

Pneumothorax

وده تعريفه هواء جوه ال

Pleural cavity

الطبيعى أن التجويف ده مش تجويف حقيقى لكنه تجويف محتمل او ممكن ..

وده فى حالة وجود شئ جواه زى ال

Fluid in case of pleural effusion

Air in case of pneumothorax

Classification

A pneumothorax is termed **primary** if there is no underlying lung disease

And **secondary** if there is underlying lung disease

Clinical features

المريض هييجى بيشتكى من ايه ؟

- ✓ Sudden onset of chest pain (DD of sudden chest pain)
- ✓ Dyspnea (may not be a dominant feature)
- ✓ Dry cough.
- ✓ Left-sided pneumothorax may be associated with a clicking sound synchronous é heart beat

➔ Young adult males, often tall and slim, are frequently affected by spontaneous pneumothorax.

Signs

- i. On affected side
 - decreased air entry
 - Percussion : hyperresonant

- ii. Tension pneumothorax:

In addition to previous signs --> shifted trachea to the opposite side

Investigations

The most appropriate first step would be confirmation with chest x ray.

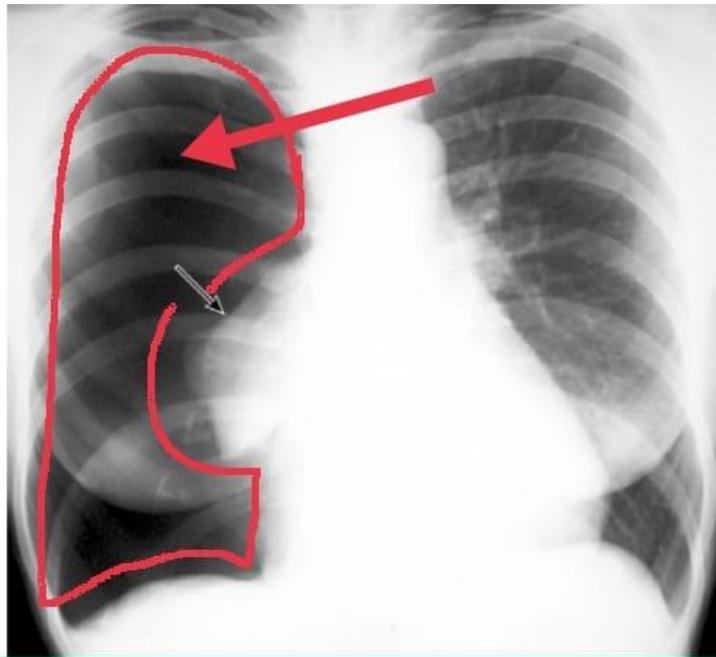
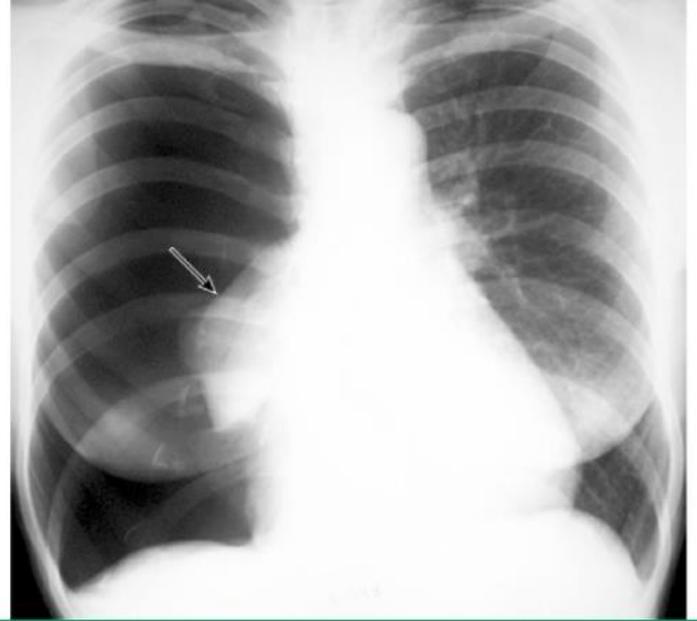
ده منظر واضح جداااا لل

