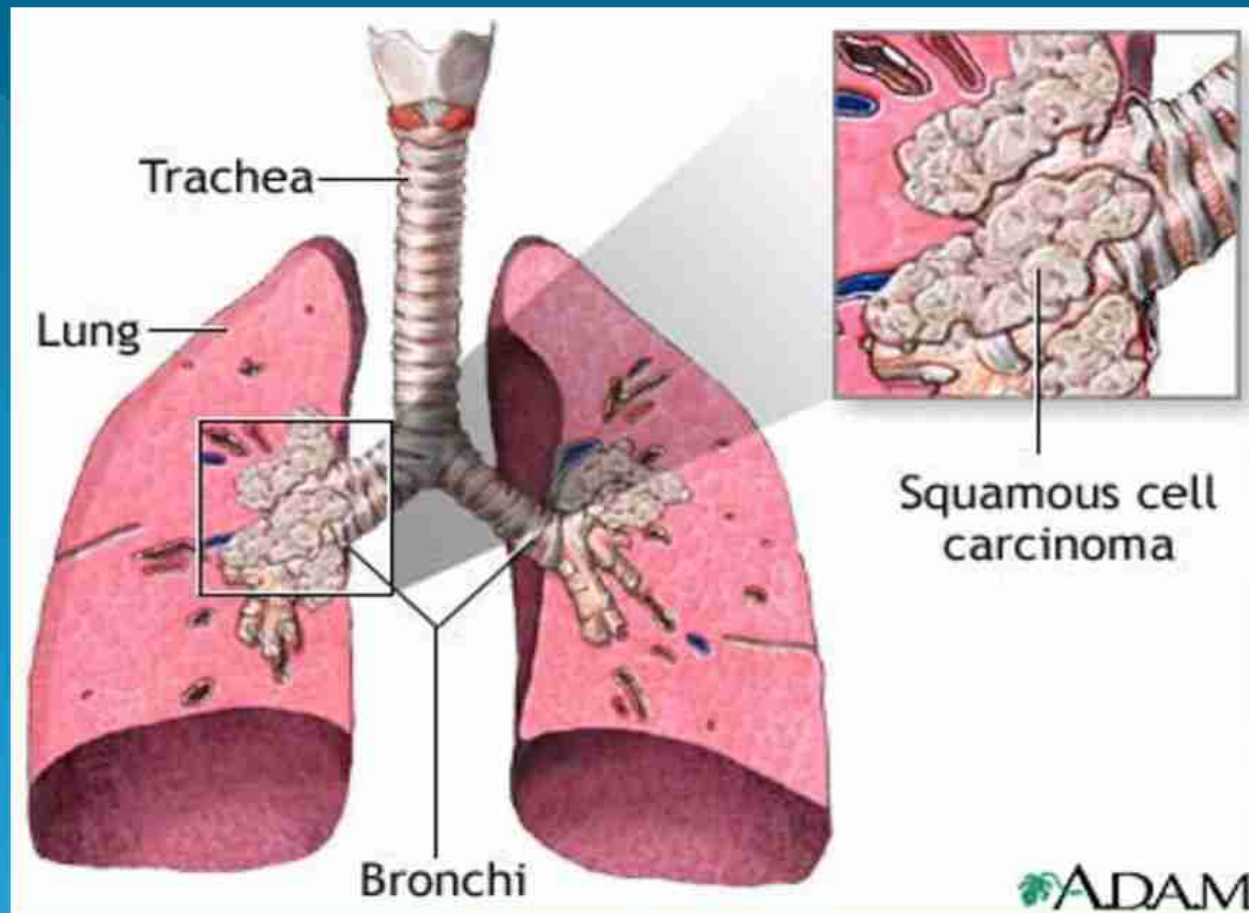


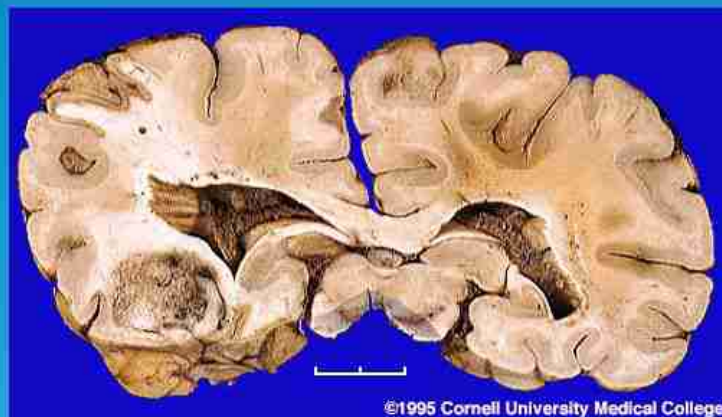
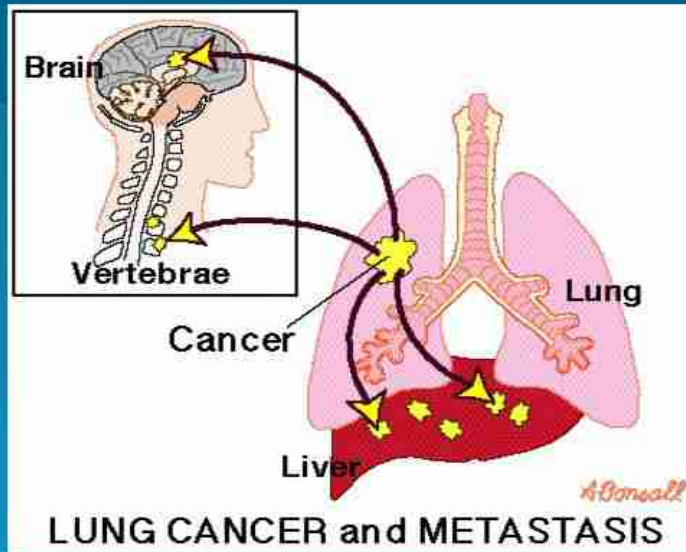
## Squamous cell carcinoma

