LUNG CANCER

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OVERVIEW OF SESSION

Learning objectives

Quiz

Tutorial on lung cancer and guidelines

15 minutes break

Case studies

10minutes break

End of life care and ethical considerations

QUIZ

1. More women die of breast cancer than lung cancer, true or false?
2. Small cell lung cancer is more common than non-small cell lung cancer, true or false?
3. Squamous cell carcinoma is the most common non-small cell lung cancer sub-type, true or false?
4. The treatment of choice for Superior Vena Cava Obstruction is stenting, true or false?
5. Urgent referral for a chest X ray should be made if a patient has shoulder pain > 3weeks, true or false?
6. The risk of pneumothorax is 50% post CT guided biopsy, true or false?

QUIZ

7. Lung cancer cure rate is 20%, true or false?
8. Radiotherapy can be given as a curative treatment in non small cell lung cancer, true or false?
9. Small cell lung cancer can be a cause of SIADH, true or false?
10. Alveolar cell carcinoma is a type of small cell lung cancer, true or false?

INDICATIONS FOR URGENT CXR- NICE GUIDANCE 2011

- **Heamoptysis and or**
- **>3 week history of;**
  - **Cough**
  - **Chest/shoulder pain**
  - **Dyspnoea**
  - **Weight loss**
  - **Chest signs**
  - **Hoarseness**
  - **Finger clubbing**
  - **Features suggestive of metastasis from a lung cancer (bone, liver, skin)**

LUNG CANCER EPIDEMIOLOGY

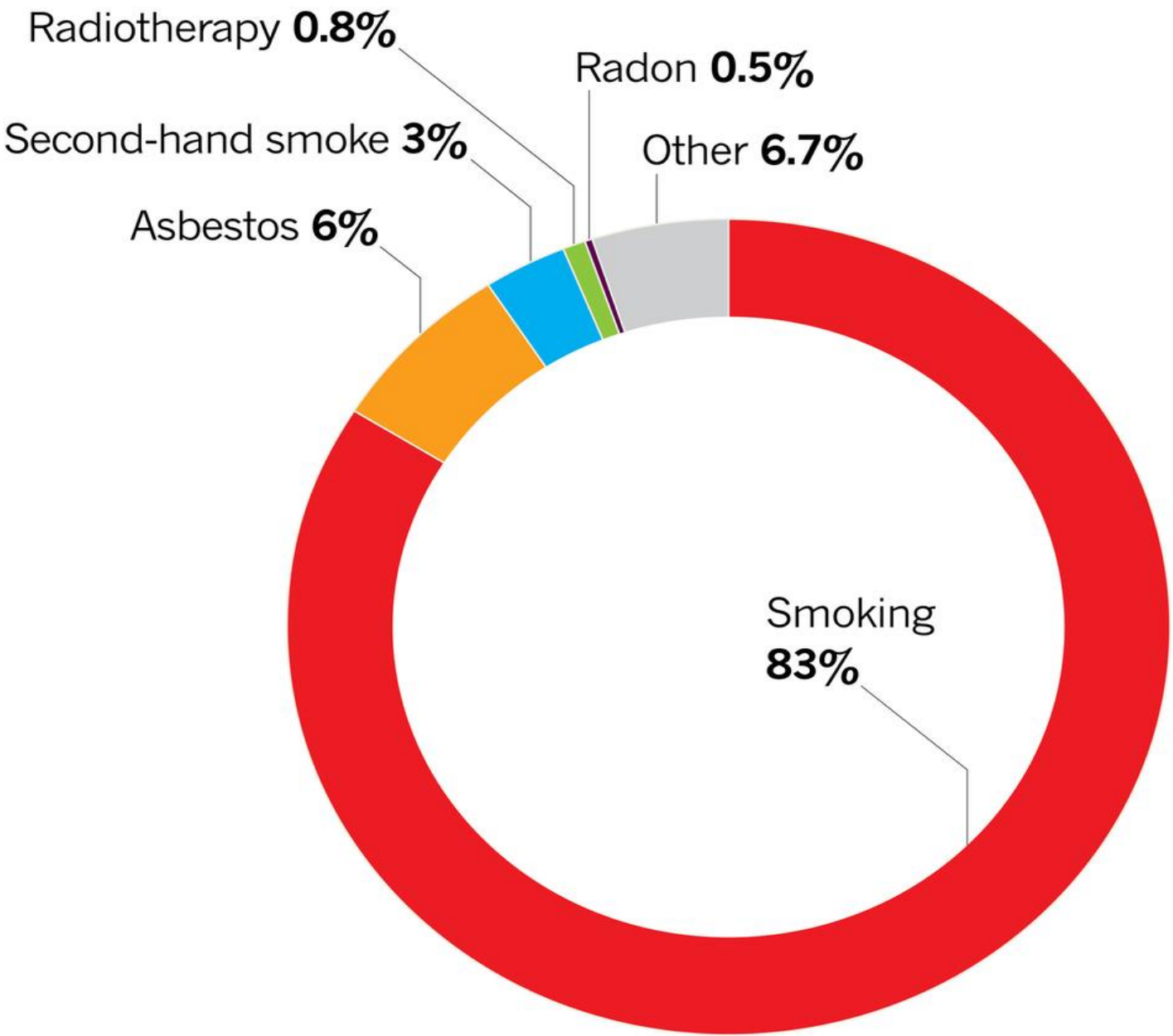
In excess of 39,000 cases each year in the UK

35,000 deaths per year > than breast and colorectal combined

Lung cancer is now leading cause of cancer death in UK

90% of lung cancer caused by smoking

Only 5.5% are cured


Radiotherapy 0.8%
Radon 0.5%
Second-hand smoke 3%
Other 6.7%
Asbestos 6%
Smoking
83%

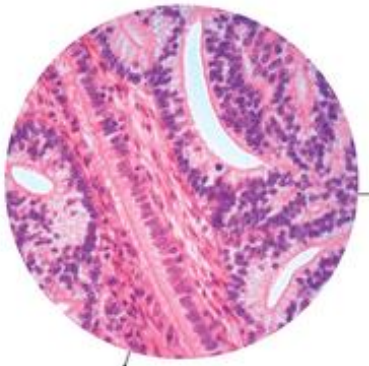
TYPES OF LUNG CANCER

Non small cell lung cancer (NSCLC)

