

Respiratory Practical Block

**Done by,
Pahtology Team**

1-Lobar pneumonia



A closer view of the lobar pneumonia demonstrates the distinct difference between the upper lobe and the **consolidated lower lobe**.

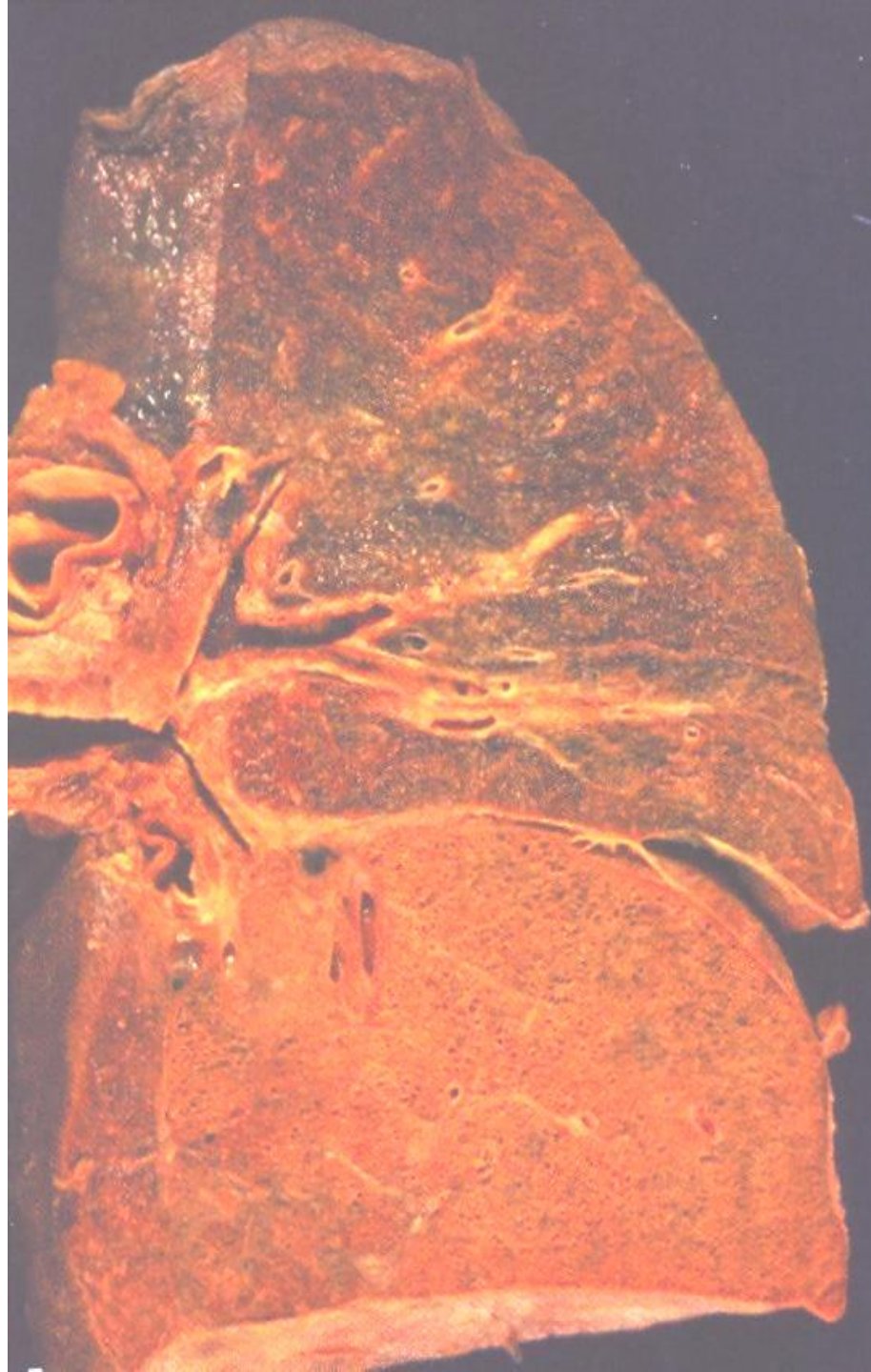
* Consolidation mean no gas exchange .

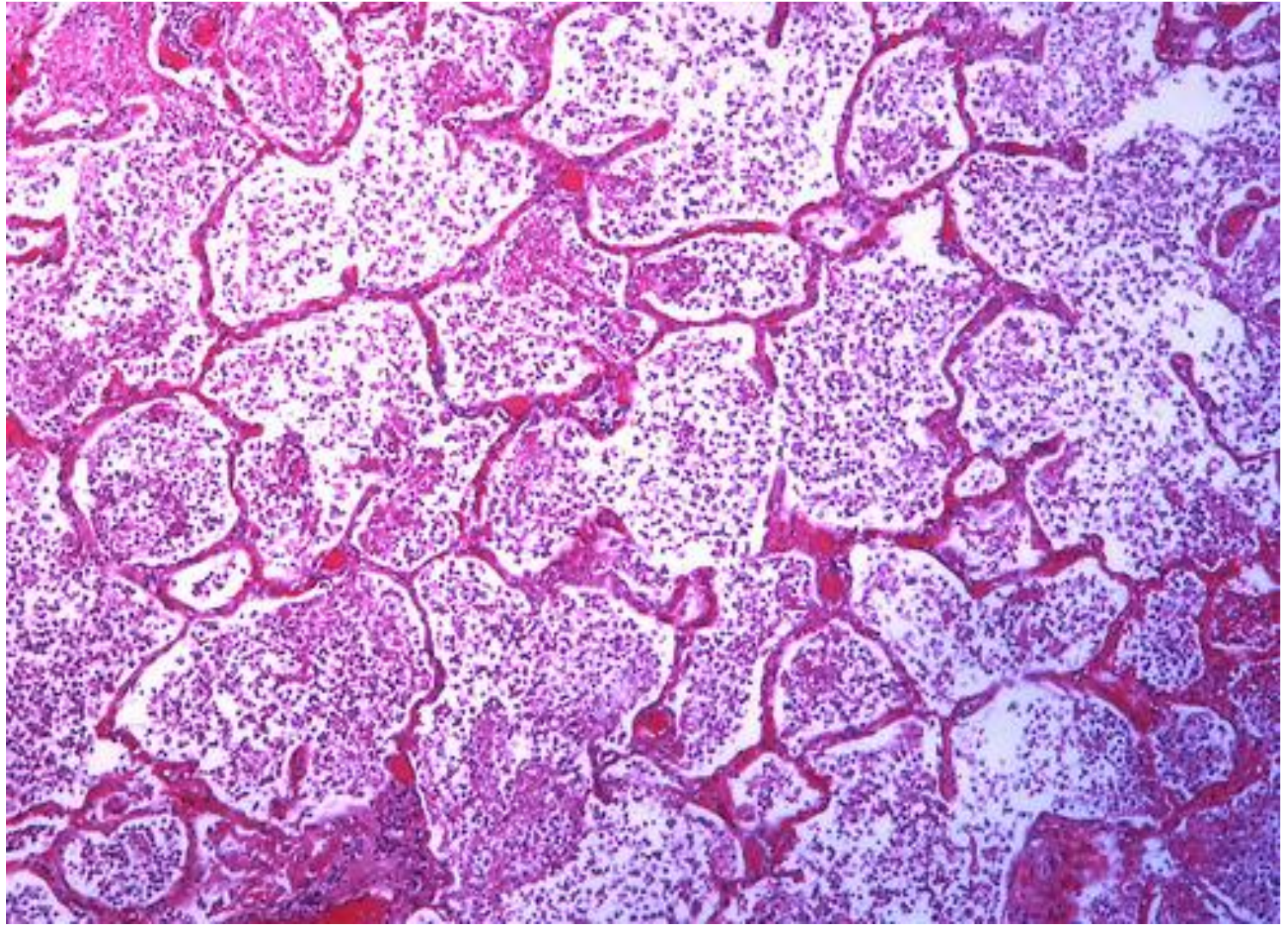
Q: what is the organ?