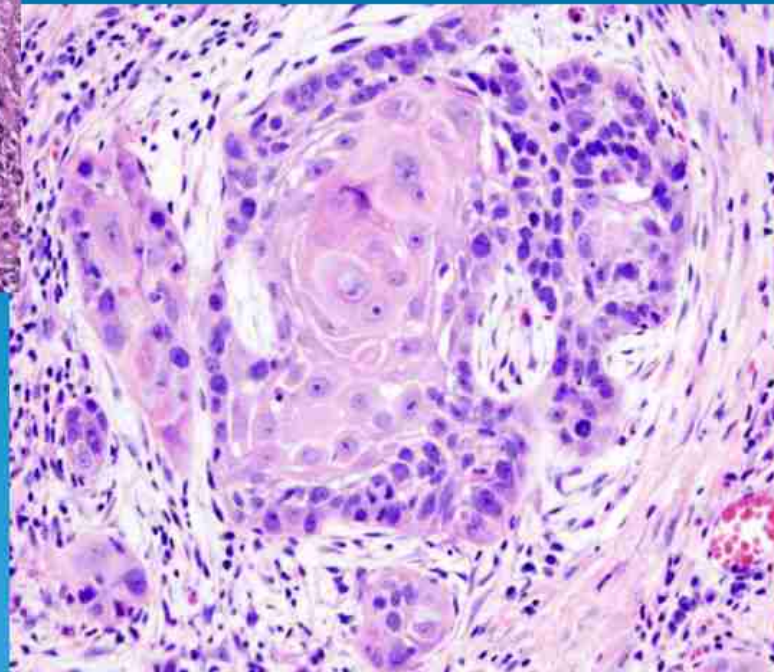
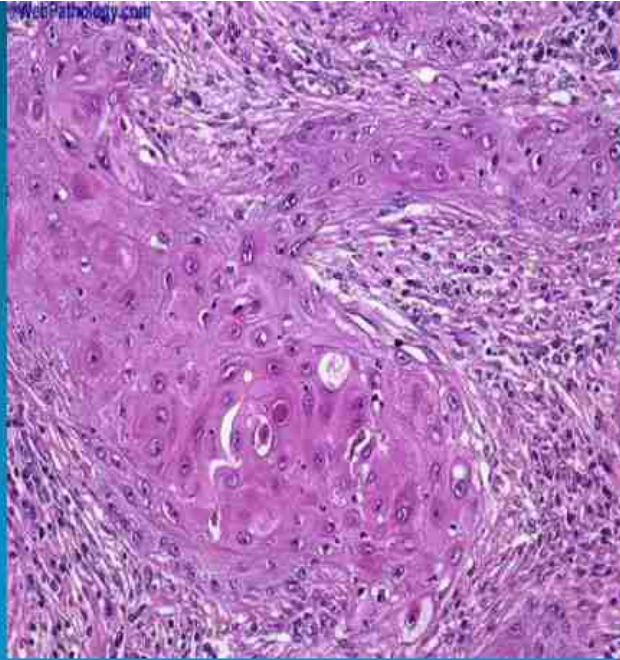
- Most commonly seen in men – closely related with smoking.
- Begins as an area of dysplasia → in situ carcinoma → invasive.
- Highest p53 mutations
- Located centrally in bronchi
- Cauliflower like growth





- Can be intrabronchial, infiltrate the lung parenchyma, reach up to pleural surface, spread to pericardium, mediastinum.
- Distant metastasis to – liver, brain, bone & adrenals.
- Keratinisation and desmosomes.
- Well, moderately or poorly differentiated.