1. **Squamous cell carcinoma**
2. **Adenocarcinoma**
3. **Large cell carcinoma**
4. **Alveolar cell carcinoma**
5. **Carcinoid**

Small cell lung cancer (SCLC)

THE MAIN TYPES OF LUNG CANCER

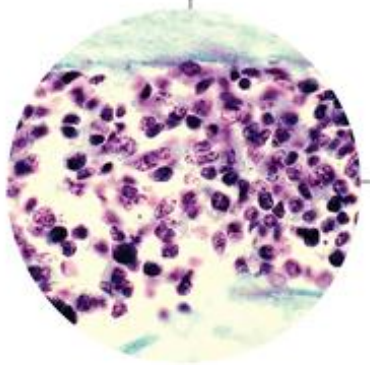


Adenocarcinoma (40%)

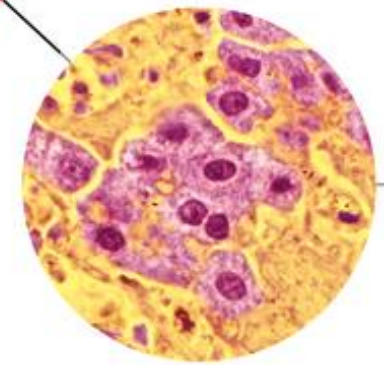
This is the most prevalent form of lung cancer and usually arises in the cells lining the alveoli. It is a common form of lung cancer in people who have never smoked, but is also seen in smokers.

Small-cell lung cancer (15%)

Usually seen in cells near the bronchi, small-cell lung cancer is almost always caused by smoking and is very aggressive. Only 6% of US patients with small-cell lung cancer survive five years after diagnosis, compared with 21% of those with non-small-cell lung cancer.

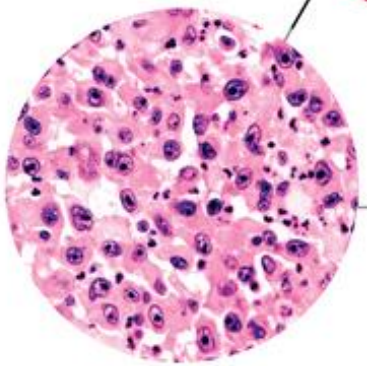


Non-small-cell lung cancer



Squamous cell carcinoma (30%)

These tumours appear in the flat cells that line the inside of the airways, usually near the bronchi. This form of the disease is usually caused by smoking and is more common in men than women. The tumours tend to grow slowly.



Large cell carcinoma (15%)

This type of cancer can begin in any part of the lung, and often grows and spreads quickly.

