

# Bronchial carcinoma

- .most common fatal lung malignancy account for 95% of lung cancer
- .leading cause of cancer death.
- .peak incidence occur between ages 55-65 years .
- .there is a 3:1 male : female ratio.
- . Aetiology :
  - smoking is the most common aetiological factor.
  - others: passive smokers , exposure to asbestos, chromium , iron oxide and products of cool combustion

# Types:

There are 4 major types :

1- epidermoid [squamous] -35%

2- adeno carinoma -30%

3- large cell carcinoma -15%

4- small cell lung cancer -20%

# Epidermoid carcinoma -35% :

- .occurs most frequently in men and old people
- .usually starts on one breathing tubes.
- .tend to be localized in the chest longer than other types of lung cancer.
- .does not tend to metastasize early.
- .It is strongly associated with smoking.

# Adenocarcinoma-30%:

- .most common cancer among women.
- .usually started near the outer edges of the lung.
- .Invasion of pleura and mediastinal lymph node is common.
- .may spread to other parts of the body.
- .can be seen in non smoker.

## Large cell carcinoma – 15% :

- .less well – differentiated.
- .may occur at any part of the lung.
- .Tumors are large by the time they are diagnosed.
- .has greater possibility of spreading to brain and mediastinum.

# Small cell lung cancer:

- .small cell lung cancer also called oatcell because SCLC cells have oat grain appearance.
- .It arises from endocrine cells [kulchitisky cells] where many hormones are secreted
- .spread to lymph nodes and other organs more quickly than NSCLC .

- .usually started in one larger breathing tube.
- .Tend to grow rapidly .
- .commonly has spread by the time and is considered a **systemic disease**.
- .It is the **only** one of the bronchial carcinomas that respond to chemotherapy

# presentations:

- .lung cancer may present in number of different ways :
- .most commonly symptoms reflect local involvement of the bronchus.
- .may also arise from spread to the chest wall or mediastinum or from distant blood-borne spread.



# Local effects of tumor within the bronchus :

## 1- cough ( in 80% of cases ) :

- It is the most common early symptoms.
- sputum is purulent if there is sec. infection.
- A change in the character of the (regular cough) associated with other new respiratory symptoms increase the possibility of B.C.

## 2- Haemoptysis ( in 70% of cases) :

- Repeated episodes of scanty cough hemoptysis or blood –streaking of sputum in smokers are highly suggestive of B.C and should be always investigated .

### 3- Dyspnea ( 60% of cases ):

- reflect occlusion of a large bronchus resulting in collapse of a lobe of the lung or development of pleural effusion.

### 4- Pleural pain :

reflect malignant invasion of the pleura or reflect infection distal to a tumor (which is recurrent and fail to resolve).

# Direct spread:

.Involvement of **pleura** and **ribs** .

.**Pancoast's tumour**:

-involvement of lower part of the brachial plexus ( C8 , T1,T2) causing **severe pain of the shoulder and down inner surface of the arm.**

-**Horner syndrom**: due to involvement of the sympathetic ganglion.

-recurrent laryngeal nerve palsy :  
causing unilateral vocal cord paresis  
with hoarseness of voice and a bovine  
cough.

▪.Invasion of phrenic nerve , causing  
paralysis of the diaphragm.

- Involvement of esophagus , causing dysphagia.
- Cardiovascular:atrial fibrillation, tamponade ,pericarditis ,pericardial effusion .

- Superior vena cava obstruction causing early morning headache, facial congestion and edema involving the upper limb, distention of jugular vein and veins of the chest.

# Nonmetastatic extra pulmonary manifestation:

## 1- Endocrine manifestation:

12% of tumors ,in particular small cell tumors present with **SIADH, ACTH** secretion(SCLC),  
**hypercalcemia**(sq.cell carcinoma)  
,bone metastasis  
**gynaecomastia**(LCLC) .



## 2- Neurological manifestation:

e.g: sensory polyneuropathy  
,myelopathy, cerebellar  
degeneration.

### 3- Others:

Digital clubbing , hypertrophic pulmenary osteo-arthropathy (sq.cell cancer) , nephrotic syndrom, DIC, hypercoagulopathy (adenocarcinoma), ,thrombophelibitis migricans.

# Blood borne metastasis:

- Bony metastasis giving severe bony pain and pathological fractures.

- liver metastasis (Jundice)

- Brain metastasis (change in personality, epilepsy, focal neurological symptoms).

# Physical signs:

Examination is usually normal unless there is significant bronchial obstruction or tumor has spread to pleura or mediastinum.

- 1- physical signs of collapse (in large obstructing tumor) which may rise to pneumonia.
- 2- monophonic or unilateral wheeze (fixed bronchial obstruction).
- 3- stridor (obstruction at or above the level of main carina).

- 4- hoarseness of voice associated with bovine cough (recurrent laryngeal nerve palsy).
- 5- dullness percussion and absent breath sounds at the lung base (unilateral diaphragmatic palsy due to involvement of phrenic nerve)

- 6- physical signs of pleurisy or pleural effusion (involvement of pleura).
- 7- bilateral engorgement of the jugular vein and later edema affecting face, neck, arms.
- 8- tenderness and pain of long bone and joints (HPOA).

# Management

## Investigation:

- **Sputum cytology:** high yield for endobronchial tumors such as squamous cell and small cell carcinoma.



- chest x-ray:

common radiological presentation of bronchial carcinoma.

1- unilateral hilar-enlargement.

2- peripheral pulmonary opacity.

3- lung, lobe or segmental collapse.

4- pleural effusion .

5- broadening of the mediastinum,  
enlarged cardiac shadow, elevation  
of hemidiaphragm.

6- rib distruction.

- Pleural fluid cytology in pleural effusion .
- **Bronchoscopy** : gives high yield in excess of 90% (allows biopsy and bronchial brush samples)  
if fail precautious fine needle aspiration under CT.

- CT thorax and upper abdomen.
- Head CT scan.
- Radio nuclide bone scanning.
- liver US.
- bone marrow biopsy.

# Treatment:

1- **surgery** : in patient with localized disease and non-small cell cancer.

2- **solitary pulmonary nodule** ,  
**resection if :**

1- age  $\geq 35$

2- segarette smoking.

3- large ( $>2$  cm) lesion. 4- lack of calcification.

5- chest symptoms.

6- growth of lesion compared old CXR.

3- for unresectable non-small cell cancer, metastatic disease, or refusal of surgery:

**radio therapy +chemo therapy**

may reduce death risk by 13% at 2 years.

- 4- small cell lung cancer : combination **chemotherapy** is standard mode of therapy with long-term survival.
- 5- **laser obliteration** of tumor through bronchoscopy in presence of bronchial obstruction.

- 6- **Radio therapy** for brain metastasis, spinal cord comprission, symptomatic mass, bone lesion.
- 7- **Encourage cessation of smoking.**



# References:

- Parveen Kumar and Michael Clark,clinical medicine.fourth edition.
- Davidsons;principles and practice of medicine ;19<sup>TH</sup> edition.
- R.R Baliga, 250 cases in clinical medicine,international edition.
- R.A.Hope, etal;Oxford hand book of clinical medicine,4<sup>TH</sup> edition

A pair of light-colored, textured shoes, possibly made of canvas or a similar material, with a dark brown sole. The shoes are positioned side-by-side, with the left shoe slightly behind the right one. The background is dark and out of focus.

*Thank you*