



Clinical round in Medicine

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Lung Cancer

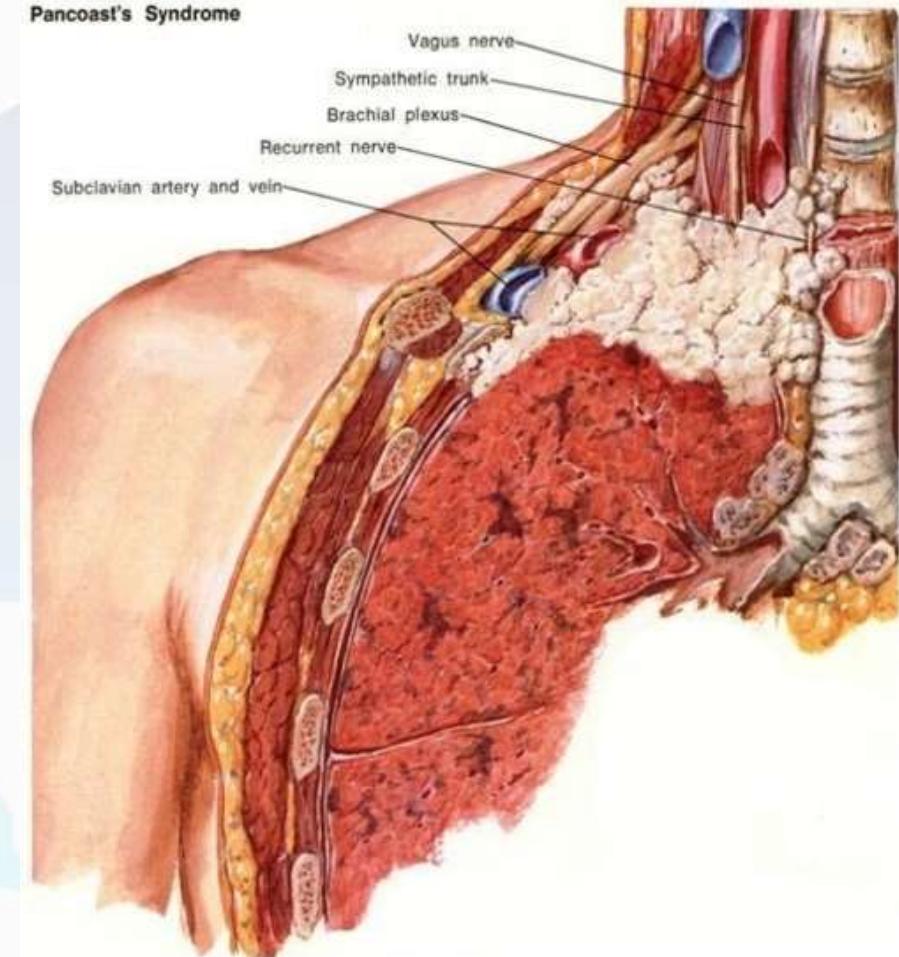
- Bronchogenic carcinoma is the **leading cause of death because of malignancy in men and women.**
- The far majority of cases are directly related to **cigarette smoking**; the occasional **nonsmoker** who has lung cancer develops **adenocarcinoma**.
- **All lung cancers are associated with smoking:**
 - Active smokers have **10x greater risk compared with nonsmokers**.
 - Those with **asbestos** exposure have **75x greater risk** of bronchogenic carcinoma compared with non exposed individuals , Asbestos also increase risk for **mesothelioma** “ **Pleural Cancer**” .

Lung Cancer

- **Clinical Presentation:**
 - The most common symptom is **cough**.
 - **Weight loss** .
 - **Dyspnea** is seen in 58% of patients.
 - Other associated symptoms of bronchogenic carcinoma include **hemoptysis**, **chest wall pain**, and repeated **pneumonic processes (postobstructive pneumonia)**.
 - **Hoarseness of voice**.
 - **Superior vena cava syndrome** can occur (Pancoast tumor) .
 - Tumor compression of **the brachial plexus** can cause **radiating arm pain** and **paresthesias**.



Pancoast's Syndrome



Lung Cancer

- Lung cancers are divided into :

1- Small cell lung carcinoma:

- It comprises **15% of all malignant lung tumors.**
- Small cell lung carcinoma is **strongly associated with Smoking** and is usually **centrally** located.

2- Non-small cell:

- It is **far more common** than small cell carcinoma.
- Non-small cell lung cancers are further divided into:

A- Adenocarcinoma.

B- Squamous cell carcinoma.

C- Large cell carcinoma.

- Non-small cell carcinomas can be **treated with surgery** if they are **localized**; small cell carcinoma is treated with **chemotherapy and radiation**.

1- Small cell lung carcinoma:

- Is the **most aggressive type**. the majority of patients have **distant metastases** at the time of diagnosis.

- May produce :

- 1- **ACTH** (Cushing syndrome).

- 2- **ADH** leading to SIADH.

Hyponatremia is a common complication of small cell lung cancer.

→ Fluid restriction is the initial treatment of choice in asymptomatic or mildly symptomatic patients.

- 3- **Antibodies** against presynaptic Ca channels (Lambert Eaton syndrome) or neurons (paraneoplastic myelitis, encephalitis, subacute cerebellar degeneration).

2-Non small cell lung carcinoma:

A. Adenocarcinoma:

- is **the most common lung cancer overall** (except for metastases), occurring most frequently in **women and nonsmokers**.
- In contrast, **Squamous cell carcinoma & Small cell carcinoma** have a **Strong association with Smoking (4Ss)** .
- It is located **Peripherally**.
- Associated with **hypertrophic osteoarthropathy (clubbing)**.

2-Non small cell lung carcinoma:

B. Squamous cell carcinoma:

- Hilar mass arising from **bronchus**.
- **Squamous and Small cell carcinomas** are **Central** and often caused by **Smoking**.
- Patient with a **significant smoking history, hypercalcemia** and a **hilar mass**.
- There are areas of **necrosis & cavitation**.
- **Hypercalcemia** usually result from the effects of **parathyroid hormone-related protein (PTHrP)**.

C. Large cell carcinoma:

- Can secrete **β-hCG** → Gynecomastia and galactorrhea.
- **Peripherally** located lesion

Lung Cancer

- Diagnosis:
 - **CT scan of the chest** should be used to evaluate patients in whom there is suspicion for lung malignancy.
 - Can be made by **Sputum cytology**, with the highest yield in patients with squamous cell carcinoma .
 - **Bronchoscopy** is best for **centrally** located lesions .
 - **Needle aspiration biopsy** should be performed if carcinoma is highly suspect. & it is also good for **peripheral nodules with pleural fluid aspirate.**

Lung Cancer

- **Treatment:**
 - **Surgical Resection** , The **size** of the lesion **is not the most important factor** in whether or not the lesion is resectable. If the lesion is large, but is surrounded by normal lung and there is enough remaining lung function post resection, then surgery is still possible.
 - **Surgery is not possible in these cases:**
 - o Bilateral disease or lymph nodes involved on opposite side.
 - o Malignant pleural effusion.
 - o Heart, carina, aorta, or vena cava is involved.
 - **Small cell cancer** is considered **unresectable** in 95% of cases because it is **metastatic or spread outside one lung.**



Thank you

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