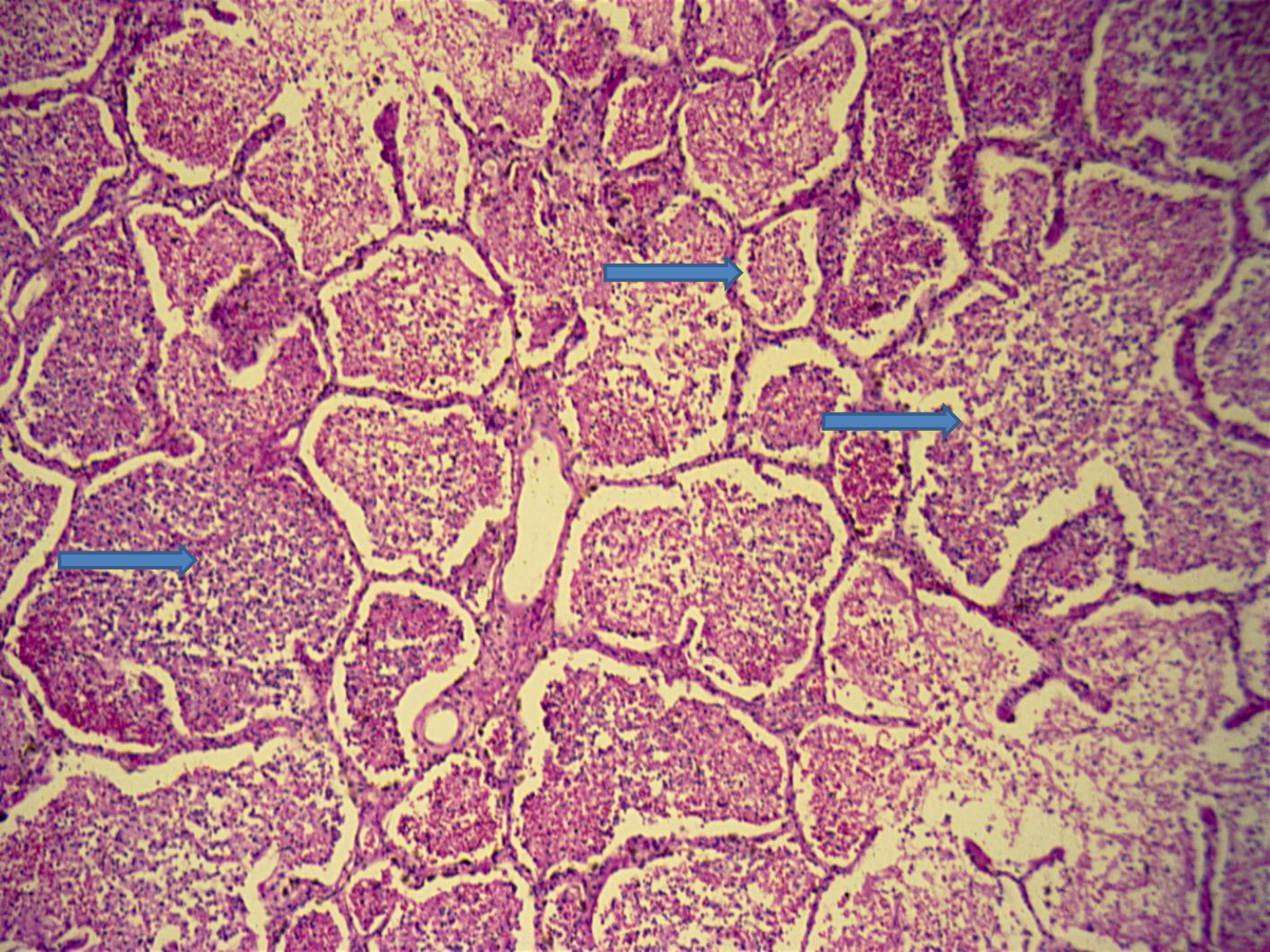
A: lung .

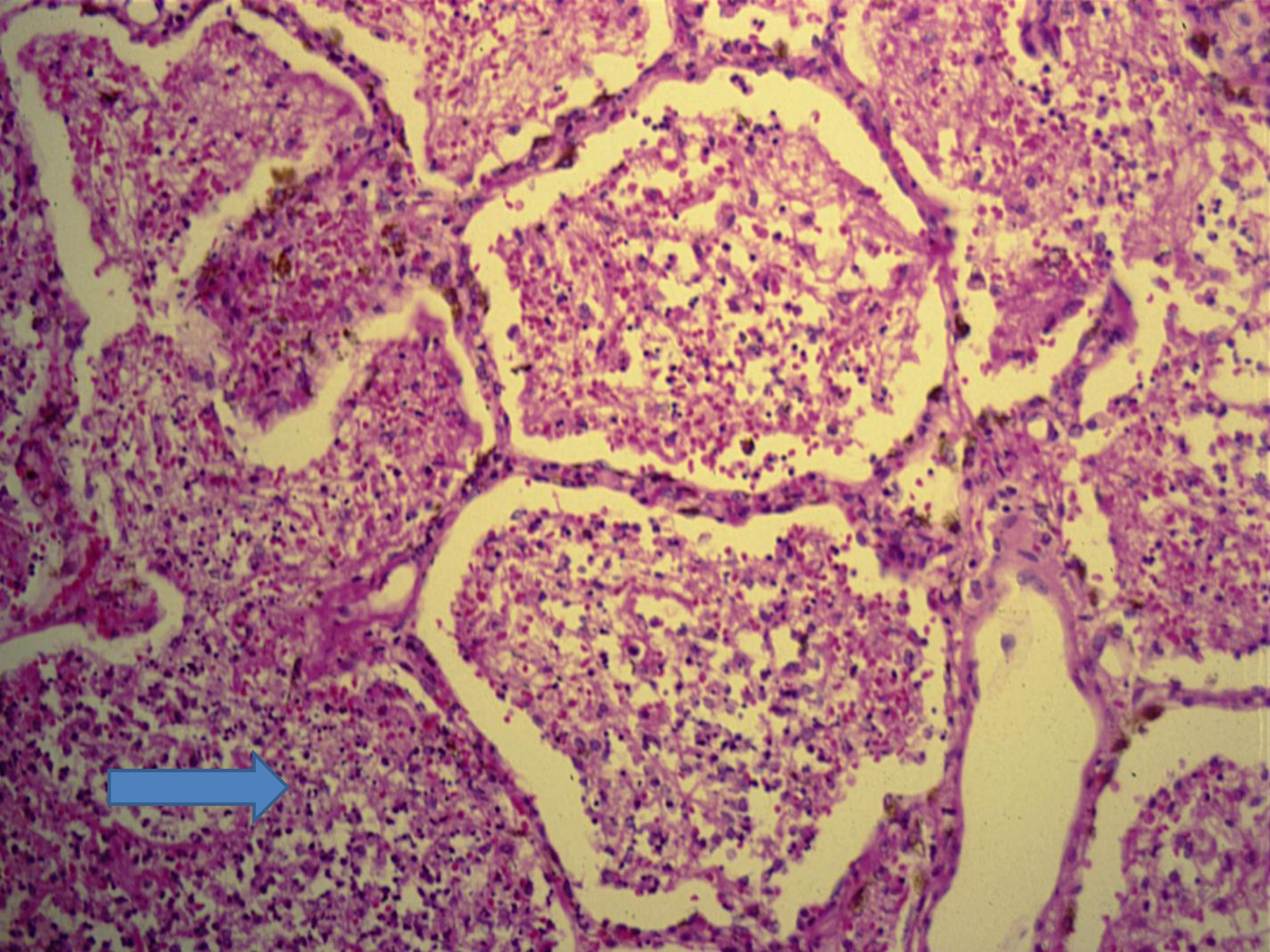
Q: what is the pathology?

A:lobar pneumonia in the lower lobe) .









