



實習醫學生臨床技能核心課程 基本胸部X光判讀影像判讀

台北醫學大學附設醫院 影像醫學部

藍功堯醫師

2013-03-06製作

臺北醫學大學

TAIPEI MEDICAL UNIVERSITY

教學目標

- 說明各項基本胸部X光判讀影像檢查的方法。
- 具備基礎基本胸部X光判讀學及相關部位解剖學知識。
- 確認基礎基本胸部X光判讀病人姓名、檢查日期及影像方向(orientation)。
- 系統性的描述基礎基本胸部X光判讀影像，並指出病灶之型態及特性。
- 判讀常見的異常基本胸部X光判讀影像，並且列出鑑別診斷。

教學活動

- 基本能力: 說明胸部X光判讀影像基礎胸腔及心臟解剖學知識；確認胸部X光判讀影像影像的基本資料
- 肺炎及肺癌胸部X光診斷
- 常見胸部X光診斷
- 測驗

胸部X光判讀影像檢查的適應症

- 胸腔：肺炎,肺癌及縱膈腔病變等。
- 心臟：心臟腫大,先天性心臟病,後天心臟疾病及心衰竭等。

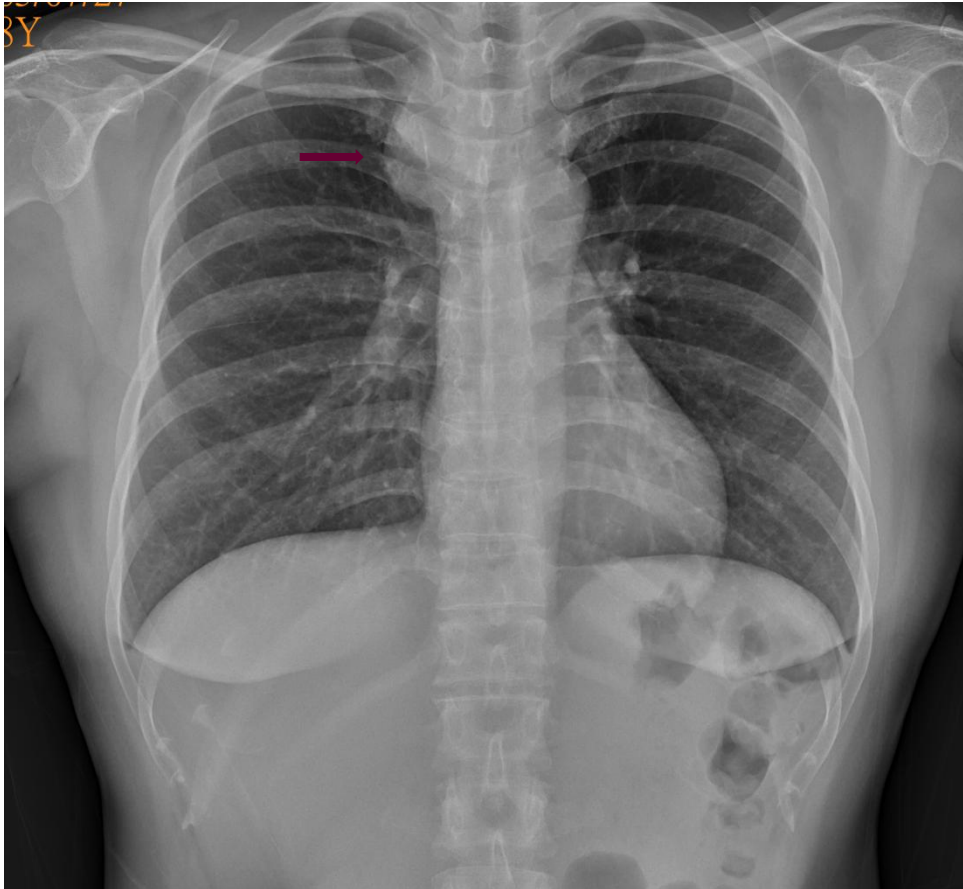
具備基礎基本胸部X光判讀學及相關部位解剖學知識。

- PA view / AP view
- Lateral view
- Lordotic view
- Both oblique view

常見胸部x光診斷判讀

F/48 chief complaint : Chest Distress

What' your diagnosis?



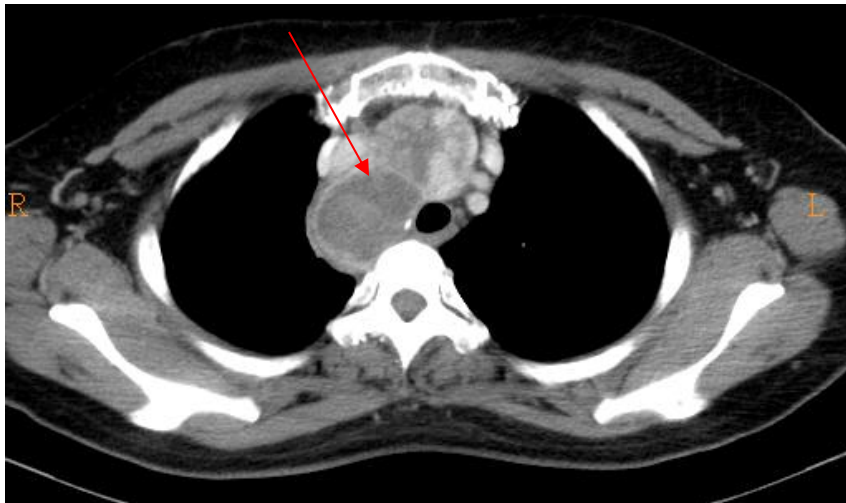
- A. Tortuous right brachiocephalic artery
- B. Right aortic arch
- C. Intrathoracic goiter
- D. Thymoma



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■ Final diagnosis: Intrathoracic goiter

Key points:



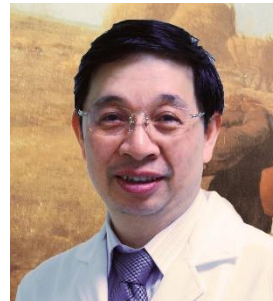
- Diagnosis by CT chest finding:
 - * Heterogeneous enhanced mass (arrow) over superior mediastinum
 - * Extension of cervical thyroid tissue into superior mediastinum

M/46 No symptoms

What' your diagnosis?



- A. Situs solitus
- B. Situs inversus
- C. Sinus ambiguus



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■ Final diagnosis: Situs Inversus

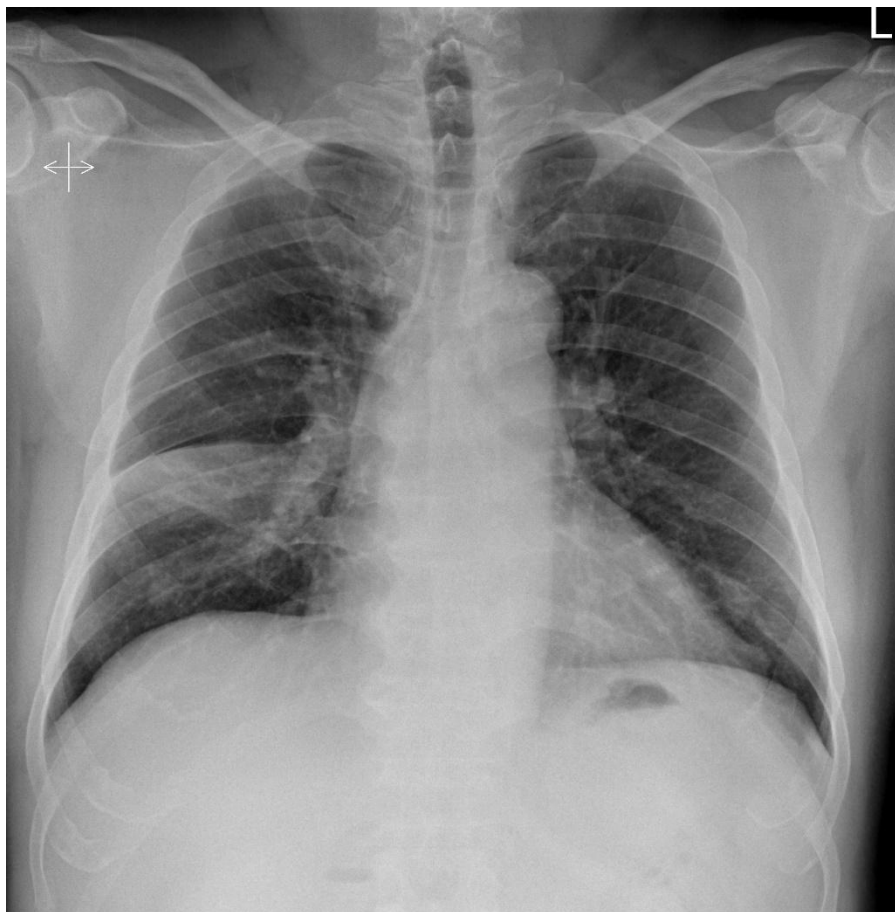


Key points:

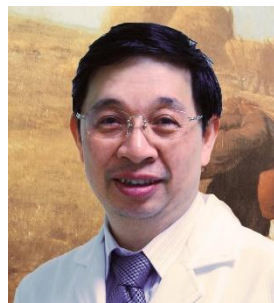
- SITUS INVERSUS – minor images arrangement of situs solitus
- * Frequency 0.01%
- * Associated with
 - Dextrocardia, 3-5% chance for CHD, eg, Kartagener's syndrome
 - Right-sided stomach (arrow)
 - Levocardia (extremely rare), 95% chance for CHD

C.C. fever

What' your diagnosis?
Which segment?



- A. Pneumonia
- B. Lung cancer
- C. Pul. infarction
- D. Lung abscess



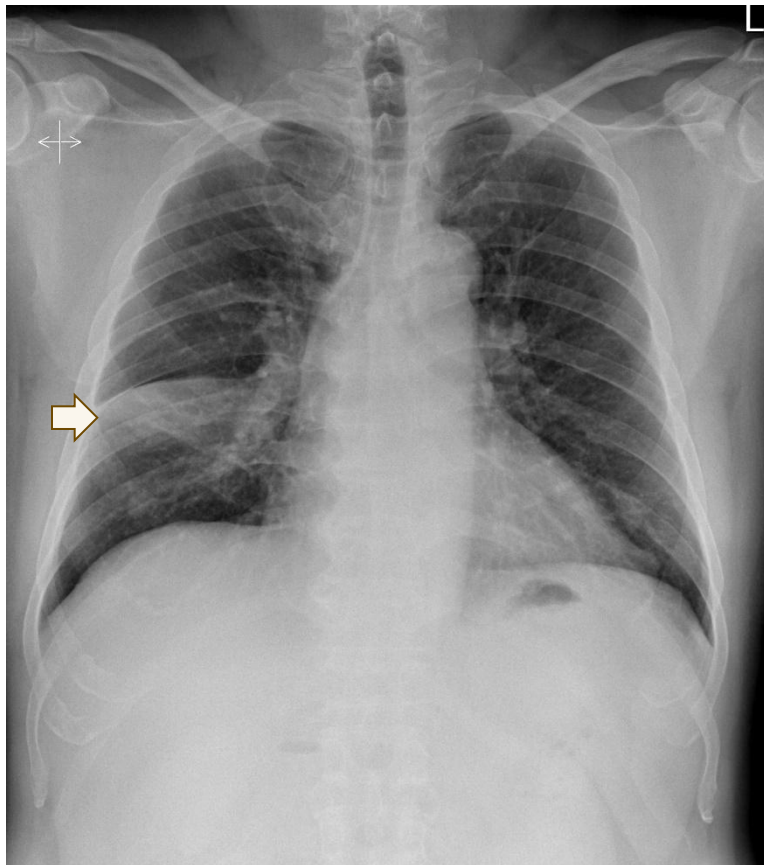
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Final diagnosis: Pneumonia, RML

Key point:

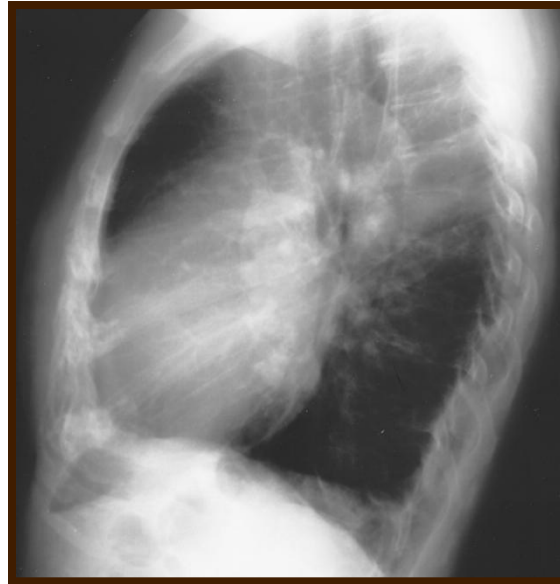
箭頭顯示

實質化 (consolidation) 區域

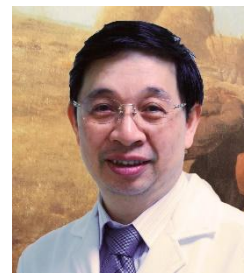


F/25 : P.E. :cardiac murmur

What' your diagnosis?