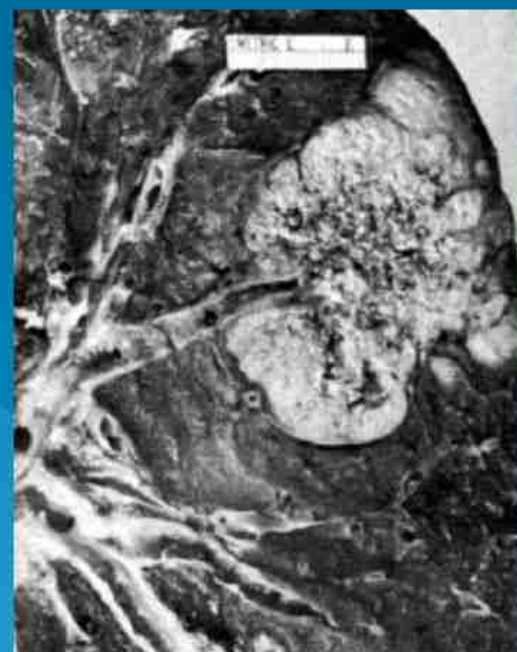
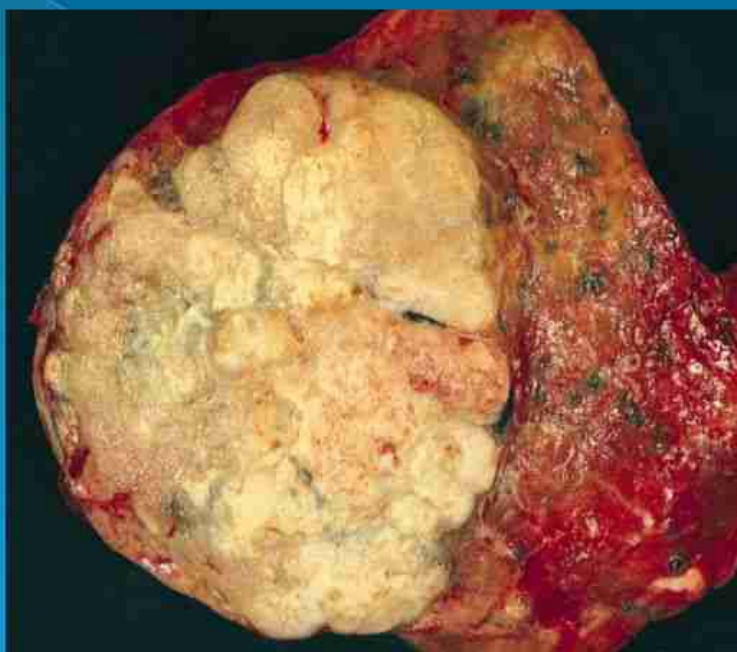


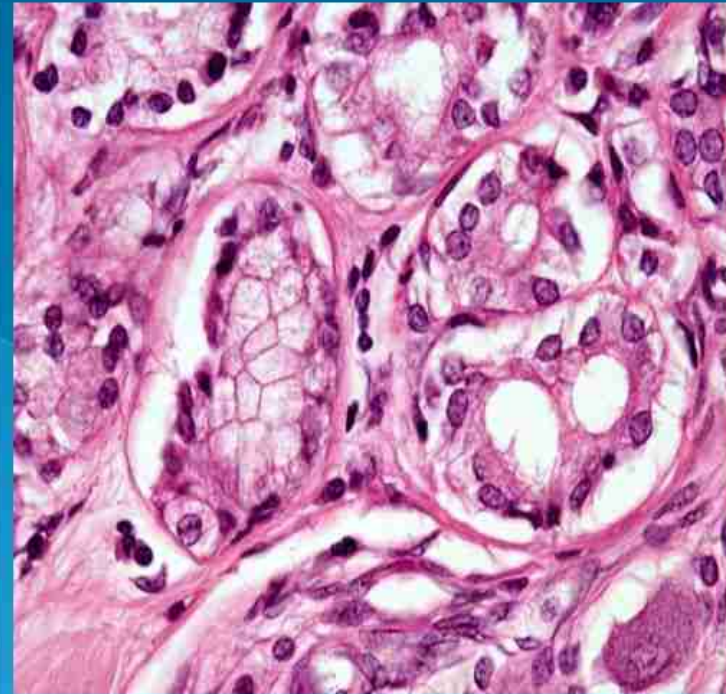
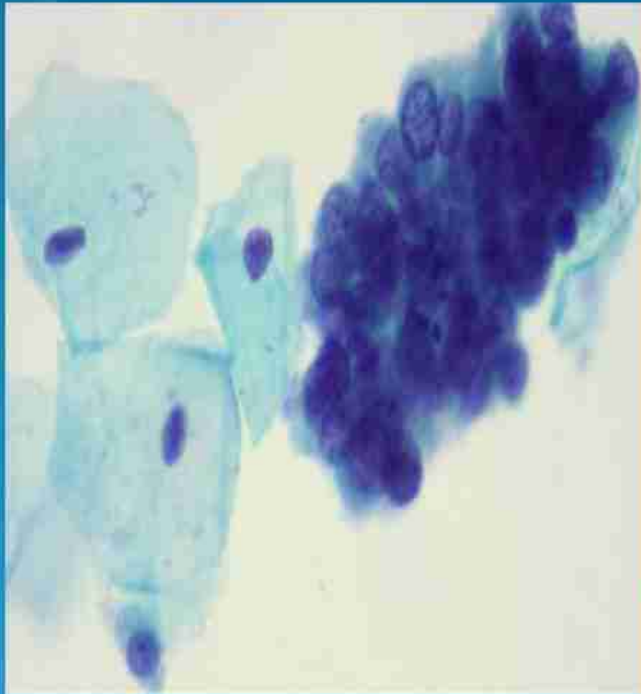
# Adenocarcinoma

- The most common type in women & non smokers.
- K-RAS mutations.
- Peripheral, smaller, slow growth, early metastasis.
- Show glandular differentiation or mucin production by tumor cells.
- Acinar, papillary, lepidic, solid.