Lobar pneumonia:

Section of the lung shows diffuse consolidation:

- + Description of the blue arrow**
- + “All the alveoli are filled with fibrinous exudate containing fibrin threads, polymorphs, macrophages and red cells.”**
- + Alveolar walls are congested.**
- + Pleura is covered by fibrinous exudate.**

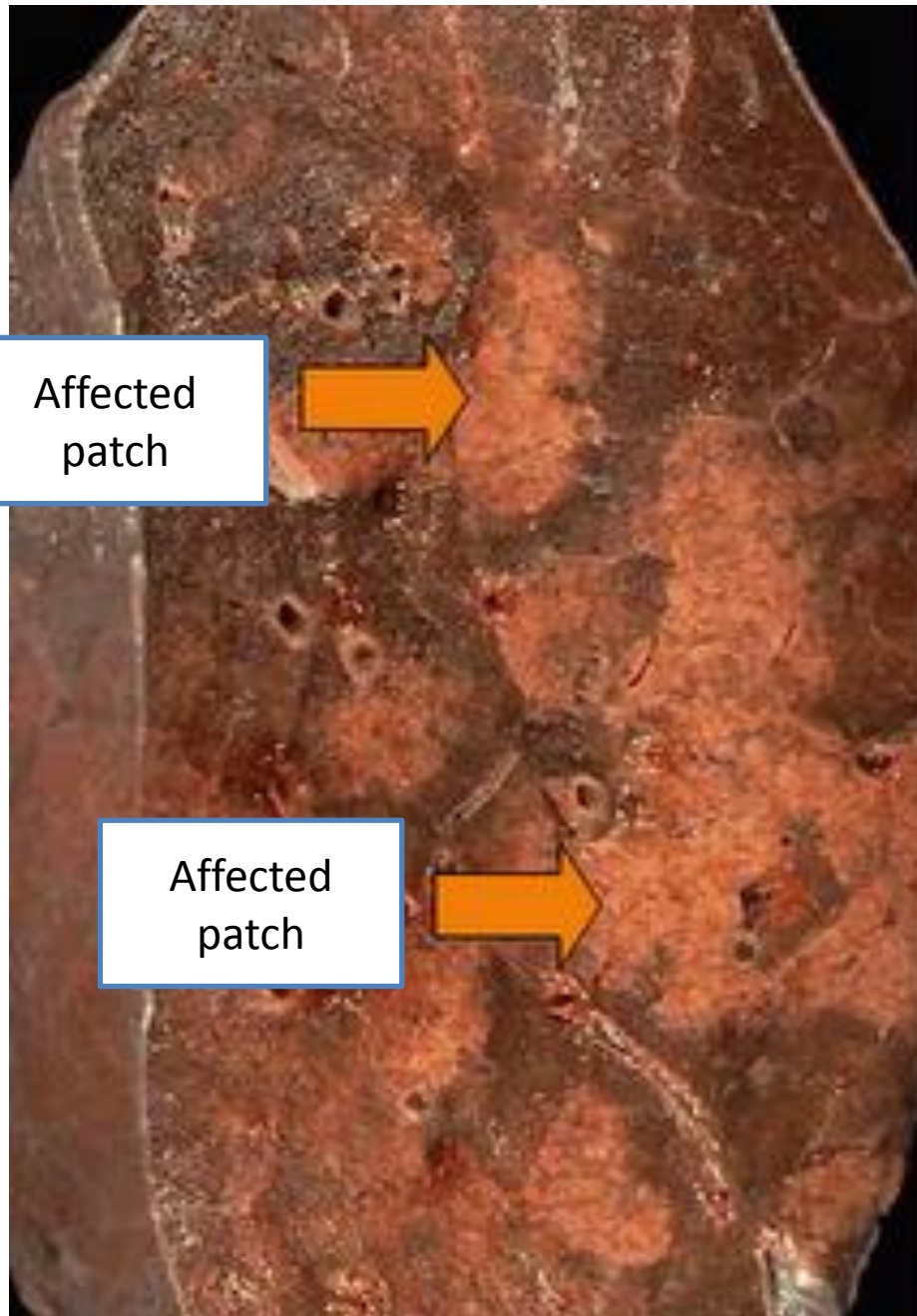
2-Bronchopneumonia



The cut surface shows consolidation with firm white 3 – 6 mm **patches** involving the entire left lung.

The lower lobe appears to be congested.

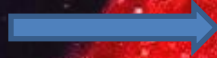
The key word of the bronchopneumonia is : patches infection .