- A. ASD
- B. VSD
- C. PDA
- D. Idiopathic Pulmonary Arterial Hypertension



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■ Final diagnosis: ASD

Key point-

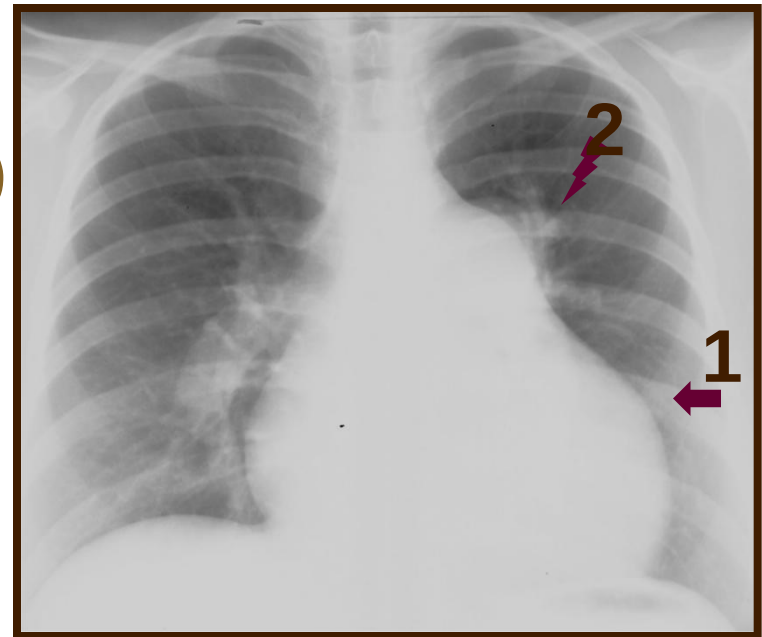
鑑別 肺動脈血流增加原因

(Increased pul. vascularity)

- Active
 - Left to right shunt (this case)
 - Cardiac admixture lesion
 - Systemic AV fistula
- Passive
 - Left heart failure
 - Fluid overload

鑑別其他肺動脈高壓病變

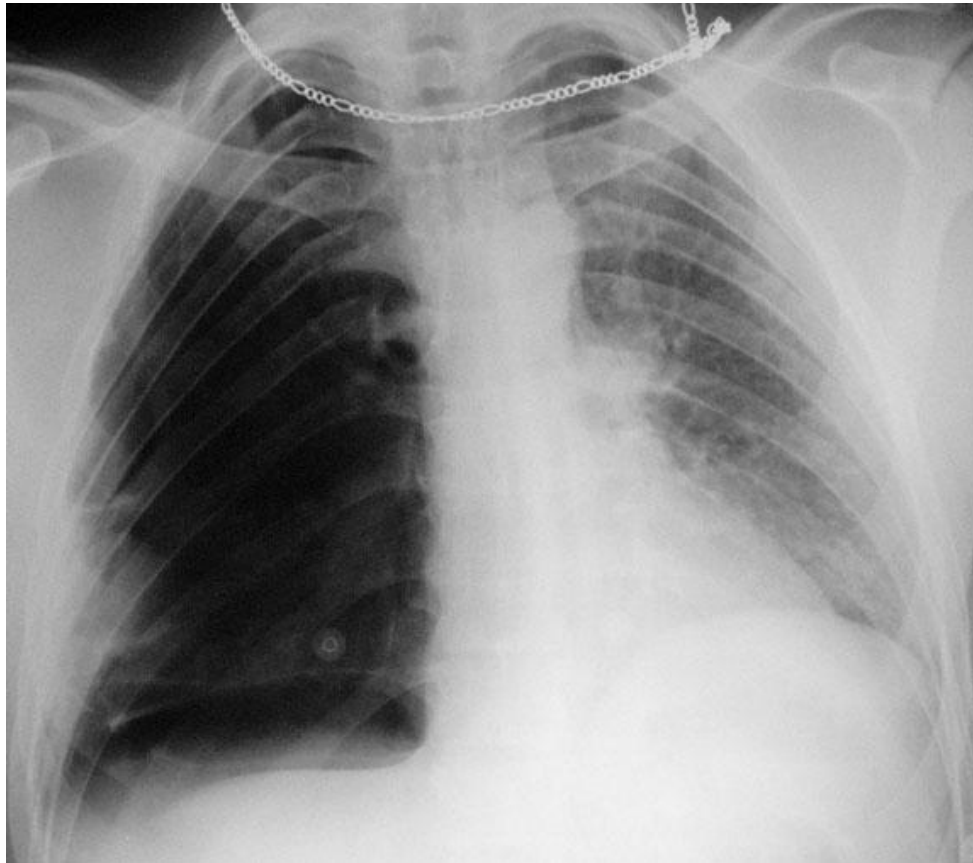
DDx. Idiopathic Pulmonary arterial hypertension



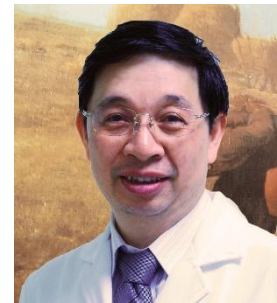
箭頭1-右心室肥大
箭頭2-肺動脈幹鼓起

Chief complaint : Chest Distress

What' your diagnosis?



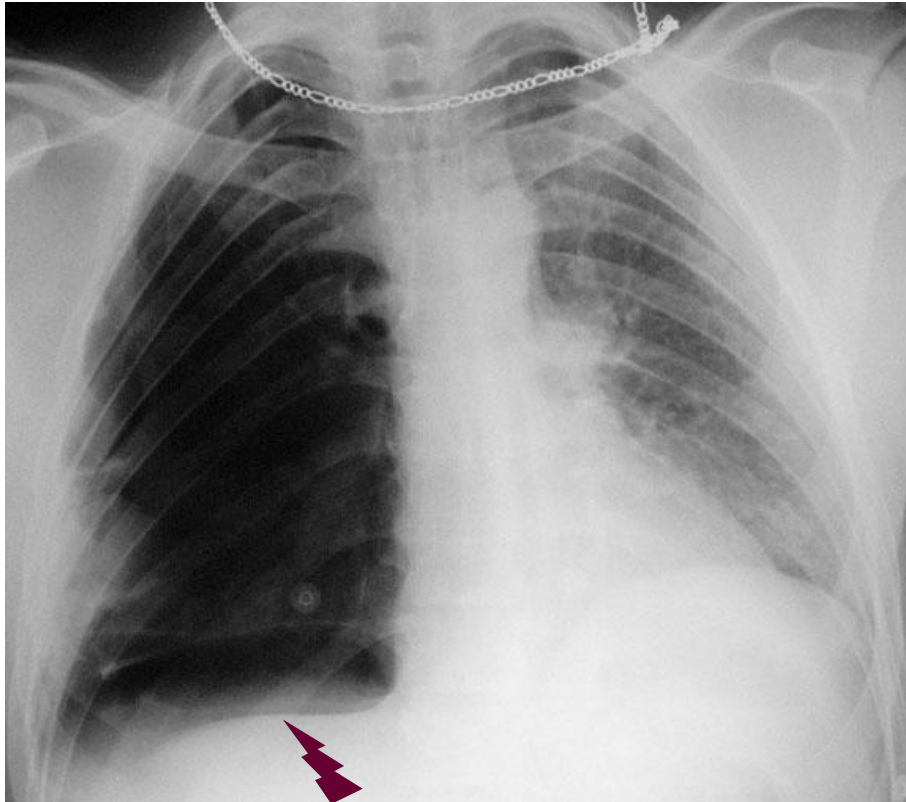
- A. Lobar emphysema
- B. Swyer James syndrome
- C. Pulmonary emboli
- D. Tension pneumothorax



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■ Final diagnosis: Tension Pneumothorax

Key points: obvious hyperlucency of right hemothorax



Other Findings:

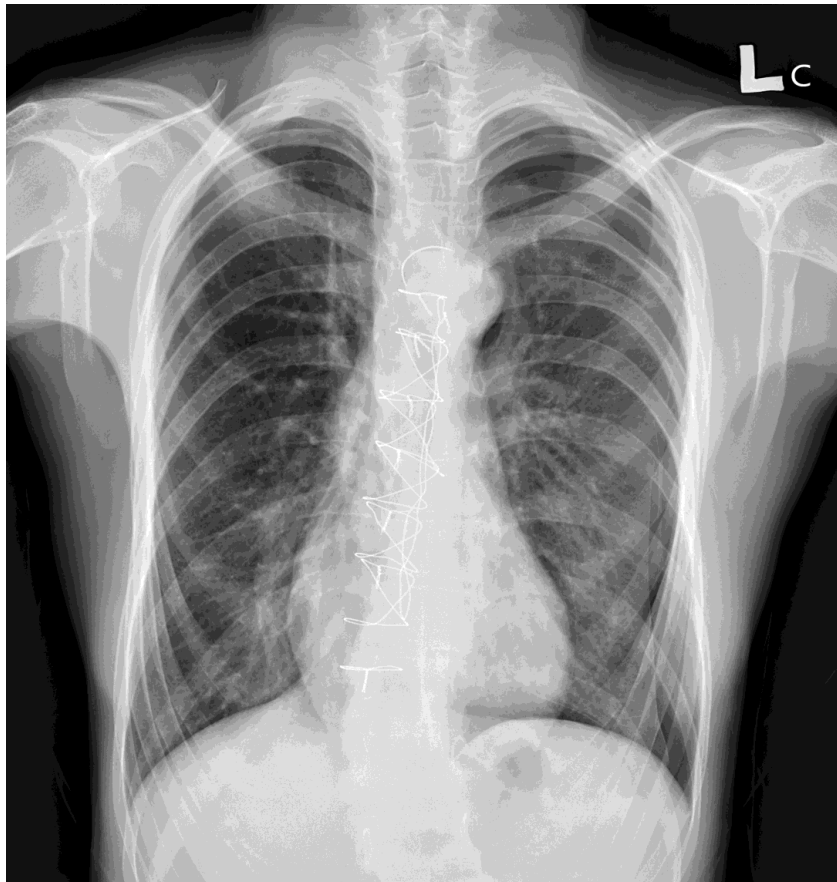
- inverted right hemi-diaphragm (Arrow)
- leftward mediastinal shift
- Increased marking of contralateral lung due to congested lung

DDx. unilateral lucent lung

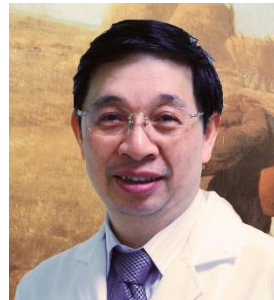
- air-trapping from Foreign Body Aspiration
- Swyer-James syndrome
- oligemia
(massive Pul. Embolism)

**Chief complaint : Chest Distress,
Past-history of left apex operation.**

What' your diagnosis?



