

APPROACH TO A PATIENT WITH SEVERE ACUTE HAEMOPTYSIS

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SEVERE ACUTE HEMOPTYSIS

- ▶ Severe/ Massive hemoptysis is defined as at least 200 mL of blood in 24 hours or 50 mL per episode (Volume threshold ranging from 100mL to over 1000 mL in 24hrs)
- ▶ Massive hemoptysis with devastating consequences occurs in less than 20% cases

A CASE SCENERIO

A 60 yrs old male presented in emergency dept. with severe hemoptysis & breathlessness. Pt was smoker with no history of profuse productive cough, evening rise of temperature, arthritis, rash, valvular or coronary artery disease nor on anti-coagulant therapy. On exam– Pt was dyspneic, clubbing present & on chest examination reveals features of mass lesion

WHAT SHOULD BE THE APPROACH

- ▶ First approach should be to differentiate between hemoptysis & pseudohaemoptysis (hematemesis)
- ▶ Assessment of patients haemodynamic status
- ▶ Quantification of blood loss & degree of anemia
- ▶ Other comorbidities (e.g. IHD, anticoagulant therapy)

WHAT SHOULD BE THE APPROACH (contd.)

- ▶ Patient's airway, breathing & circulation should be managed
- ▶ Patient should be placed in lateral decubitus position
- ▶ Next approach to find out the aetiology by history taking, proper physical examination & relevant investigations

AETIOLOGY

1) INFECTIVE:

- Bronchiectasis
- Lung Abscess
- Tuberculosis

2) NEOPLASTIC:

- Primary Lung Cancer
- Lung Metastasis

AETIOLOGY (contd.)

3) VASCULAR:

- Pulmonary embolism
- Pulmonary arterio-venous malformation

4) AUTOIMMUNE:

- Goodpasture's disease
- Granulomatosis with polyangitis

AETIOLOGY (contd.)

5) CARDIAC:

- Mitral stenosis
- Left ventricular failure

OTHERS:

- Anticoagulant therapy
- Antiplatelet agent
- Iatrogenic cause

DIAGNOSTIC CLUES IN HEMOPTYSIS

HISTORY

- ▶ Fever with productive cough
- ▶ Pleuritic chest pain, calf tenderness
- ▶ Tobacco use
- ▶ Weight loss
- ▶ Dyspnea on exertion, orthopnea, frothy pink sputum
- ▶ Anticoagulant use

DIAGNOSTIC CLUES IN HEMOPTYSIS (contd.)

PHYSICAL EXAMINATION

- ▶ Anemia
- ▶ Clubbing
- ▶ Cachexia, hoarseness of voice, Horner's syndrome
- ▶ Tachycardia, gallop, bilateral basal creps & heart murmurs
- ▶ Tachypnea, tachycardia, dyspnea, fixed split S2, pleural rub, unilateral painful leg edema
- ▶ Rashes, hematuria & digital infarcts

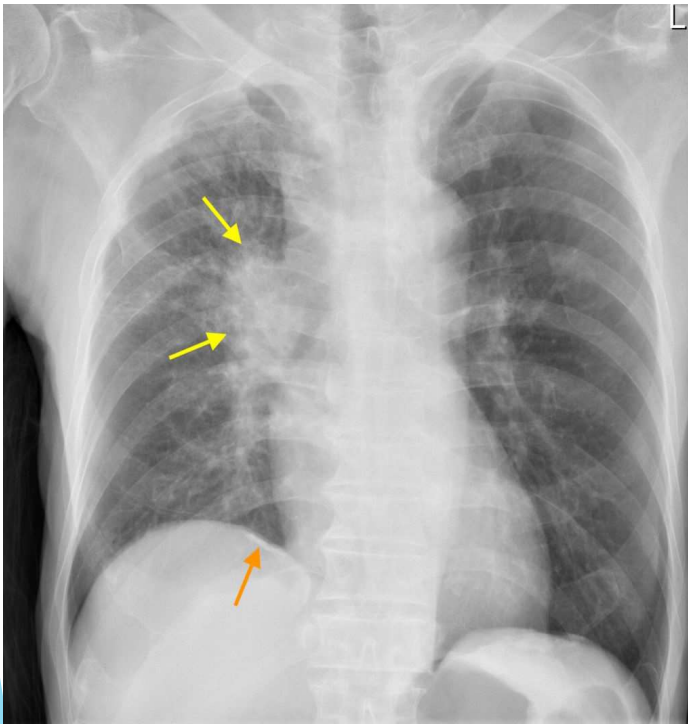
DIAGNOSTIC CLUES IN HEMOPTYSIS (contd.)

LABORATORY TEST

- ▶ Hb%, TC, DC, ESR
- ▶ Prothrombin time, INR, APTT
- ▶ Sputum Gram stain & culture, cytology
- ▶ Sputum for acid-fast bacillus, culture & Gene Xpert
- ▶ D-dimer

DIAGNOSTIC CLUES IN HEMOPTYSIS (contd.)