- » Peripheral carcinoma
  - » Scar carcinoma -associated with chronic scarring
- Acinar type—glandular pattern-seen larger bronchi
- Solid type—poorly differentiated
- Papillary type –papillary pattern

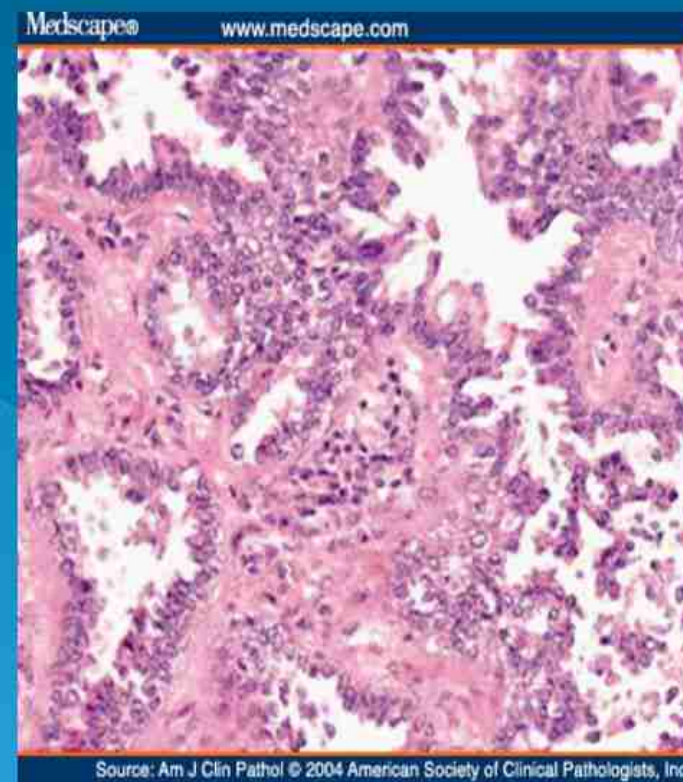
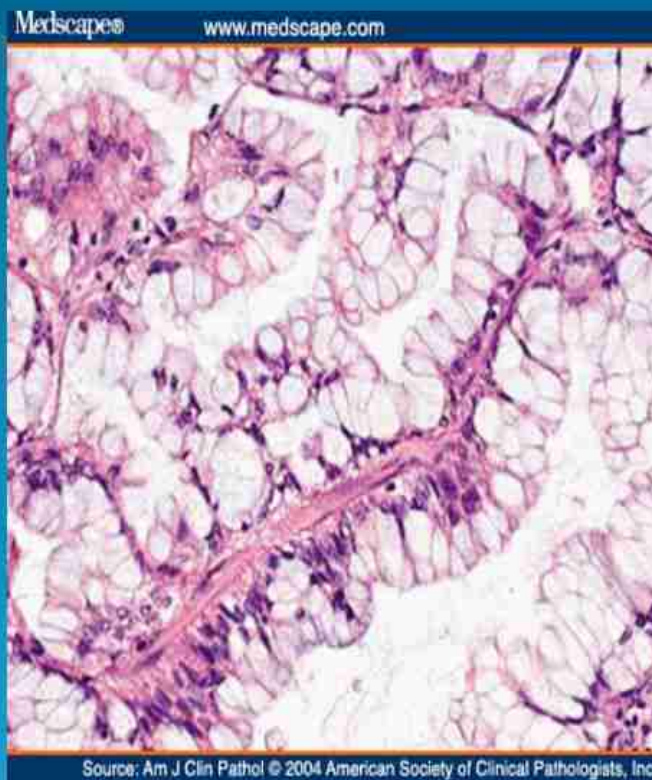






## ***Lepidic Predominant Adenocarcinoma ( Prev. BAC)***

- Occurs in the pulmonary parenchyma
- Peripheral, mimics broncho pneumonia.
- Growth along pre existing structures without destruction of alveolar architecture.
- Non mucinous & mucinous.