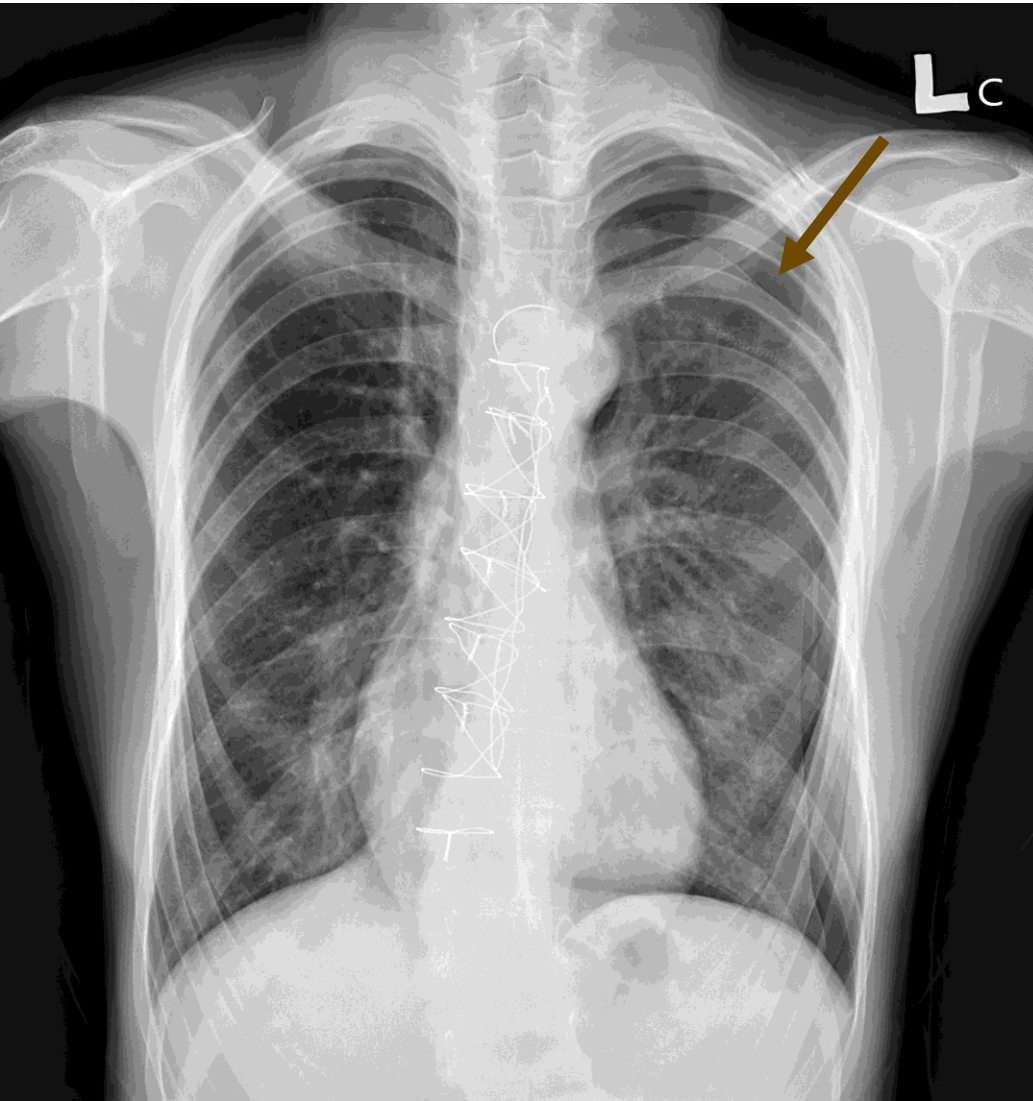
- A. Pneumothorax
- B. Giant bulla
- C. Lobar emphysema
- D. Skin fold



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■ Final diagnosis: Pneumothoax

Key image



Key points:

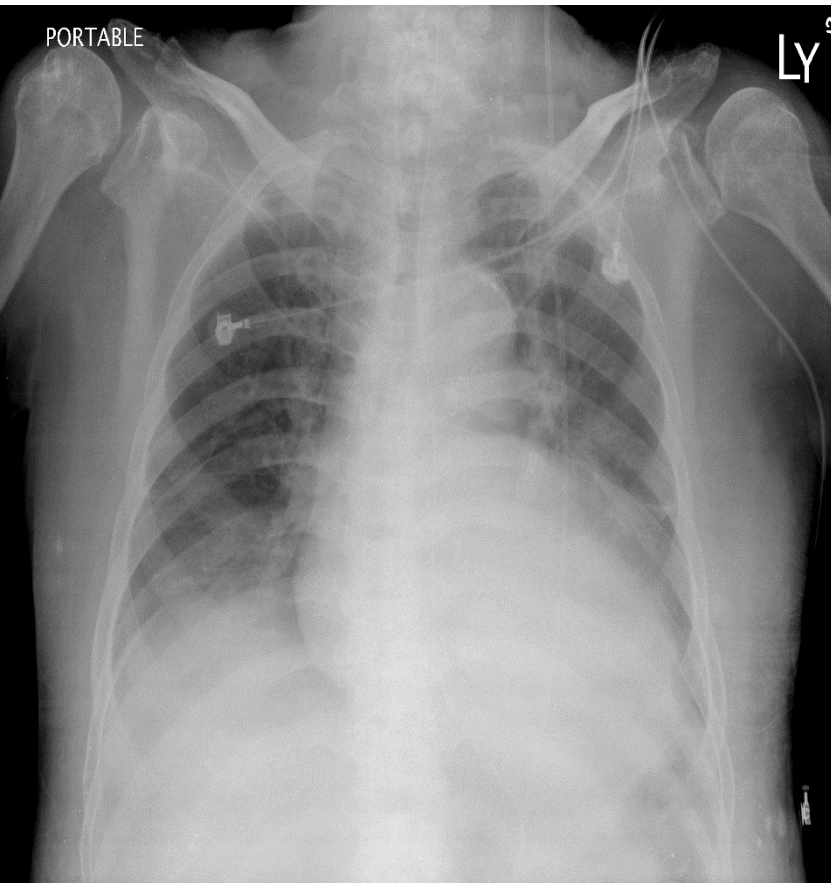
- Diagnosis by plain chest radiograph:
 - Pleural line demonstration
 - Adjacent passive atelectatic change of LUL

DDx.

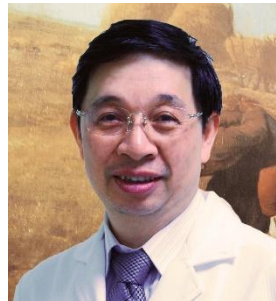
- giant bulla
- Lobar emphysema

Chief complaint : Chest Distress

What' your diagnosis?

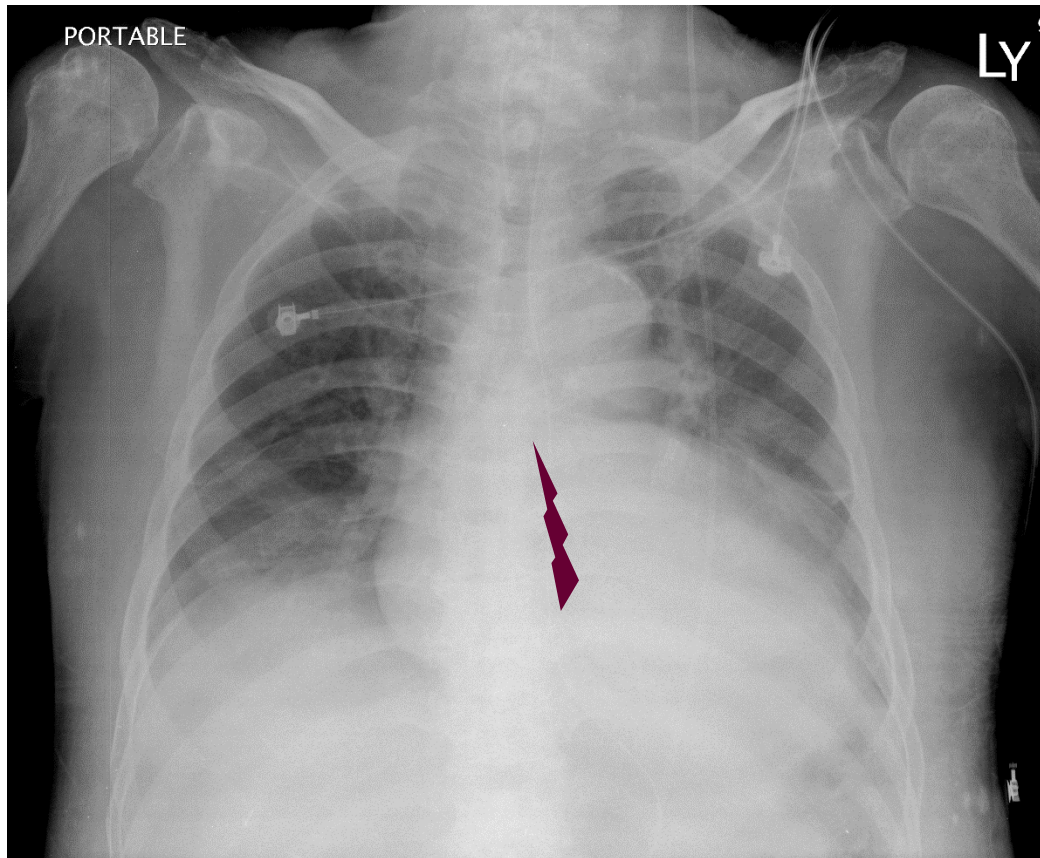


- A. Dilated cardiomyopathy
- B. Pericardial effusion
- C. Thymic cyst
- D. Pericardial defect



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■ Final diagnosis: Pericardial Effusion



Key points:

- Diagnosis by plain chest finding:
- Water-bottle shaped appearance (**the most important point-cardiac shape**)
- Widened subcarinal angle (arrow)

DDx.

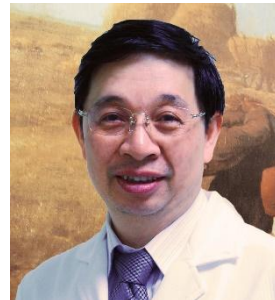
- Valvular heart disease
- Dilated cardiomyopathy

**Chief complaint : Chest Distress,
Past-history of right lung cancer.**

What' your diagnosis?



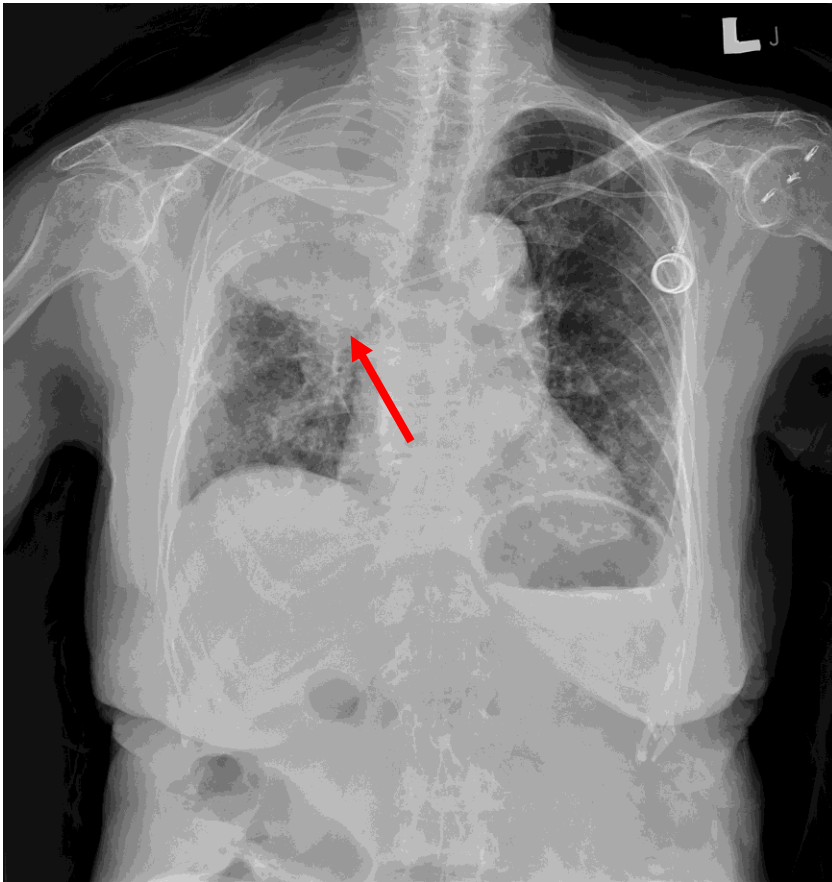
- A. lung CA with atelectasis
- B. encapsulated effusion
- C. mediastinal tumor
- D. lobar pneumonia



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Final diagnosis: Lung Cancer with Atelectasis

Key images



Key points:

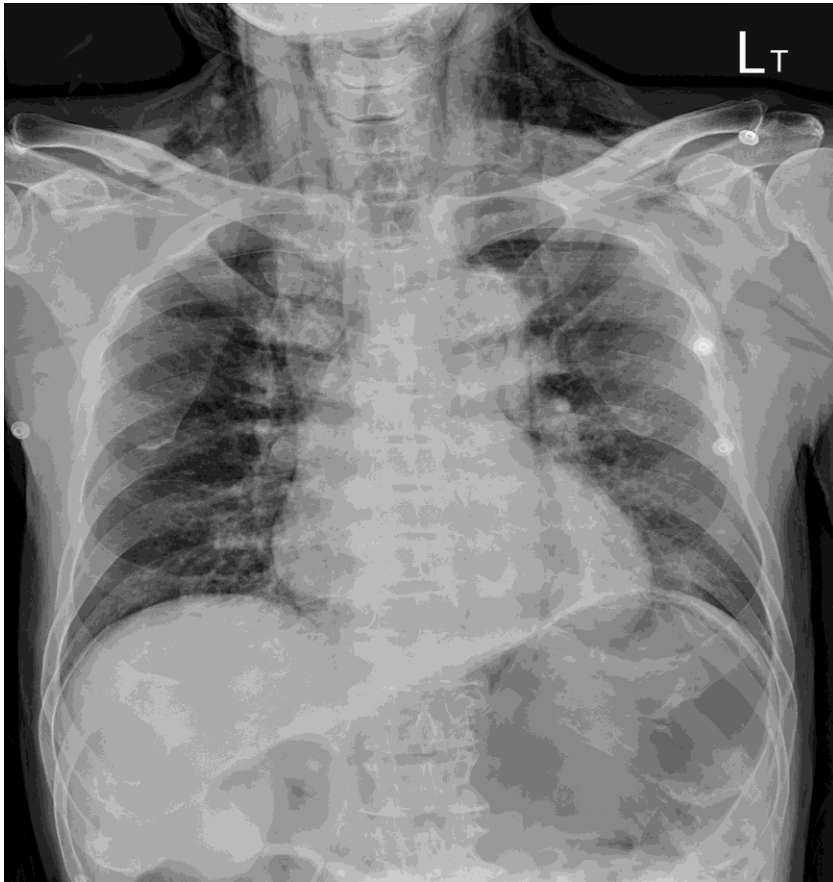
- Diagnosis by plain chest finding:
- Golden S sign (arrow)

DDx.

