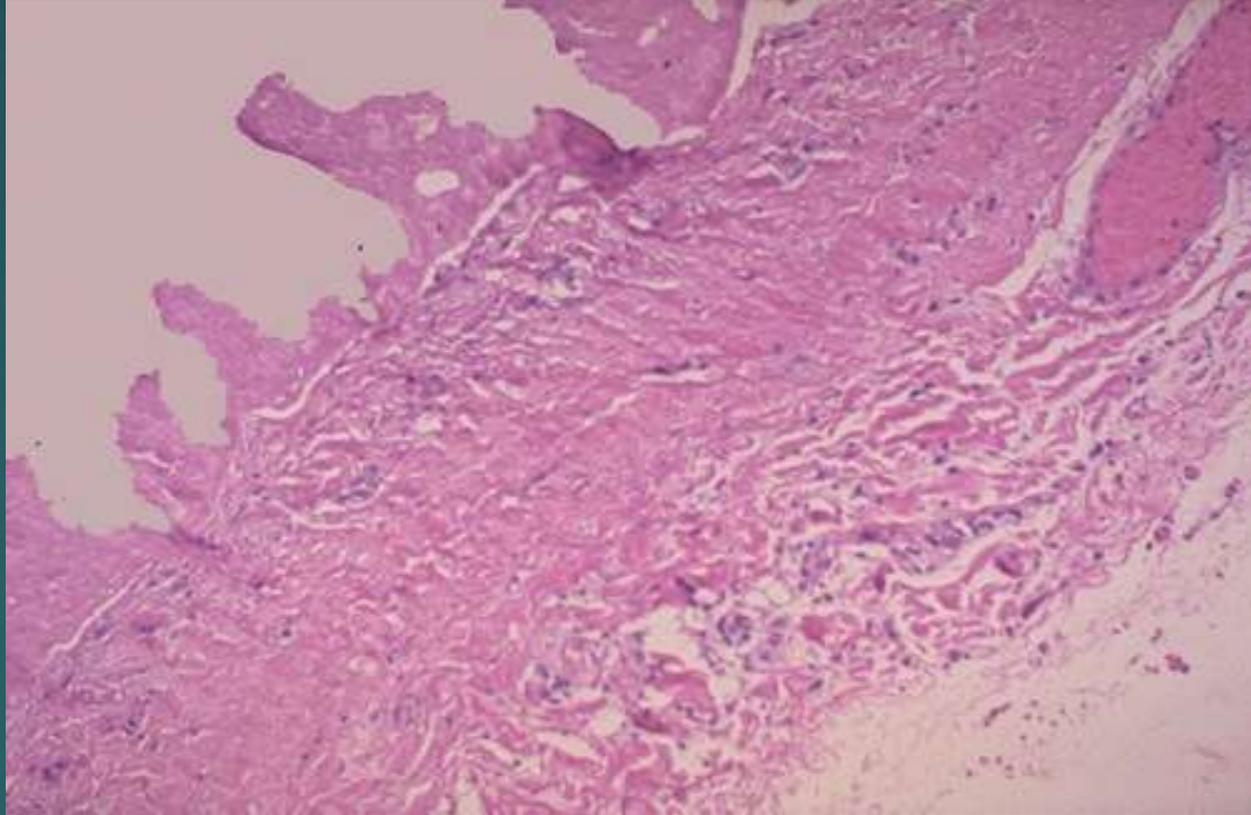
Fibrinous Inflammation



The **pericardial surface** is dry with a coarse granular appearance caused by fibrinous exudate

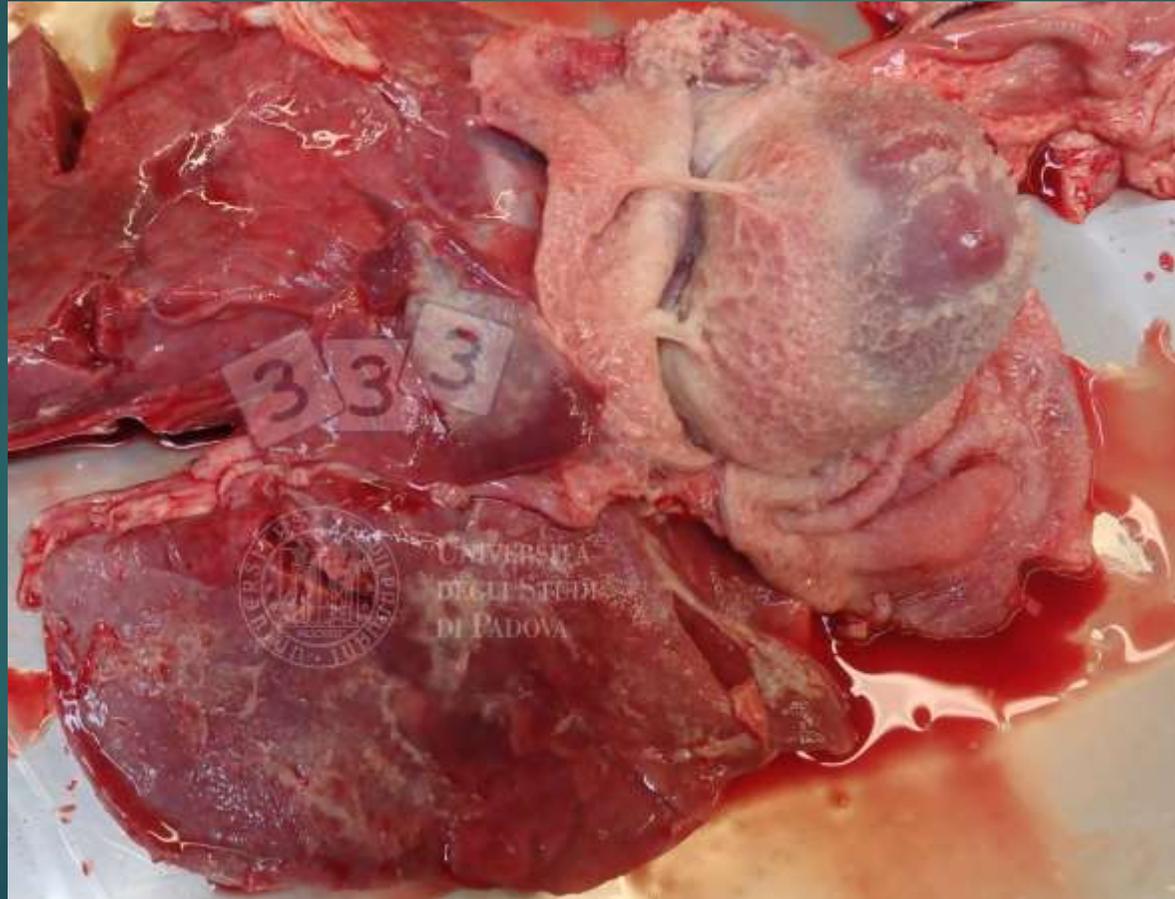
Normally, the visceral **pericardium** is **translucent**

Fibrinous Inflammation



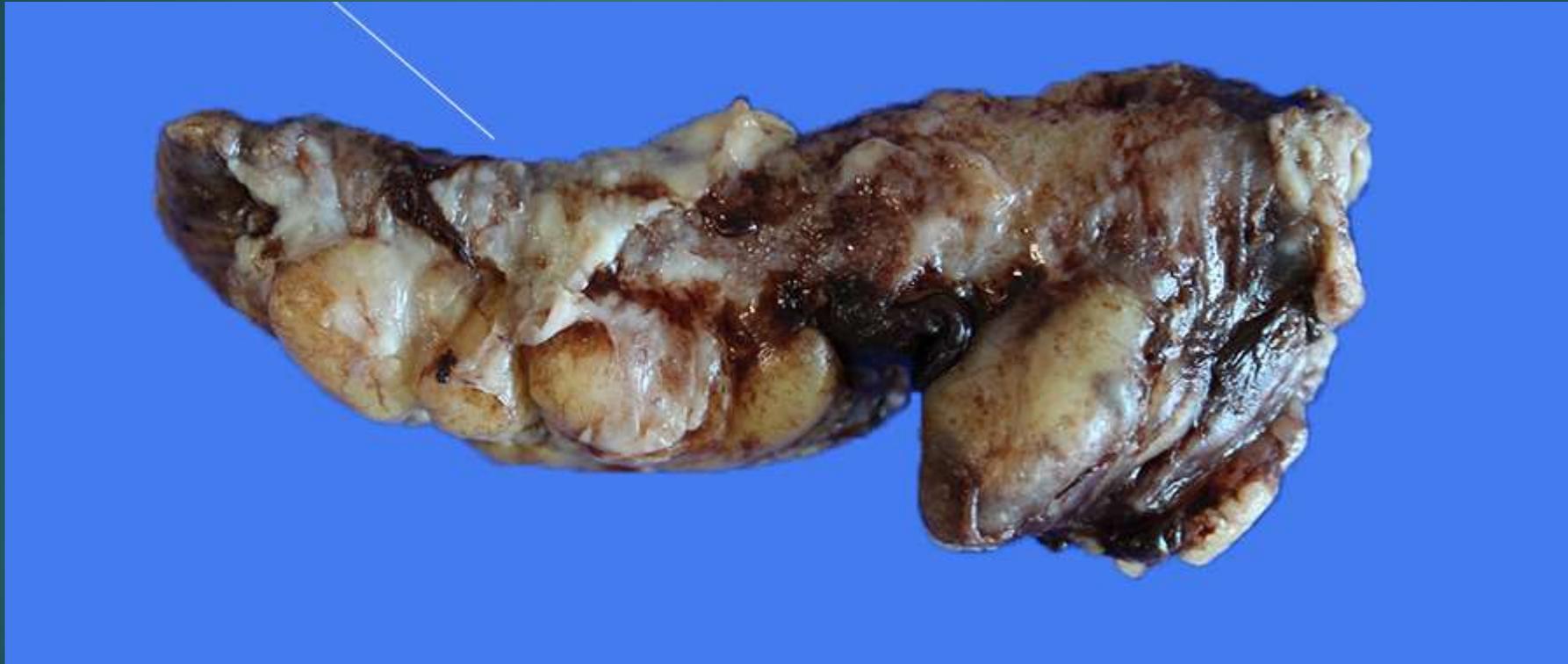
the pericardial surface here shows strands of pink fibrin extending outward. There is underlying inflammation.
fibrin appears as an eosinophilic meshwork of threads

Conversion of the fibrinous exudate to scar tissue (organization) within the pericardial sac



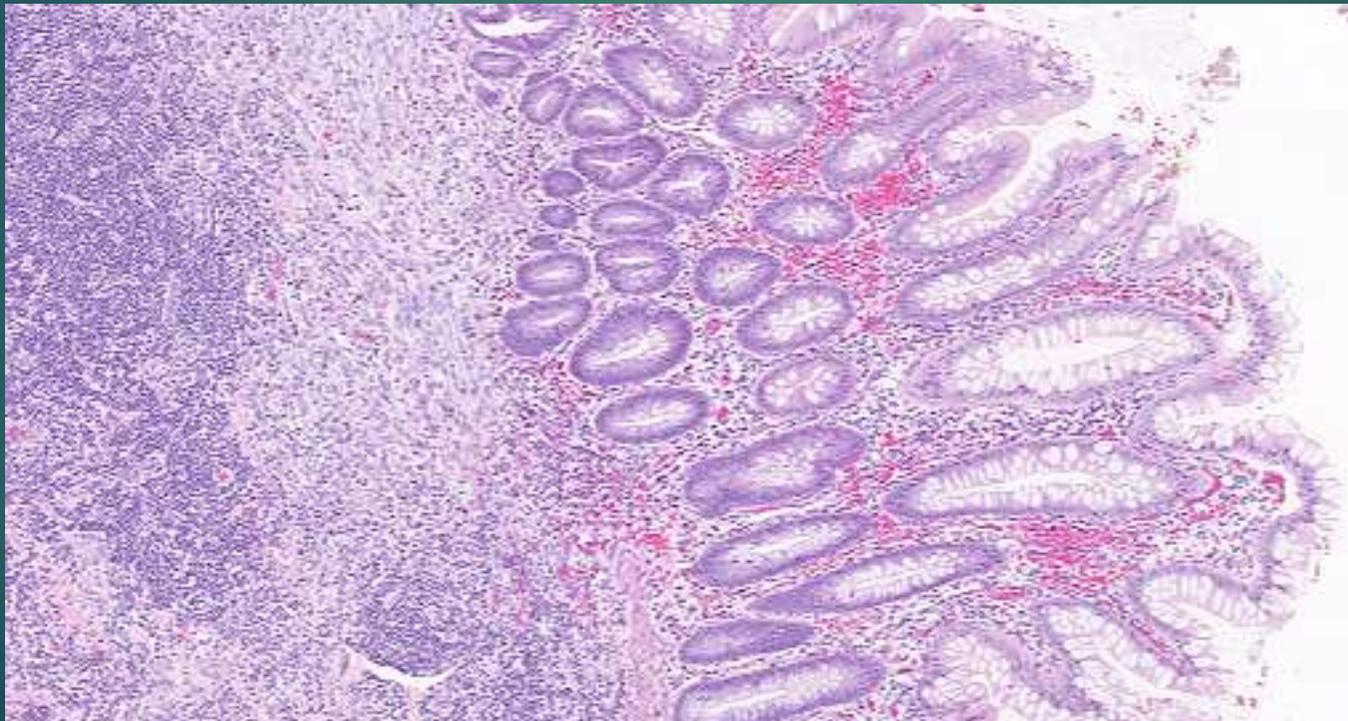
Gross:

Appendix appears swollen and erythematous and a purulent exudate appears



Histology;

Variable acute inflammation with predominance of neutrophils; involves some or all layers of the appendiceal wall.



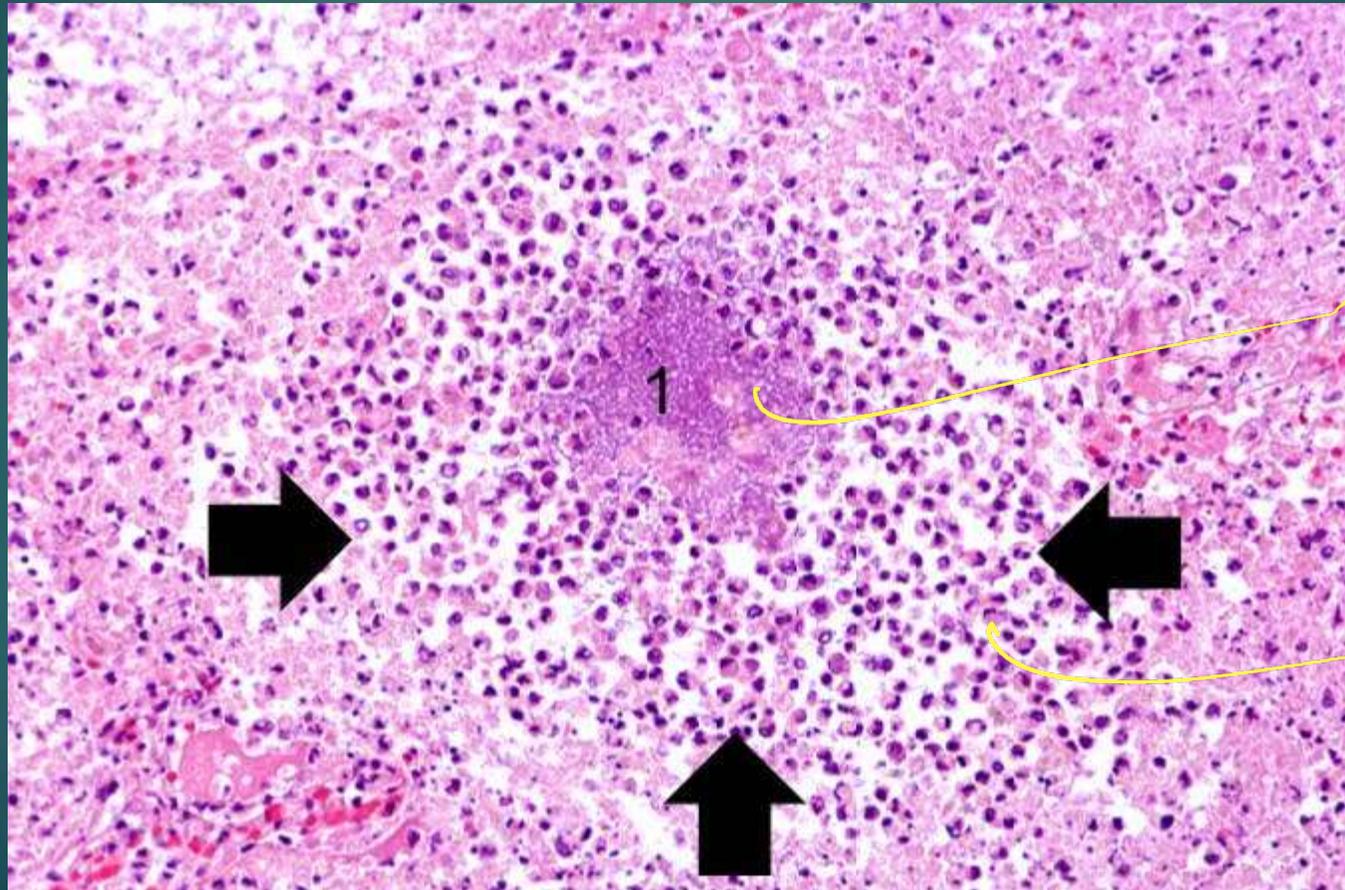
Gross

Variably sized abscesses are distributed randomly throughout all lobes of the liver.