SYMPTOMS AND SIGNS

Local tumour effects

Cough

Heamoptysis

Chest pain

Unresolved pneumonia

Unexplained shortness of breath

Metastatic tumour effects

Cervical/supraclavicular lymphadenopathy

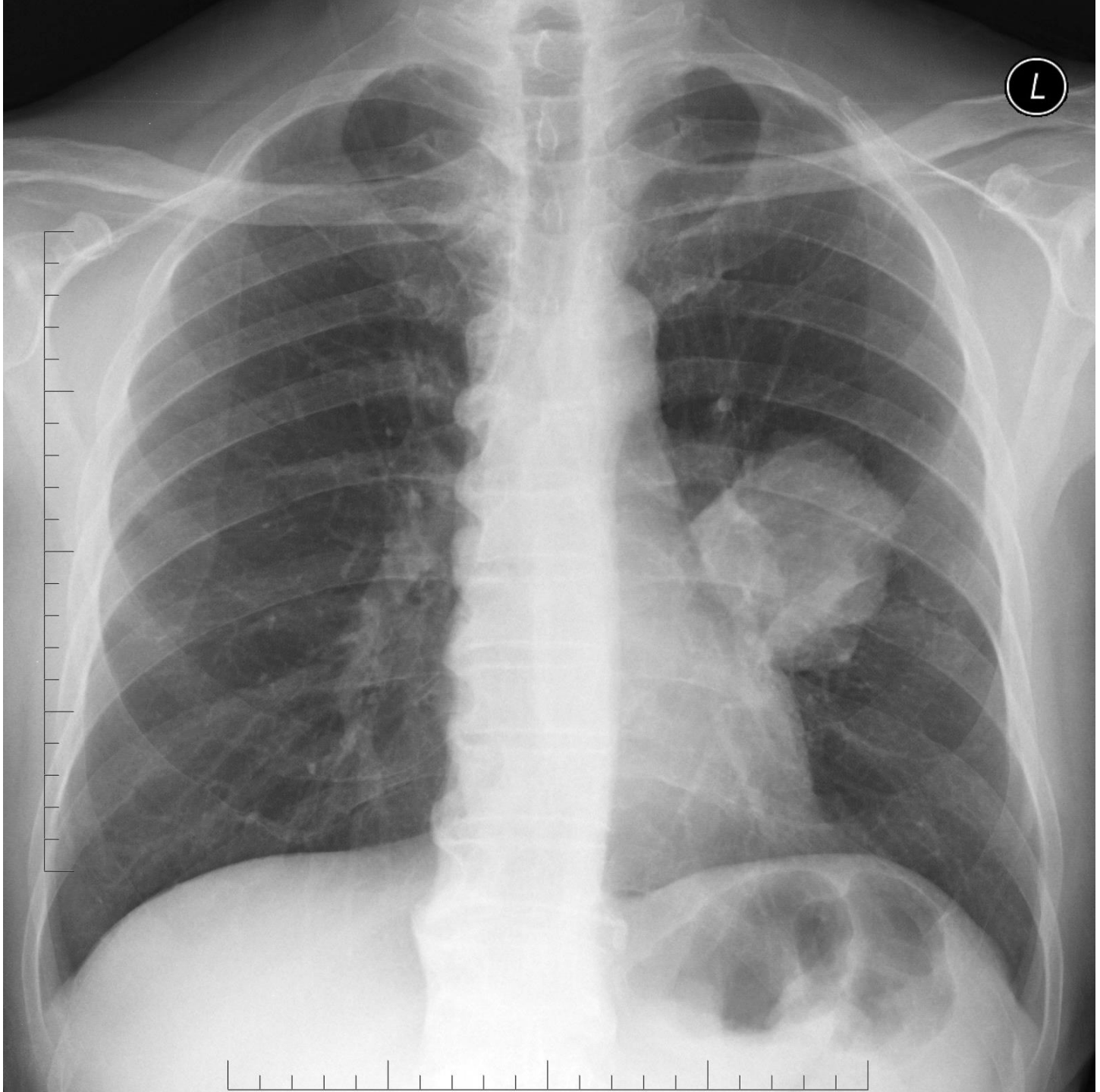
Palpable liver edge

Bone pain/pathological fractures

Neurological signs

DIAGNOSIS AND ASSESSMENT

- **CXR**
- **Routine bloods (FBC, U&Es, Ca, Clotting, LDH)**
- **CT (staging THORAX, ABDO,PELVIS) +/- PET CT**