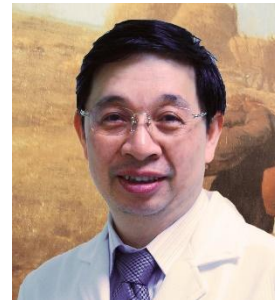
- 1. lung CA with atelectasis
- 2. encapsulated effusion
- 3. mediastinal tumor
- 4. lobar pneumonia

Case 9, Chief complaint : Chest Distress, Fever

What' your diagnosis?



- A. Lobar emphysema
- B. Pneumomediastinum
- C. Bullous emphysema
- D. Tension pneumothorax



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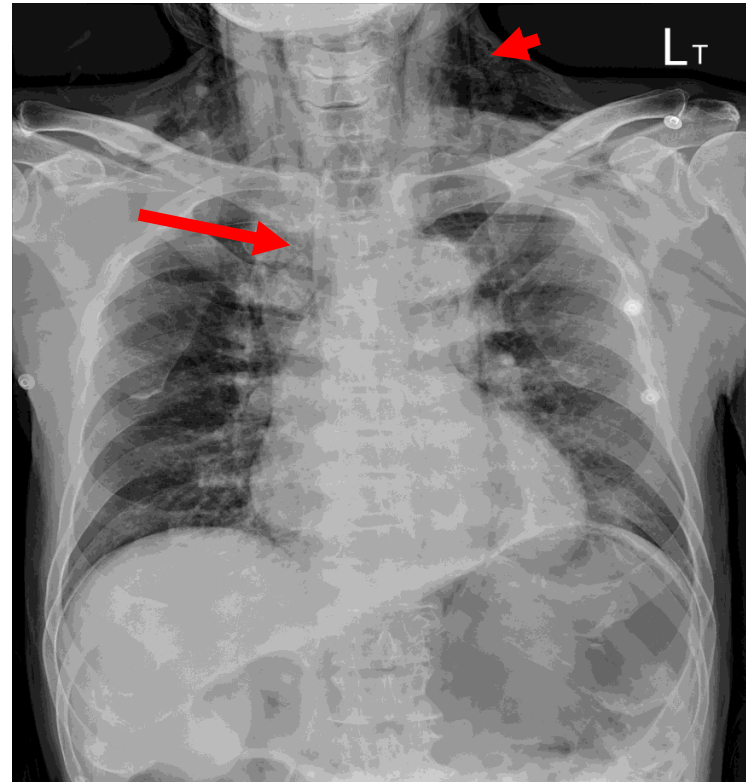
■ Final diagnosis:

Pneumomediastinum

Key points: by plain film

■ Findings:

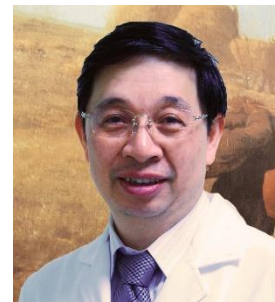
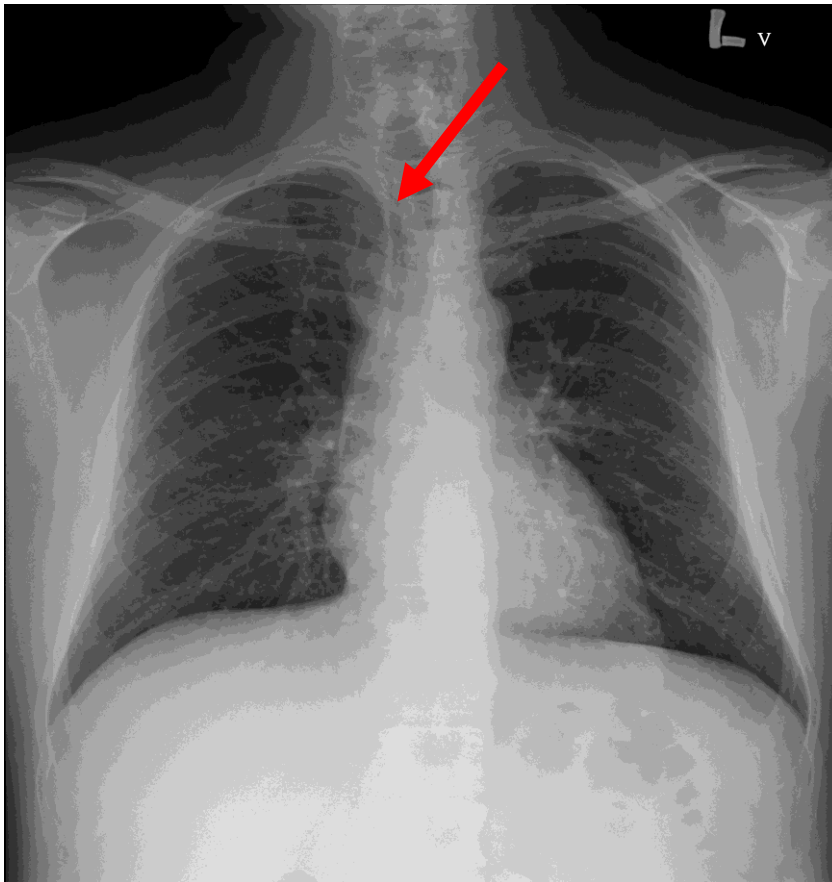
- Hyperlucent lines over superior mediastinum (arrow)
- Subcutaneous emphysema of neck (arrow head)



Case 10, Chief complaint : Physical check up

What' your diagnosis?

- A. Right Paratracheal Stripe
- B. Right Brachiocephalic Artery
- C. Superior Vena Cave Shadow
- D. Skin Fold

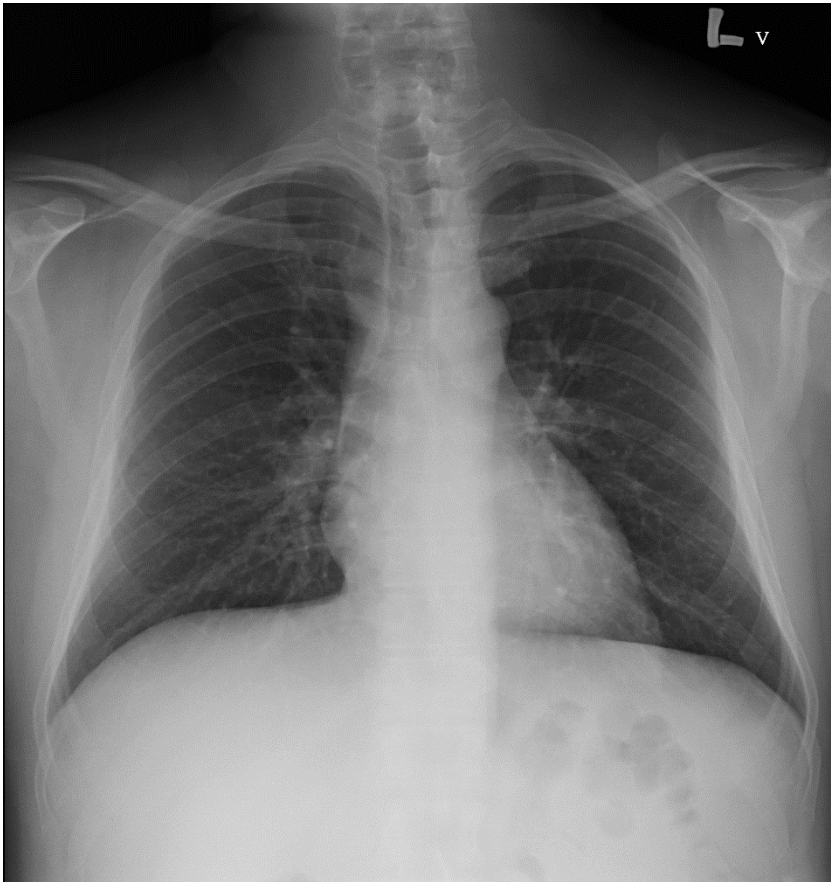


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Final diagnosis: Right Paratracheal Stripe

Key points:

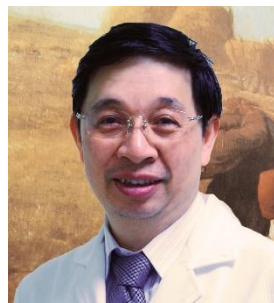
Diagnosis by plain chest finding:
tracheal wall thickness



What' your diagnosis?

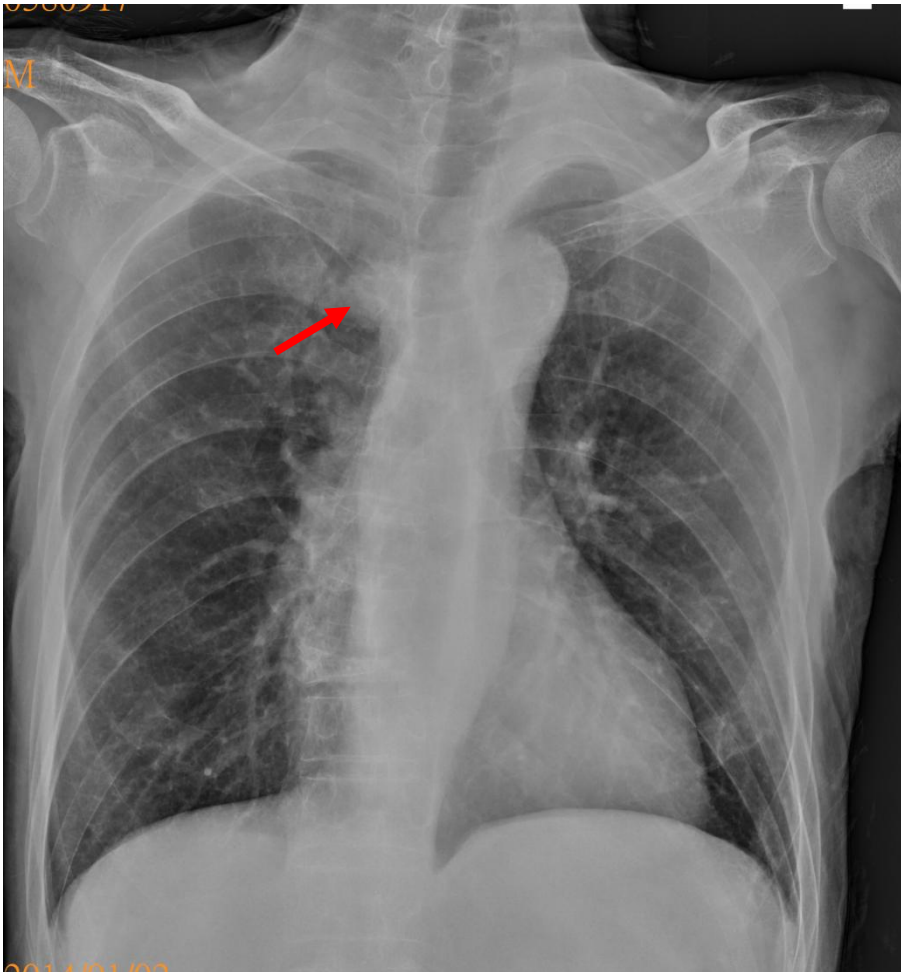


- A. Lung CA
- B. Tortuosity of right brachiocephalic artery
- C. Mediastinal tumor
- D. Enlarged lymph nodes