## STAGING

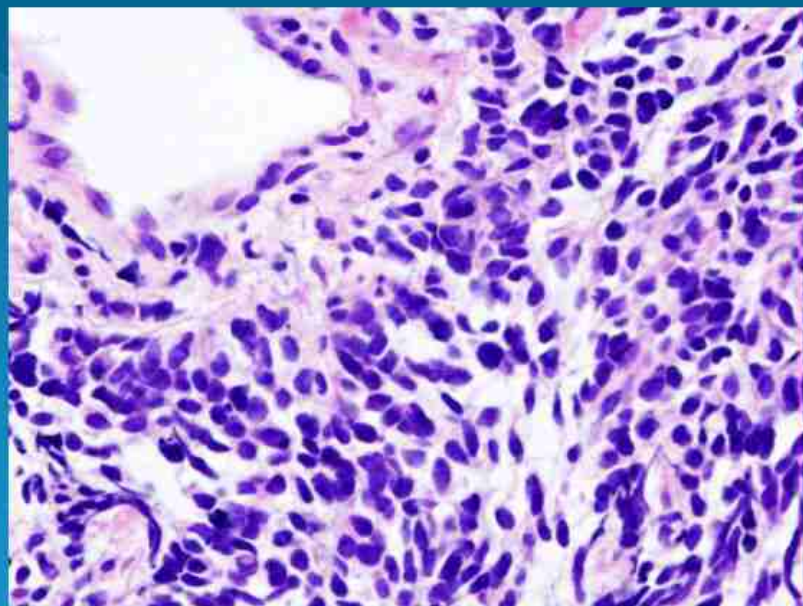
- Stage 1: Tumour < 3cm, No ipsilateral nodes, M0
- Stage 2: Tumour >3 cm, ±ipsilateral nodes, M0
- Stage 3 : Any size tumour involving adjacent structures /contralateral nodes
- Stage 4: Distant metastasis

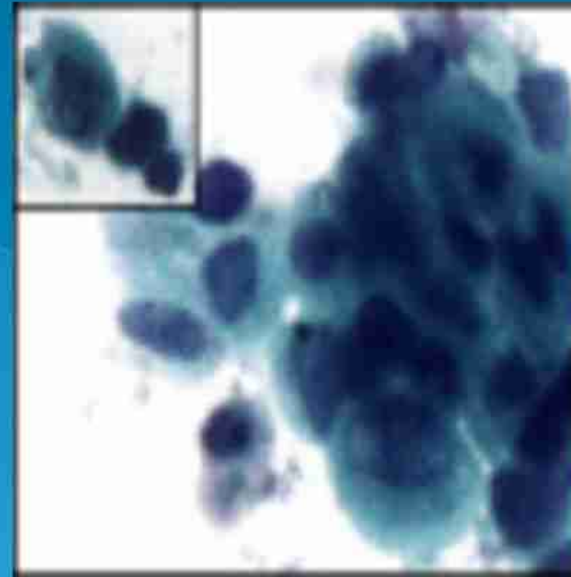
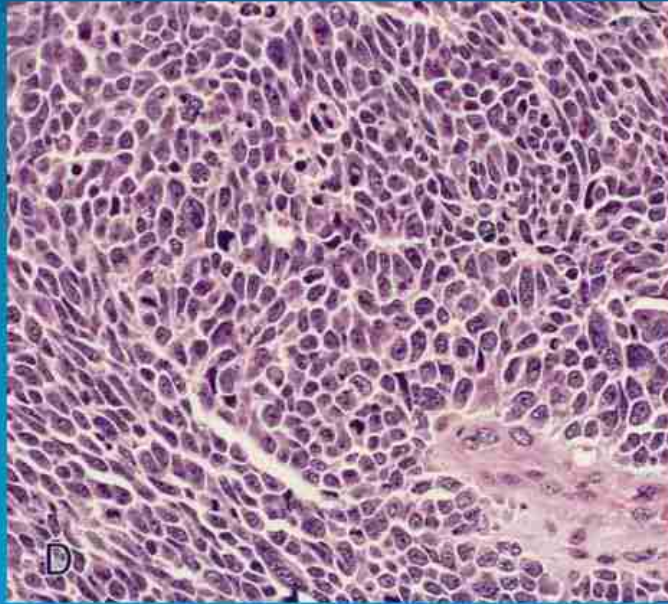
## Small cell carcinoma

- Highly malignant tumor, most aggressive.
- Strongest association with **smoking**.
- Arises from neuroendocrine cells.
- Ectopic hormone production.
- Both central & peripheral.

