433 Team

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History & Physical Examination of Respiratory system

Pleural effusion:

Collection of fluid in the pleural space.

Formed when the rate of pleural fluid production is greater than the rate of resorption .Increased production of fluid occurs in diseases causing pleural inflammation or in heart failure, while reduced fluid resorption can be caused by tumour deposits.

Chief Complain : Shortness of breath and chest discomfort	
Question	**Indications**
How long have you been short of breath? (Duration).	hour to days : plural effusion
Did it come on very quickly? Or instantaneously? (Onset: How it started, sudden or gradual?).	
Progression: become worse with time?	
How much exercise can you do before your SOB stops you or slow you down? Can you walk up a flight of stairs? (Severity: affect your work, life? Or NYHA classification).	NYHA classification: - Class I : on heavy exertion - Class II : on moderate exertion - Class III : on minimal exertion - Class IV : at rest
Is the SOB contentious throughout the day, intermittent? If intermittent When is it worse/better? (frequency)	
Other respiratory symptoms: *some patient may have Pleuritic chest pain*	
cough?	Some patient may have a dry cough.

Orthopnea, paroxysmal nocturnal dyspnoea or peripheral oedema?	Heart failure
Cough, fever?	Pneumonia
Weight loss , haemoptysis?	Lung cancer
Frothy urine , leg swelling?	Nephrotic syndrome
Fever, weight loss, loss of appetite, night sweat ?	
Risk Factors:	
Heart failure? Pneumonia? Nephrotic syndrome? Lung cancer?	
Past Medical History	
Drug History	
Family History	
Social History	
Smoking history?	
Occupational history (any asbestos exposure)?	
Systemic Review	

What are the Causes of Pleural Effusion:

- **Transudative :** (Bilateral effusions, protein content of less than 30 g/L)
  - Heart failure.
  - Chronic kidney disease.
  - Nephrotic syndrome.
  - Hypothyroidism.
  - chronic liver disease .(hypoalbuminaemia)
- **Exudative:** (Unilateral effusions, protein content of greater than 30 g/L)
  - Pneumonia.
  - Neoplasm.
  - Acute pancreatitis.
  - Connective tissue disease. such as rheumatoid arthritis, systemic lupus erythematosus;

- Meig's syndrome: right-sided pleural effusion, ascites, ovarian fibroma.

❖ **Hemothorax (blood)**(severe trauma to the chest; rupture of a pleural adhesion containing a blood vessel).

❖ **Chylothorax (**lymphatic fluid):(trauma or surgery to the thoracic duct; carcinoma or lymphoma involving the thoracic duct).

❖ **Empyema (**pus):pneumonia; lung abscess ;bronchiectasis; tuberculosis ;penetrating chest wound)

Diagnosis:

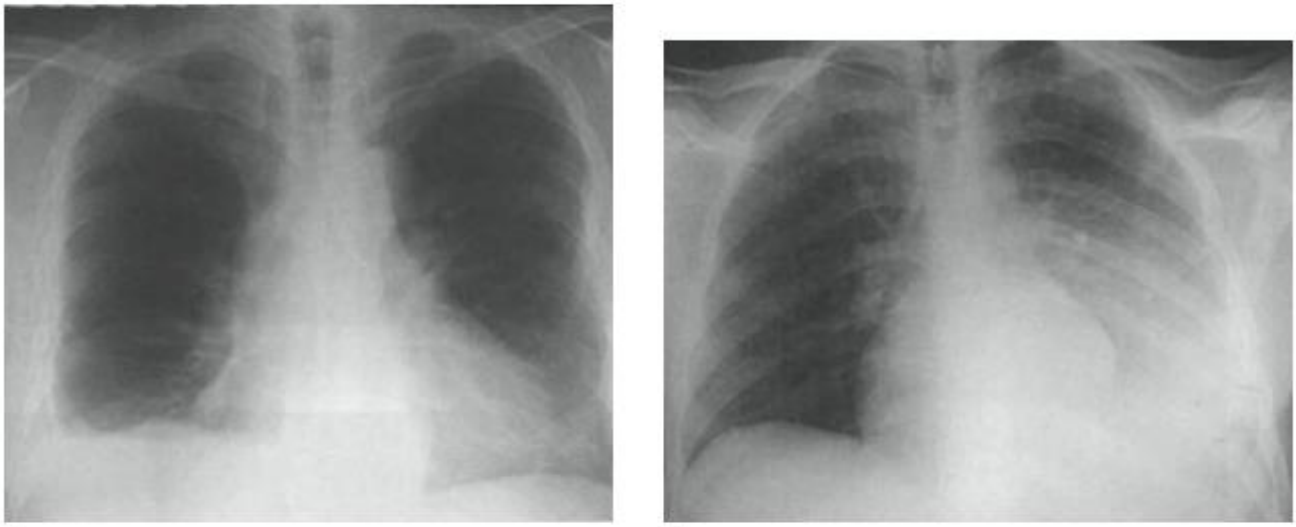
- **Chest X-Ray:** Blunting of costophrenic angle **(erect and lateral decubitus).**
- **Pleural tap.**
- **Pleural biopsy.**

Clinical manifestation: what do you expect when examining the patient?		
Palpation	**Percussion**	**Auscultation**
Reduced chest expansion on the affected side. Trachea deviated ***away from*** the affected side In massive effusion.	Stony dullness over the affected side.	Absent or reduced breath sound. Tactile vocal fremitus is reduced over the effusion. No added sound.