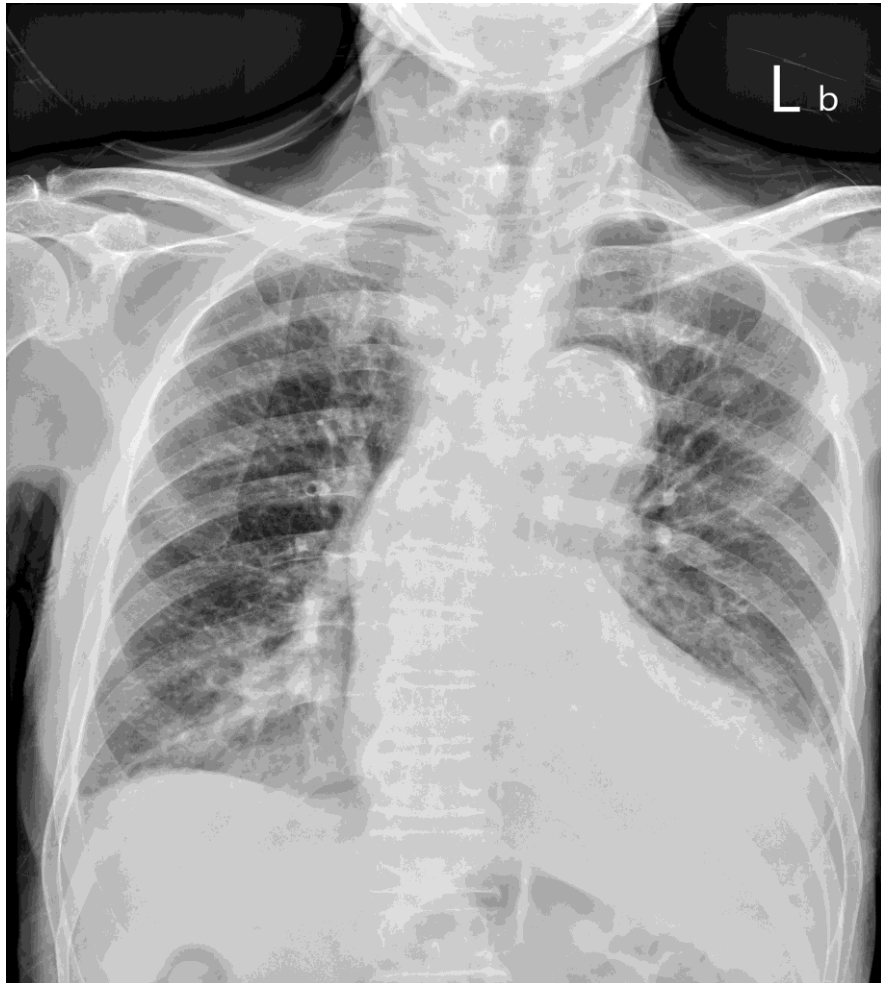
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Final diagnosis: Lung Cancer with T10 metastasis

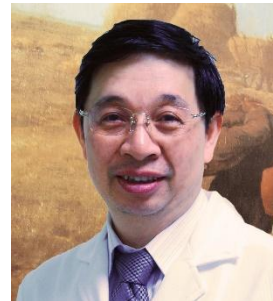


- Key images-Diagnosis by plain chest finding: Difficult to identify this tumor due to superimposed with adjacent rib (arrow)
- DDx. Right paratracheal density
- Easy miss areas of lung cancer , must review following four areas
 - 1. at apex
 - 2. at hilar region
 - 3. at lung base
 - 4. at retrocardiac portion

What' your diagnosis?

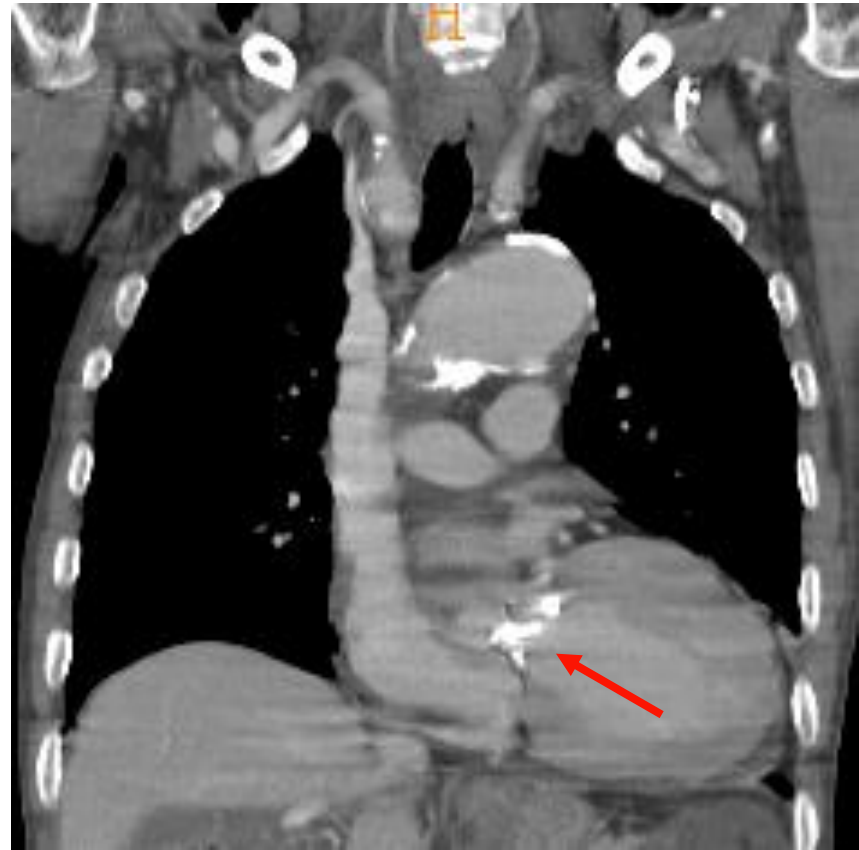
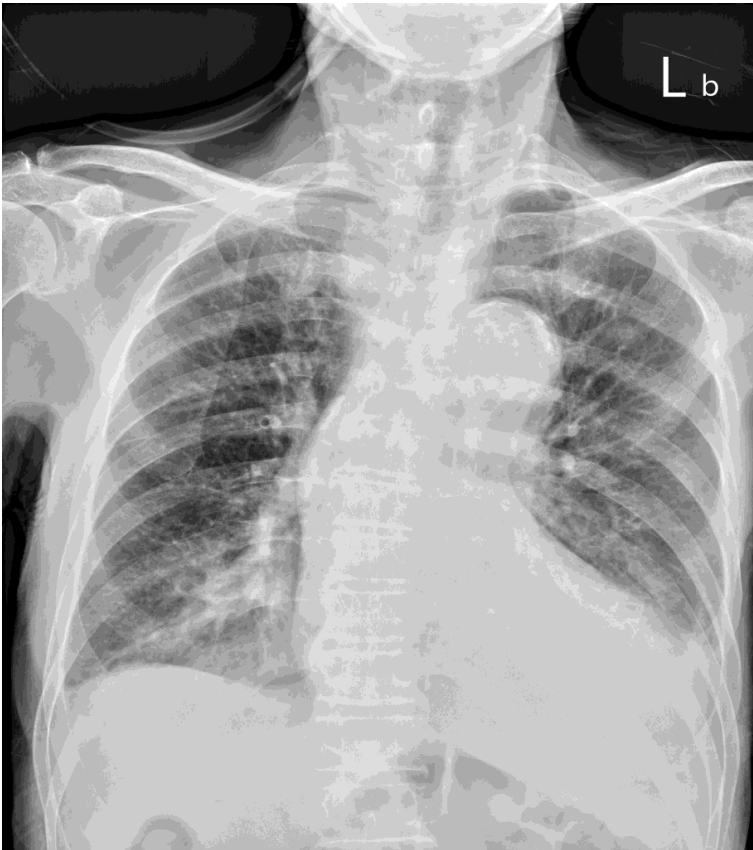


- A. Dilated cardiomyopathy
- B. Aortic insufficiency
- C. Pericardial effusions
- D. Ebstein's anomaly



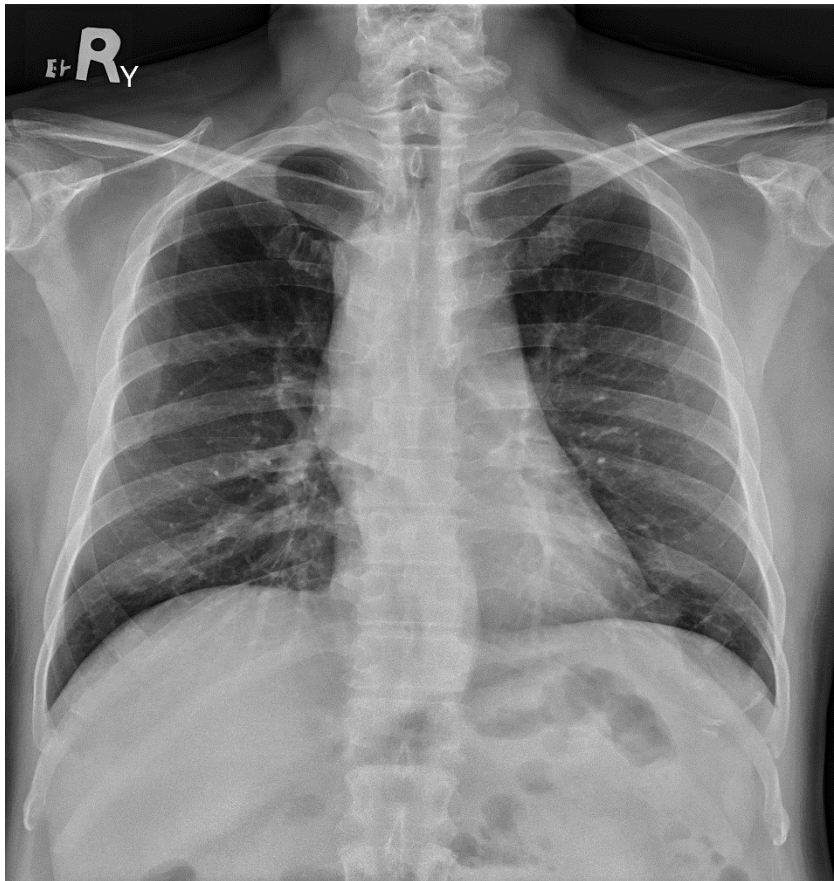
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Aortic insufficiency, with aortic valve calcification

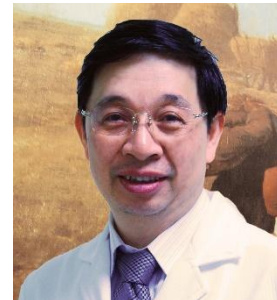


M/58 abnormal chest film

What' your diagnosis?