Abscess zones:

1. central region with necrotic leukocytes and tissue cells.
2. zone of preserved neutrophils .
3. outer most zone composed of vascular dilation, parenchymal and fibroblastic proliferation

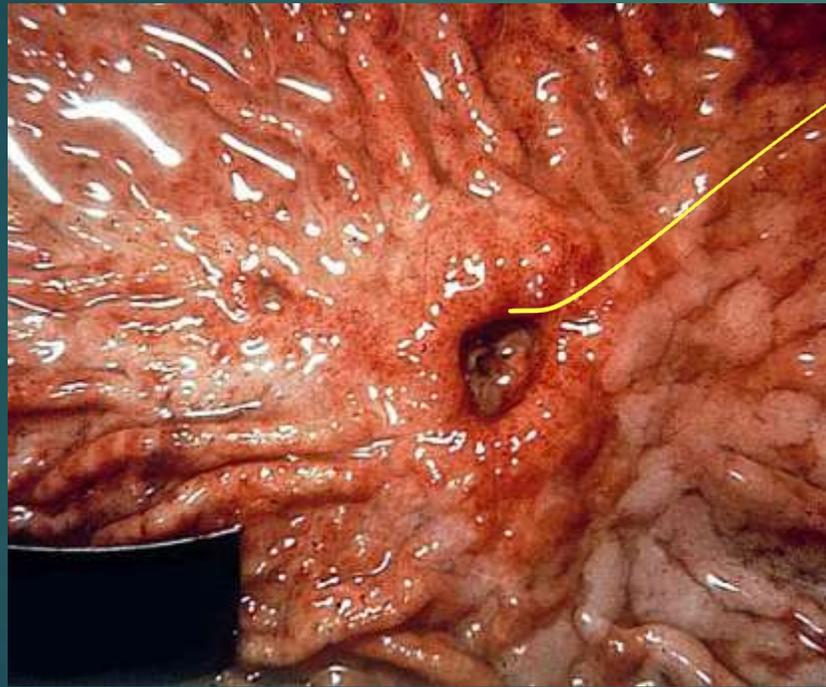


Central zone

Reserved layer
of Neutrophils

Gross

ulcer: An ulcer is a local defect, or excavation, of the surface of an organ or tissue that is produced by the sloughing (shedding) of inflamed necrotic tissue.



stomach



skin

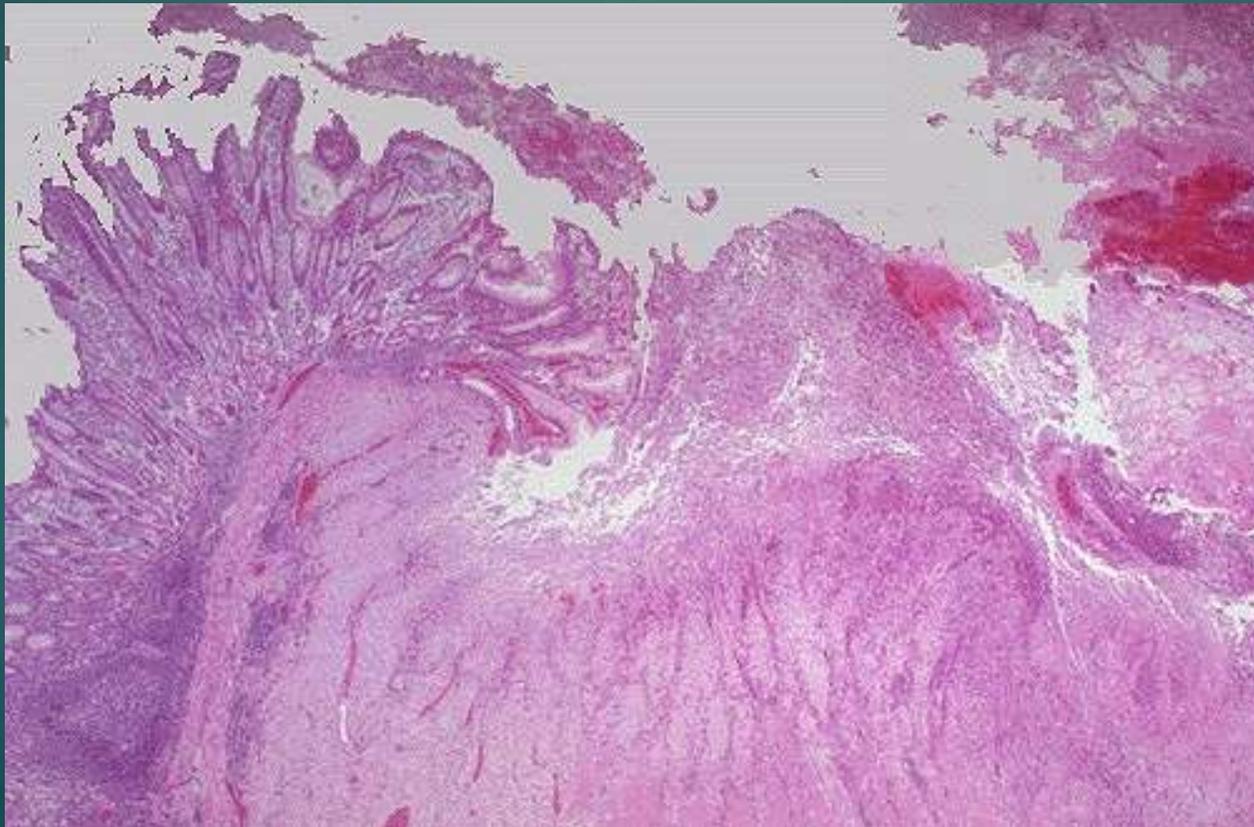
Histology;
acute ulcer:

→
نوع
عدي
Neutrophils

intense polymorphonuclear infiltration and vascular dilation in the margins of the defect.

Chronic ulcer:

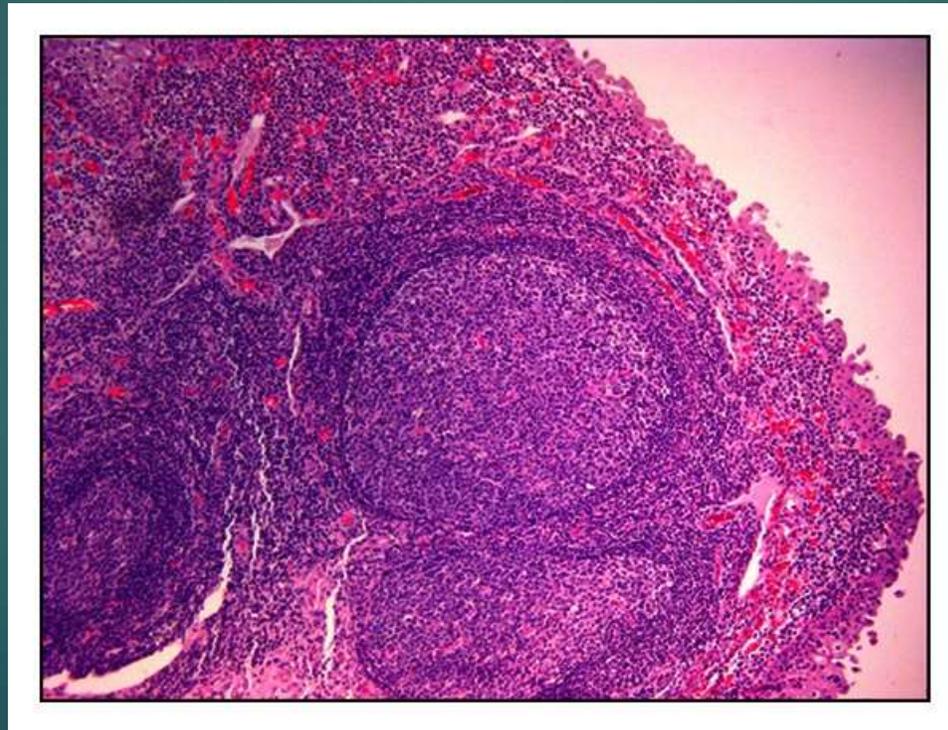
the margins and base of the ulcer develop fibroblast proliferation, scarring, and the accumulation of lymphocytes, macrophages, and plasma cells.

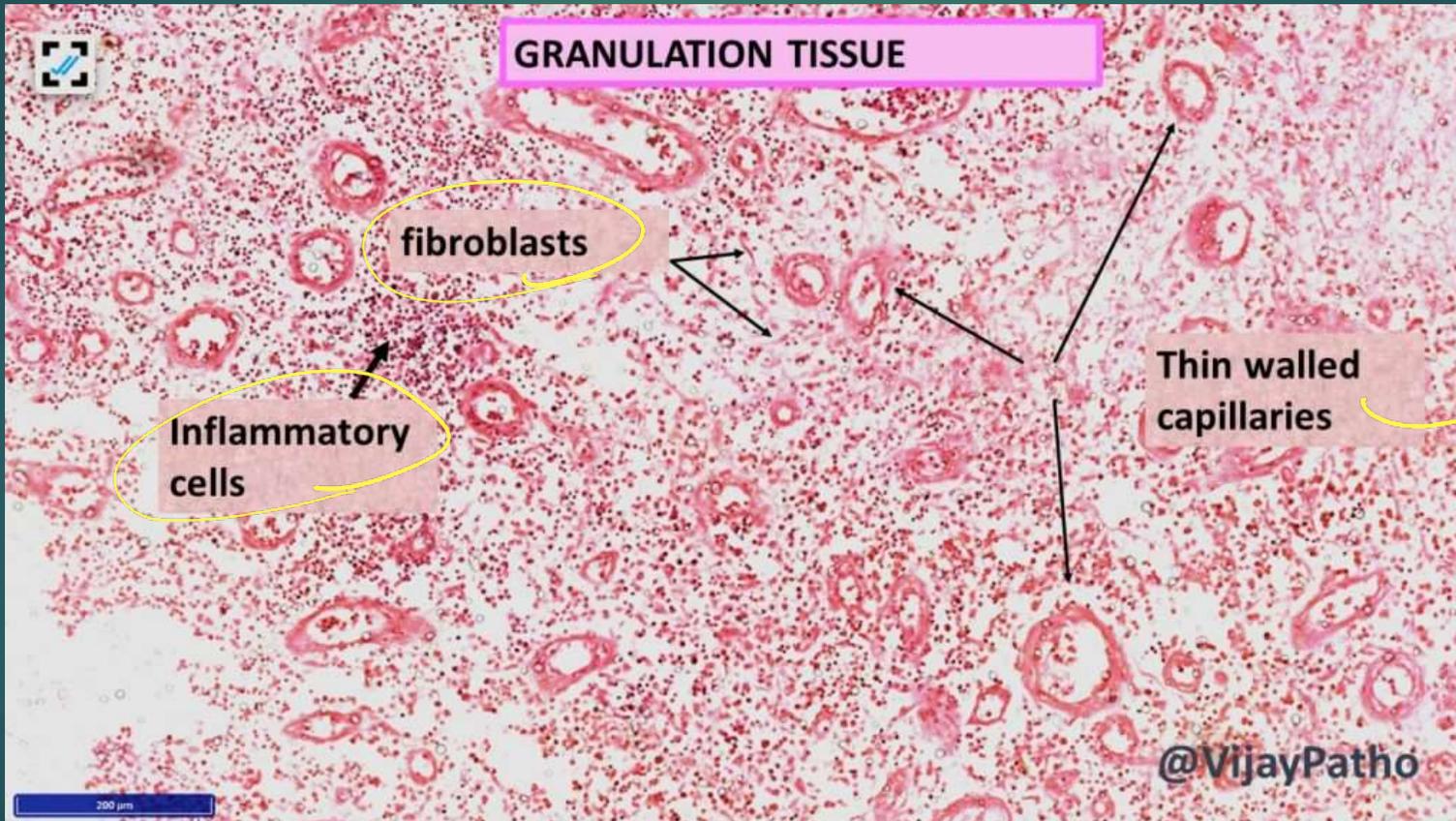


و.س.ع
Tertiary lymphoid organs:

definition, examples:

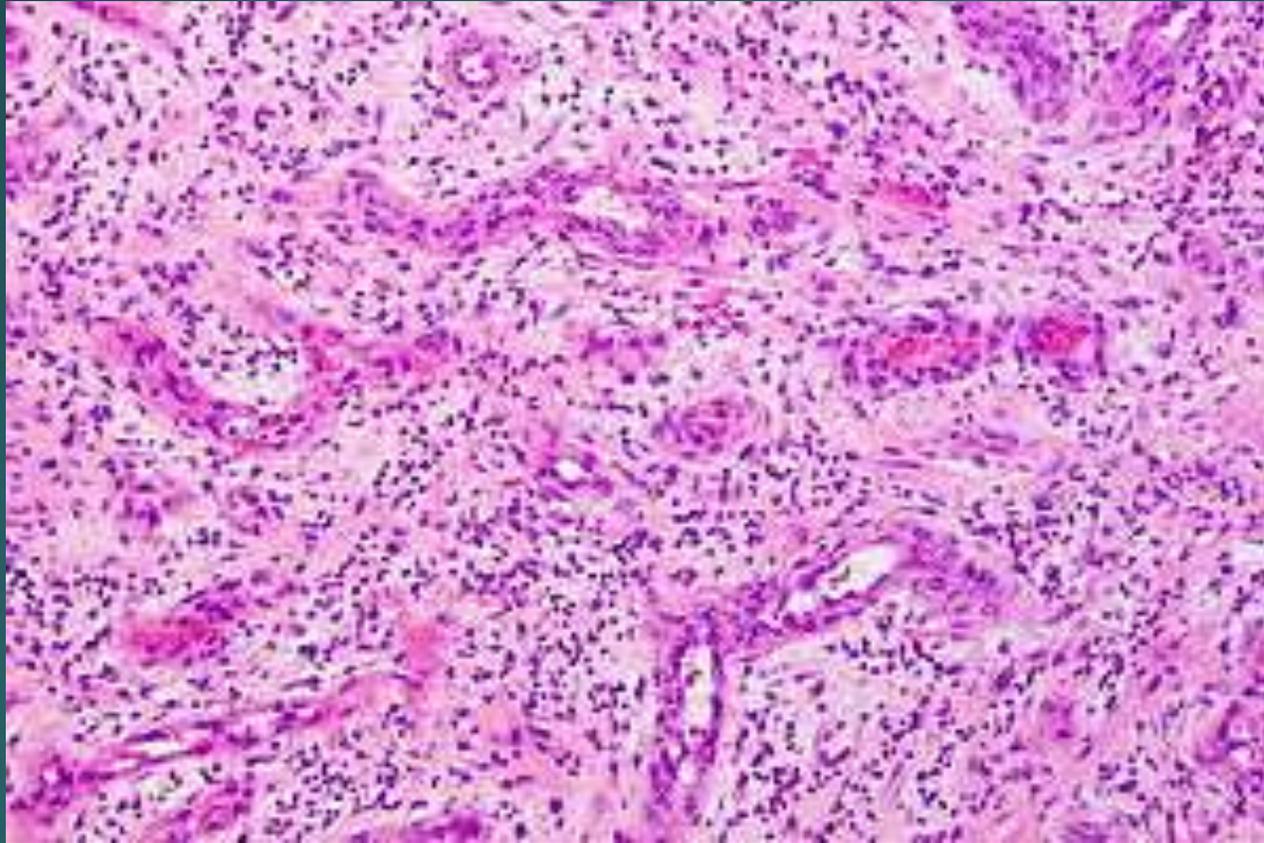
Hashimoto thyroiditis, Helicobacter pylori gastritis