## Oat cell carcinoma

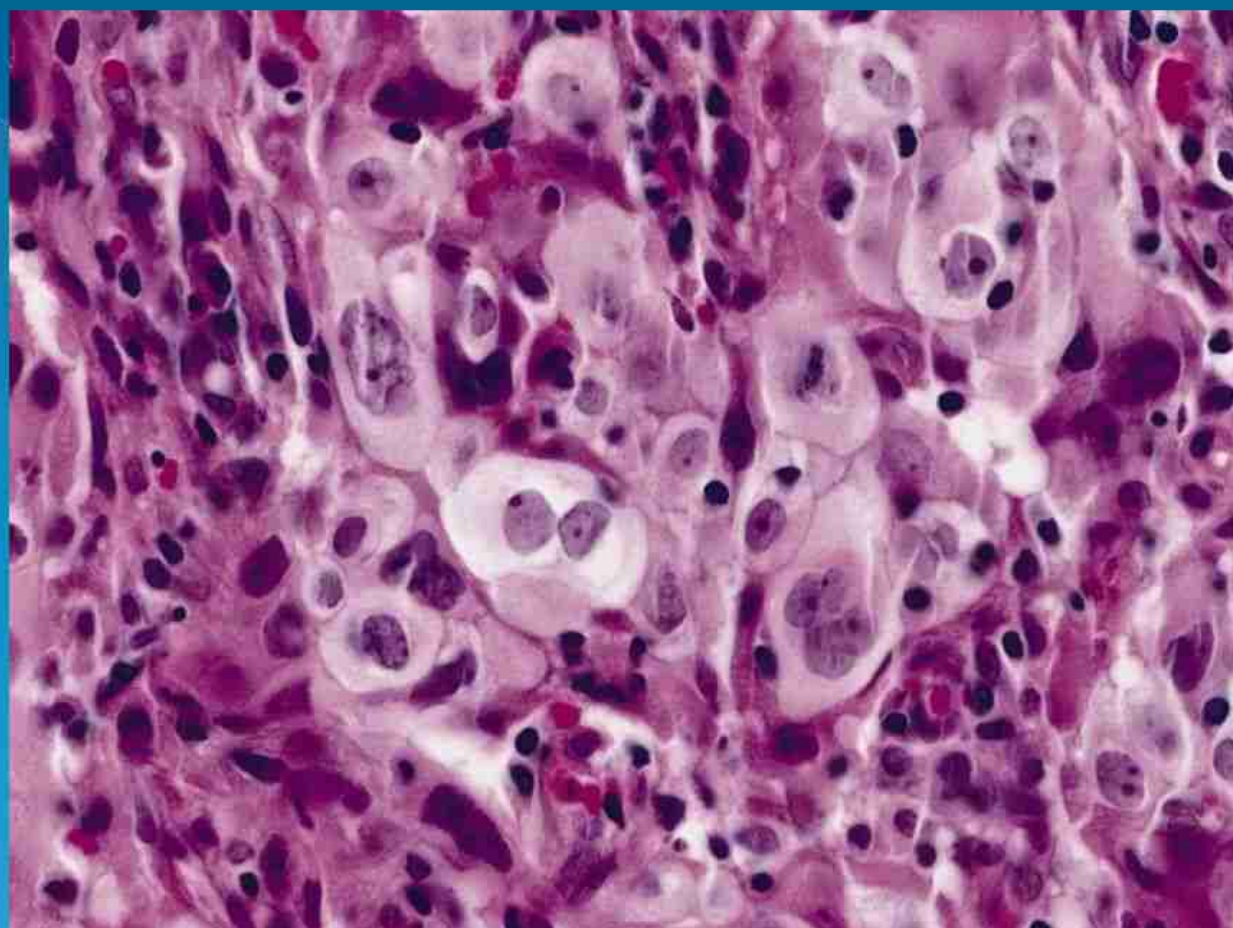
- Small cells with scanty cytoplasm, salt & pepper chromatin (finely granular), - cords, ribbon, pseudorosette
- Nuclear molding +, high mitosis
- Extensive necrosis.
- Basophilic staining of vascular walls by DNA from necrotic tumor cells.
- EM shows neurosecretory granules.
- Chromogranin, synaptophysin





## Large cell carcinoma

- ④ Undifferentiated tumor
- ④ Large cells with prominent nucleoli
- ④ Lacks features of small cell, squamous or adeno differentiation.
- ④ Highly malignant tumour



## Neuroendocrine tumors

- Normal lung contains neuroendocrine (Kulchitsky cells)
- ◉ Benign tumorlets
- ◉ small cell carcinoma
- ◉ carcinoid tumor

## Carcinoid tumor

- ④ 1-5% of all lung tumors
- ④ age < 40 yrs
- ④ Secrete vasoactive amines-  
carcinoid syndrome.
  - \* intermittent attacks of  
diarrhoea, flushing & cyanosis.
- low grade malignant tumors