- **Full Pulmonary Function tests +/- ECHO**
- **Bronchoscopy/EBUS/**
- **CT/ USS guided biopsy**
- **Thoracoscopy**
- **Open lung biopsy +/- resection**
- ***Lung cancer MDT involvement at all stages***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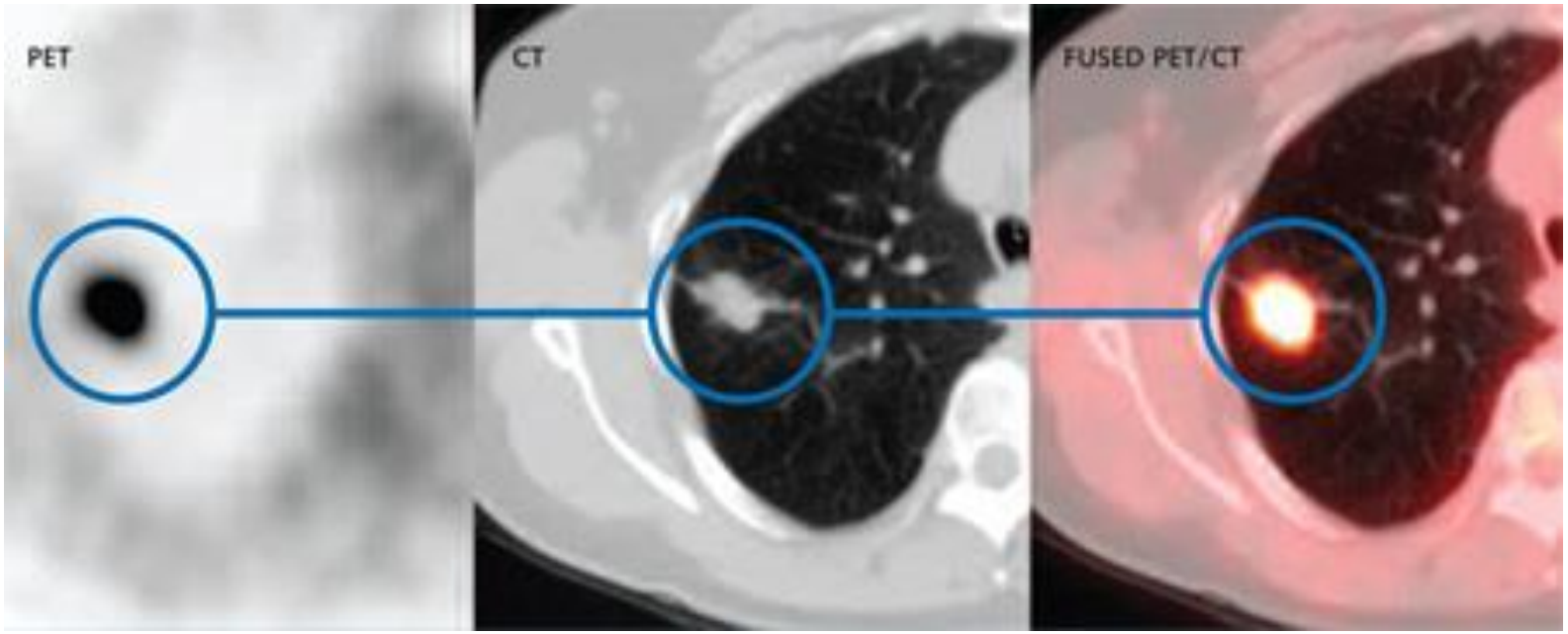
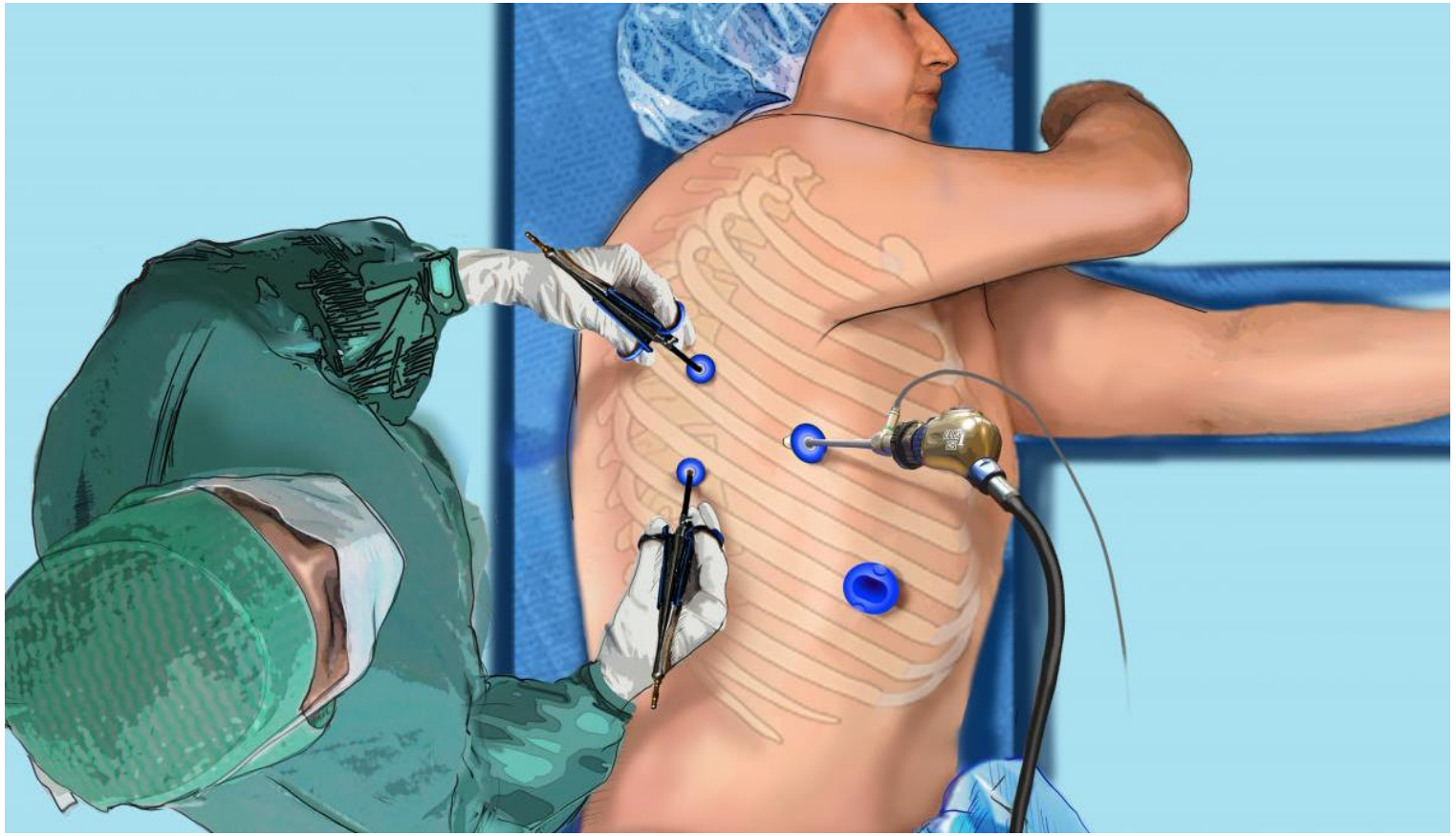
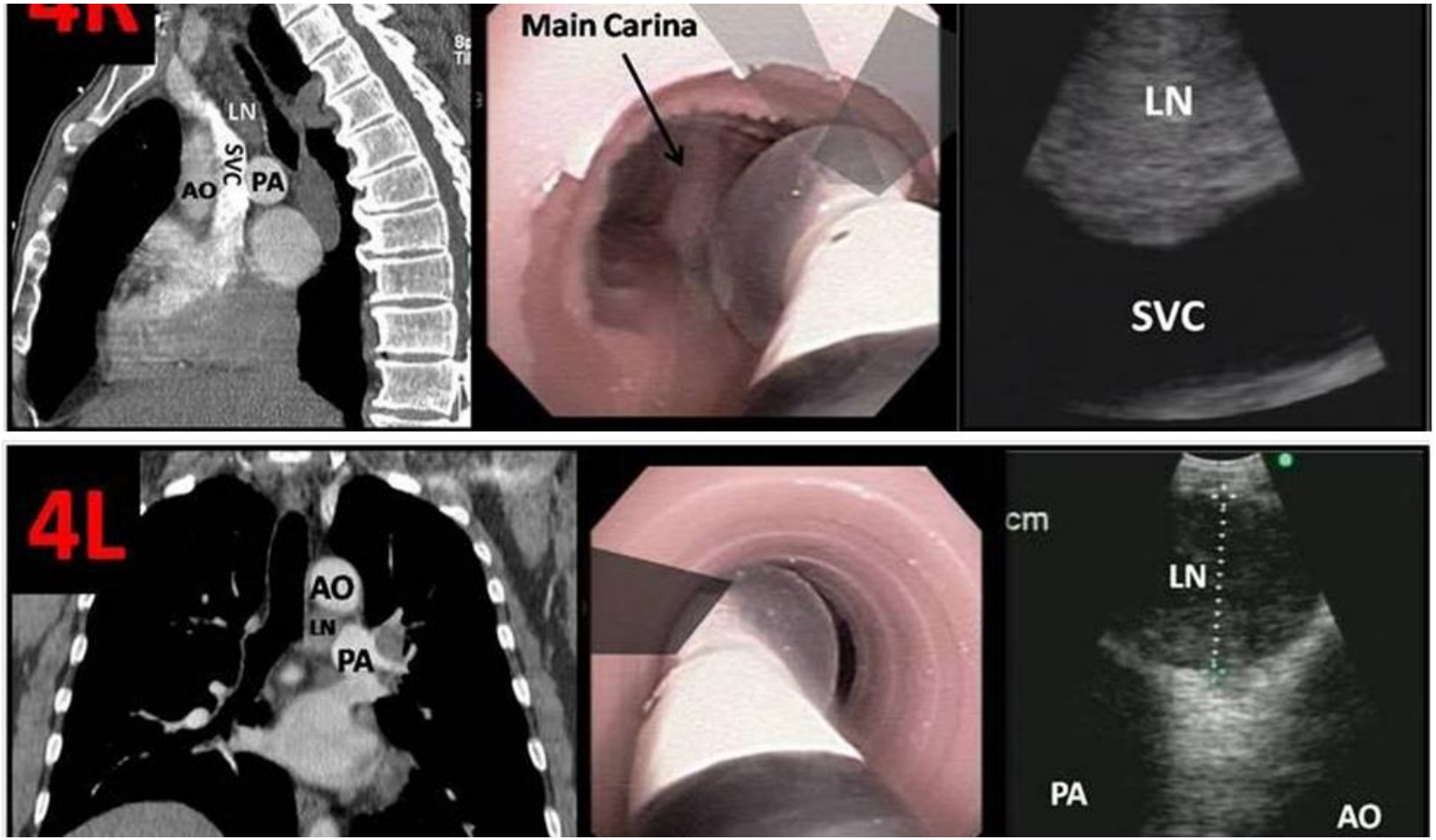
POSITRON EMISSION TOMOGRAPHY-COMPUTED TOMOGORAPHY (PET-CT)