Affected
patch

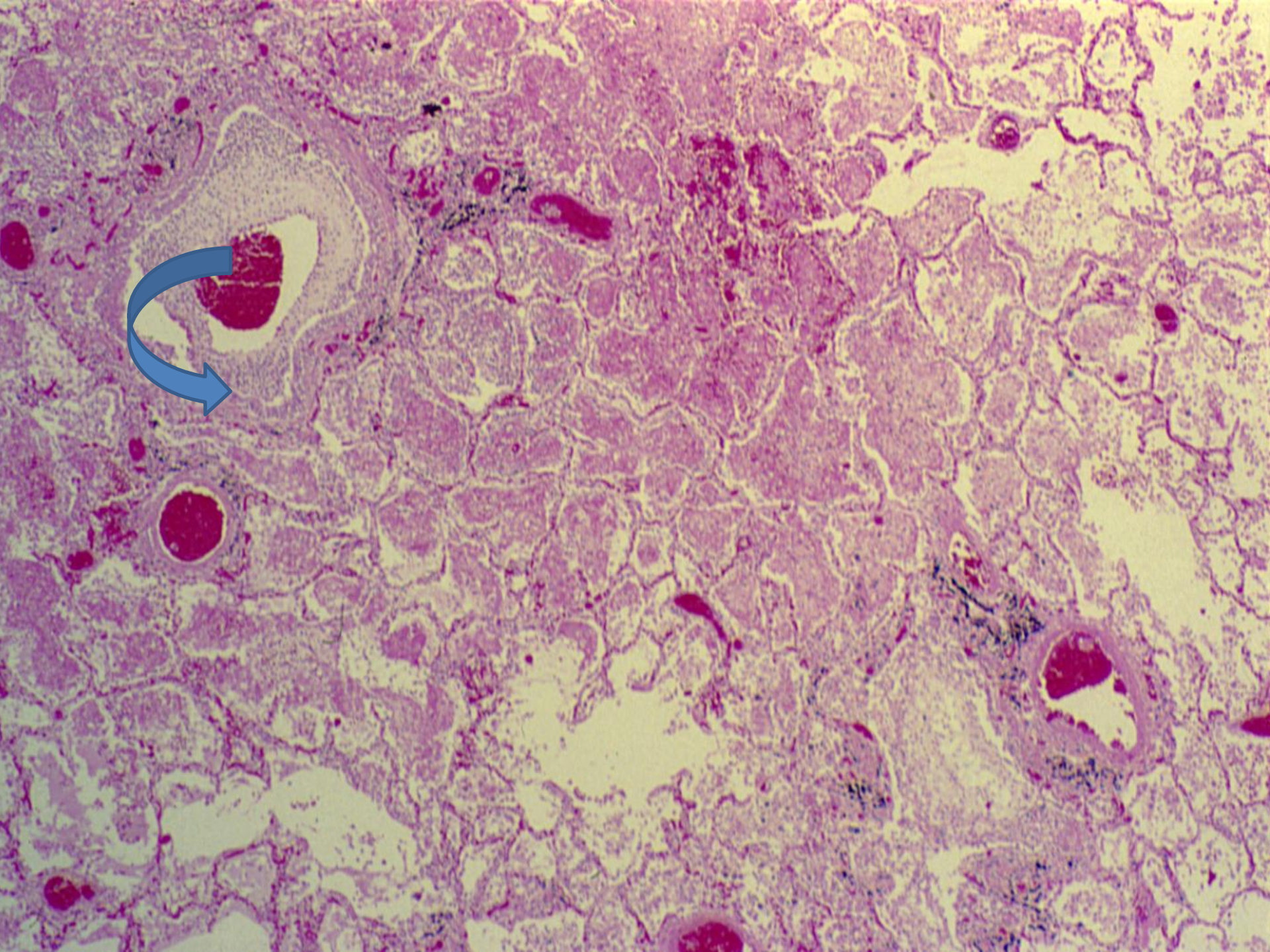
Affected
patch

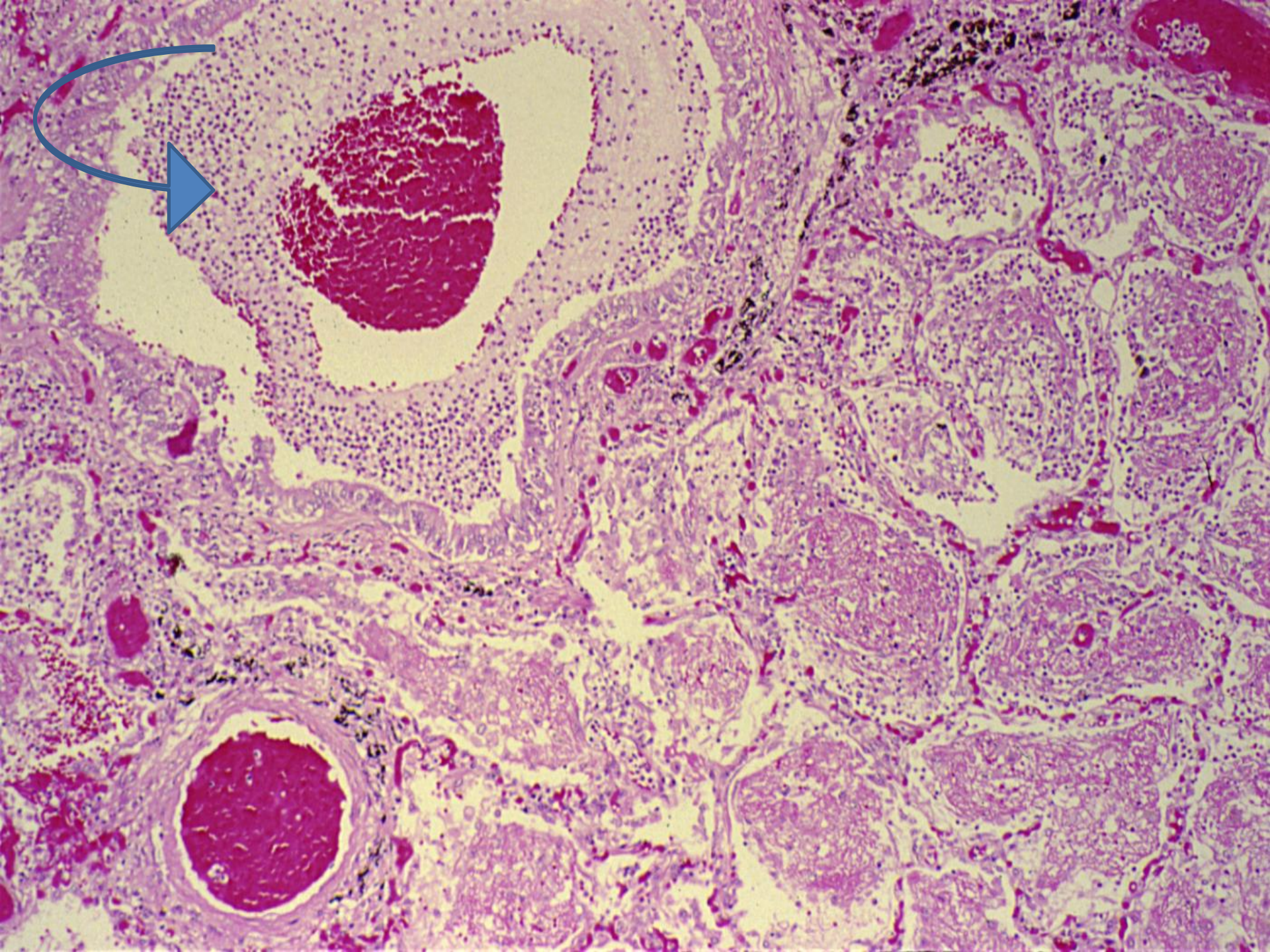
Affected area

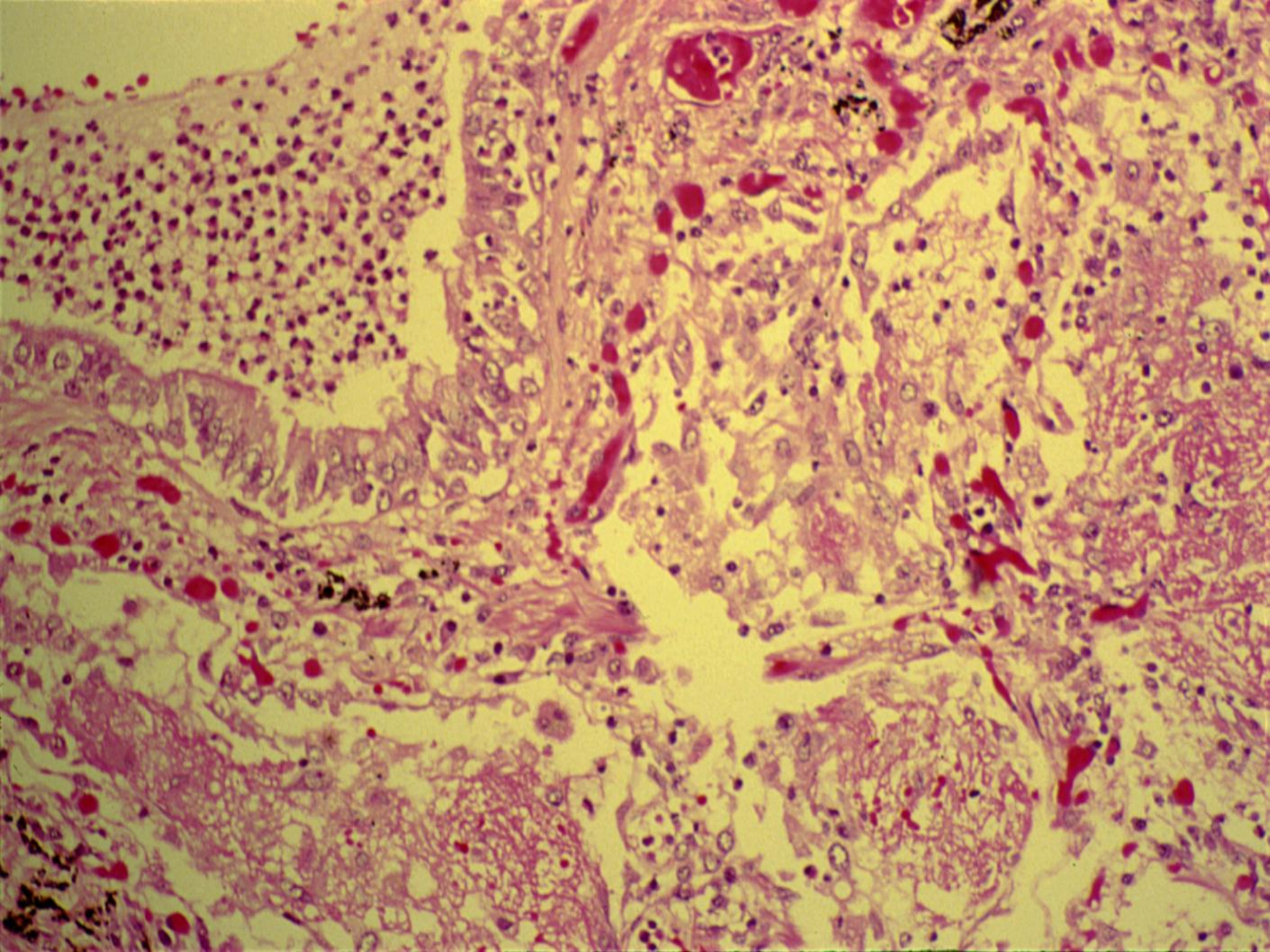


**Non-affected
area**












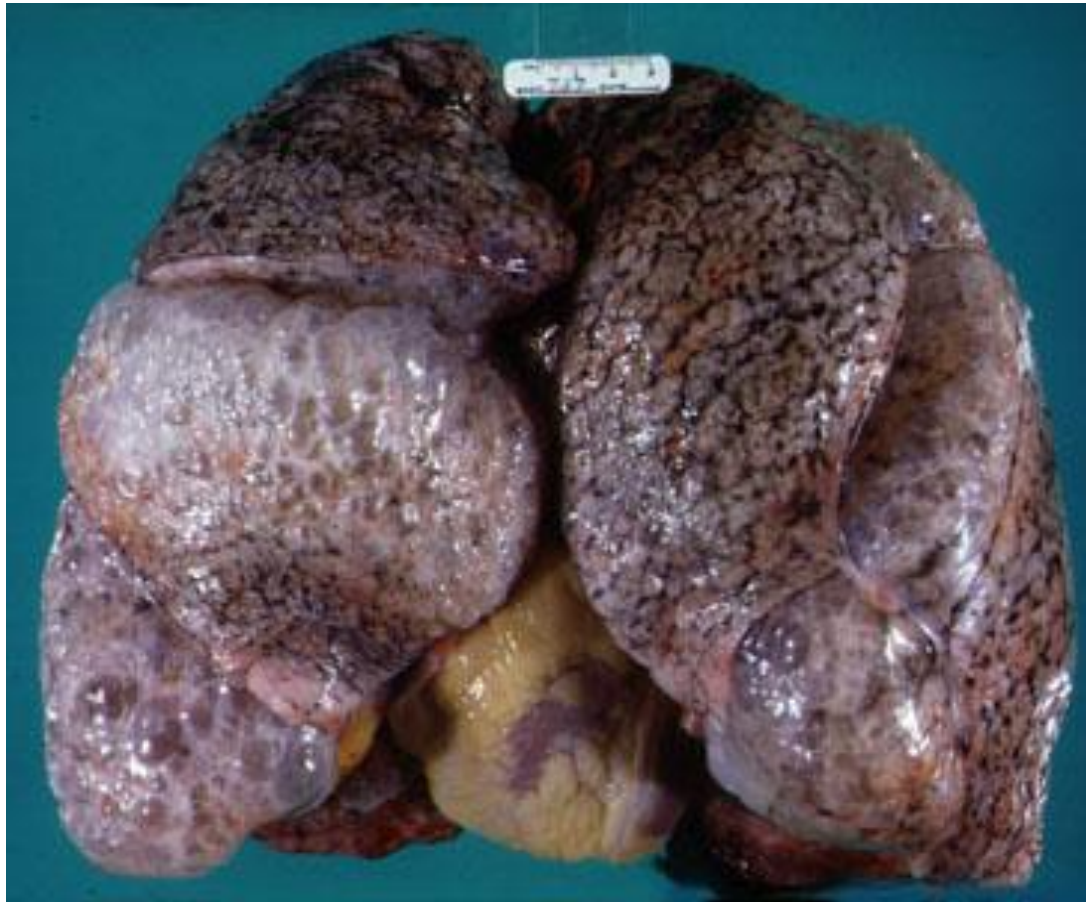
Bronchopneumonia:

Section of the lung shows foci of inflammatory consolidation surrounding bronchioles:

-  **Bronchioles are filled with an inflammatory exudate and show ulceration of mucosa, focal inflammation and necrosis of walls.**
-  **Alveoli surrounding the bronchiole are filled with fibrin threads polymorphs and few macrophages.**