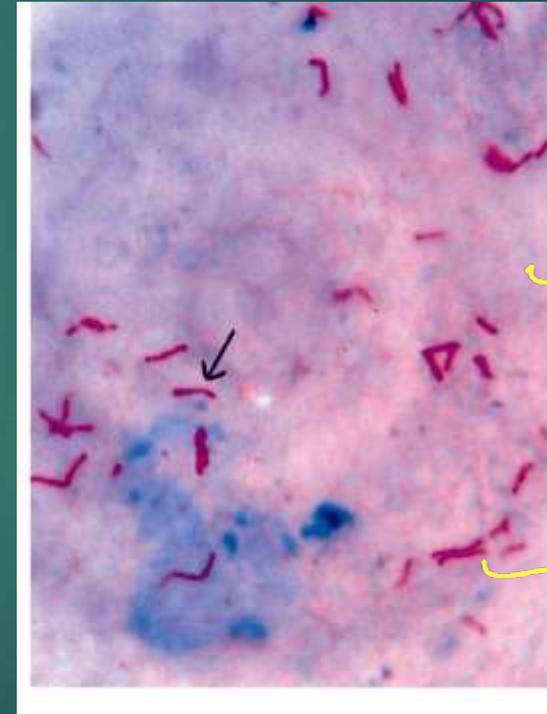
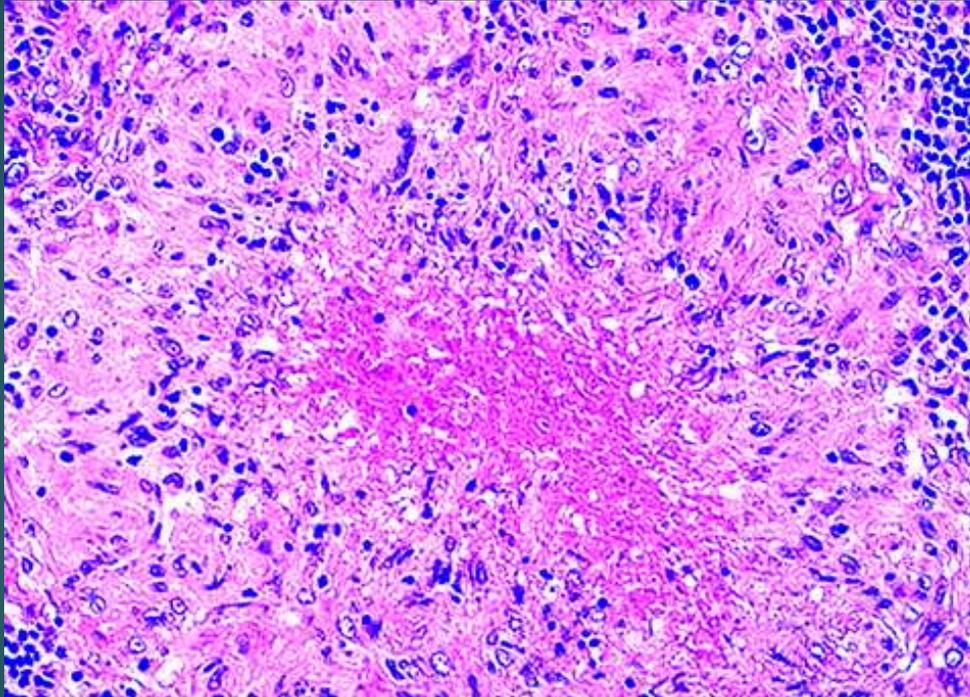


vascular changes

Granulation tissue



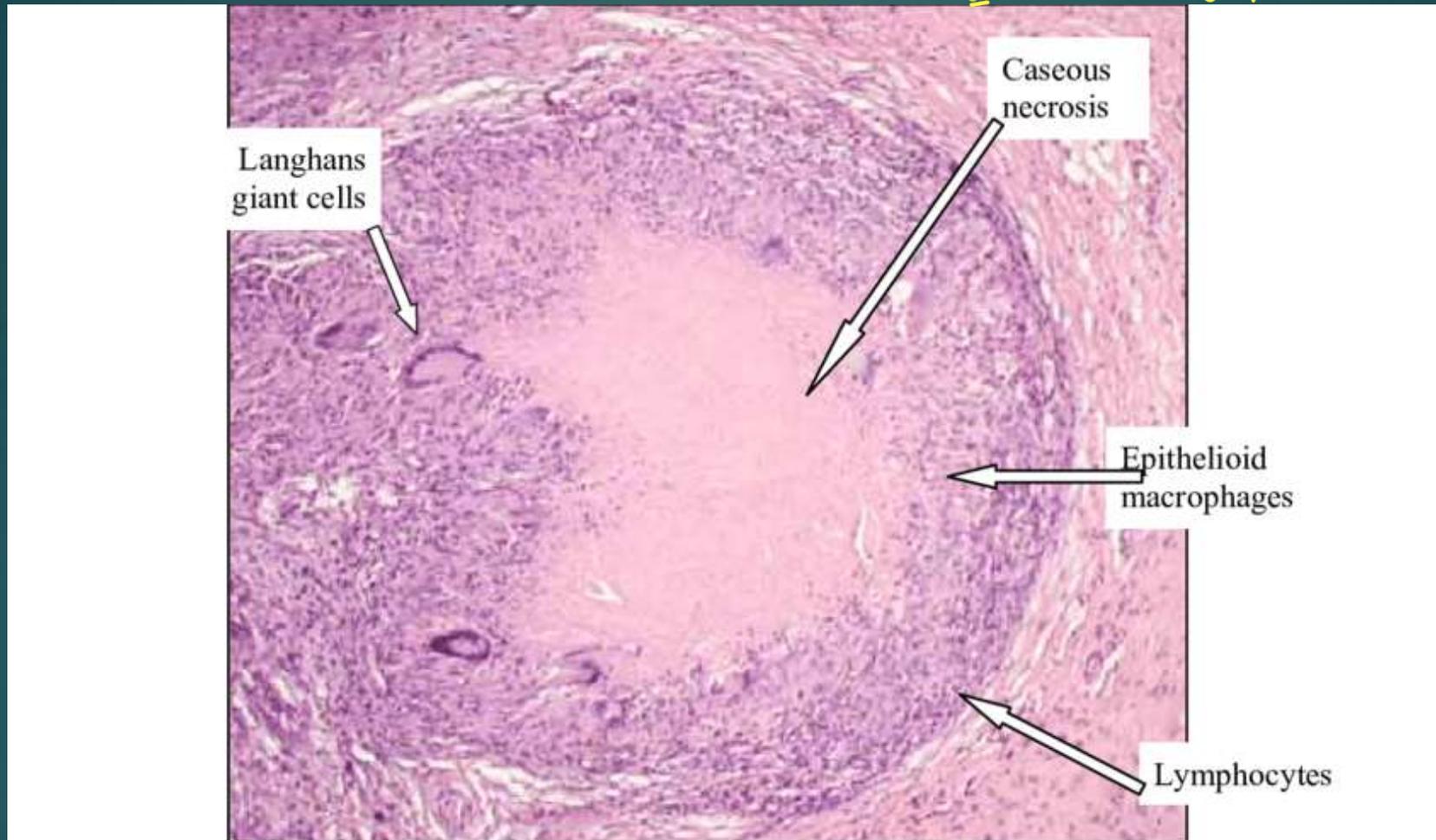
Granuloma formation is a cellular attempt to contain an offending agent that is difficult to eradicate



→ Ziehl stain

→ Acid Fast bacilli

تنظیری (Q) کے پتھریلے و تحریکی شو ہے!



Venous leg ulcers:
seen in chronic venous hypertension, which may be
caused by severe varicose veins or congestive heart
failure



Arterial ulcers:
develop in individuals with atherosclerosis
of peripheral arteries, especially
associated with diabetes.



Pressure sores:
caused by prolonged compression of
tissues against a bone, for example, in bedridden

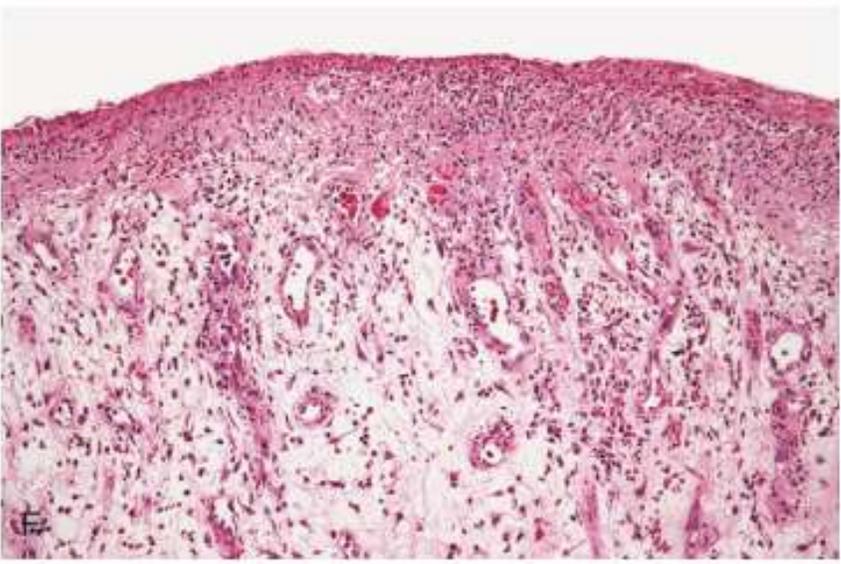


Diabetic ulcers:
caused by:
small vessel disease causing ischemia, neuropathy,
systemic metabolic abnormalities, and secondary
infections



Morphology of Any ulcer

ميزة ulcer
Surface discontinuation



epithelial ulceration and extensive granulation tissue in the underlying dermis

wound rupture (dehiscence):
cause??