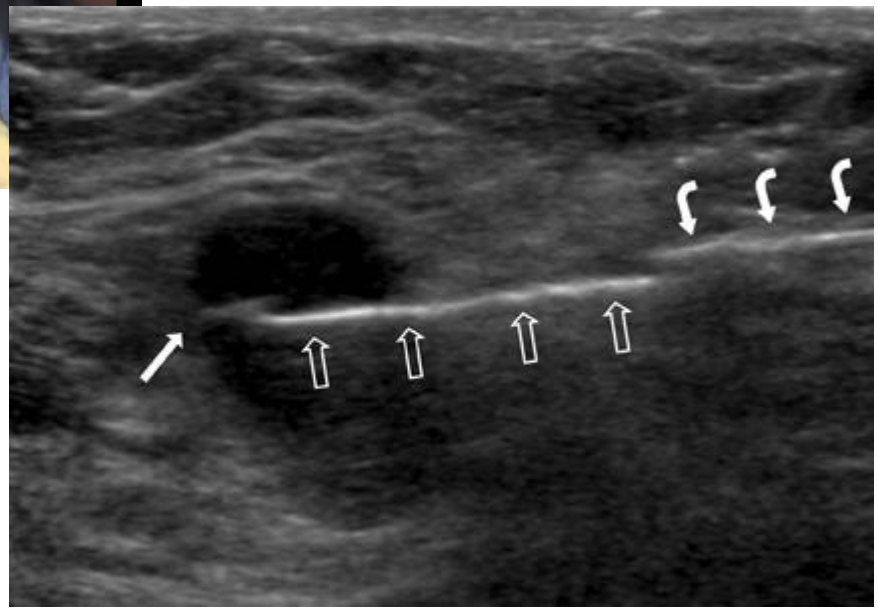
THORACOSCOPY

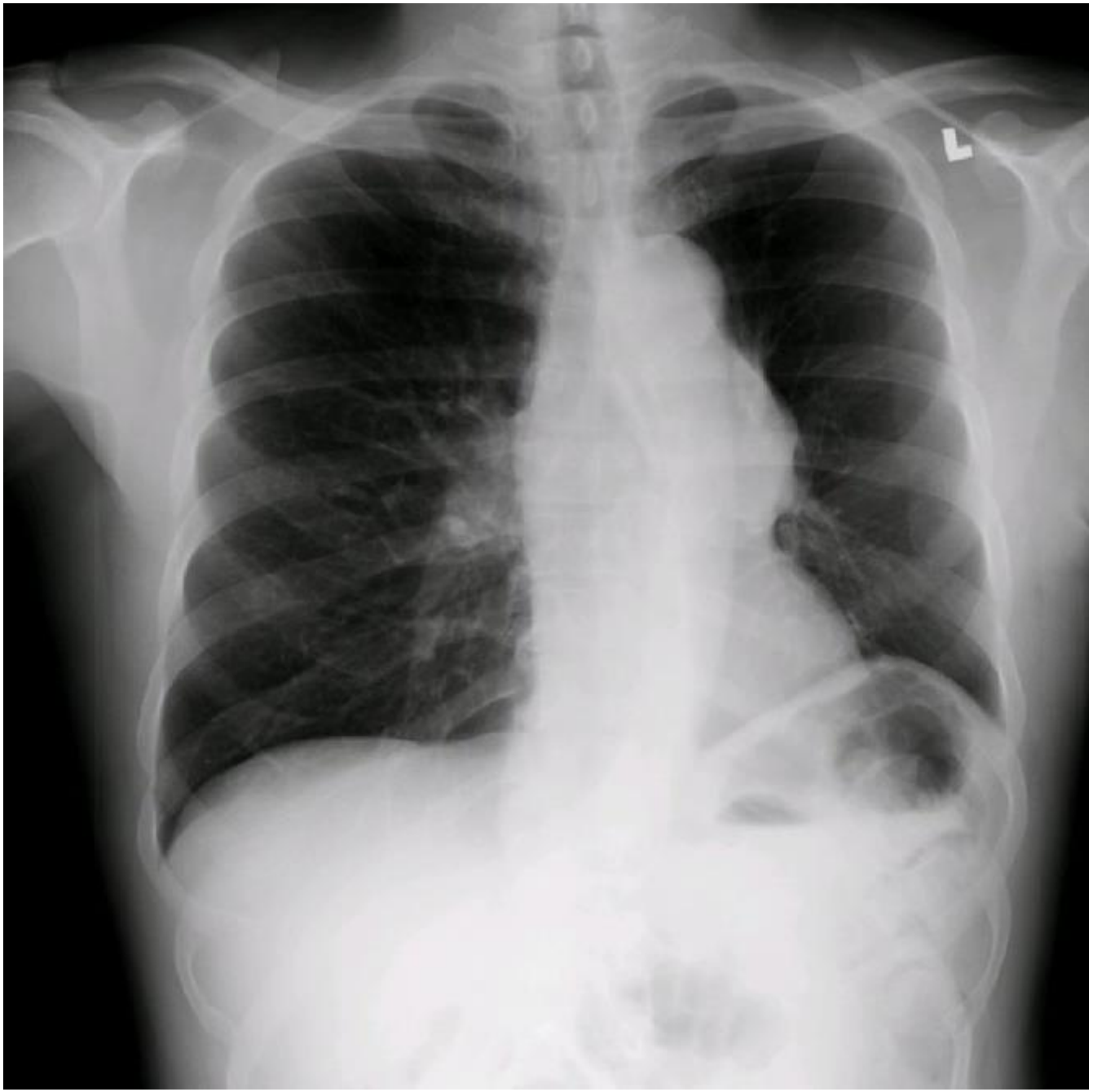


EBUS



USS GUIDED BIOPSY

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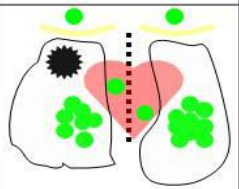
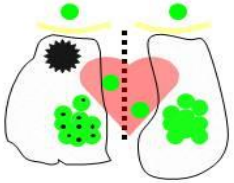
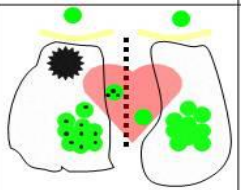
STAGING