# Carcinoid Syndrome

## Causal Agent

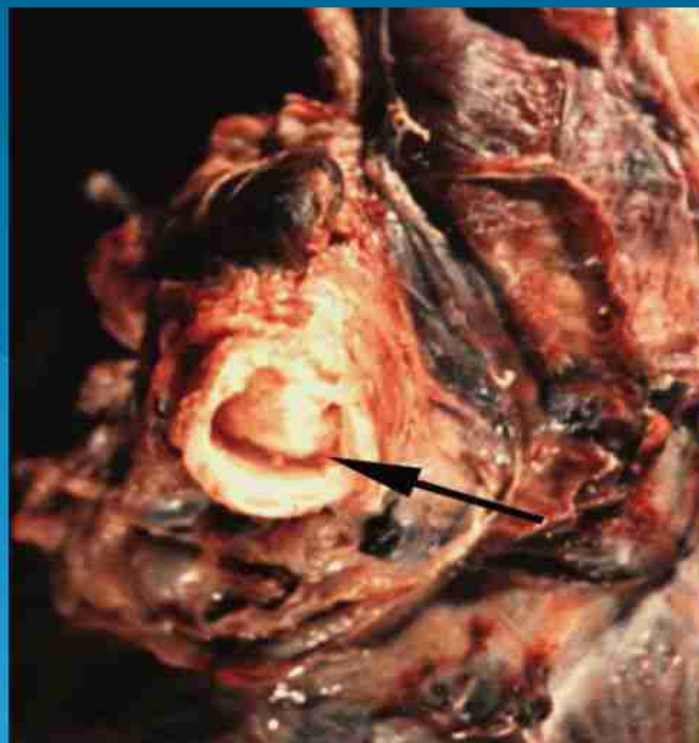
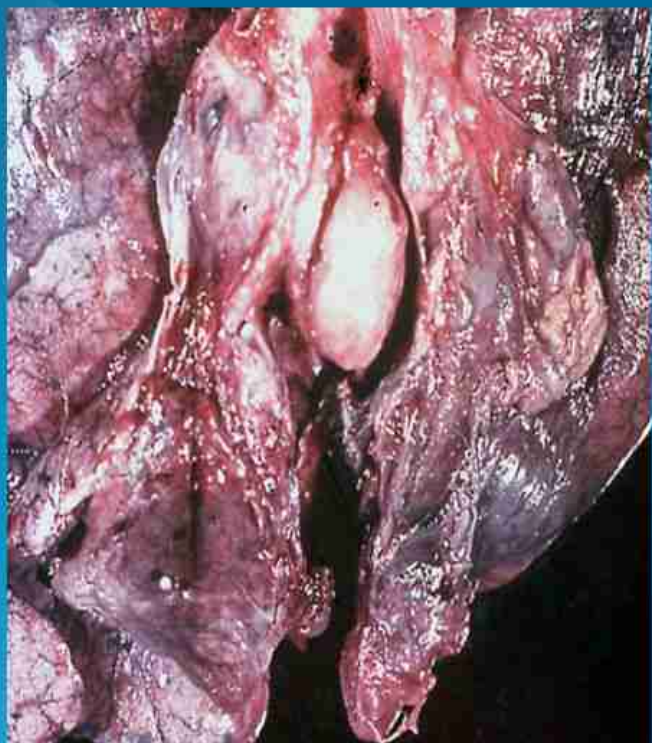
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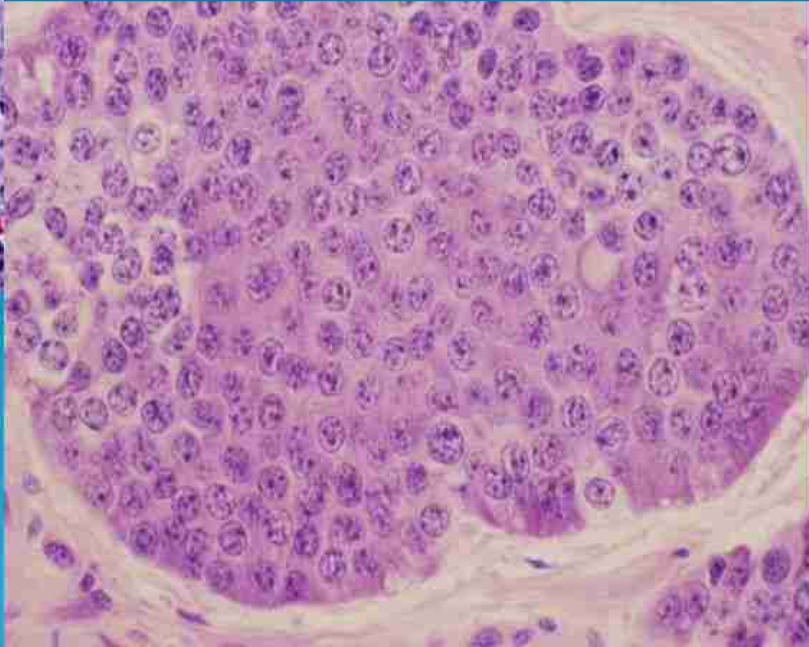
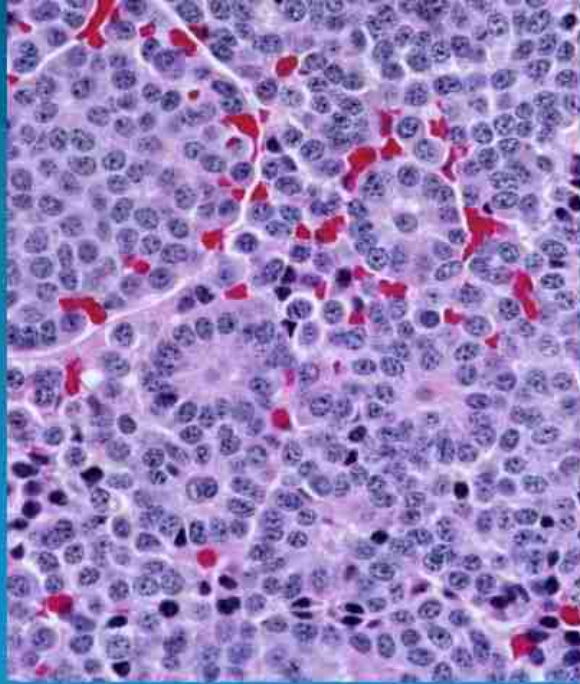
- |                           |                                 |
|---------------------------|---------------------------------|
| • Flushing                | Tachykinins,<br>Bradykinins     |
| • Diarrhea                |                                 |
| • Right Heart<br>Failure  | • Serotonin,<br>Prostaglandins? |
| • Broncho<br>Constriction | • Unknown (TGFB $\uparrow$ )    |
|                           | • Tachykinins,<br>Bradykinins?  |

- Central location
- Polypoidal masses projecting into bronchial lumen.
- Uniform cuboidal cells-- organoid, rosette, trabecular, overlying mucosa normal

Gross—3-4cm , -yellow-tan color

- Electron microscopy.