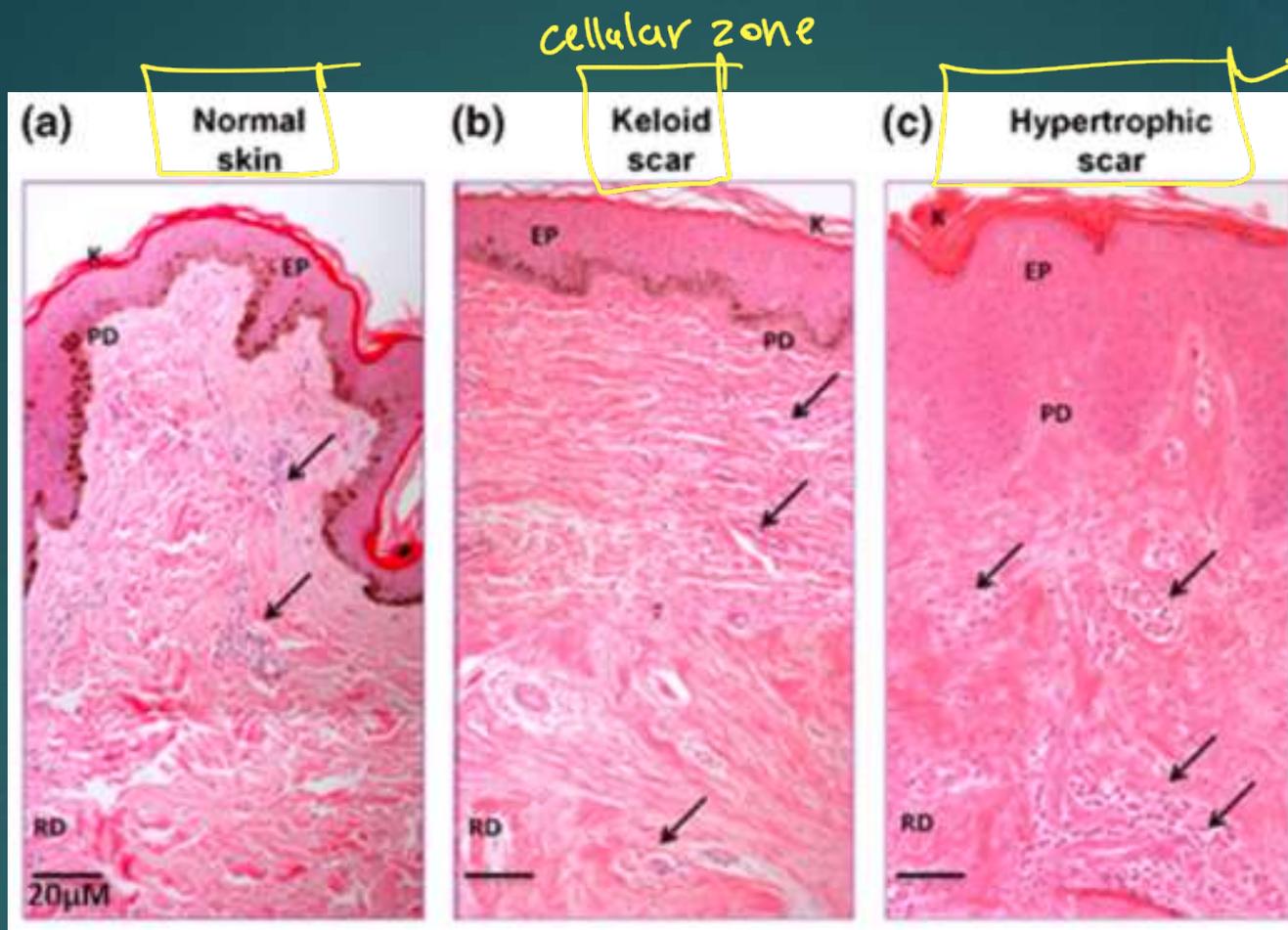


Hypertrophic scar



keloid



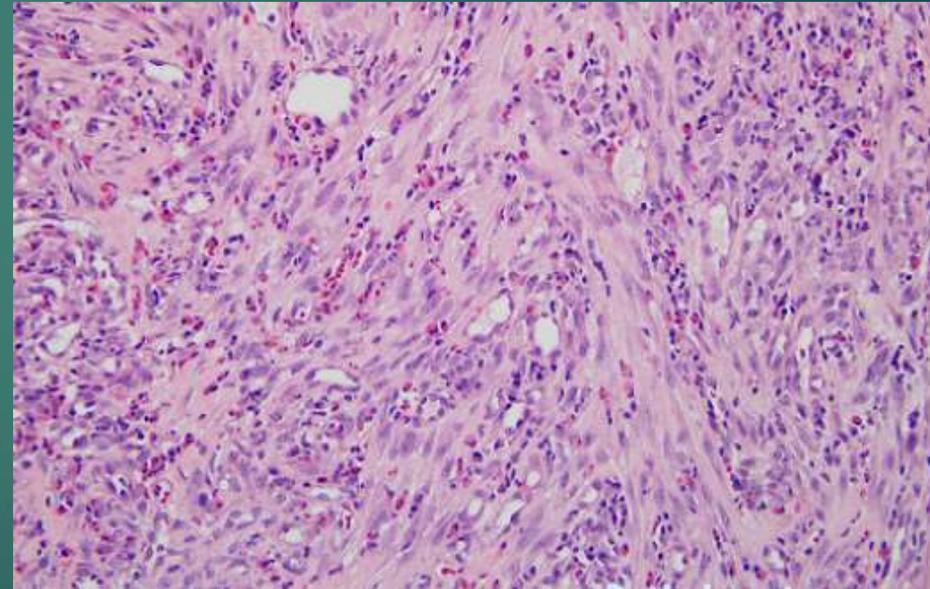


A. In normal skin, the characteristic random orientation and bundle formation of collagen fibres

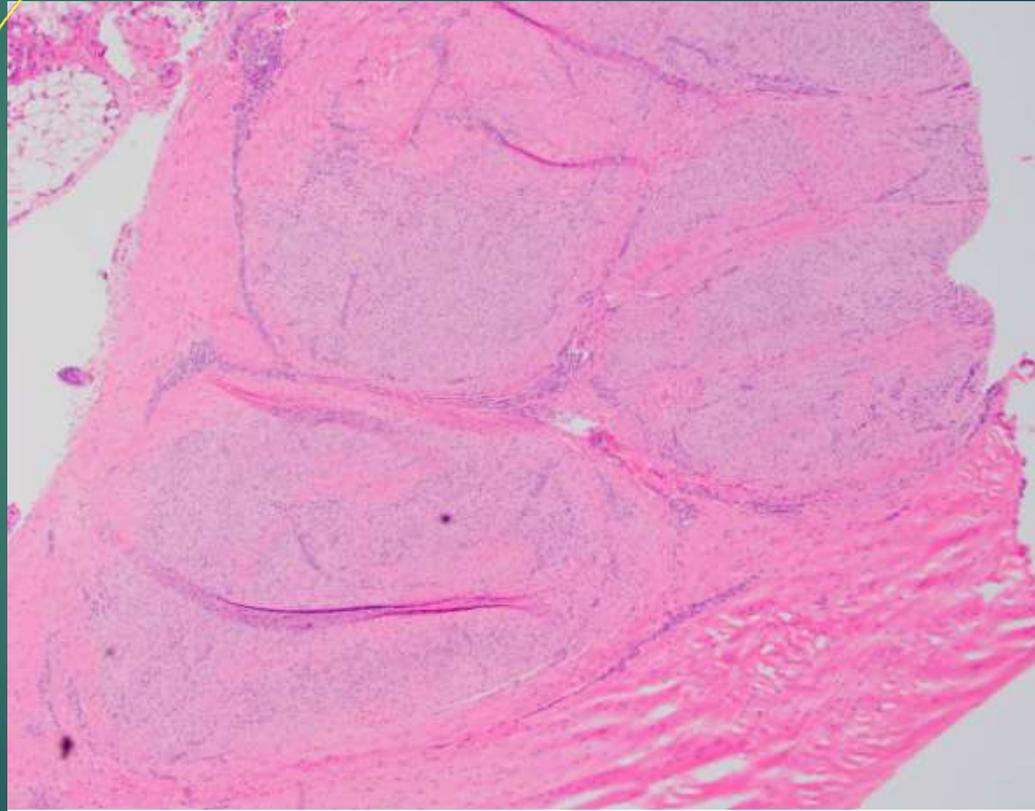
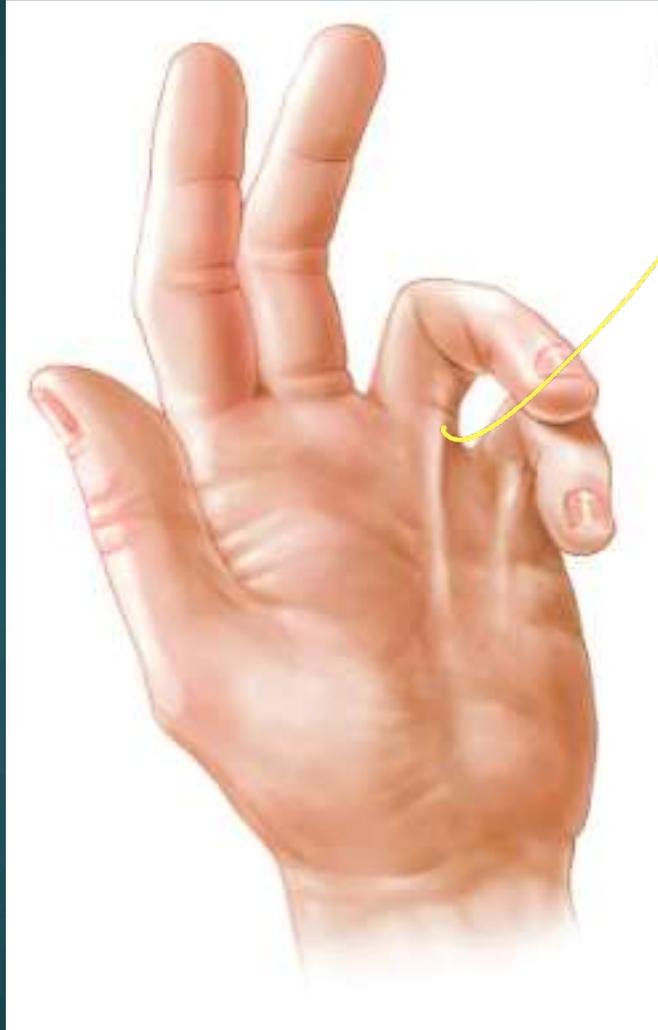
B. increased number of thick collagen fibres arranged in bundles

C. The collagen fibres were arranged randomly and showed highly cellular zones

Exuberant granulation



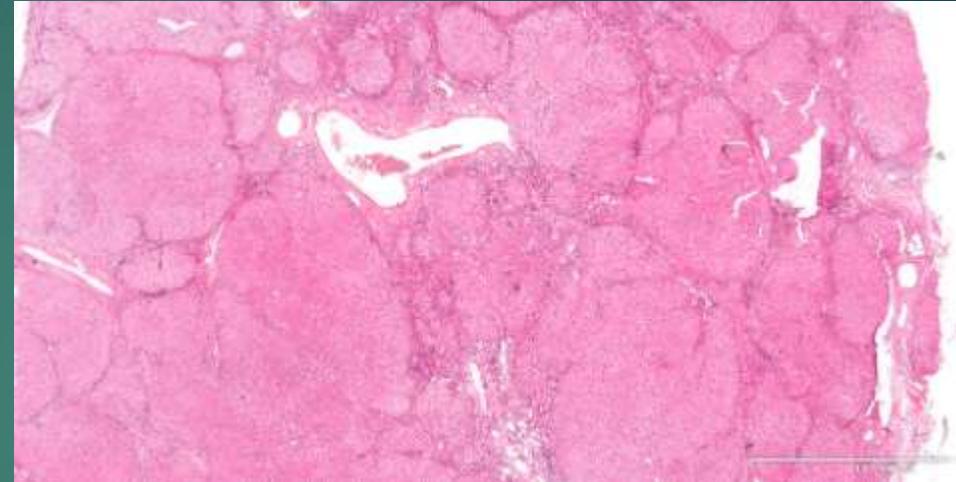
contracture



liver cirrhosis



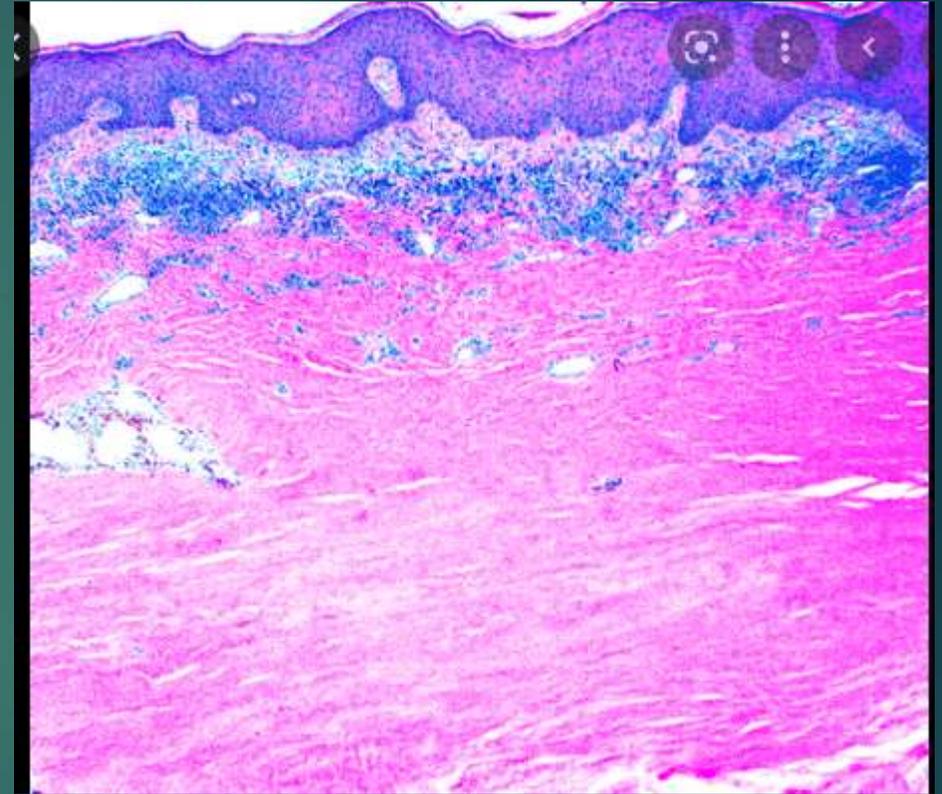
Diffuse nodulation of liver due to fibrous bands subdividing liver into regenerative nodules



diffuse disruption in architecture of the liver with bridging fibrous septa and parenchymal nodules formation.

systemic sclerosis (scleroderma).

→ severe fibrosis
for the skin



➤ shortening and hardening of muscles, tendons, or other tissue, often leading to deformity and rigidity of joints.

➤ thickened collagen bundles within papillary and reticular dermis

End-stage kidney disease

Gross

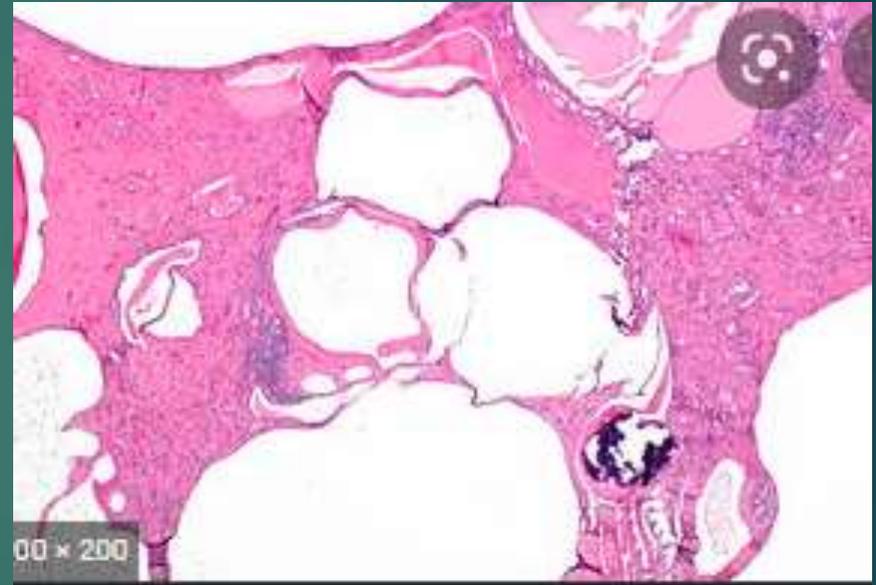
- enlarged kidneys with bosselated surface and composed of numerous subcapsular cysts

Multiple
cysts



End-stage kidney disease histology

Cystic expansions of all portions of renal tubule and glomerular capsule, lined by atrophic epithelium.



سكاده، لفائيل، لائيه
بدها بسببه وكرهه!



Hyperemia

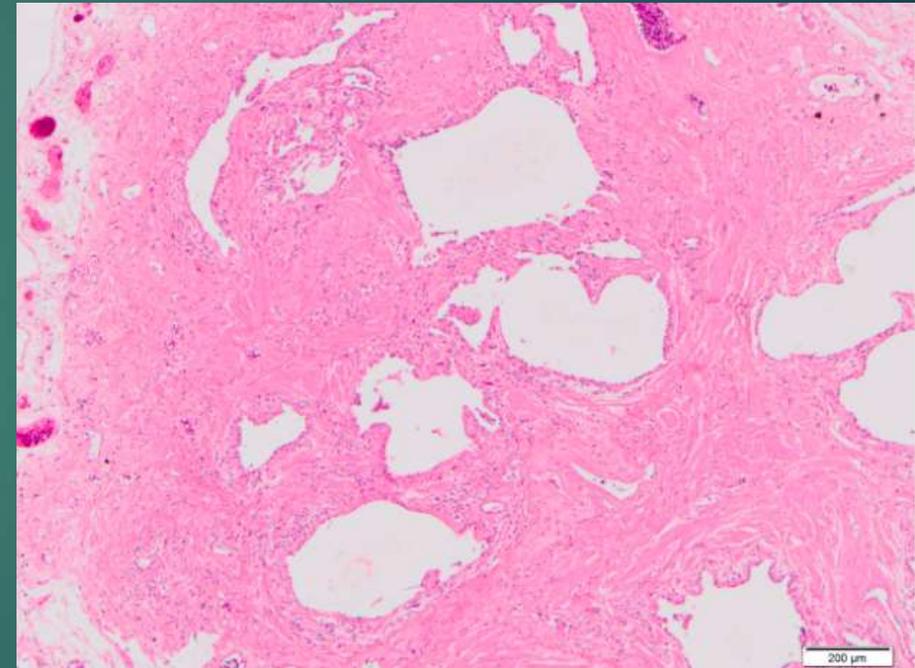
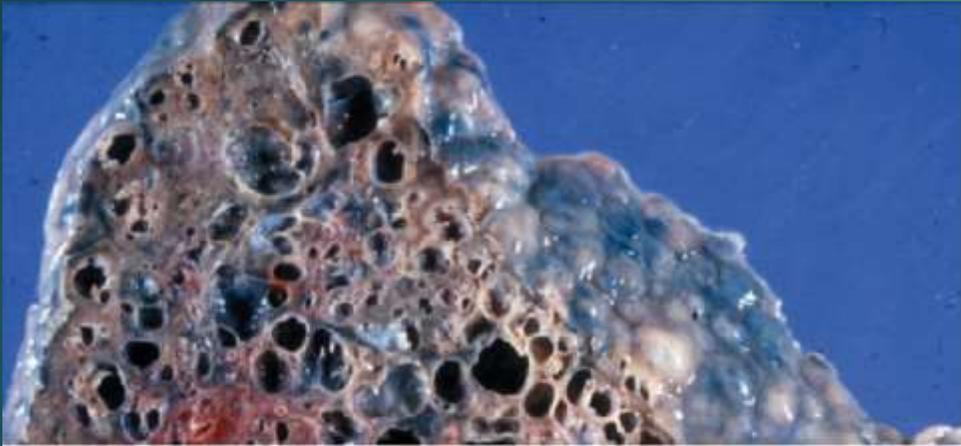


Congestion

❖ fibrosing diseases of the lung.

Grossly: Honeycomb, Cystic spaces with fibrotic wall

Histology: cystic spaces lined by bronchiolar epithelium and fibrotic wall



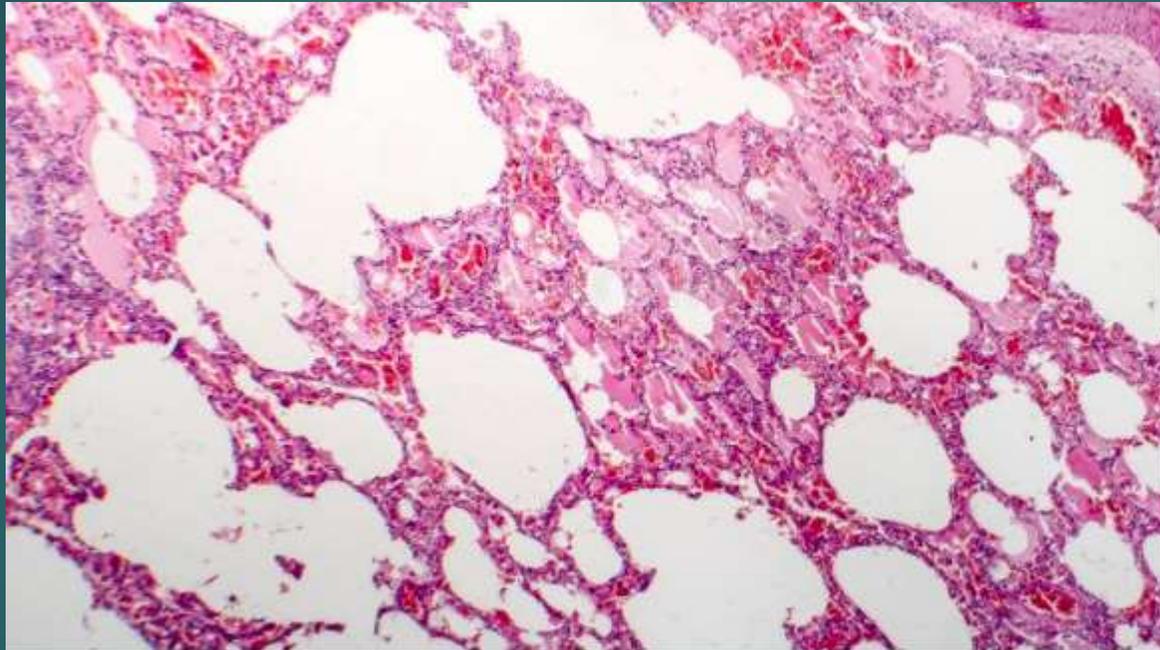
LUNG CONGESTION → *Cavess*

Cut surfaces of hyperemic or congested tissues feel wet and typically ooze blood

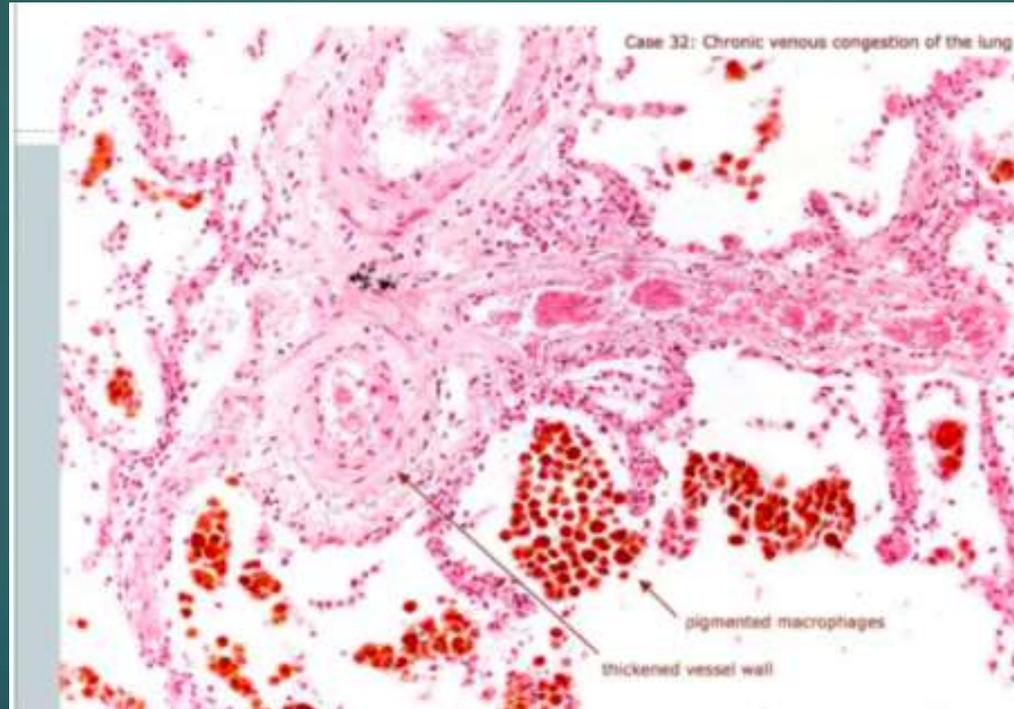


Histology

acute pulmonary congestion is marked by blood-engorged alveolar capillaries and variable degrees of alveolar septal edema and intraalveolar hemorrhage