Tumor size	T1 <3 cm	T2 3-7 cm (T2a 3-5 cm; T2b 5-7 cm) Atelectasis (part of lung) Invasion: Visceral pleura, main bronchus ≥ 2 cm from carina	T3 > 7 cm Atelectasis (whole lung) Invasion: Phernic nerve, diaphragm, chest wall mediastinal pleura, main bronchus <2cm from carina, parietal pericard	T4 Invasion mediastinal organs/ vertebral bodies/ carina /tumor nodules in different ipsilateral lobe
Lymph node	 N0 No lymph nodes involvement	 N1 Ipsilateral bronchopulmunary/ hilar	 N2 Ipsilateral mediastinal/ subcarinal	 N3 Contralateral hilar/ contralateral mediastinal/ supraclavicular
Metastasis	M0 No metastasis	M1 Bilateral lesions Distant metastasis malignant pleural effusion		

American Joint Committee on Cancer, 7edition Lung Cancer Staging

MANAGEMENT

- **Lung MDT**
- **Lung cancer specialist nurses**
- **Specific treatment based on diagnosis and fitness of patient**

TREATMENT NSCLC

Stage dependent:

Radical treatment offered for early stages either:

Radical Surgery (T1a-3, N0-1,M0) or

Radical Radiotherapy

Later stages:

Chemotherapy alone

Symptomatic treatment

TREATMENT SCLC

Mainly chemotherapy plus radiotherapy

Surgery only in very limited disease as part of combined radio/chemotherapy

COMPLICATIONS 1 : SVCO

- **94% of Superior Vena Caval Obstruction is due to malignancy**
- **10% of small cell lung cancers present with SVCO**

Clinical features

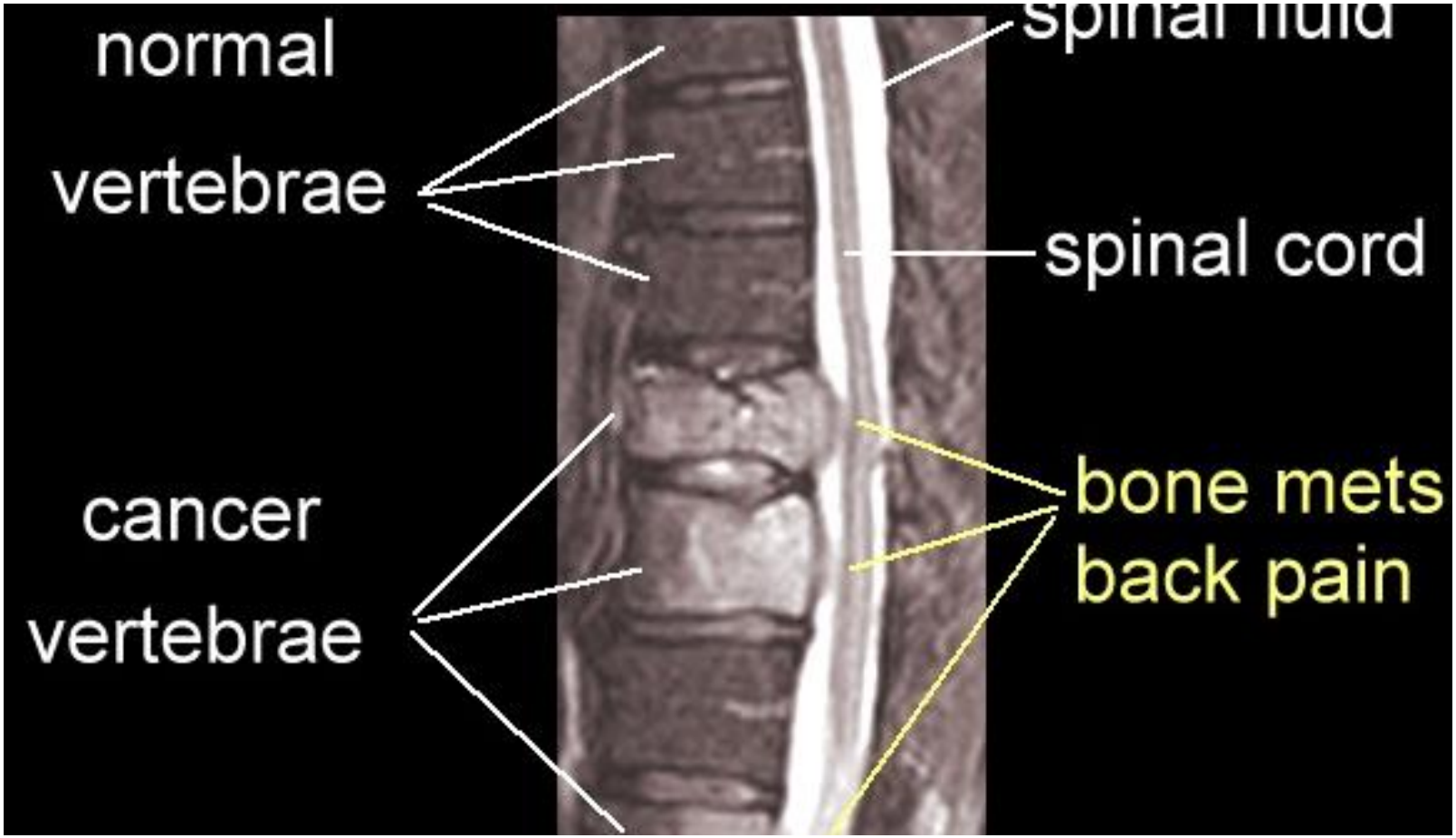
- **Facial and upper body oedema, facial plethora, increased neck circumference and cyanotic appearance.**
- **“Pemberton’s sign”**
- **Breathlessness**
- **Headache**
- **Cough/heamoptysis**
- **Hoarse voice**
- **Dysphagia**
- **Syncope/dizziness**
- **Confusion**