CHEST RADIOGRAPH



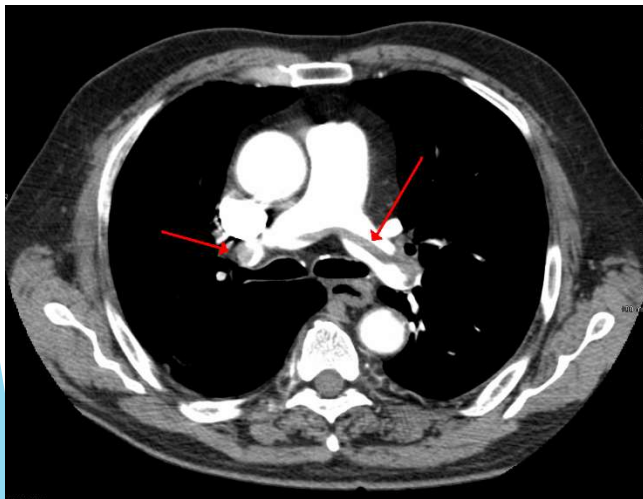
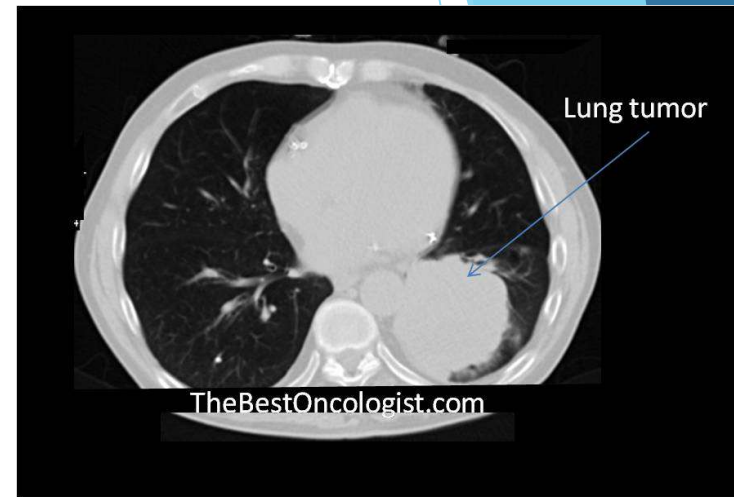
Radiograph Findings:

- ▶ Cavitary lesions
- ▶ Hilar adenopathy
- ▶ Mass lesion
- ▶ Cardiomegaly with increased pulmonary vascular distribution

DIAGNOSTIC CLUES IN HEMOPTYSIS (contd.)

COMPUTED TOMOGRAPHY

- ❑ CT chest aids to detect-
 - ❖ Bronchial malignancy
 - ❖ Bronchiectasis, Lung abscess

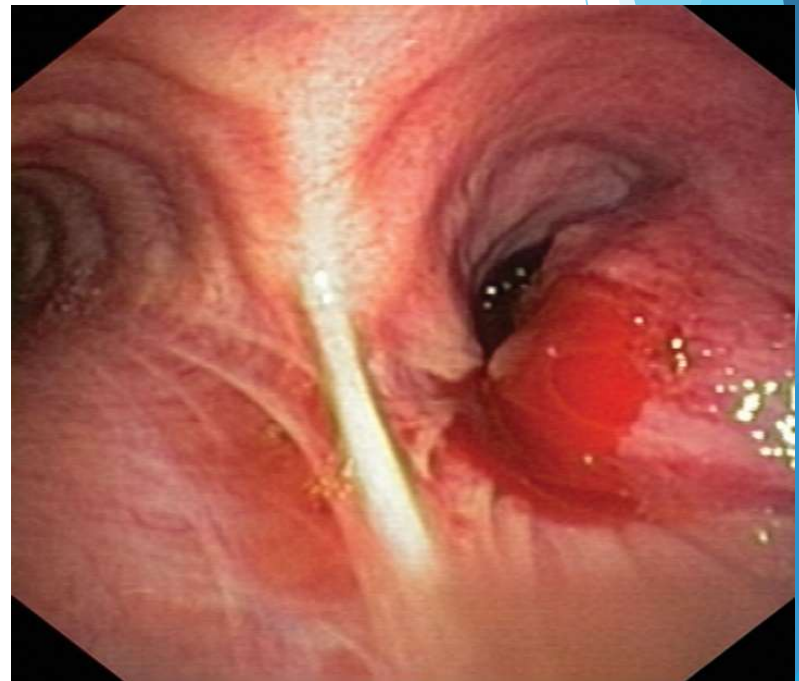


- ❑ CT pulmonary angiography (CTPA) shows underlying pulmonary thromboembolic disease or alternative causes not seen on chest X-ray

DIAGNOSTIC CLUES IN HEMOPTYSIS (contd.)

DIAGNOSTIC BRONCHOSCOPY

- ❑ Bronchoscopy assists to-
 - ❖ Confirm hemoptysis
 - ❖ Localize point of bleeding
 - ❖ Detect central lung cancer
 - ❖ Collect samples for cytology & microbiological studies



MODERN ADVANCEMENT IN MANAGEMENT

- ▶ Bronchial artery embolization
- ▶ Cold saline or Vasoconstrictive agents
- ▶ Bronchoscopy-guided topical hemostasis
- ▶ Endobronchial stents
- ▶ Endobronchial embolization
- ▶ Laser photocoagulation, Argon plasma coagulation

TAKE HOME MESSAGES

- ▶ Chest X-ray remains initial test performed in majority of cases of hemoptysis next to be CT chest
- ▶ Bronchoscopy remains important diagnostic & therapeutic procedures
- ▶ Advancement of modern procedures remains the cornerstone of management

THANK YOU