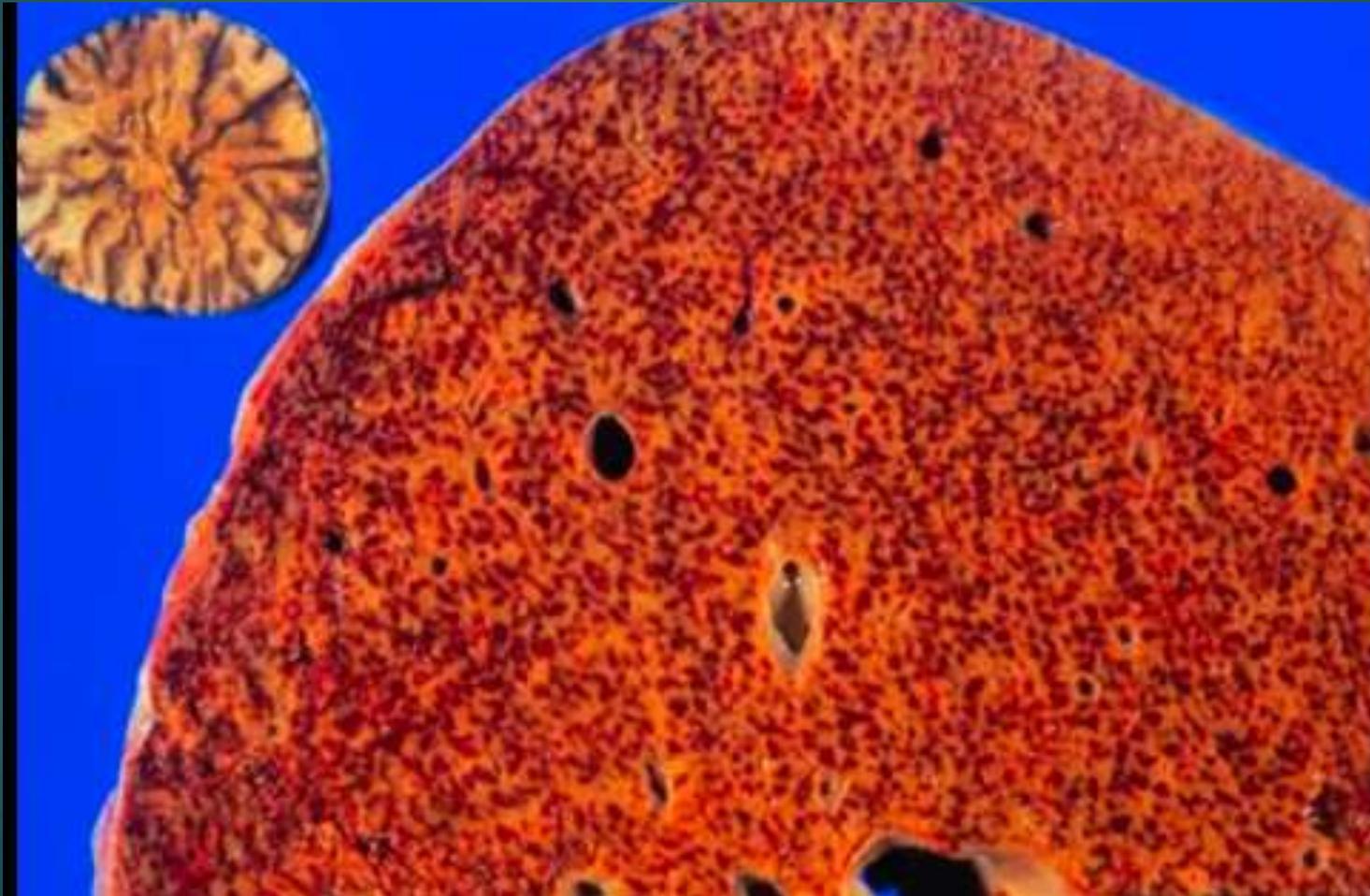


chronic pulmonary congestion, the septa become thickened and fibrotic, and the alveolar spaces contain numerous macrophages laden with hemosiderin ("heart failure cells") derived from phagocytosed red cells. *سین؟*

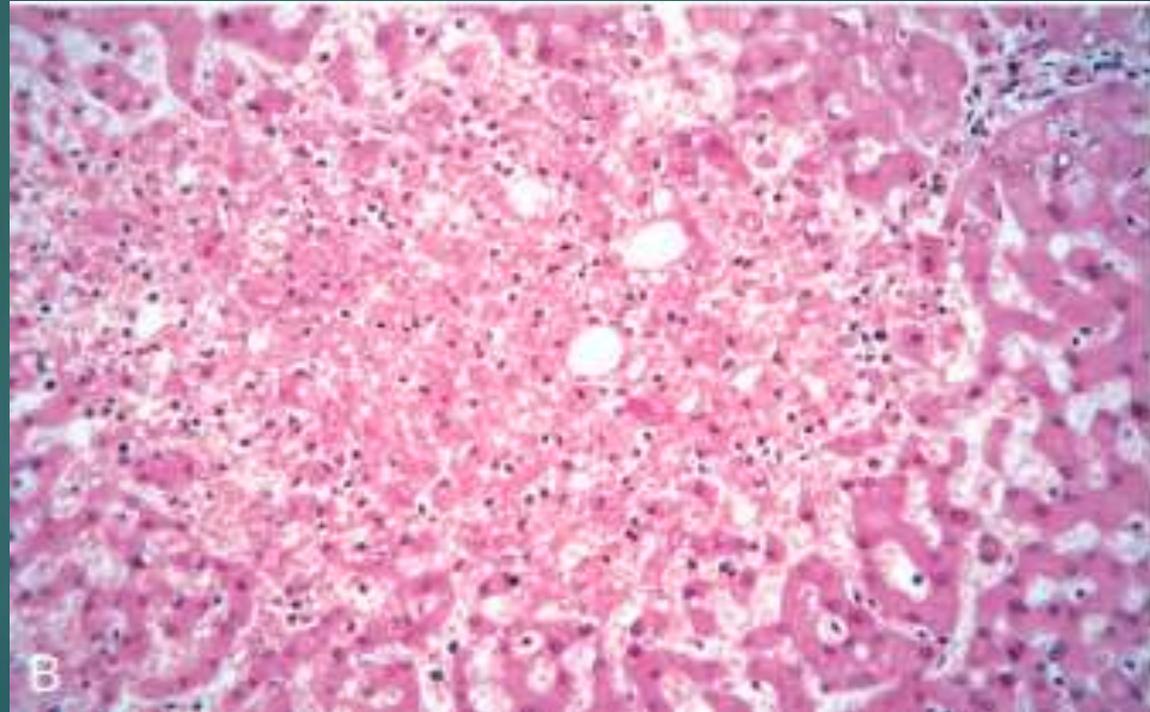


HEPATIC CONGESTION

Nutmeg liver



centrilobular hepatocyte necrosis.
Hemorrhage.
 hemosiderin-laden macrophages



peau d'orange caused by Infiltration and obstruction
of superficial lymphatics by breast cancer



Elephantiasis

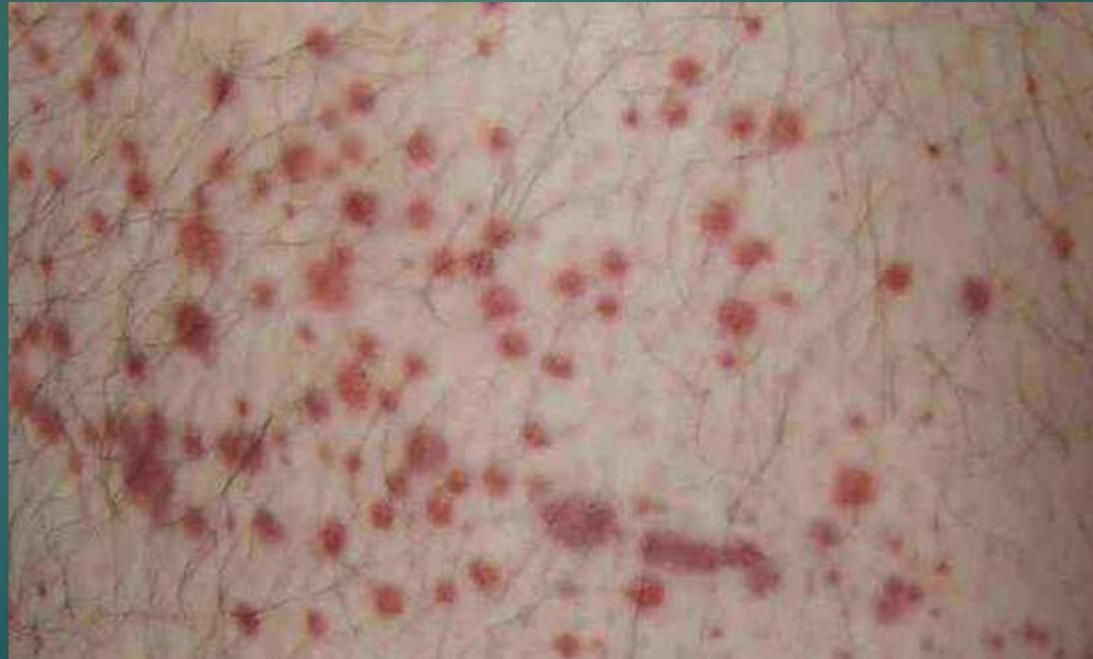
massive edema caused by lymphatic obstruction by parasitic infection

Mechanism?
↓



Petechiae :

are minute (1 to 2 mm in diameter) hemorrhages into skin, mucous membranes, or serosal surfaces .



Purpura

are slightly larger (3 to 5 mm) hemorrhages.



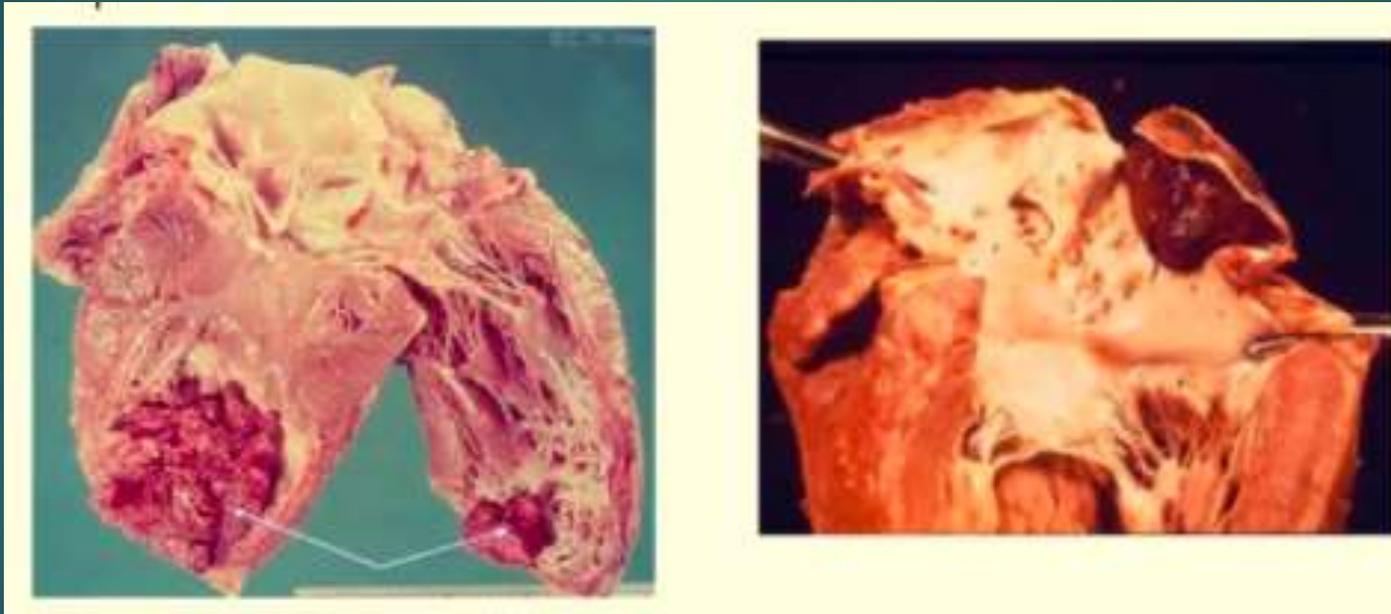
Ecchymoses:

are larger (1 to 2 cm) subcutaneous hematomas (also called bruises).



Mural thrombi:

Thrombi occurring in heart chambers or in the aortic lumen

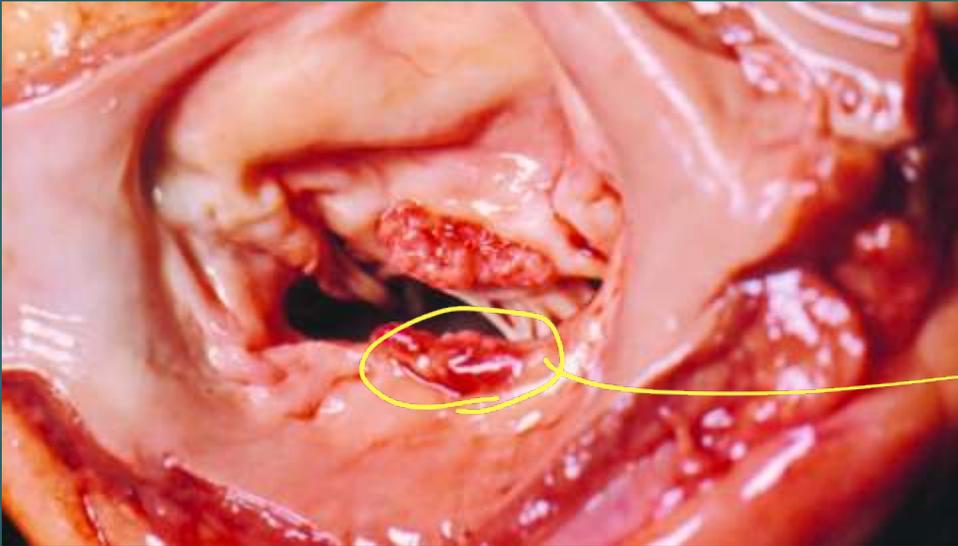


Venous thrombi (phlebothrombosis):