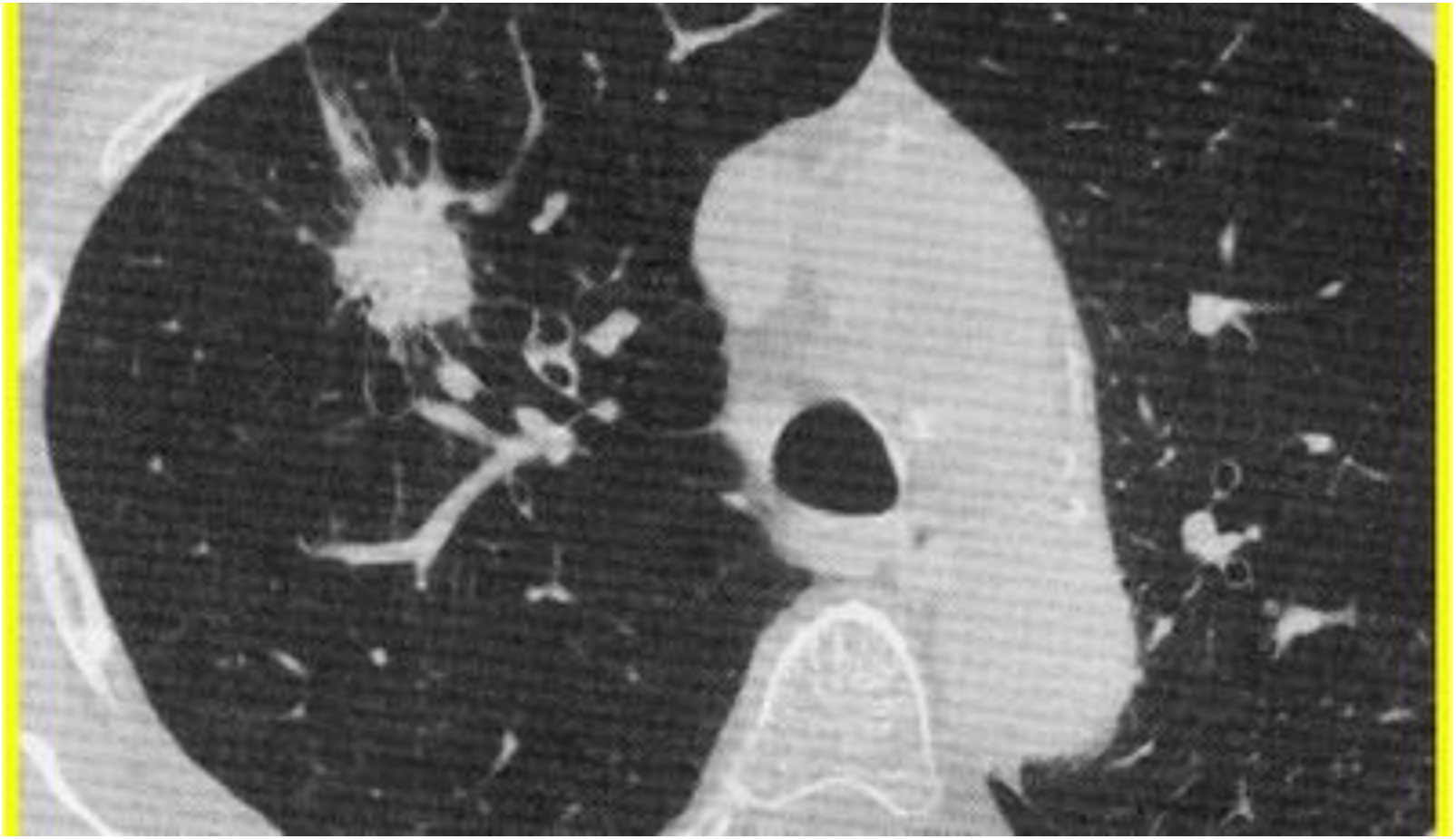
CASES

CASE 1

- 55 year old lady
- Lifelong smoker
- 12 months worsening shortness of breath
- 6 months back pain
- 6 weeks history of leg weakness
- PMH- COPD
- Mild end expiratory wheeze bilaterally
- Bilateral lower limb weakness
- Attended clinic in a wheelchair

INVESTIGATIONS





INVESTIGATIONS AND MANAGEMENT

CT guided biopsy- adenocarcinoma

Palliative radiotherapy

Symptomatic treatment

Progress

Deteriorated 8 weeks after presentation and died.

CASE 2

75 year old male

Never smoked

Retired plumber

Weight loss 2 stones over 6 months

Shortness of breath

Physical examination

Reduced breath sounds Left base, dull percussion note

INVESTIGATIONS AND MANAGEMENT

CT thorax/abdo/pelvis

Thoracoscopy- biopsy squamous cell lung cancer

Pleural effusion drained and talc pleural adhesis performed.