-  **Surrounding lung parenchyma shows congestion and edema.**

3-Emphysema

Emphysema



Emphysema : Permanent dilatation of the lung with enlargement of alveoli and destruction of the elastic tissue .

Panacinar emphysema

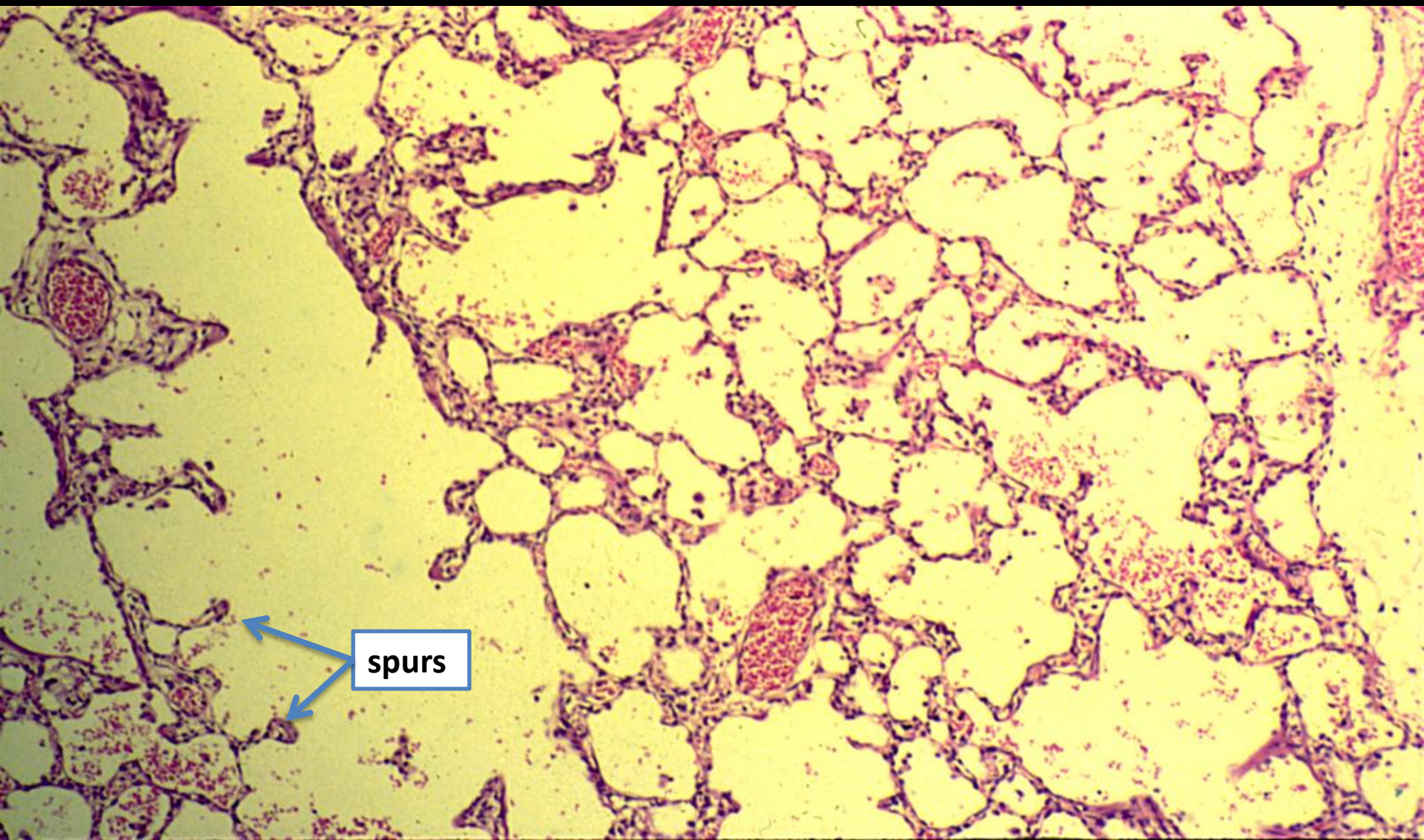


Pancinare emphysema >>> affect the whole respiratory acini .



Pathology of lung showing **centrilobular emphysema** characteristic of **smoking**. Close up of fixed, cut surface shows **multiple cavities lined by heavy black carbon deposits**.