Pneumothorax

السهم الصغير بيشاور على حاجه صغيره بيضه لازقه فى

القلب ودى هيا ال

Collapsed lung



اومال فين ال pneumothorax نفسه ؟

هو الجزء الاسود الواضح اوى أنه بقا مكان الرئة اللي حصلها.. collapse

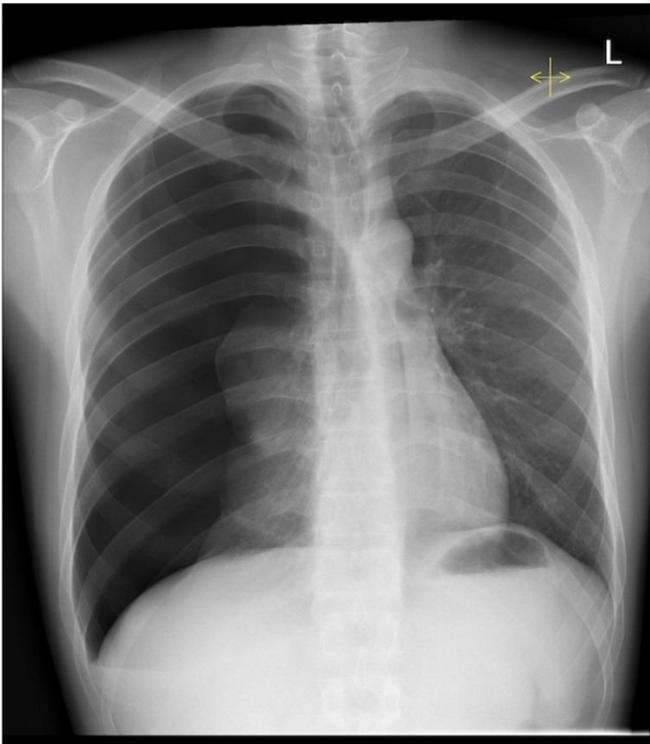
وانا معلم على حدوده بالاحمر وحطيتله سهم احمر وهتلاحظ أنه اسود غاااامق

Jet black without any lung markings in comparison to left lung

- طبعا هنا حجم ال pneumothorax كبير
- كل الحجم ده بقا بنقيس ال size بتاعه وبنسميه ال rim
- وبنقيسه بخط افقى عشان نعرف حجم ال air كام سم
- وكل رقم يقابله نسبه مؤويه وكل ما زاد الرقم زادت النسبه المؤويه وزاد شدة ال pneumothorax اللي بيسموه

الاسترواح الهوائي وبالتالي يصبح العلاج سحب الهواء ضروره ملحه لتجنب زيادته وتجنب المضاعفات

- 0.5 cm = 10%
- 1 cm = 15%
- 2 cm = 30 %
- 3 cm = 45%
- 4 cm = 60%

اومال ايه هو ال tension pneumothorax ؟

ده pneumothorax

عمل

Compression on Mediastinal structure

Causing midline shift

زى الصورة دى ←

السهم بيشاور على

Trachea shifted to left side...

وهى أحد ال

Mediastinal structure

Tension pneumothorax

◆ ملحوظه هالامه (1)

- A primary spontaneous pneumothorax (PSP) is a pneumothorax that occurs without a precipitating event in a person who does not have known lung disease.
- Most individuals with PSP have unrecognized lung disease, with the pneumothorax resulting from rupture of sub pleural bleb.

◆ ملحوظه هالامه (٢)

- The incidence is increased in men, smokers, and patients with a family history of PSP.
- Recurrence is estimated to occur in 25 to 54 percent of patients.
- PSP usually occurs when the patient is at rest and manifests as acute dyspnea and pleuritic chest pain. The peak age is in the early 20s

◆ ملحوظه هالامه (٣)

- Secondary spontaneous pneumothorax (SSP) is a pneumothorax that occurs as a complication of underlying lung disease, most commonly chronic obstructive pulmonary disease (COPD).
- Secondary pneumothorax is considered large if the pleural line is more than 2 cm from the chest wall.

ازای نعالج ال Pneumothorax ?**Last updated treatment {American protocol}****A] Primary pneumothorax {PSP}**

- ✚ If the patient is clinically stable and the pneumothorax is small (i.e., the distance between the lung and the chest wall is ≤ 3 cm on a chest radiograph)
 - > [Supplemental Oxygen and observation] with no need for aspiration or chest tube insertion
- ☞ Observation should last six hours, after which the patient can be discharged home, if a repeat chest radiograph excludes progression of the pneumothax
- ✚ if the pneumothorax is large > 3 cm and the patient is clinically stable
 - > Pleural Aspiration
 - If pleural aspiration fails ---> Chest tube insertion with drainage of air
- ☞ Clinically unstable patients should undergo chest tube insertion.
- ☞ If the chest tube insertion is delayed, decompression performed by advancing a standard 14 gauge intravenous catheter into the pleural space at the junction of the midclavicular line and the second or third intercostal space can be performed as a bridge
- ☞ The chest tube can be connected to a water seal device, with or without suction.
- ☞ Suction should be applied to the chest tube if the pneumothorax fails to resolve
- ✚ recurrent Primary Pneumothorax should be treated by chest tube insertion followed by VATS
- ☞ chemical pleurodesis Should be performed through the chest tube if VATS is not readily available

B] Secondary Pneumothorax

- ✚ initial hospitalization of all cases of secondary Spontaneous pneumothorax { SSP}
- ✚ Clinically unstable patients with SSP require a chest tube regardless of the size of the pneumothorax
- ✚ For clinically stable patients with a large SSP (pleural line >2 cm from chest wall)
---> Chest tube
- ✚ For patients with a small pneumothorax (pleural line 1 to 2 cm from chest wall) and are minimally breathless ---> drainage of pleural air
- ✚ In the setting of SSP, placement of a small bore catheter (10 to 14 Fr) is generally preferred over needle
- ✚ For clinically stable, asymptomatic patients with a very small SSP (pleural line <1 cm from chest wall) ---> close observation
- ✚ But enlarging pneumothorax would be indications for pleural drainage