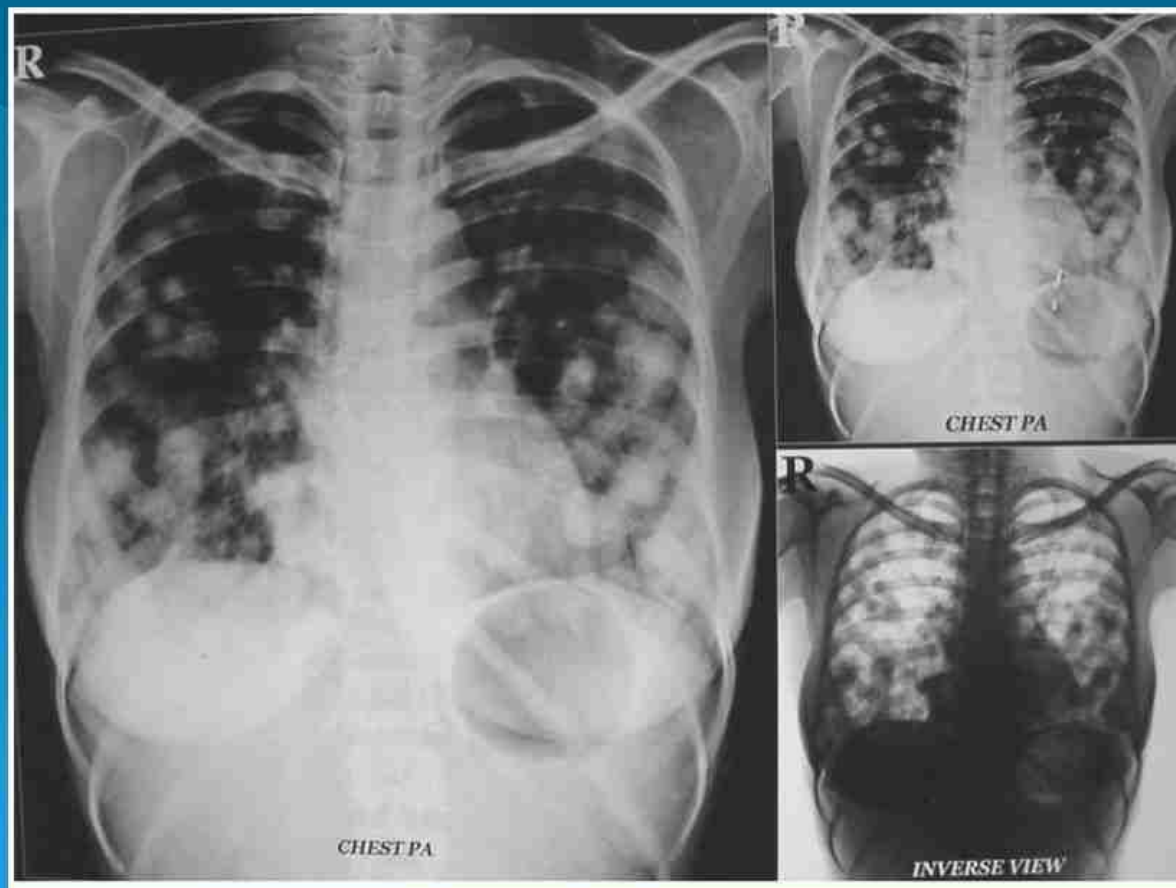


## Metastatic tumors

- Lung is the most common site of metastatic tumors.
- Multiple discrete nodules – Cannon ball lesions.
- By blood, lymphatics or direct continuity.



• Bowel, breast , kidney, liver





- Imaging: Chest X ray, CT chest
- Sputum cytology,
- bronchial brushings,
- biopsy.

## Pleura

Inflammation,  
pneumothorax ,  
Effusion

Tumors:

Primary,  
secondary

## Tumors of pleura

- Primary
  - \*solitary fibrous tumor
  - \*mesothelioma
- Secondary tumors –carcinoma  
breast, Ovarian tumors

# Mesothelioma

Benign and Malignant

Benign mesothelioma – rare

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Malignant mesothelioma – occupational  
tumour.--asbestos

# Mesothelioma

Benign and Malignant

Benign mesothelioma – rare

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tumour.--asbestos

- Diffuse growth—widely spread along the pleural surface—lung is ensheathed by tumour
- Epithelioid- Tubular, papillary, cystic.
- Sarcomatoid pattern - spindle cells
- Biphasic pattern