Management:

Transudative effusions
a. Diuretics and sodium restriction
b. Therapeutic thoracentesis
Exudative effusions: treat underlying disease.

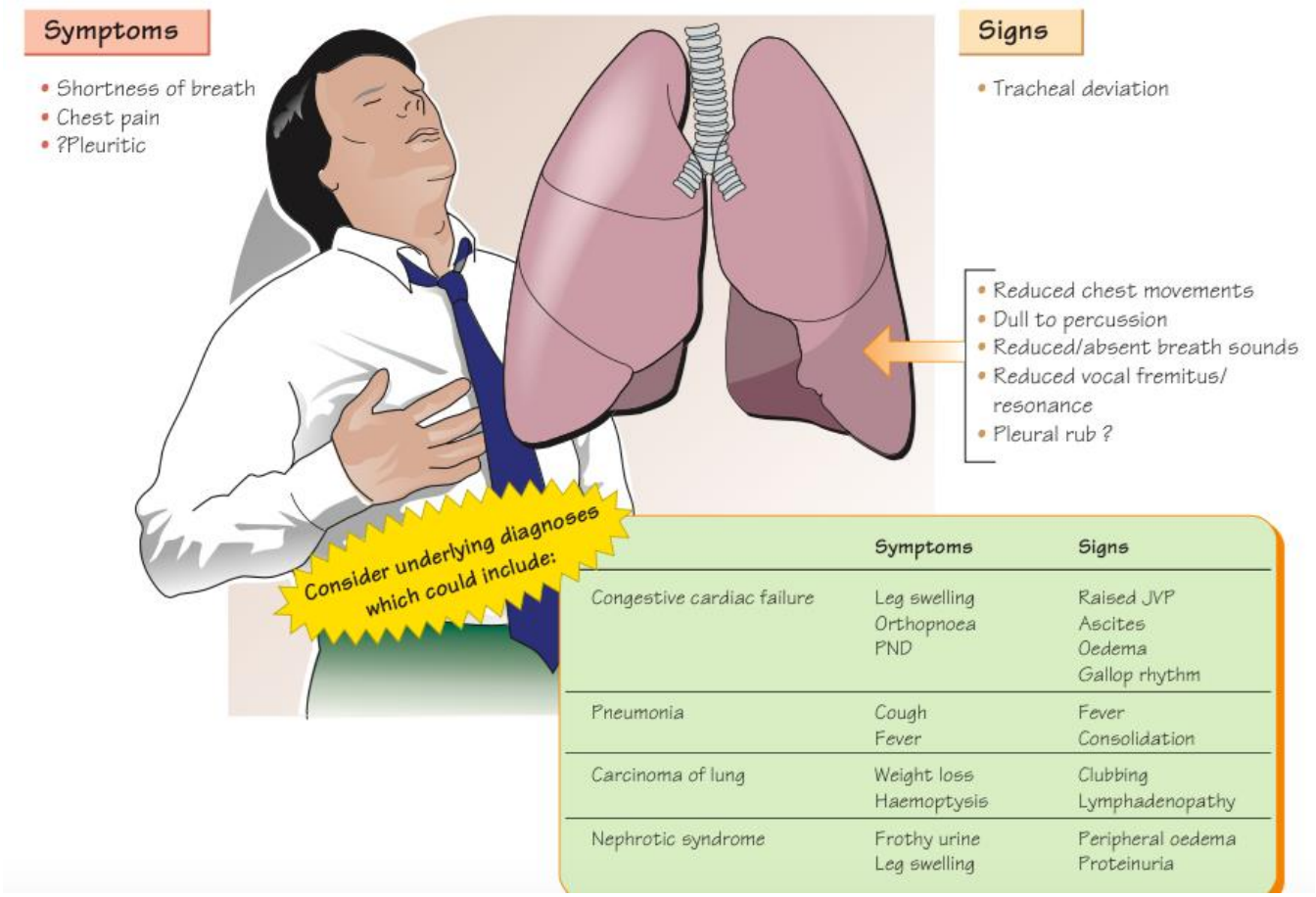
FIGURE 2-6 **A: Upright chest radiograph showing blunting of the right costophrenic angle, typical of a small right pleural effusion (this patient had chronic liver disease). B: Chest radiograph showing left pleural effusion.**



A B

(From Stern EJ, White CS. *Chest Radiology Companion.* Philadelphia, PA: Lippincott, Williams & Wilkins, 1999:375, Figure 22-1A; 376, Figure 22-2A.)

Figure 12.6 Pleural effusion
The upper margin of the effusion is curved ('meniscus sign'). The left hemidiaphragm is not seen because there is no adjacent aerated lung for contrast. The heart shows some deviation to the right. It is unlikely that this is caused by an effusion of this size. It is probably related to the lower thoracic scoliosis.



	Symptoms	Signs
Congestive cardiac failure	Leg swelling Orthopnoea PND	Raised JVP Ascites Oedema Gallop rhythm
Pneumonia	Cough Fever	Fever Consolidation
Carcinoma of lung	Weight loss Haemoptysis	Clubbing Lymphadenopathy
Nephrotic syndrome	Frothy urine Leg swelling	Peripheral oedema Proteinuria

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