Lung Cancer - Suspected

Patient presents with abnormal CXR

NICE recommends an urgent (within 2 weeks) suspected lung cancer referral
NB: refer immediately patients who present with stridor or superior vena cava obstruction

RED FLAGS - SVC obstruction/stridor/other

Refer immediately to secondary care

Shared Decision Making – Lung Cancer:
http://www.enhertsccg.nhs.uk/

Lung cancer - clinical presentation

History and Examination

Incidental finding of unexplained thrombocytosis

Consider differential diagnoses

Advise smoking cessation, where appropriate
- offer nicotine replacement therapy and other appropriate therapies to aid cessation
- do not postpone surgery for lung cancer to allow patient to stop smoking

Consider possibility of lung cancer based on symptoms/signs & age (usually ≥40 but not exclusively)

Haemoptysis

Abnormal findings inc clubbing, abnormal chest signs, infection & lymphadenopathy

Ever smoked or exposed to asbestos

Never smoked or exposed to asbestos

Incidental finding of thrombocytosis

Haemoptysis

Clinical assessment of haemoptysis

Differential diagnosis of haemoptysis

Order urgent CXR and other investigations

If PE or cardiac cause suspected manage appropriately

Consider differential diagnoses

CXR not consistent with lung cancer/mesothelioma

Abnormal CXR consistent with lung cancer/mesothelioma

Order urgent CT scan and make suspected cancer referral at same time (do not wait for scan results)

Abnormal CXR consistent with lung cancer/mesothelioma

High suspicion of lung cancer (including unexplained haemoptysis)

Low suspicion of lung cancer - watchful waiting or alternative pathways

RED FLAGS - moderate and major haemoptysis
Moderate haemoptysis (30-50 ml in the previous 24 hours) requires hospitalisation for observation, due to increased risk of further heavy bleeding. Major haemoptysis. This is a medical emergency.

If CXR normal - further investigation if ≥40 & persistent haemoptysis/strong clinical suspicion

Any ONE of: cough, fatigue, SOB, chest pain or weight/appetite loss

Any TWO of: cough, fatigue, SOB, chest pain or weight/appetite loss

Incidental finding of unexplained thrombocytosis

Urgent CXR (within 2 weeks)

NICE recommends an urgent (within 2 weeks) suspected lung cancer referral
NB: refer immediately patients who present with stridor or superior vena cava obstruction
Clinical Presentation

Symptoms and signs of lung cancer include:

- frequent:
  - cough
  - unexplained weight loss
  - unexplained loss of appetite
  - dyspnoea
  - chest pain (or shoulder pain)
  - haemoptysis (blood-stained sputum; present in 20%)
  - lethargy/tiredness
- moderately frequent:
  - bone pain
  - digital clubbing
  - fever
  - weakness
- infrequent:
  - pain radiating down arm (Pancoast tumour)
  - superior vena cava obstruction
  - wheezing and stridor
  - dysphasia
  - hoarseness
- symptoms from metastases, e.g. to:
  - brain
  - bone
  - liver
  - lymph nodes

NB: Patients may be diagnosed after their tumour is picked up incidentally on CXR or other imaging tests, and may not present with any classic symptoms of lung cancer.
History
Ask about:

- symptoms:
  - onset
  - duration
  - frequency
  - any changes to existing symptoms in patients with underlying respiratory problems
- change in appetite or weight loss
- history of smoking
- history of respiratory disease, e.g. COPD
- contact with carcinogenic chemicals
- occupational exposure to asbestos
- family history of cancer
- past medical history

Examination

- general appearance, e.g.:
  - weight loss
  - shortness of breath at rest
  - heart rate
  - BP
- check for digital clubbing
- check for enlarged cervical and supraclavicular lymph nodes
- evidence of superior vena cava obstruction
- respiratory system:
  - respiratory rate
  - equal chest expansion
  - percussion of chest wall
  - points of bony tenderness
  - auscultation:
    - stridor
    - wheeze
    - crepitations
- abdominal palpation including inguinal lymph nodes
Differential Diagnoses

Differentials of symptoms (non-acute presentation) - these may be present in addition to lung cancer:

- COPD – see Diagnosing COPD pathway
- pneumonia
- tuberculosis
- pleural effusion (all causes)
- inhaled foreign body
- diffuse parenchymal lung diseases
- carcinoid tumour
- mesothelioma
- secondary tumours
- laryngeal cancer (for hoarseness)
RED FLAGS - SVC obstruction/ stridor/ other

NICE guidelines suggest considering immediate (same day) referral to secondary care without waiting for CXR, if either of the following are present:
  - signs of superior vena caval obstruction:
    - swelling of face or neck
    - fixed elevation of jugular venous pressure
  - stridor

Consider immediate referral to ED if the patient has:
  - massive haemoptysis
  - new neurological signs suggestive of brain metastases or cord compression
**Haemoptysis**