Chemotherapy offered

Progress

Shortness of breath improved and he as able to visit family down south

4 months later further deterioration in health and died

CASE 3

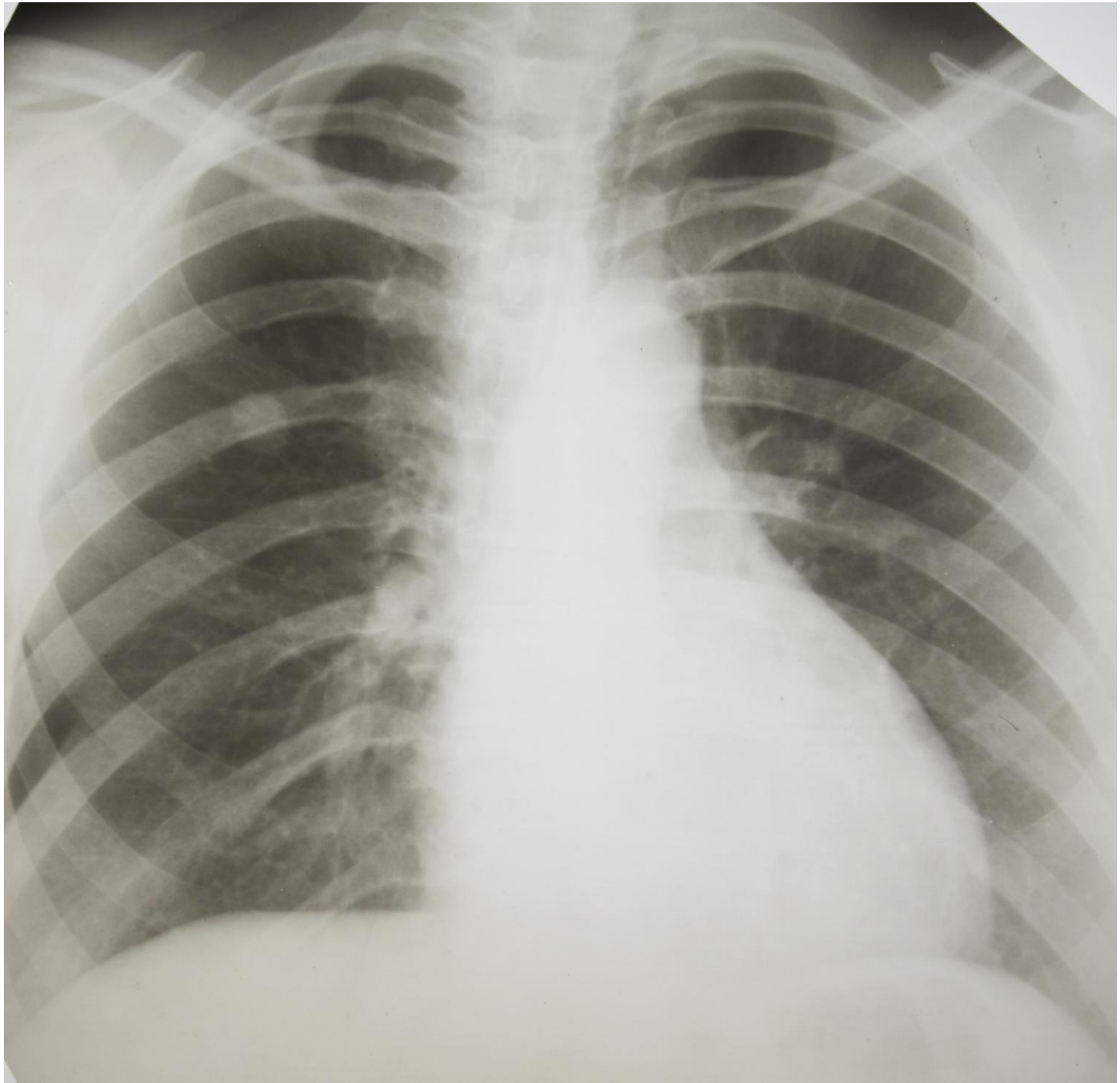
65 year old male

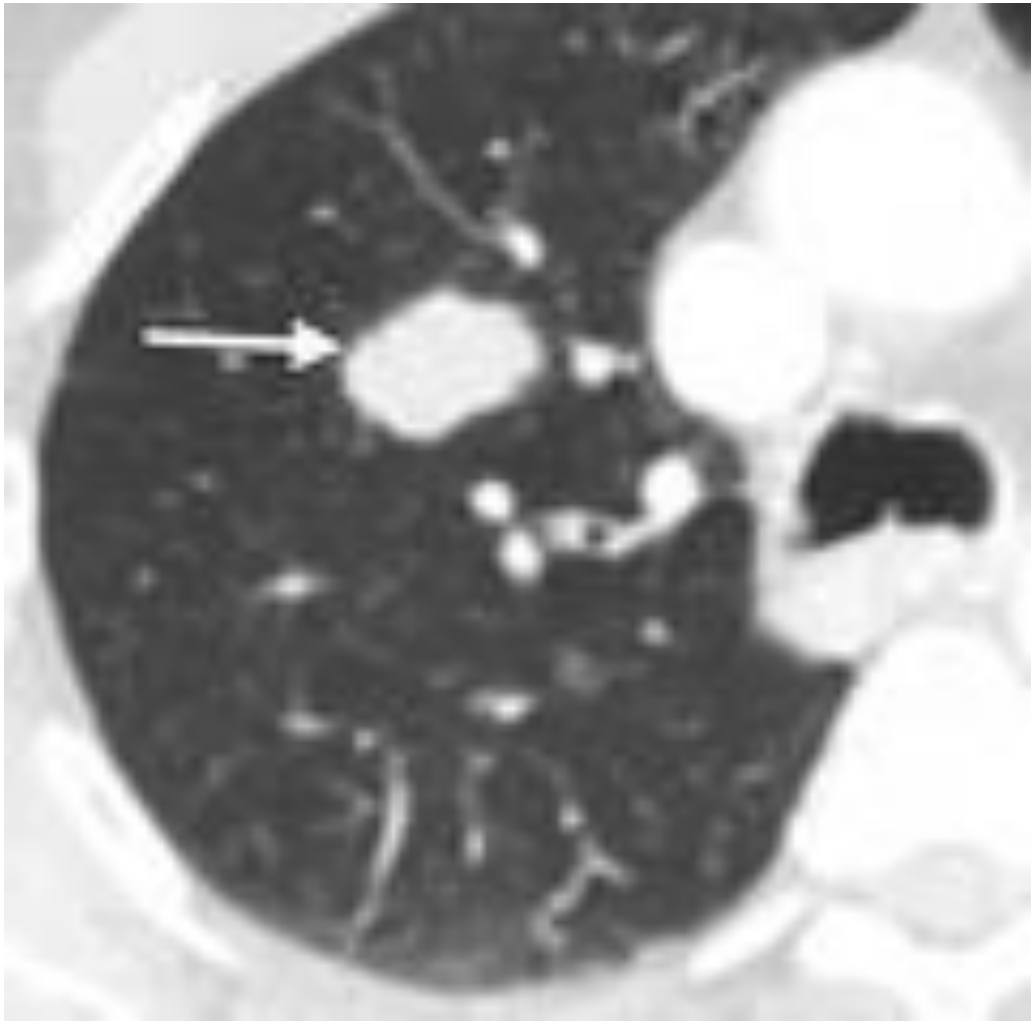
Ex-smoker with 25 pack year history

Very fit, goes to the gym daily

Works as a managing director of a small firm

Minor road traffic accident, had chest x-ray as had chest pain, incidental finding





FURTHER WORK UP AND MANAGEMENT

PFTs

PET CT scan

Surgical assessment

Accepted fro surgery

Pneumonectomy performed as tumor crossed the fissure

Margins were clear thus, no chemotherapy needed

3years post op doing well

END OF LIFE CARE

- **Discussions should be made early on after diagnosis, should not be left to terminal stage.**

CONCLUSIONS

USEFUL REFRENCES