EMPHYSEMA (LUNG)



EMPHYSEMA (LUNG)

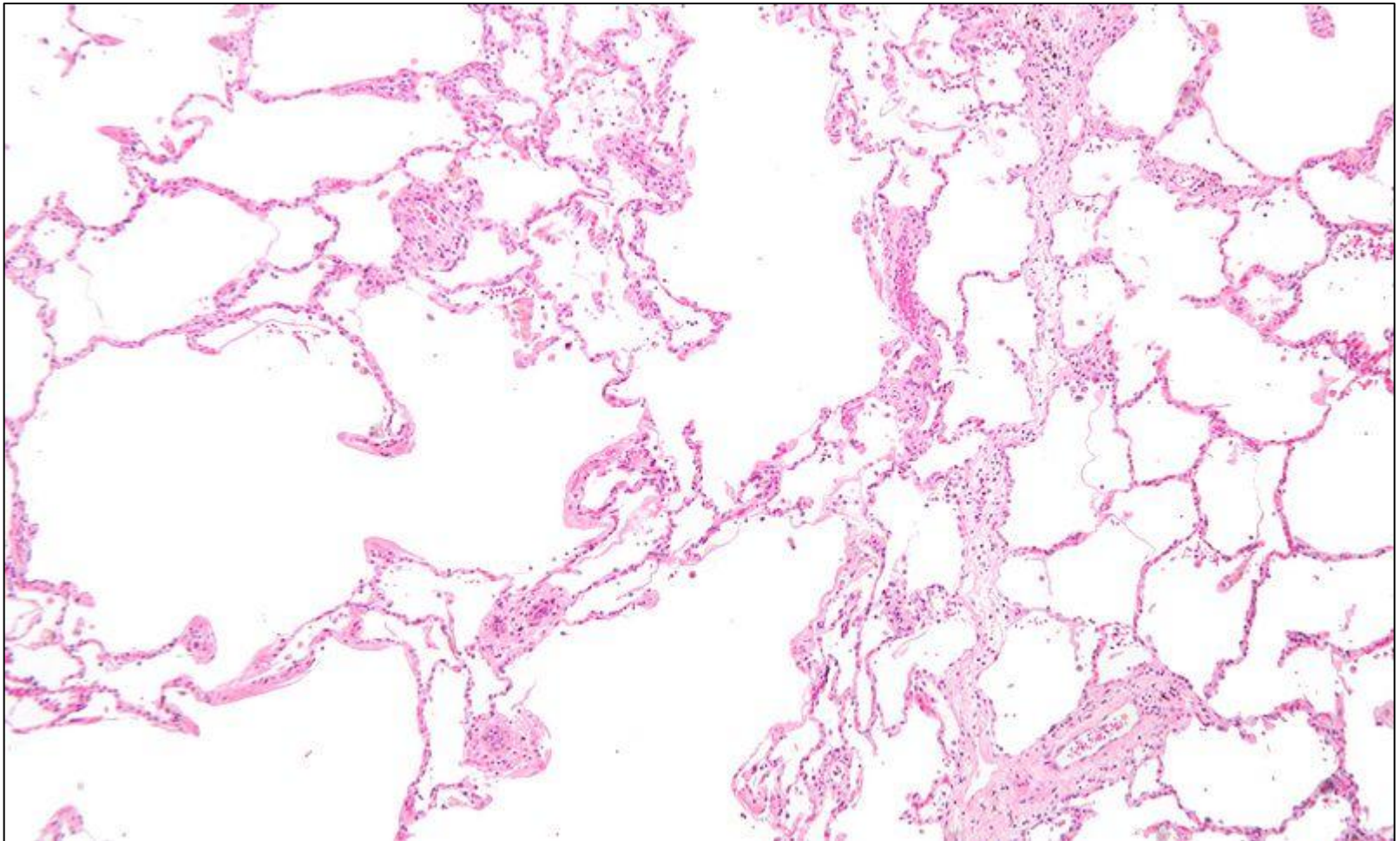
The section shows:

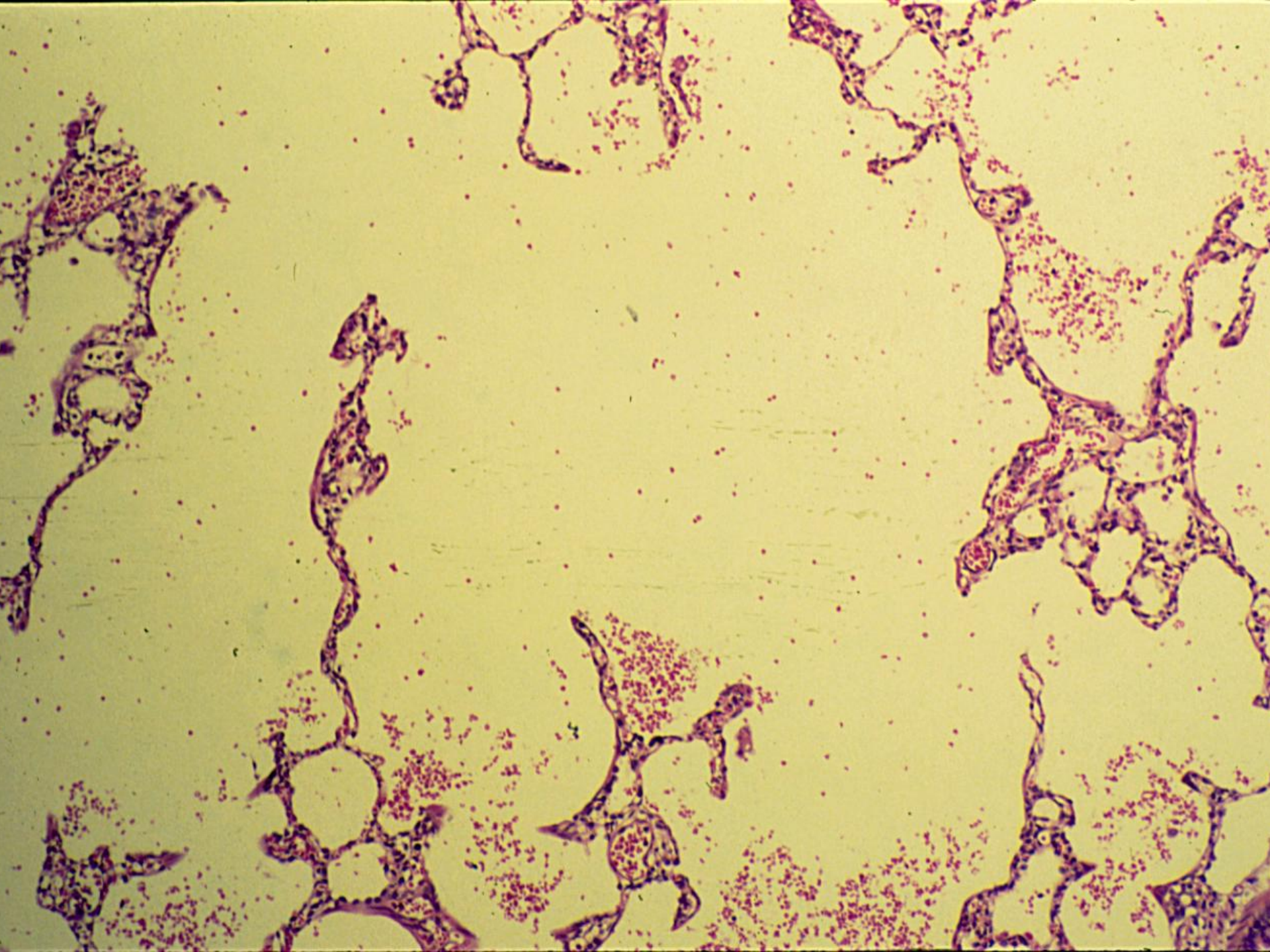
1- Dilatation of the alveoli .

2-Rupture of Alveolar septa lead to formation of spurs .

3- increase the size of the alveoli & decrease the number of the alveoli .