arterial thrombi in Jop³ ⊕



Cardiac Vegetations



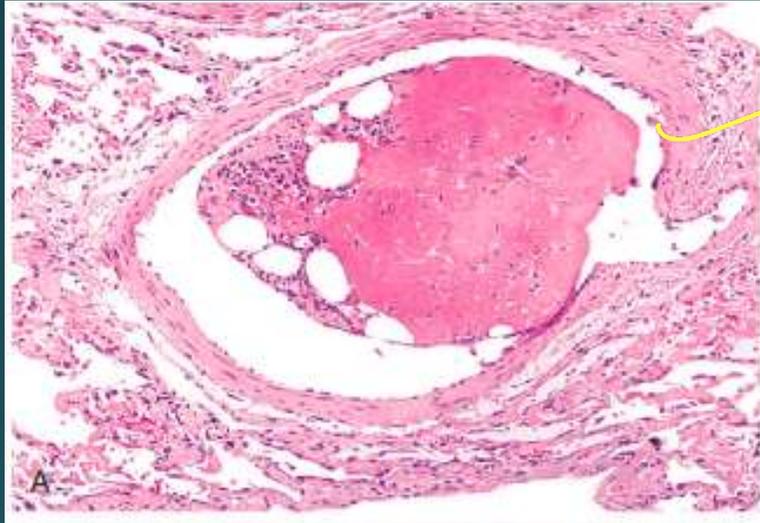
→ Margins
509.30

lines of Zahn



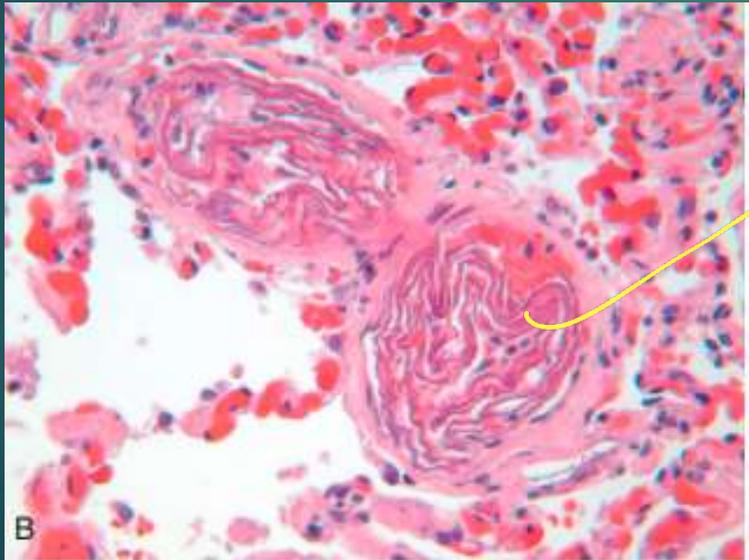
DIC





Blood Vessel

Bone marrow embolus



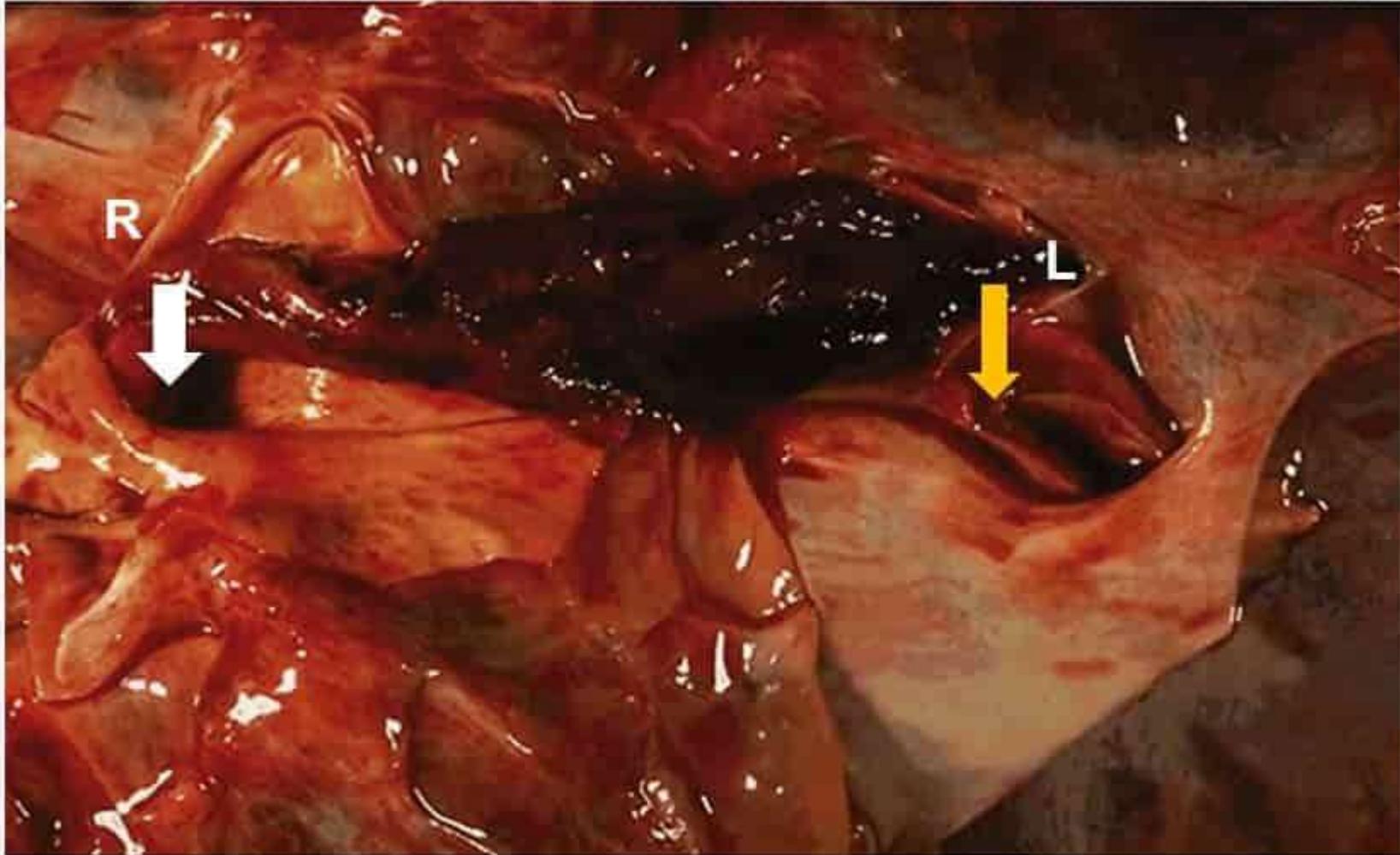
layers membrane

Amniotic fluid emboli

DVT

- 4 Signs of
- ① Hottness
 - ② Reddness
 - ③ Swelling
 - ④ Pain

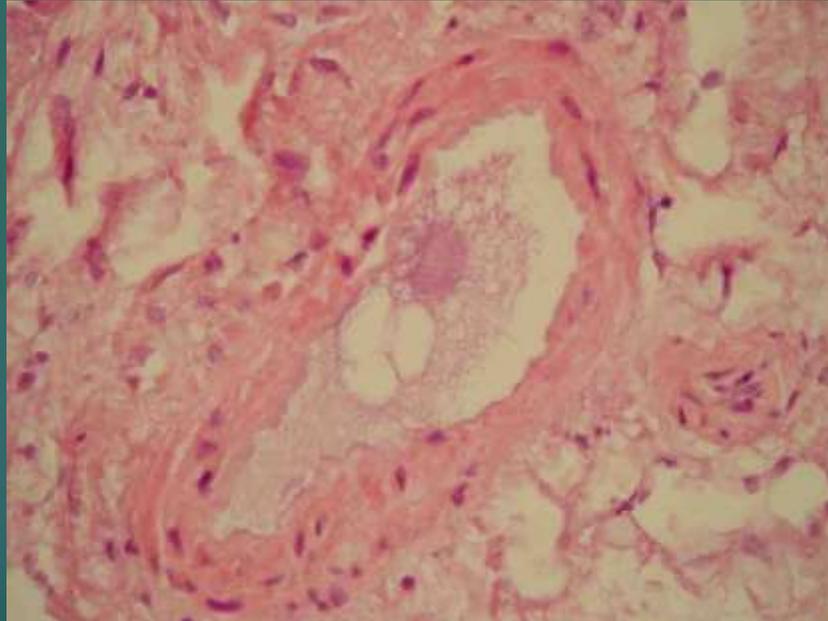




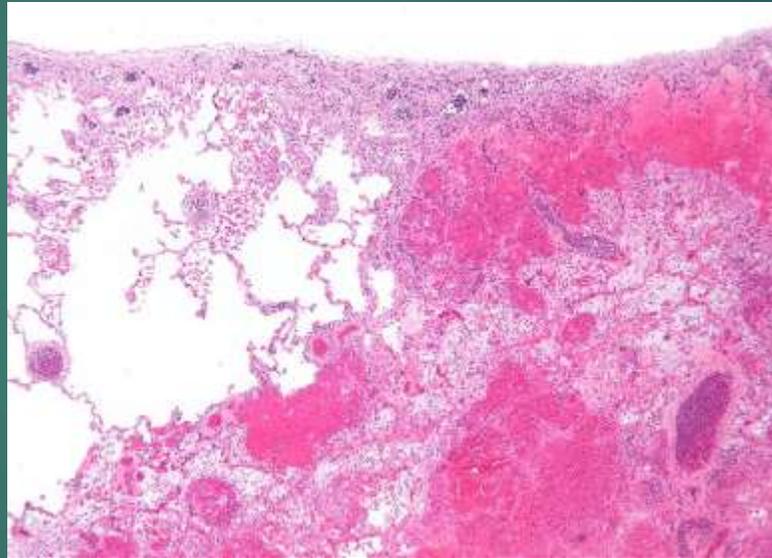
Pulmonary embolism, gross;

A Saddle embolus that bridges the pulmonary artery trunk as it divides into right and left main pulmonary arteries.

Fat Embolism \Rightarrow long bone fracture
 \Rightarrow Severe Trauma



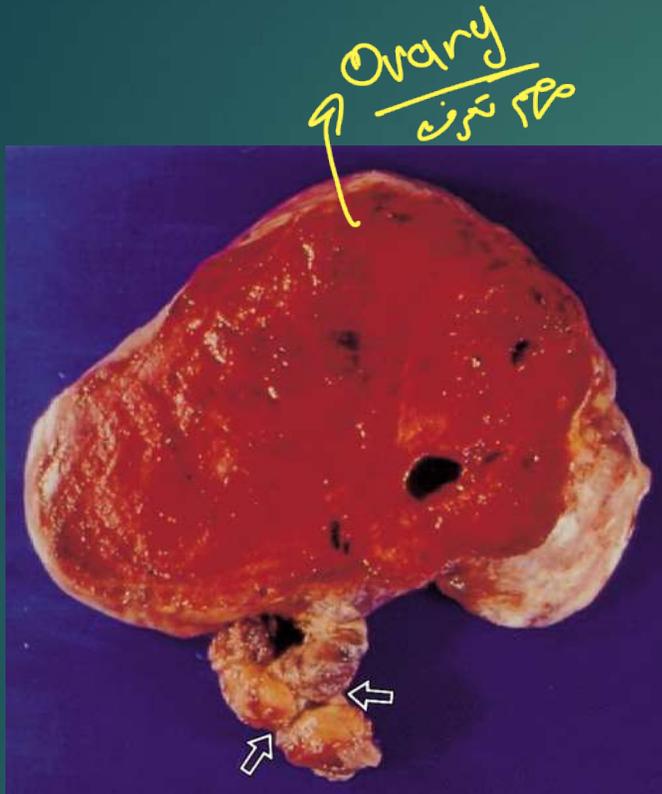
Red infarction



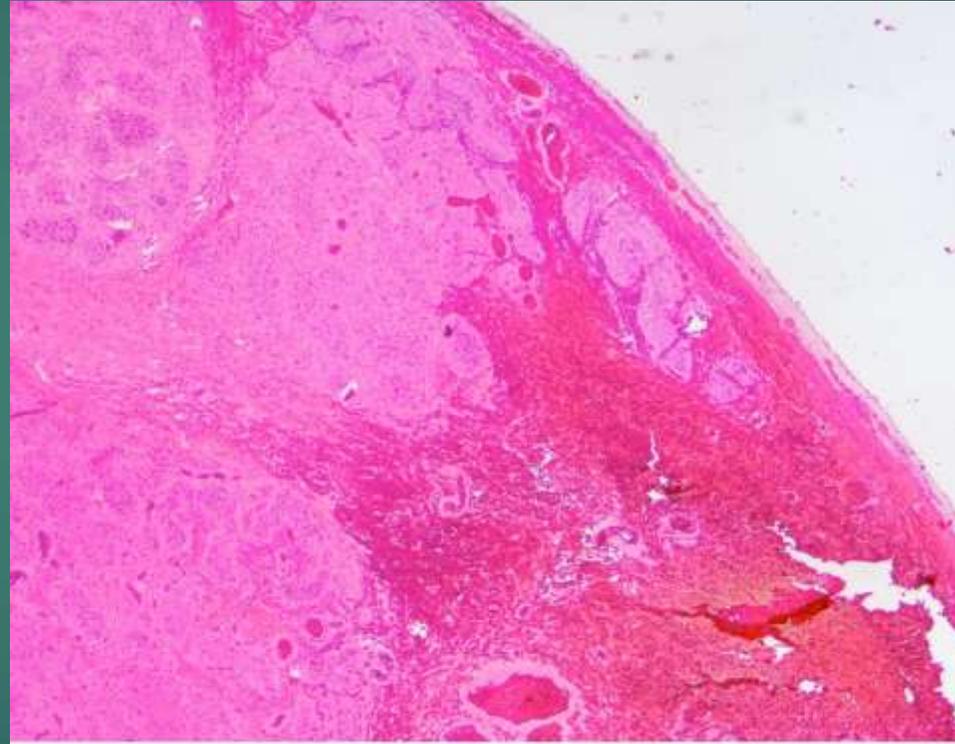
1. Necrosis of alveolar walls - loss of nuclei.
2. Alveolar hemorrhage.

classic wedge-shaped infarct

Red infarction



dark brown, ovarian mass with a twisted, thickened left fallopian tube (arrows).



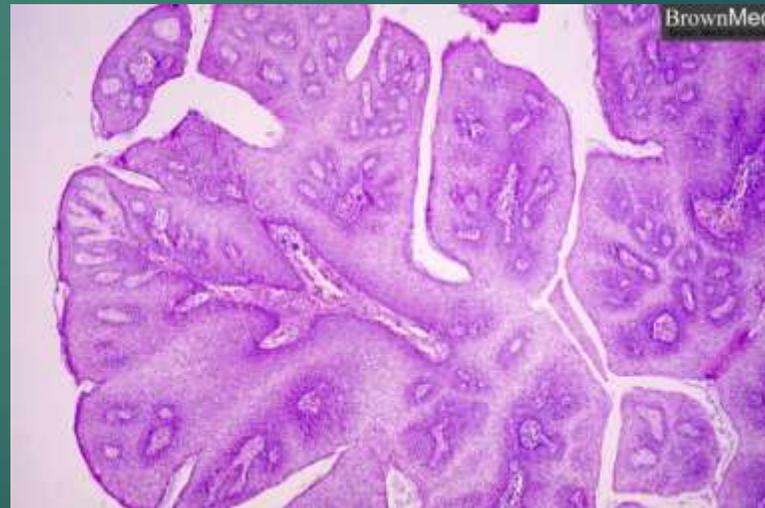
Hemorrhage and necrosis

white infarction



مخدر
لا وجود لـ RBC
End-arterial
circulation

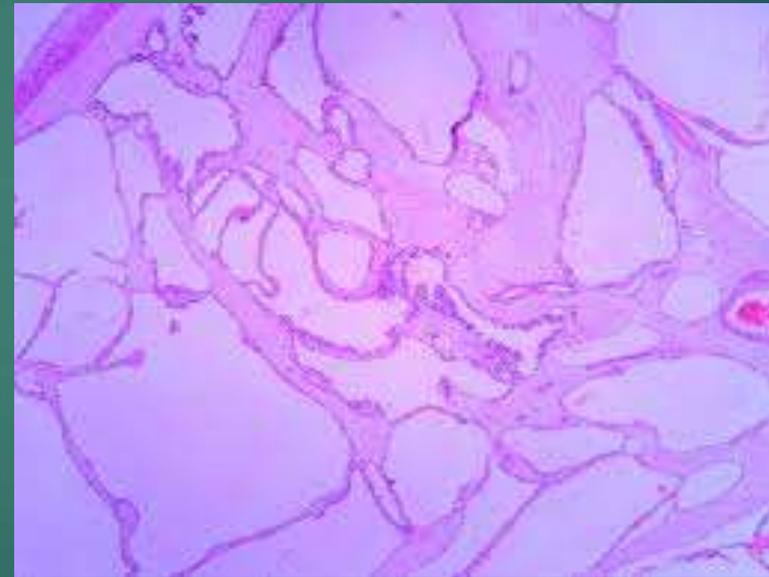
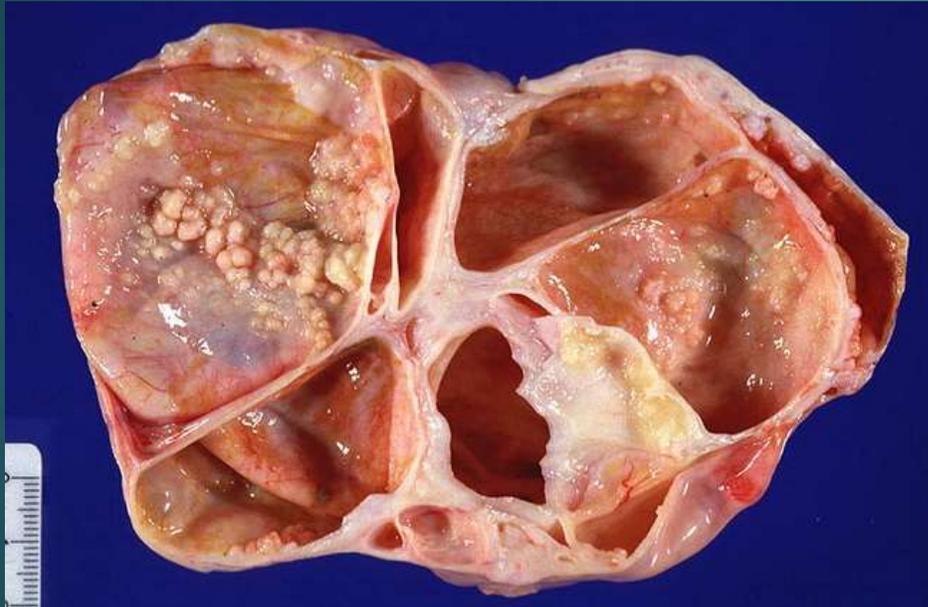
Papillomas