The coughing of blood originating from the respiratory tract below the level of the larynx. Haemoptysis should be differentiated from:

- **Haematemesis** - vomiting of blood from the GI tract.
- **Pseudohaemoptysis** - where a cough reflex is stimulated by blood not derived from the lungs or bronchial tubes. This may be from the oral cavity or nasopharynx (e.g., following an epistaxis) or following aspiration of haematemesis into the lungs.
Differential diagnosis of haemoptysis

According to source of bleeding:

**Trachea or bronchus**
- Malignancy:
  - Bronchogenic carcinoma
  - Endobronchial metastatic tumour
  - Kaposi's sarcoma
  - Carcinoid tumour
- Bronchitis
- Bronchiectasis
- Airway trauma
- Foreign body

**Lung parenchyma**
- Lung abscess.
- Pneumonia - bacterial (e.g., Staphylococcus aureus, Pseudomonas aeruginosa) or viral (e.g., influenza)
- TB
- Fungal infection and mycetoma
- Hydatid cysts
- Goodpasture's syndrome
- Pulmonary haemosiderosis
- Wegener's granulomatosis
- Behçet disease
- Lupus pneumonitis
- Lung contusion
- 'Crack' lung

**Vascular**
- Arteriovenous malformation
- Aortic aneurysm
- PE
- Mitral stenosis
- Other cause of pulmonary venous hypertension - e.g., left ventricular failure (LVF)
- Trauma.
  - Iatrogenic (e.g., chest drain malposition, secondary to pulmonary artery catheter manipulation)

**Other**
- Pulmonary endometriosis
- Congenital or acquired systemic coagulopathy - e.g., leukaemia
- Anticoagulant or thrombolytic agents
- Factitious haemoptysis
Abnormal findings inc clubbing, abnormal chest signs, infection & lymphadenopathy

NICE recommends that people aged 40 or more with the following abnormal clinical findings/presentation should be referred for an urgent CXR (to be performed and reported within 2 weeks):

- persistent or recurrent chest infection
- finger clubbing
- supraclavicular lymphadenopathy or persistent cervical lymphadenopathy
- chest signs consistent with lung cancer
- thrombocytosis [new 2015]
- chest signs compatible with pleural disease [new 2015]
- ≥45 with persistent unexplained hoarseness
Clinical assessment of haemoptysis

NB: About 30% of patients with haemoptysis have normal CXRs. A negative CXR warrants other investigations, usually including a bronchoscopy.

- Consider chest CT scan and bronchoscopy where:
  - Haemoptysis lasts longer than two weeks
  - There are recurrent episodes of haemoptysis
  - The volume of haemoptysis is > 30 ml per day
  - The patient is a smoker and > 40 years old
  - There is suspected bronchiectasis

All smokers or ex-smokers aged > 40 years with persistent haemoptysis should urgently be referred to a chest physician under the two-week wait rules
**Abnormal CXR consistent with lung cancer/ mesothelioma**

People with X-ray result suggestive of lung cancer/ mesothelioma should be referred urgently (seen within 2 weeks) as a suspected lung cancer.

Radiographically, lung cancer usually presents as:
- pleural effusion
- slowly resolving or recurrent consolidation
- solitary pulmonary nodule or pulmonary mass
- pulmonary or lobar collapse
- mediastinal lymphadenopathy

Refer people using a suspected cancer pathway referral (for an appointment within 2 weeks) for mesothelioma if they have chest X-ray findings that suggest mesothelioma. [new 2015]
Order urgent CXR and other investigations

- Imaging - CXR
- ECG +/- ECHO - if a cardiac cause or PE is suspected.
- Other tests are dependent on the clinical setting but may include FBC, ESR, U&Es, coagulation studies, urinalysis, sputum culture, acid-fast bacillus (AFB) smear and culture, D-dimer testing, and HIV test.
CXR not consistent with lung cancer/ mesothelioma

- More than 90% of patients with symptoms of lung cancer will have an abnormal CXR, but a normal CXR does not exclude a diagnosis of lung cancer. If there is still a high index of clinical suspicion of lung cancer, the patient should be referred
- Patients with persistent haemoptysis ≥ 40 yrs should always be referred for further urgent investigation
Order urgent CT scan and make suspected cancer referral at same time (do not wait for scan results)

- Provider should co-ordinate the CT scan to be done before the clinical appointment
- Indicate that CT has been requested on referral form
High suspicion of lung cancer (including unexplained haemoptysis)

NICE guidelines recommend that people with a normal CXR but high suspicion of lung cancer should be referred urgently under the 2 week wait pathway.
Low suspicion of lung cancer – watchful waiting or alternative pathways

If there is no lung pathology and low suspicion of lung cancer, observe patient and manage symptoms. Consider alternative pathways e.g. for laryngeal cancer if consistent with alternative diagnosis.