EMPHYSEMA(LUNG)





Emphysema:

Section of lung shows:

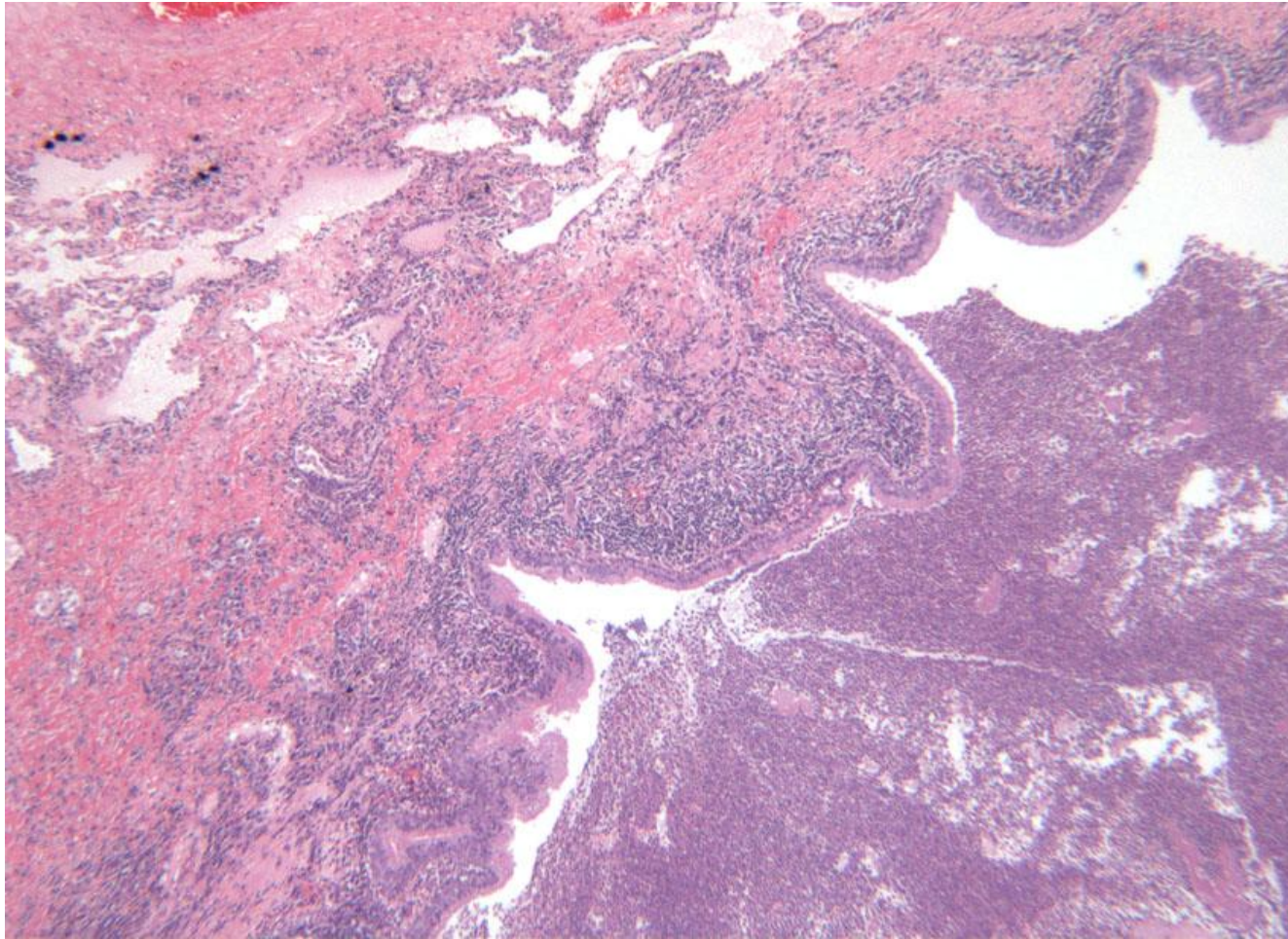
-  **Increase in the size of air spaces.**
-  **Decrease in number of air spaces and their walls are thinned.**
-  **Some of the alveolar septae are ruptured and the ruptured septa project with in air spaces on the form of spurs.**
-  **Alveolar blood vessels show reactive thickening of their walls.**

4-Bronchiectasis



Bronchiectasis is permanent dilatation of the bronchus
Cause: ciliary dyskinesia (associated with kartagener syndrome)





Section of a dilated bronchi with florid acute on chronic inflammation of the bronchial wall and surrounding interstitial fibrosis.

5-Pulmonary embolus and infarction

Longitudinal section of lung showing a wedge shaped peripheral hemorrhagic infarction . A thrombus is seen in a major branch of pulmonary artery

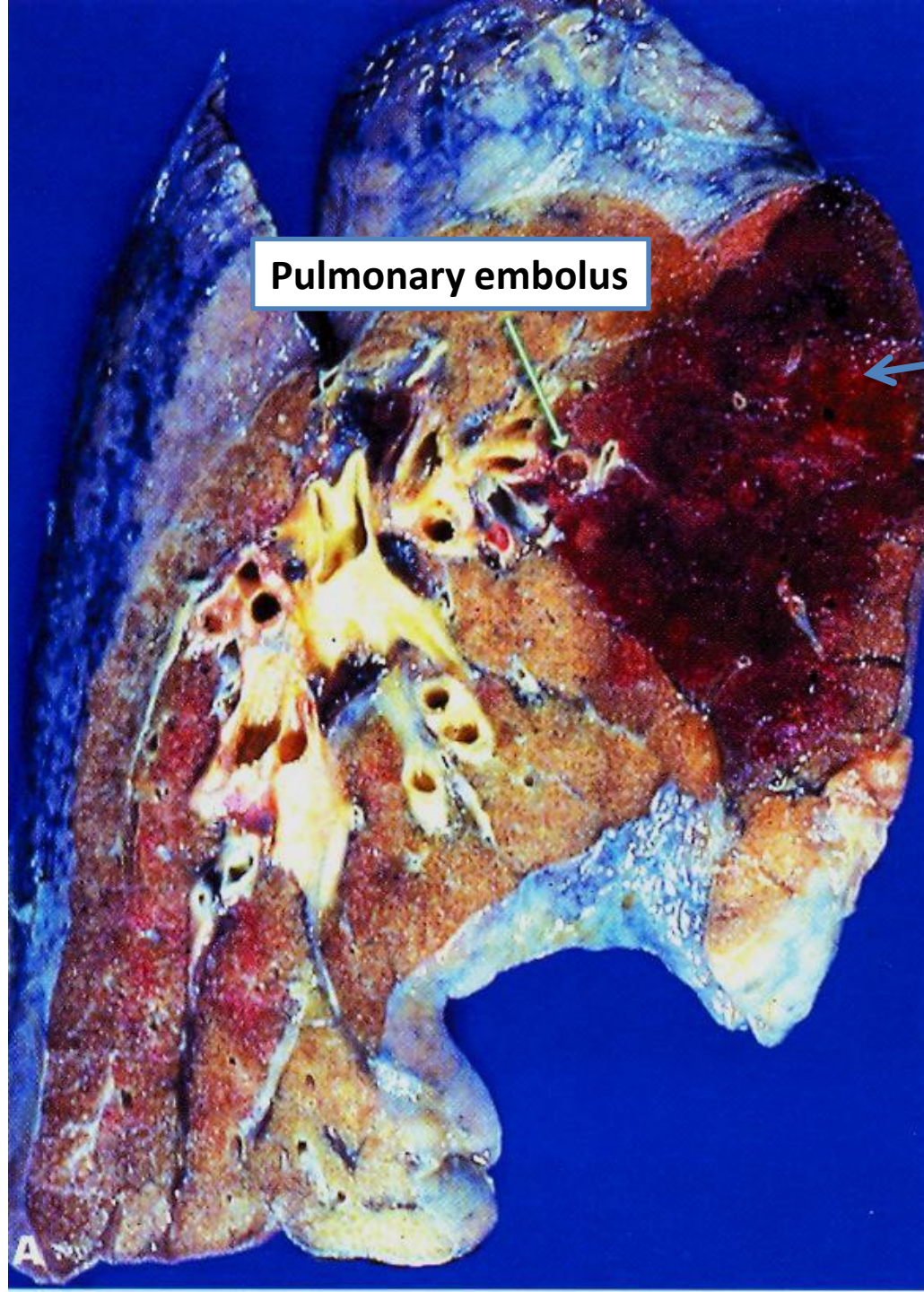
Q: what is the organ?

A:lung

Q: What is the pathology?