- A. aortic aneurysm
- B. Aortic insufficiency
- C. right aortic arch with aberrant right subclavian artery
- D. aortic dissection



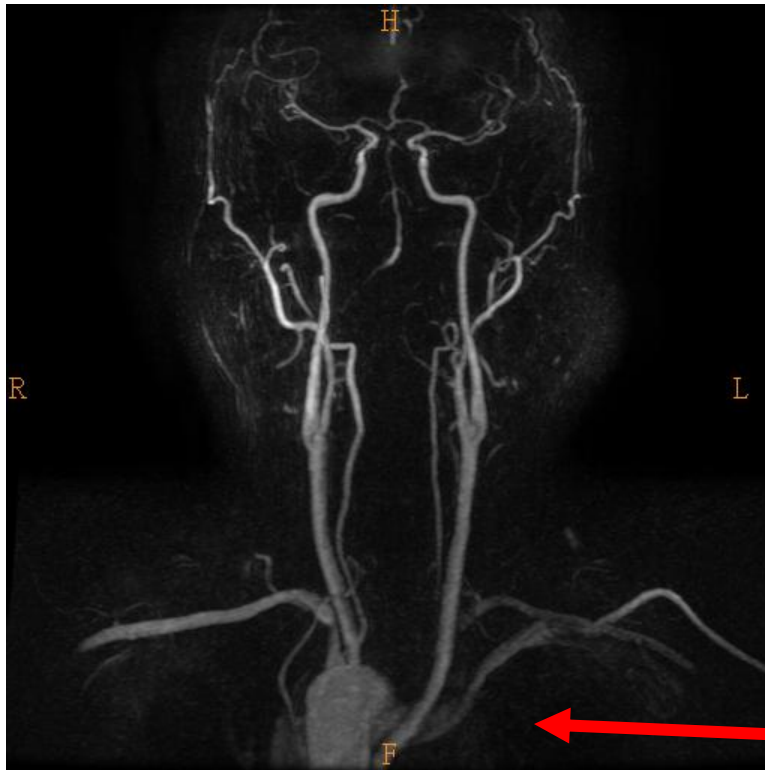
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Final diagnosis:

right aortic arch with aberrant left subclavian artery

Key points:

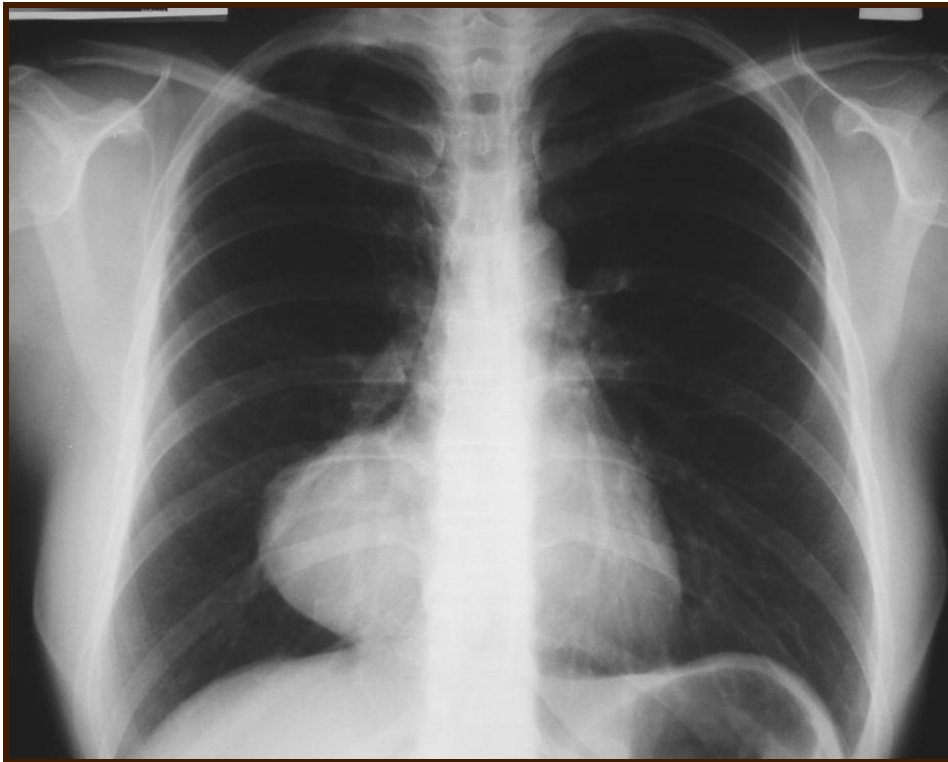
MRA findings show abnormal vessel origin (arrow)



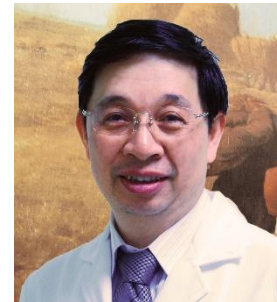
aberrant left subclavian artery

Key points:

What' your diagnosis?



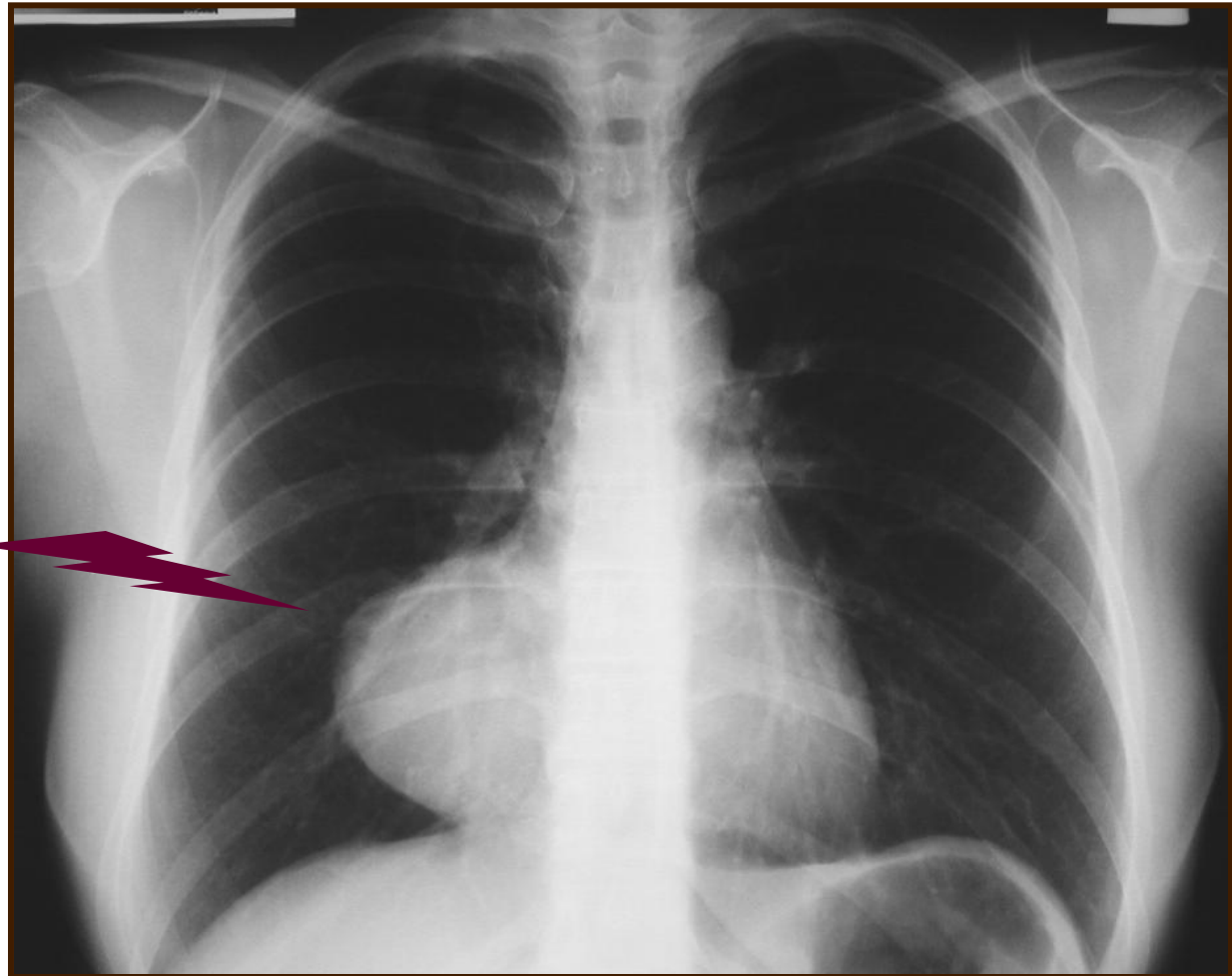
- A. teratoma
- B. thymoma
- C. lymphoma
- D. pericardial defect



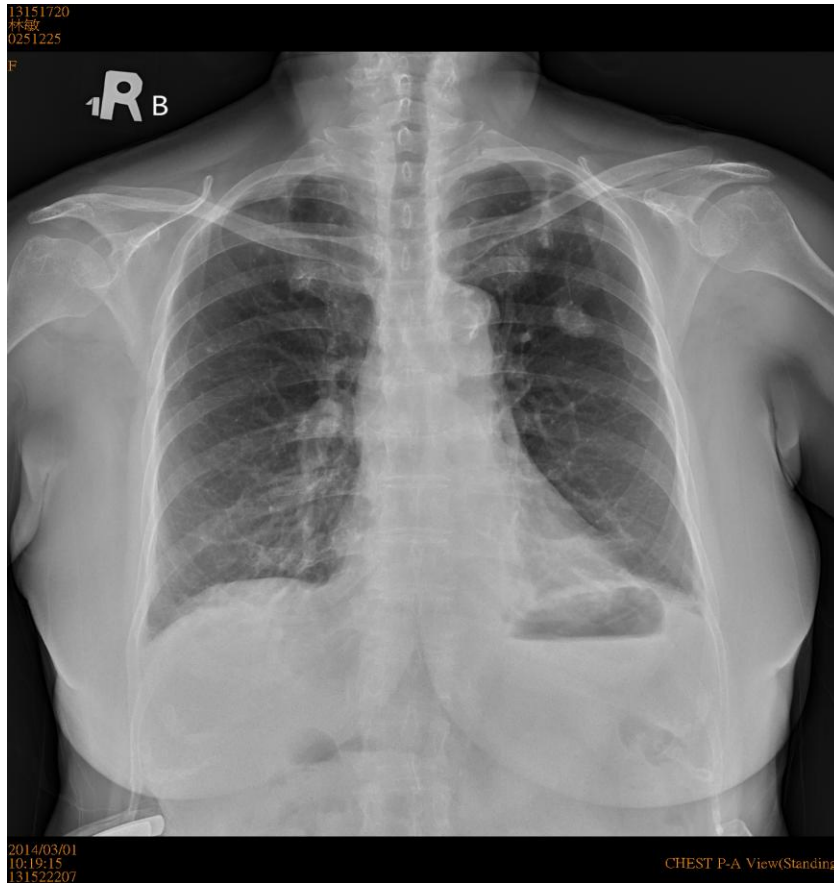
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Final diagnosis: thymoma (胸腺瘤)

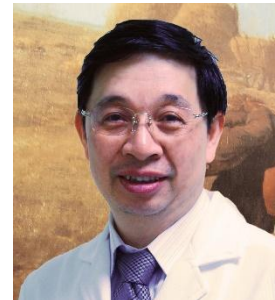
Mediastinal
tumor



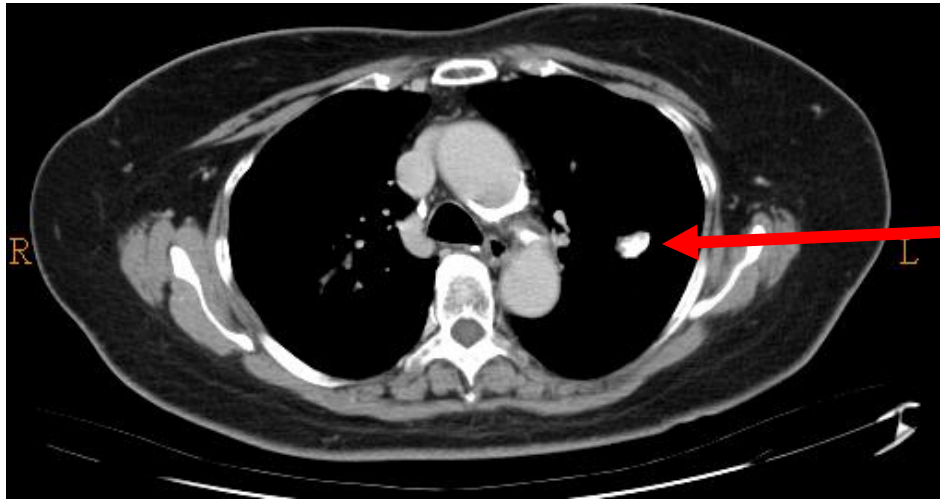
What' your diagnosis?