GASTROINTESTINAL POLYP

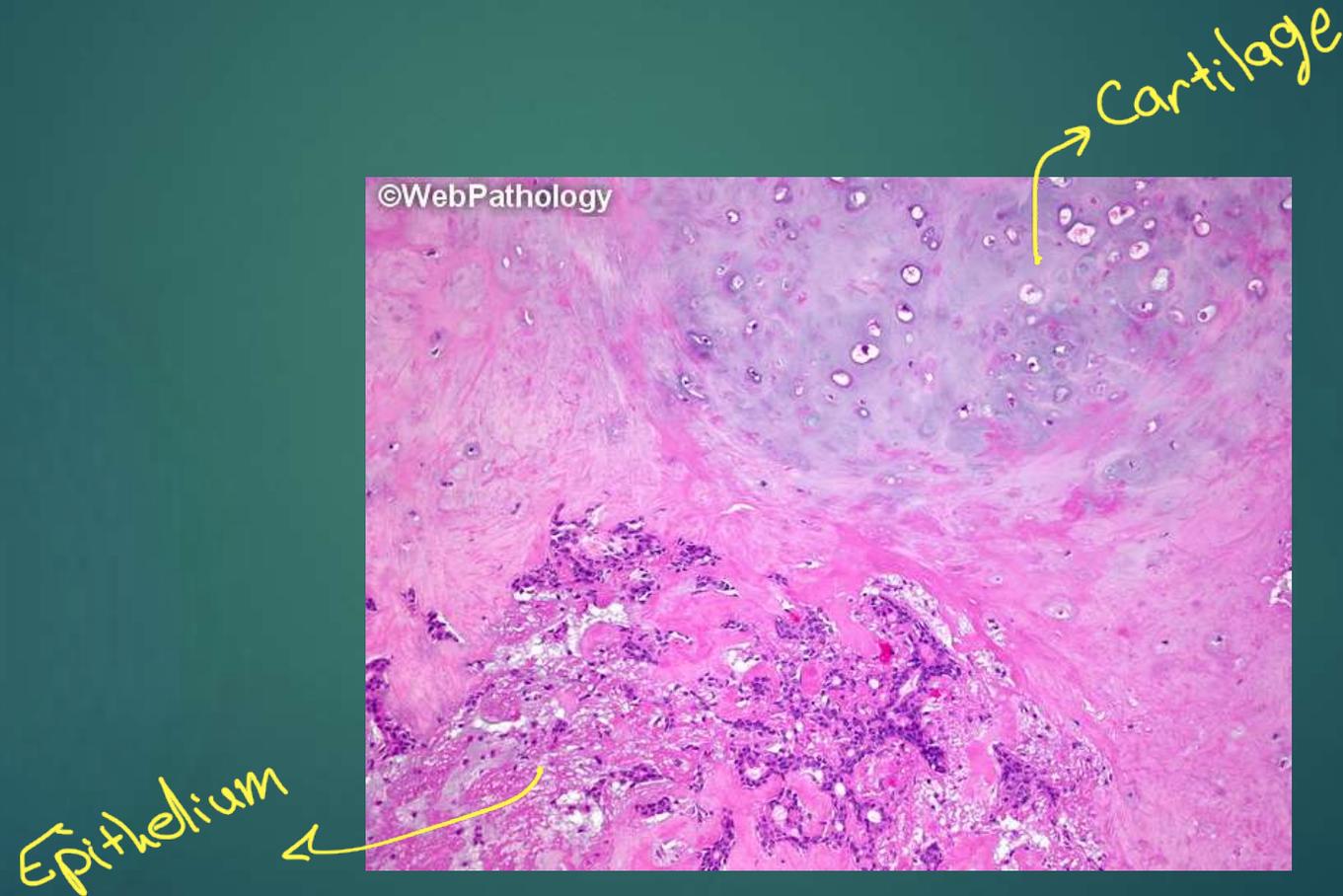


OVARIAN CYSTADENOMA

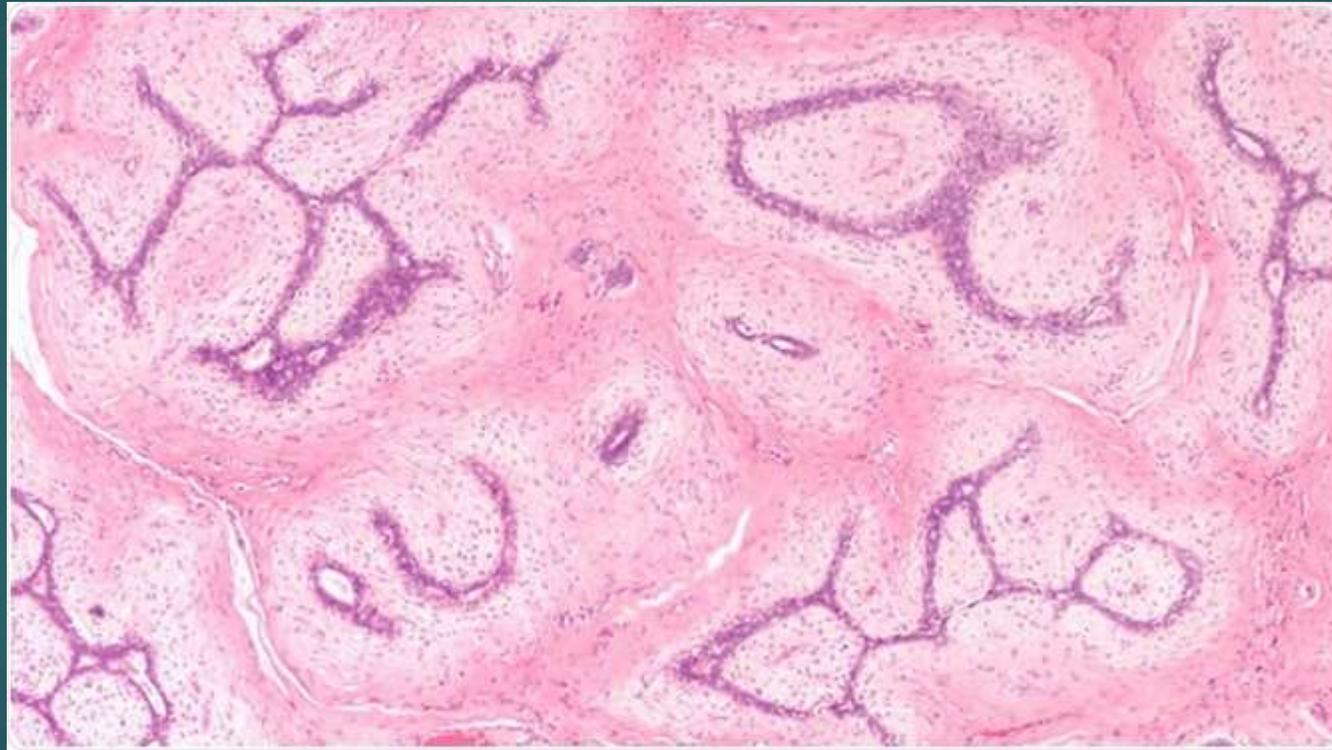


pleomorphic adenoma

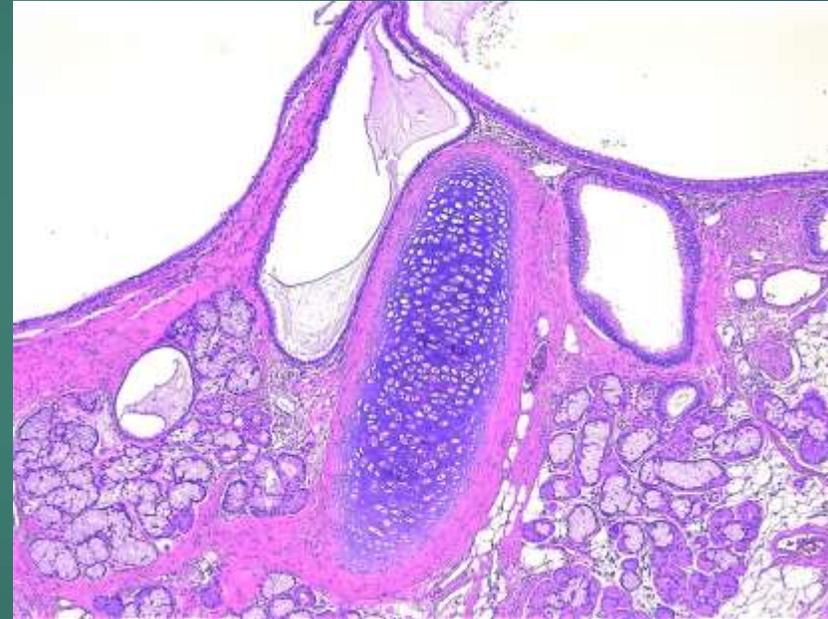
It contain epithelial components with islands of cartilage or bone

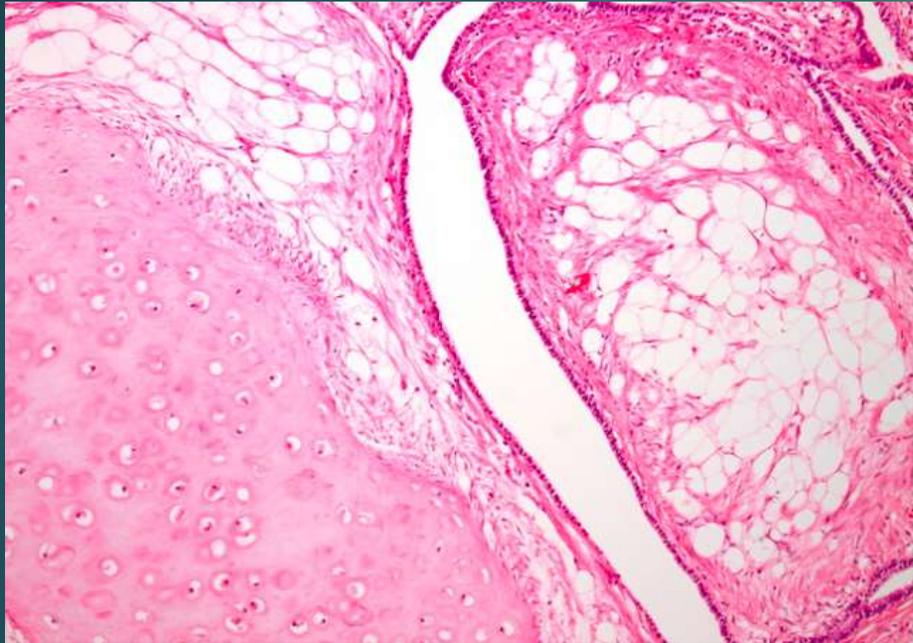


Fibroadenoma of the female breast contain:
proliferating ductal elements (adenoma)
embedded in loose fibrous tissue

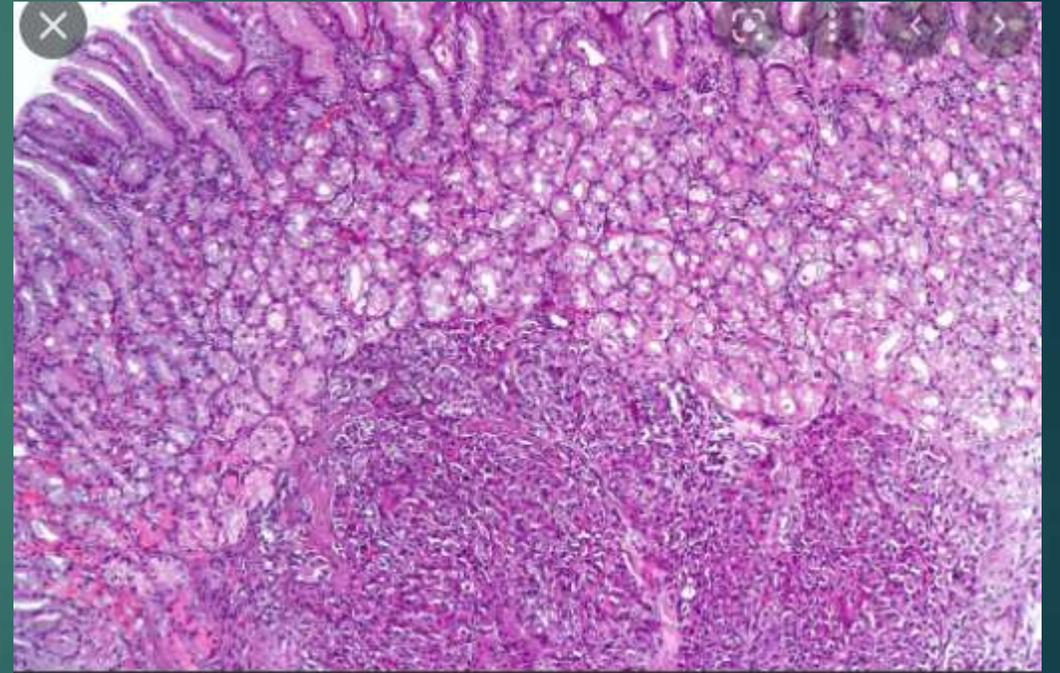


Teratoma



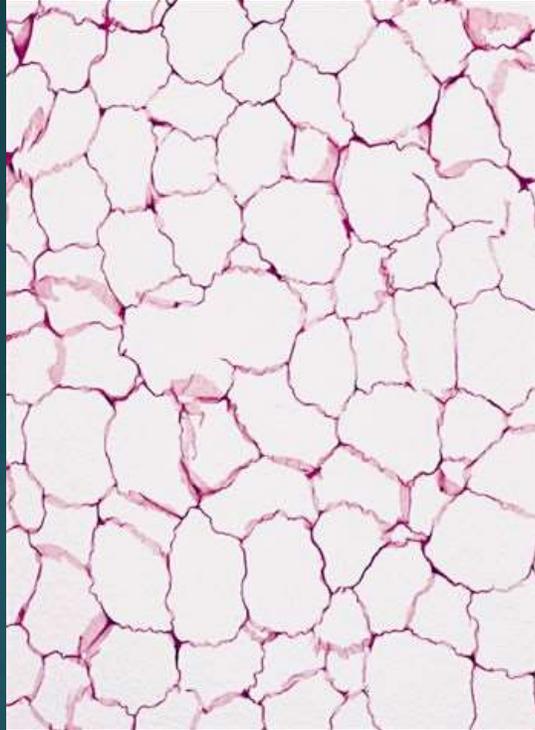


Hamartoma: → Abnormal tissue in Abnormal site



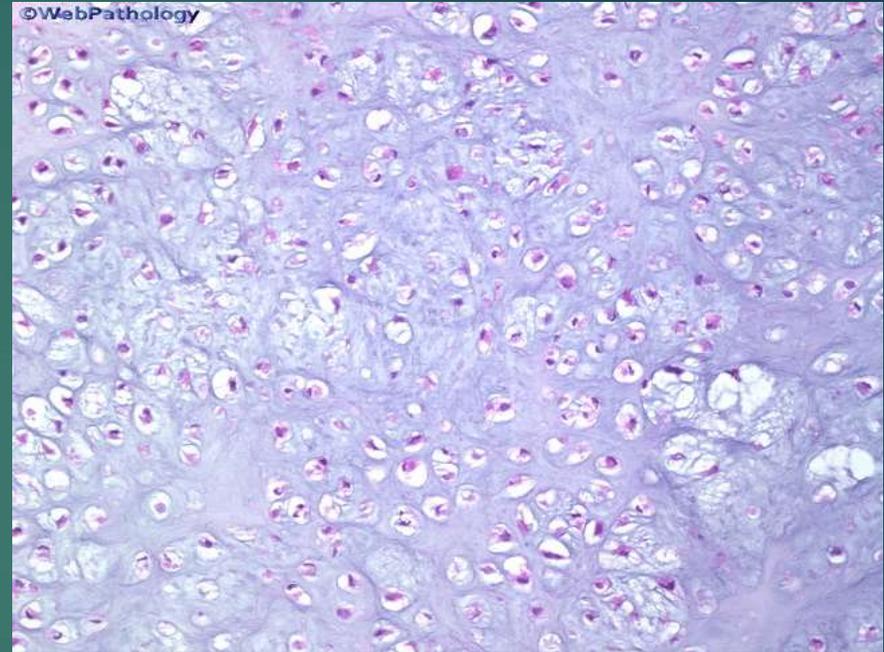
Choristoma: Normal tissue in Abnormal site!