A: Pulmonary embolus and infarction

“red infarction”



Pulmonary embolus

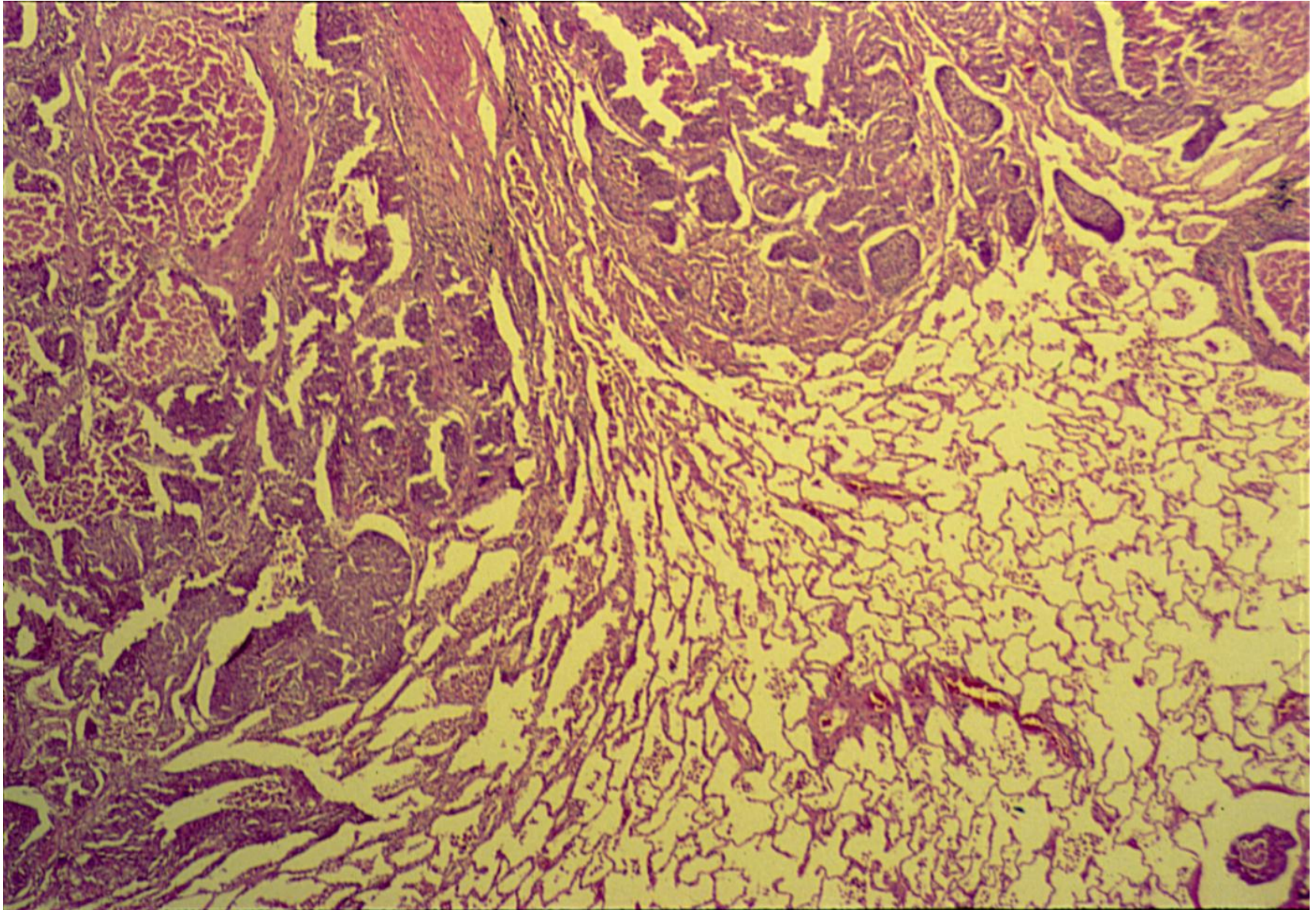
infarction

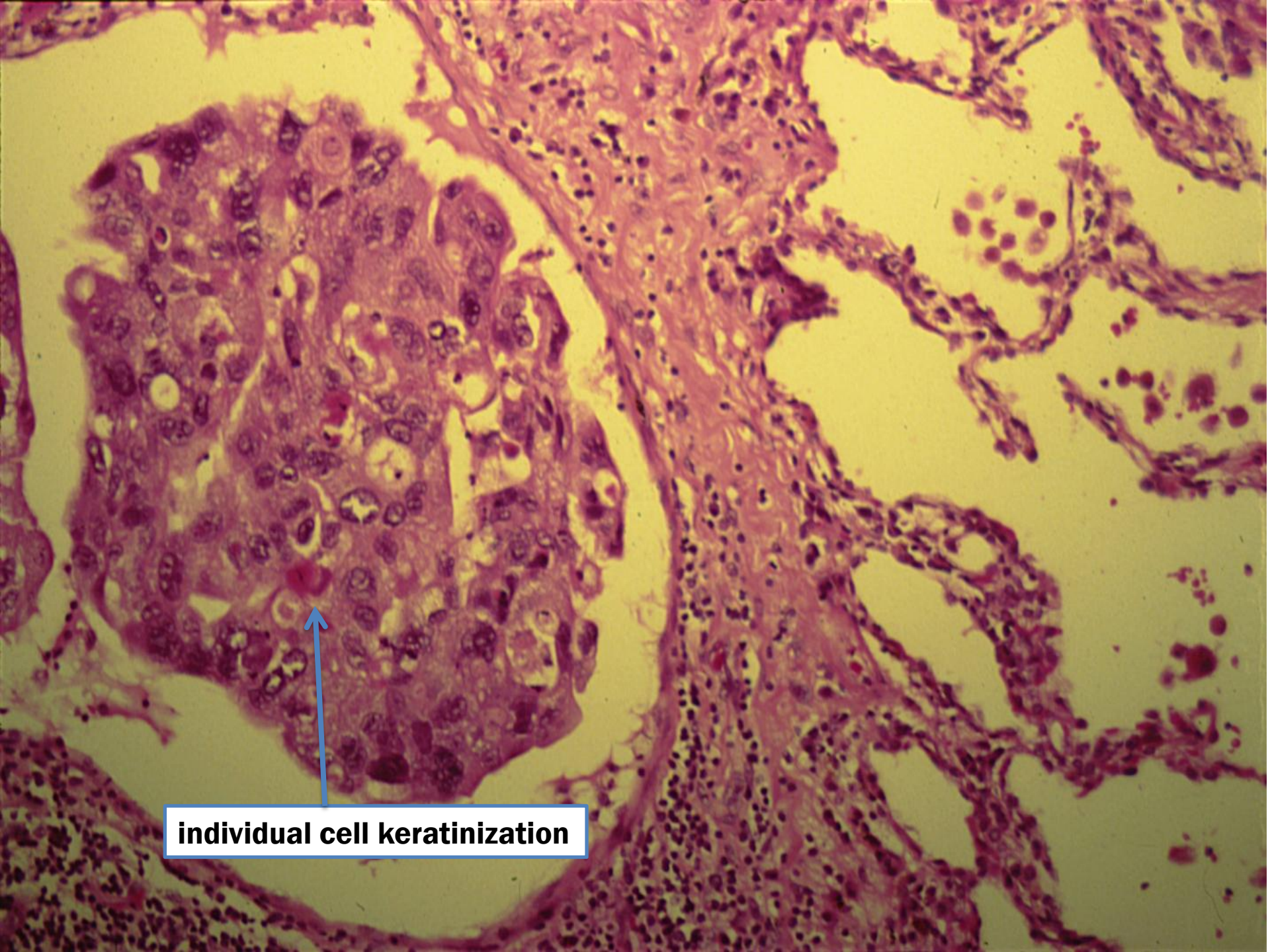
6-Bronchogenic carcinoma



A

Squamous cell carcinoma of the lung





individual cell keratinization

Squamous cell carcinoma of the lung:

Section of the lung shows one small bronchus and tumour masses:

- + Tumour consists of trabeculate and sheets of moderately differentiated squamous cells with little connective tissue stroma.**

Neoplastic squamous cells show pleomorphism, hyperchromatism, individual cell keratinization, “because Squamous cells secrete keratin” ,mitoses and areas of necrosis.

- + Peribronchial and perivascular lymphatics are occluded by tumour cells.**

7-Metastatic carcinoma of the lung

The section shows many nodules



KEEP ON YOUR MIND

- Infection of the lung :
- 1- lobar pneumonia . → **Diffuse consolidation of the alveoli**
- 2- bronchopneumonia . → **Patchy consolidation of the bronchi**
- COPD :
- Emphysema → ↑ **Size of the alveoli .**
- Bronchiectasis → ↑ **Size of the bronchus .**