- 1. granuloma
- 2. **hamatoma**
- 3. lung cancer
- 4. sclerosing hemangioma

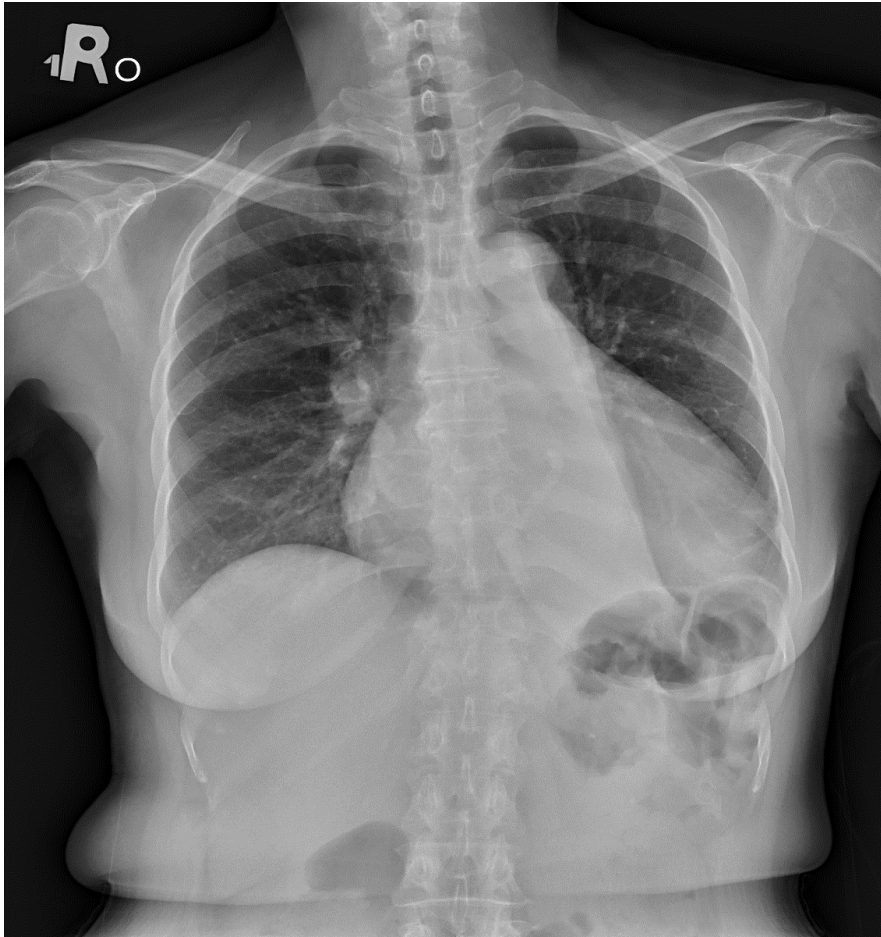


Final diagnosis: granuloma



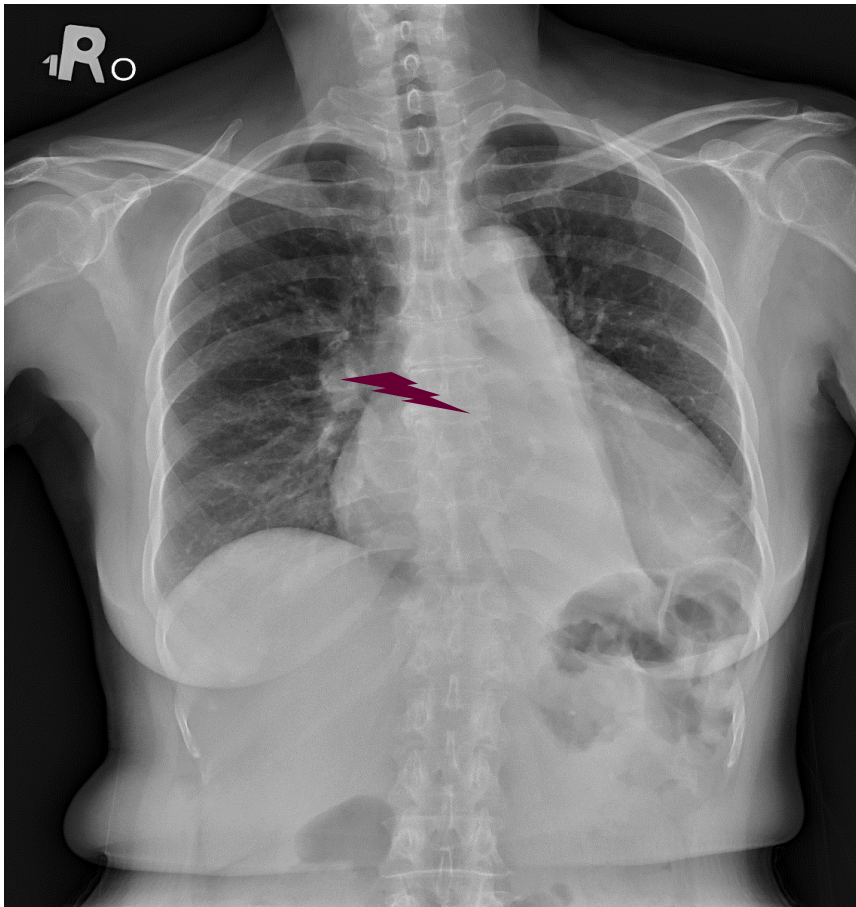
- Arrow, calcified nodule

What' your diagnosis?



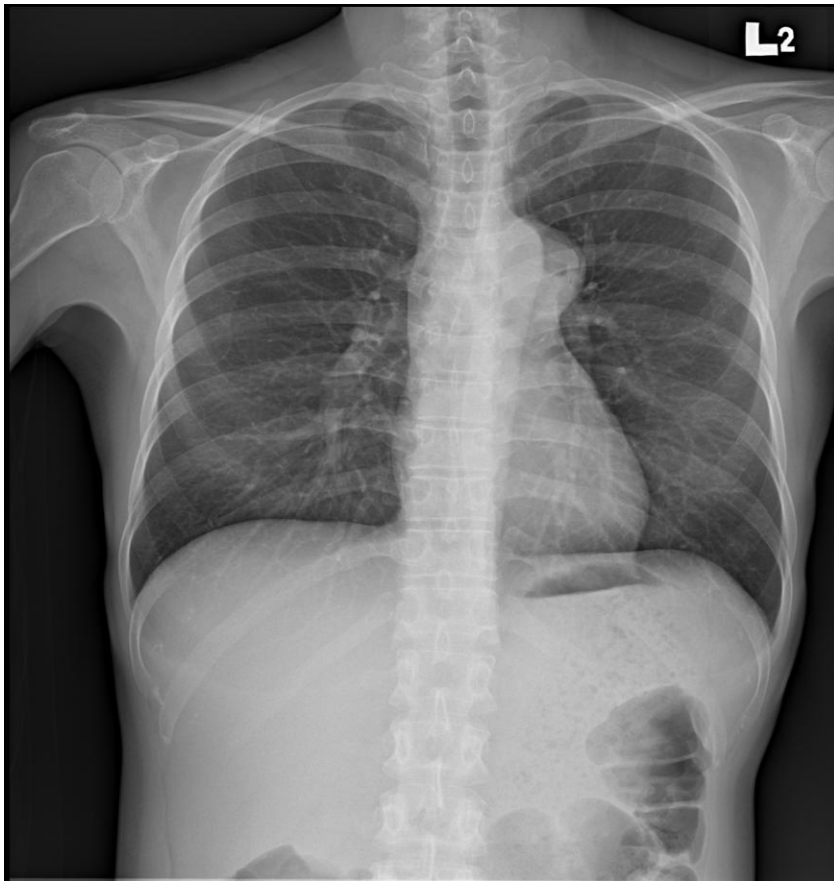
- 1. mitral annulus calcification
- 2. aortic valve calcification
- 3. tricuspid valve calcification
- 4. pulmonary valve calcification

Final diagnosis: mitral annulus calcification with Mitral regurgitation

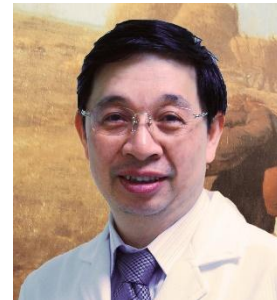


Arrow- calcified mitral annulus

What's your diagnosis?

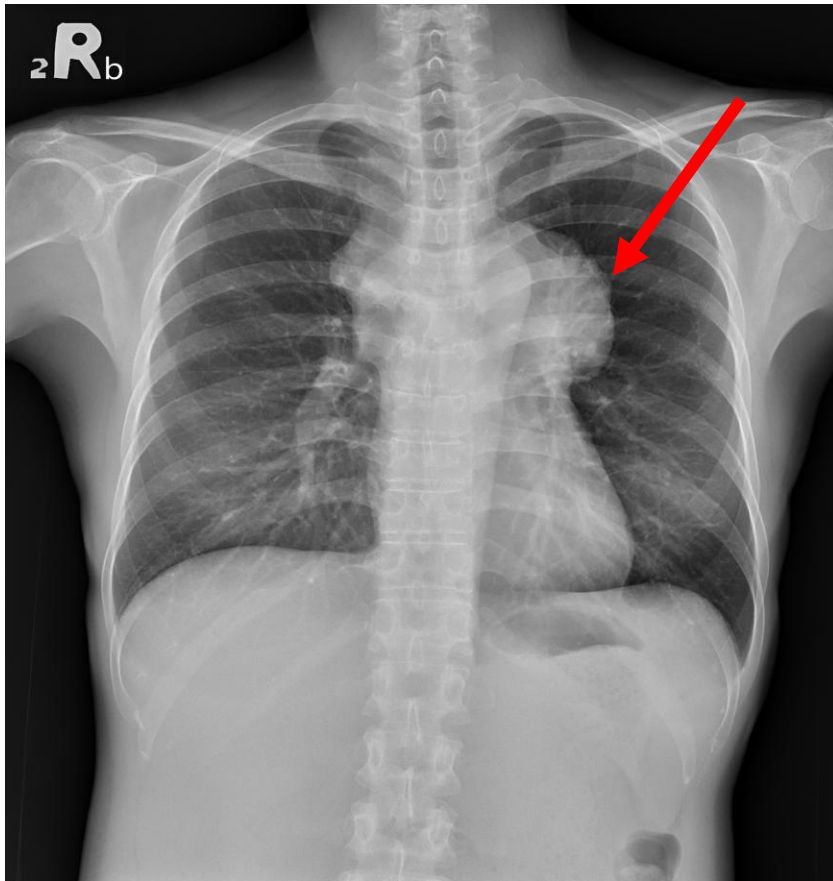


- 1. teratoma
- 2. lymphoma
- 3. thymic cyst
- 4. thymoma



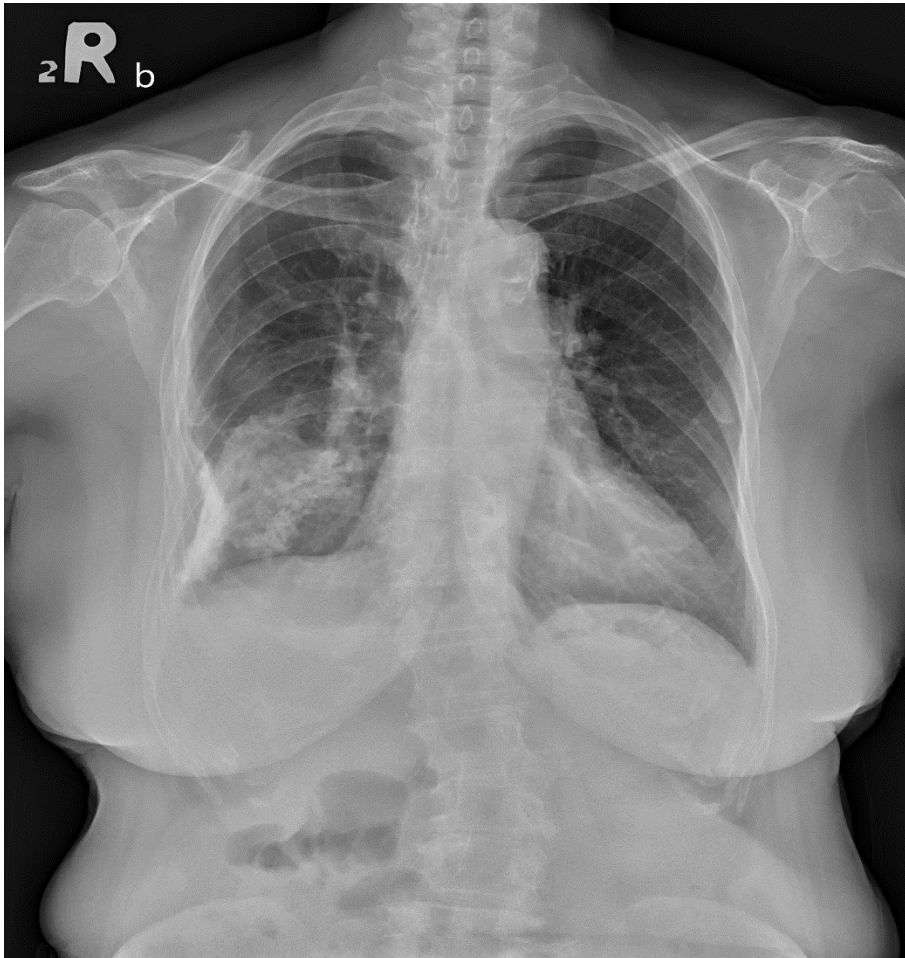
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Final diagnosis: malignant lymphoma