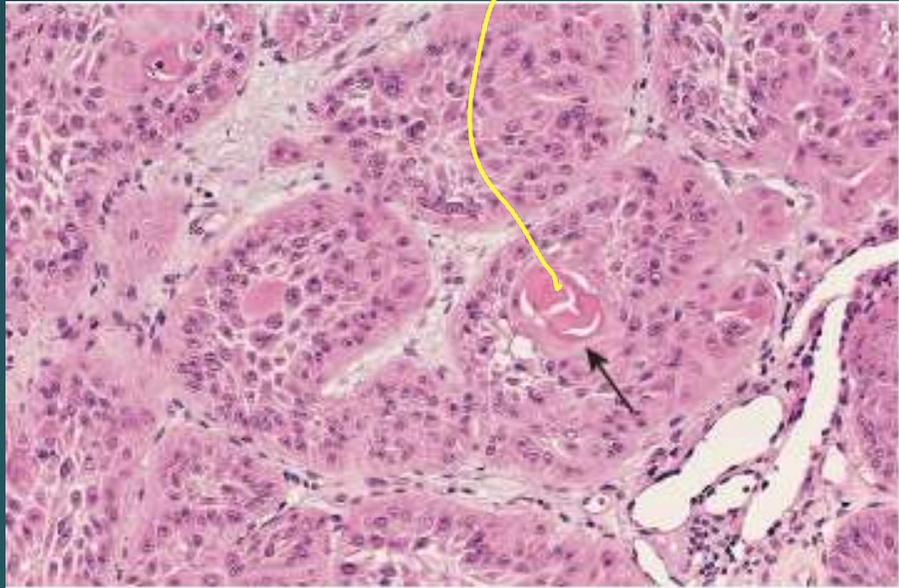
LIPOMA



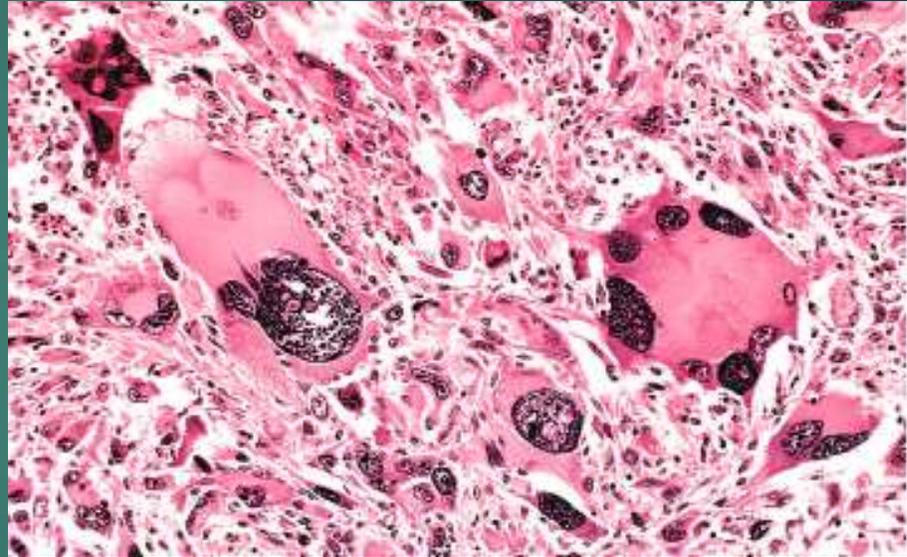
chondroma

↳ origin? cartilage





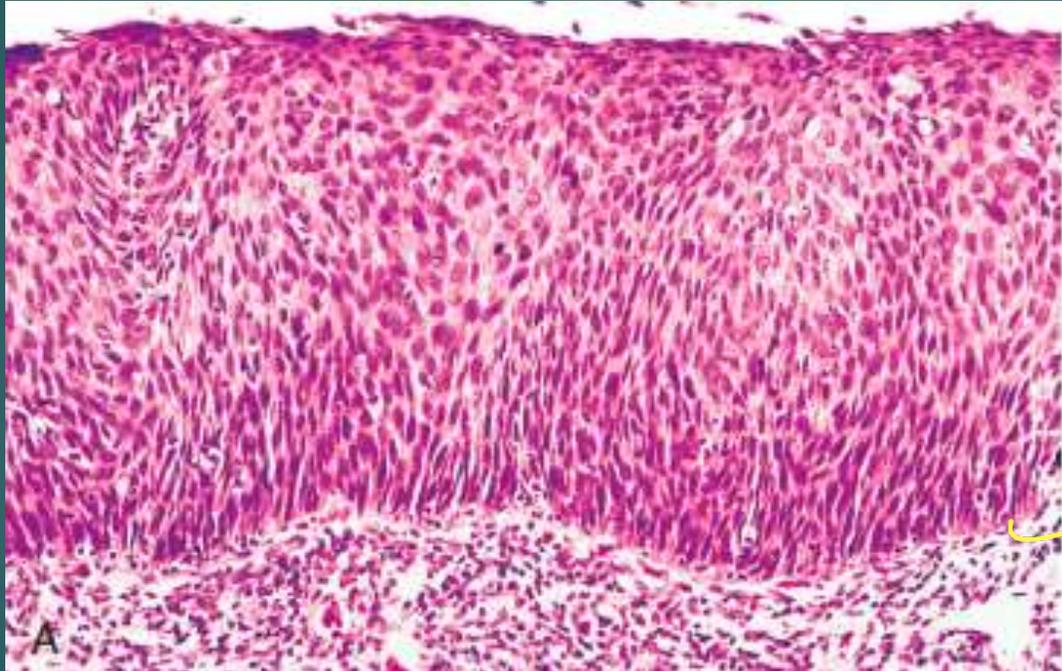
كيراتين



Well-differentiated squamous cell carcinoma Pleomorphic malignant tumor

انابلازيا
فيها

CARCINOMA IN-SITU

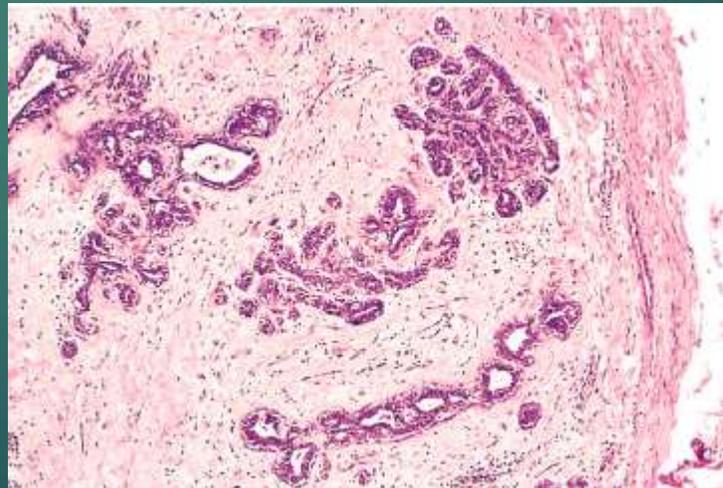
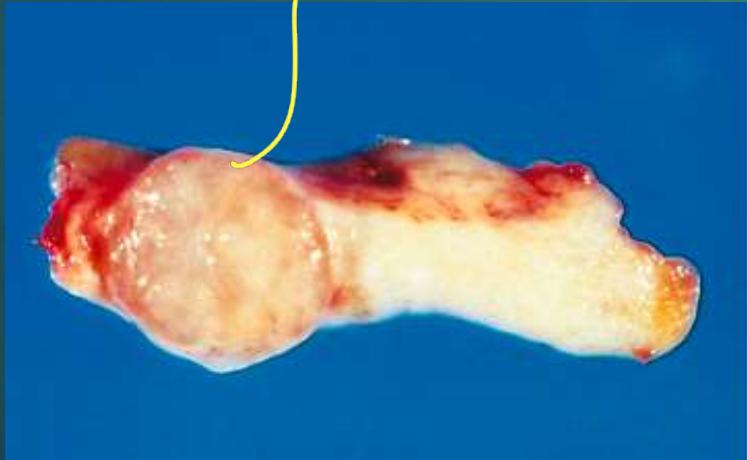


→ Intact
Basement
Membrane

FIBROADENOMA



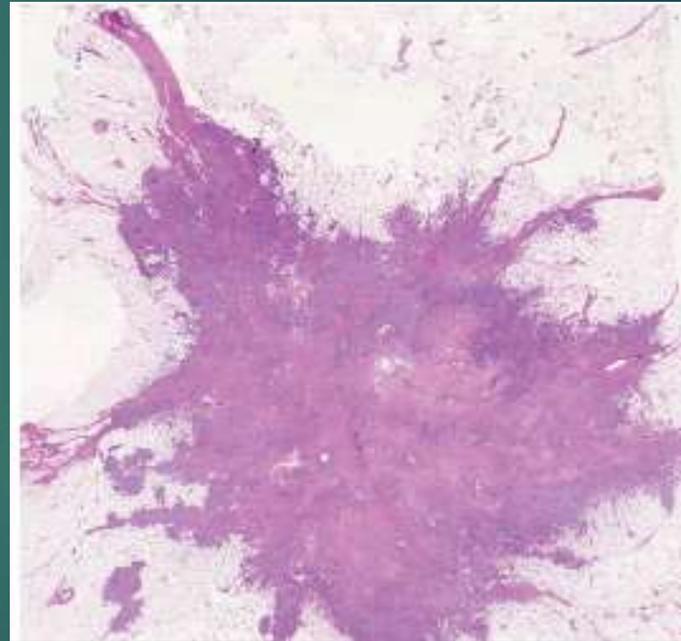
Sign? capsule



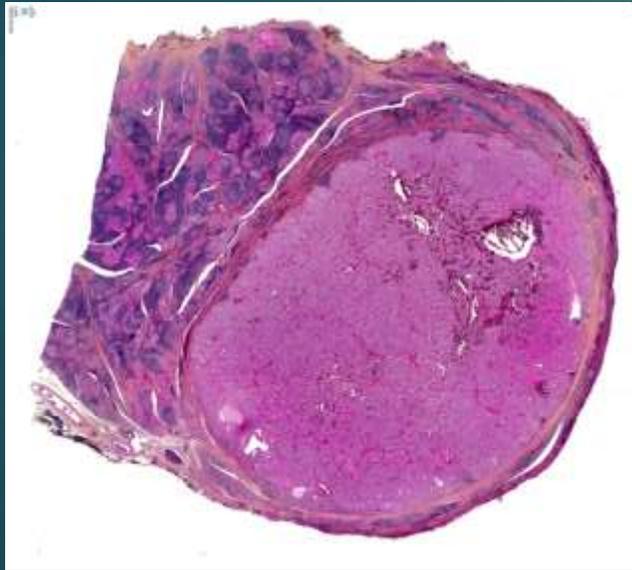
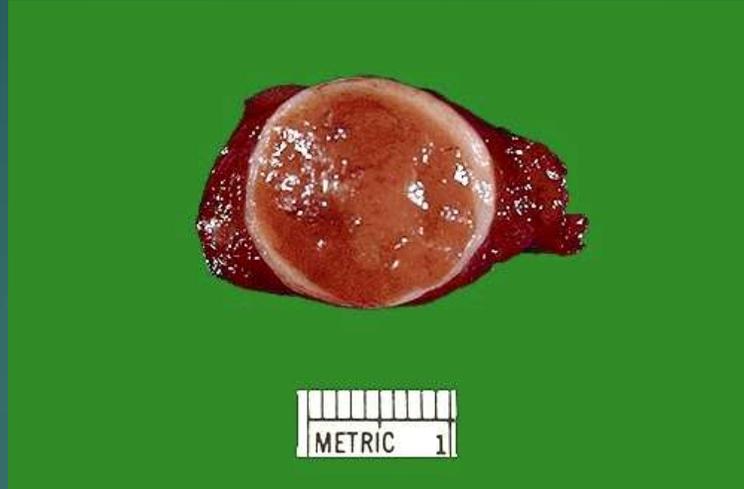
BREAST CANCER



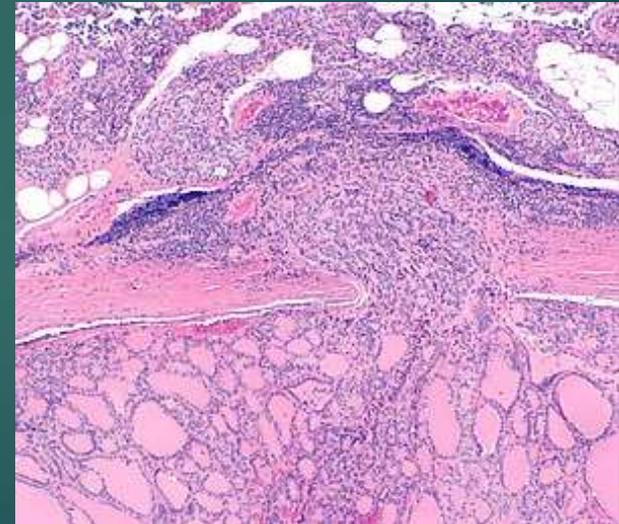
invasive & Malignant.



Thyroid nodule



intact or Not!
capsule
الغزاق؟
↑↑



Follicular adenoma

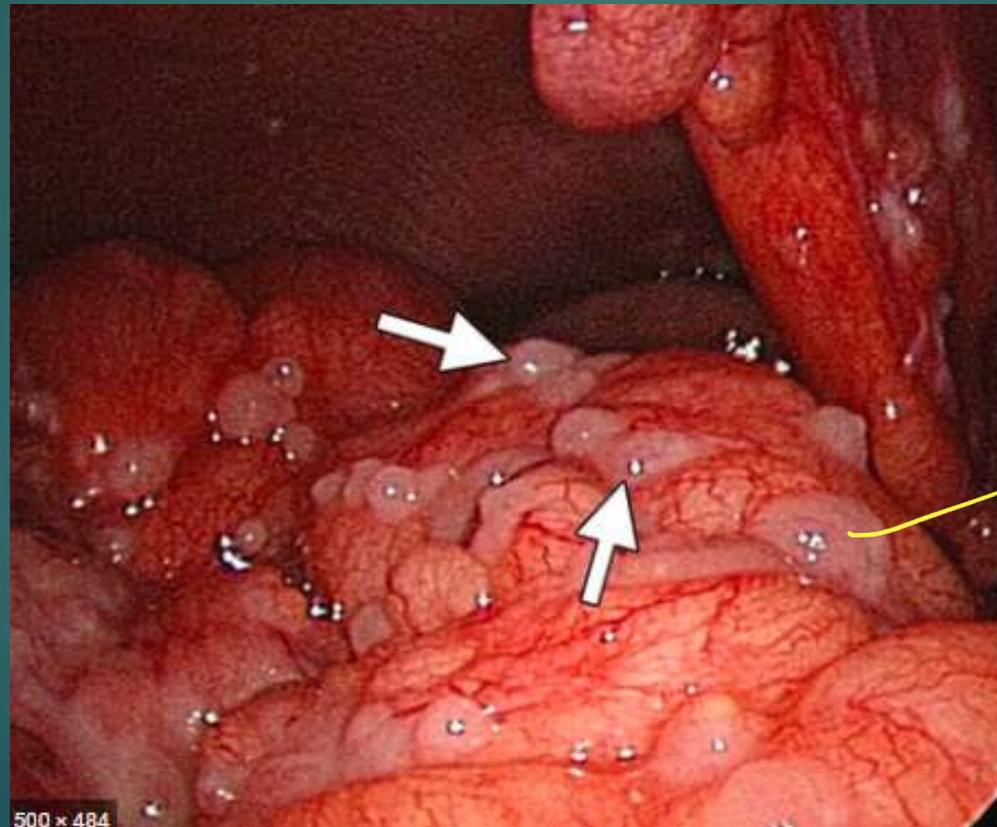
Follicular carcinoma

MULTIFOCAL HEPATIC METASTASIS



Absecess

Seeding of ovarian cancer in peritoneal surface.



→ Seeding