Progressive enlarged mass

What's your diagnosis

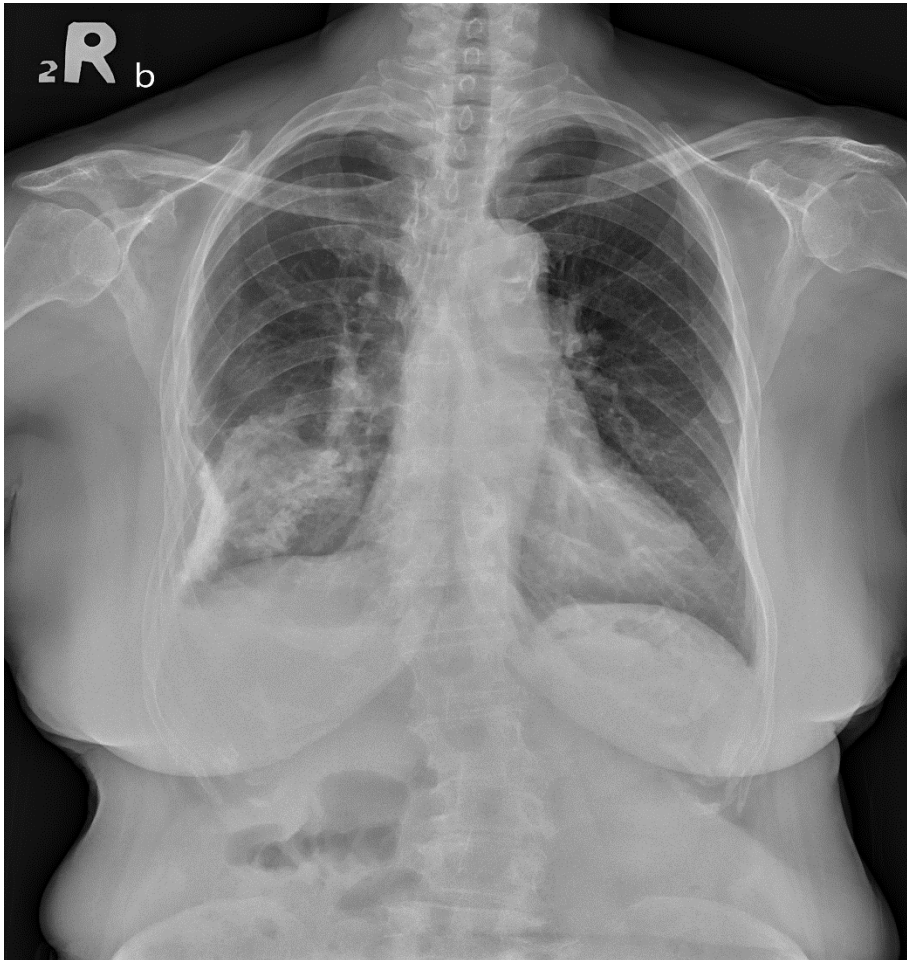


- 1. fibrothorax
- 2. **hemothorax**
- 3. atelectasis
- 4. pneumonia

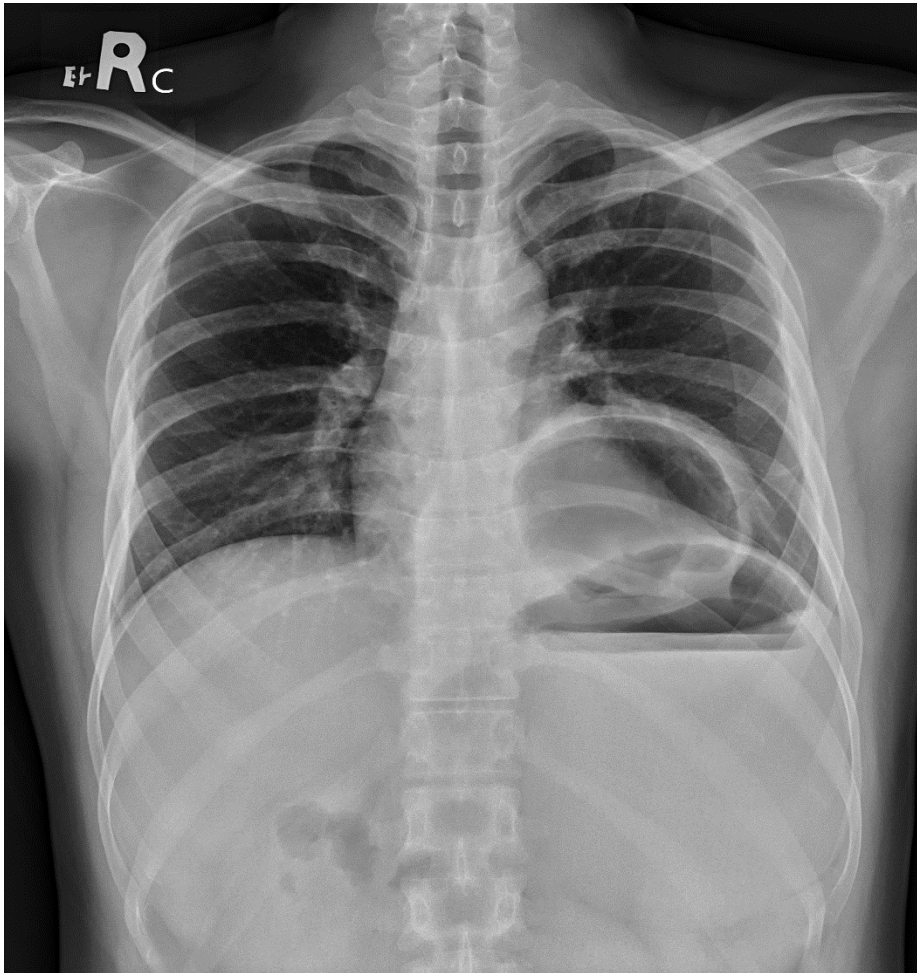


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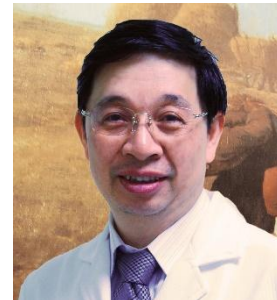
Final diagnosis: Fibrothorax



C.C. GI upset what's your diagnosis?

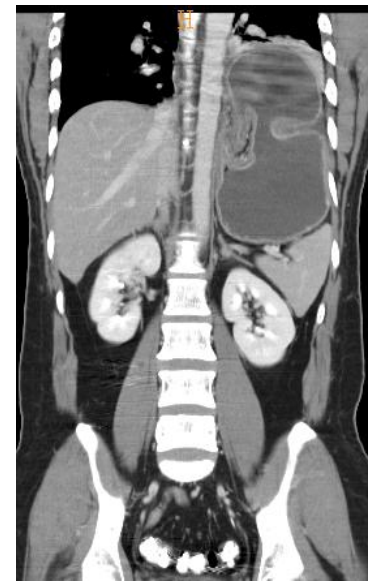
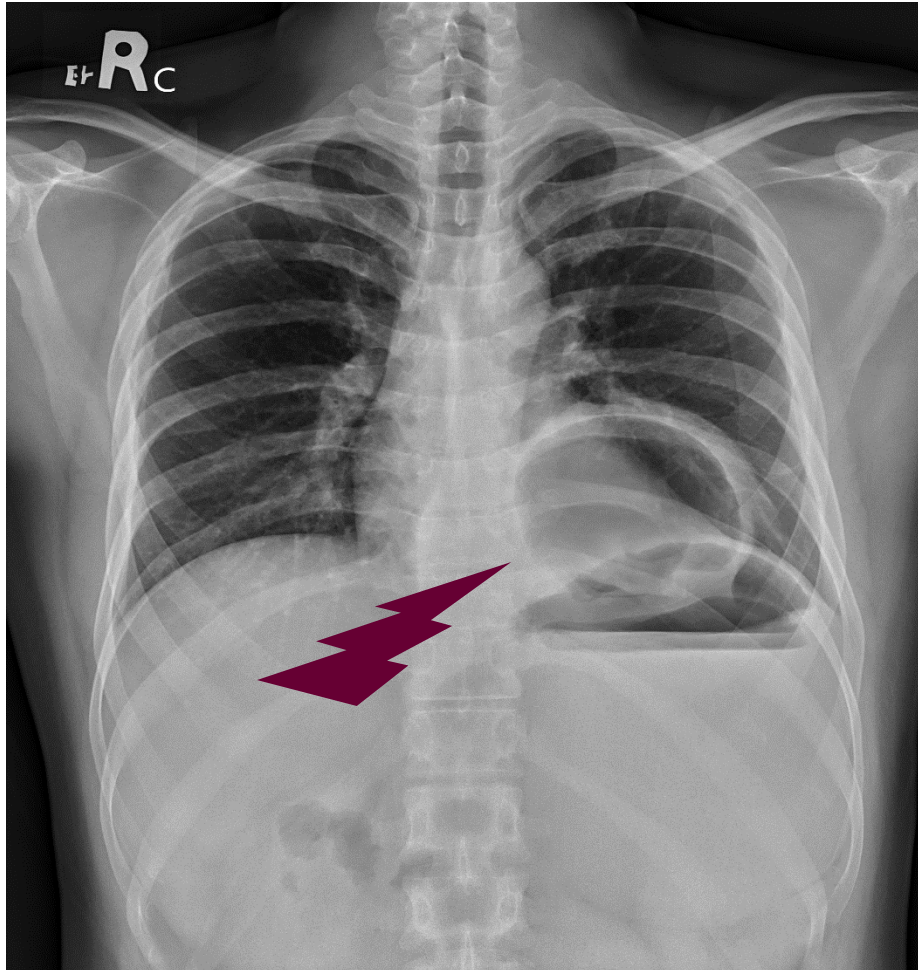


- 1. diaphragmatic hernia
- 2. Eventration of diaphragm
- 3. left lower lung atelectasis
- 4. Perforated Hollow organ



台北醫學大學附設醫院
影像醫學部
主治醫師 藍功堯製作
中華民國102年1月

Final diagnosis- diaphragmatic hernia

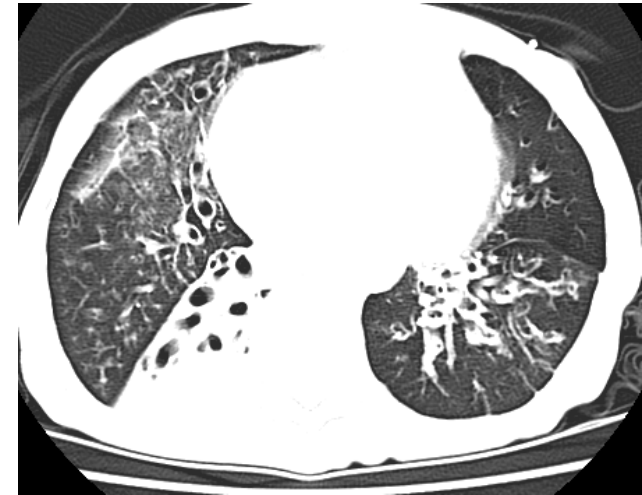


c.c. cough with sputum
What's your diagnosis?

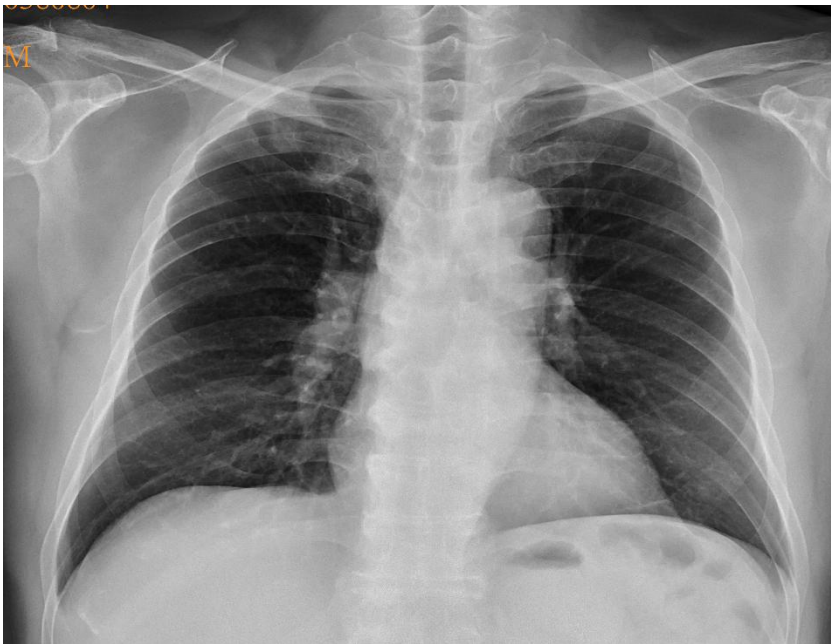


- 1. pneumonia
- 2. Diaphragmatic hernia
- 3. lung cancer
- 4. bronchiectasis

Final diagnosis: RLL atelectasis, bronchiectasis



What's your diagnosis?



- 1. lung ca
- 2. granuloma
- 3. hamartoma
- 4. av
malformation

Final Diagnosis:
lung cancer

Key point: Lung window image- spicular margin

