

⁵²Teaching
⁸⁸Rad



Each week on the ESR blog
blog.myESR.org

The abnormal chest radiograph

Pulmonary patterns: a survival guide

CASE 1

37 y.o. woman hairdresser, pre-op chest



Diagnosis:

1. Sarcoidosis
2. Extrinsic allergic alveolitis
3. Histiocytosis X
4. None of the above

TRADICIONAL DIAGNOSTIC APPROACH:

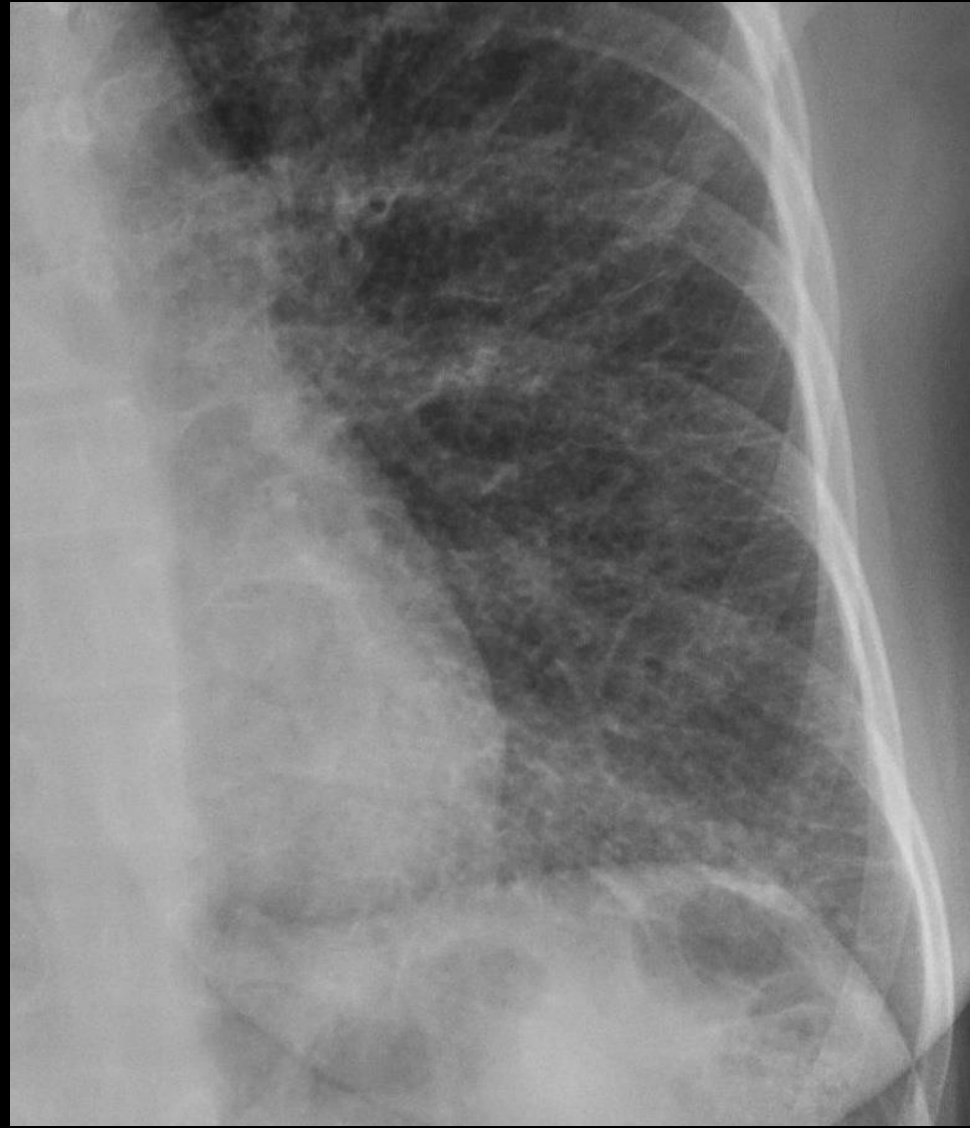
IDENTIFY THE PATTERN



LOCALIZED VS. WIDESPREAD



LIST OF DIFFERENTIAL DIAGNOSIS





Lymphangitic metastases from carcinoma of the stomach

PROS AND CONS OF PATTERN APPROACH

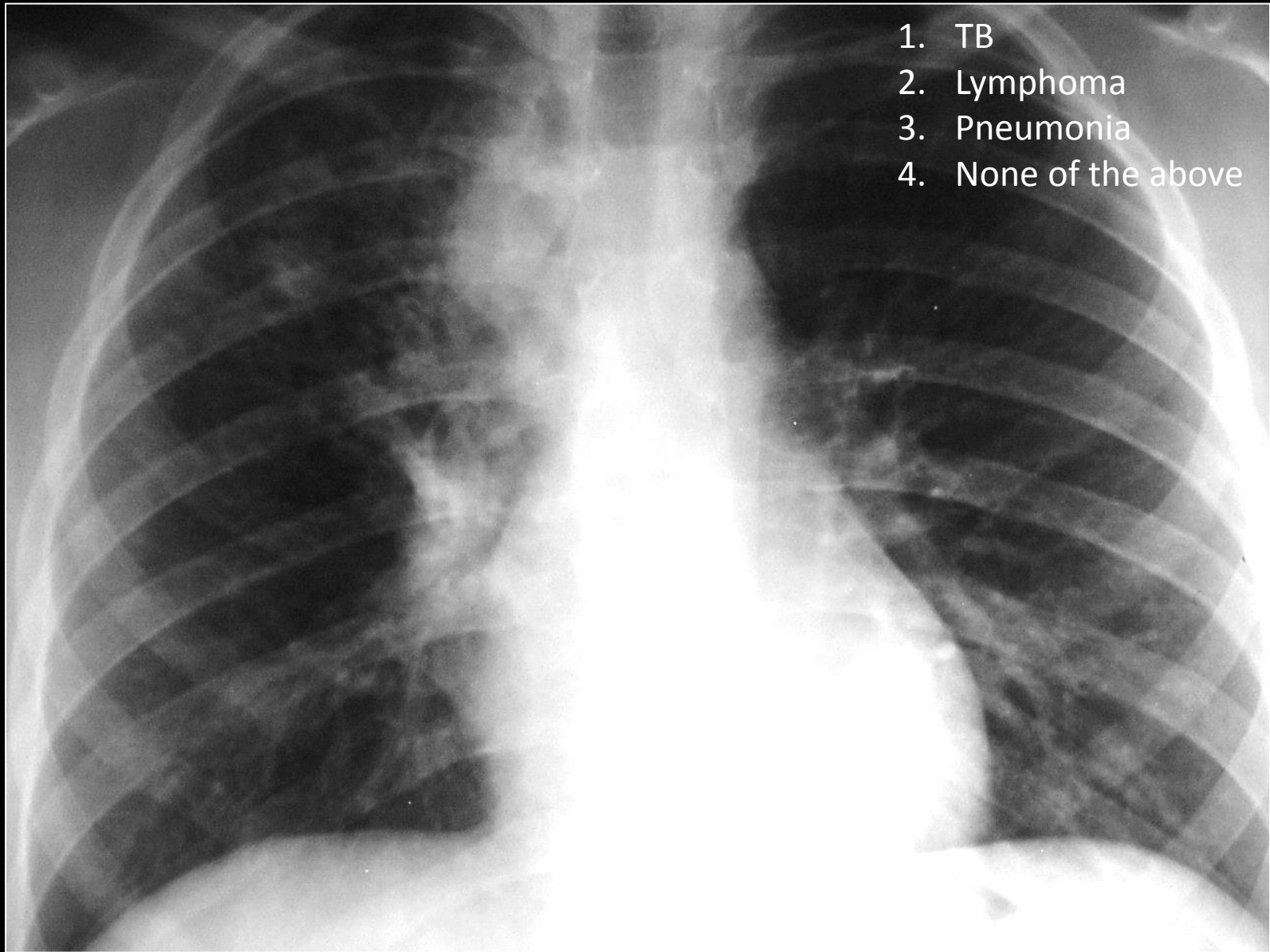
PROS:

FACILITATE DIFFERENTIAL DIAGNOSIS (WHEN RECOGNIZED)

CONS:

SOME OF THEM DIFFICULT TO RECOGNIZE BY BEGINNERS

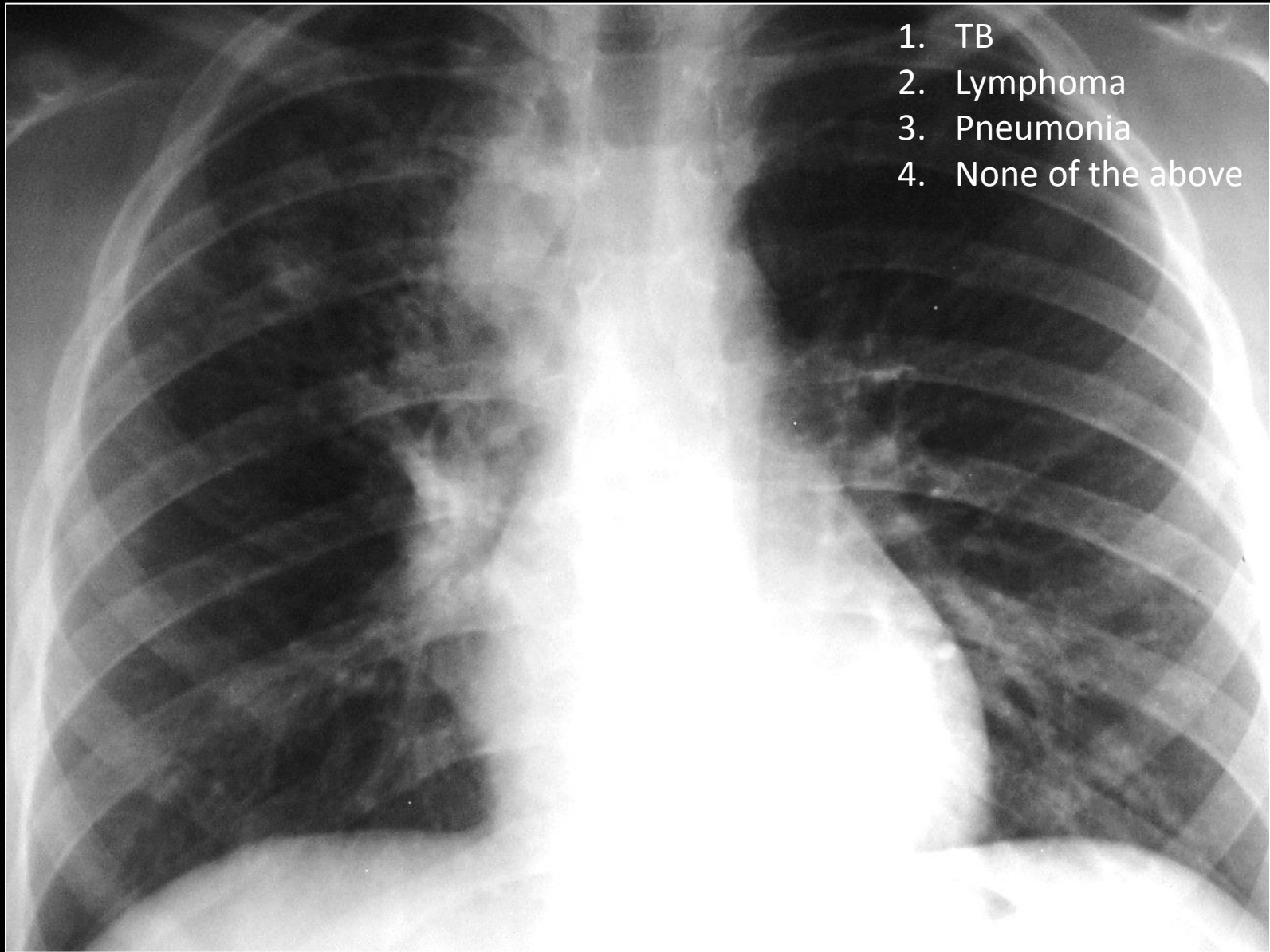
SOMETIMES THE DIFFERENTIAL DIAGNOSIS IS TOO BROAD



1. TB
2. Lymphoma
3. Pneumonia
4. None of the above

27 y.o. male with low-grade fever and hemoptysis for the last three months

CASE 3

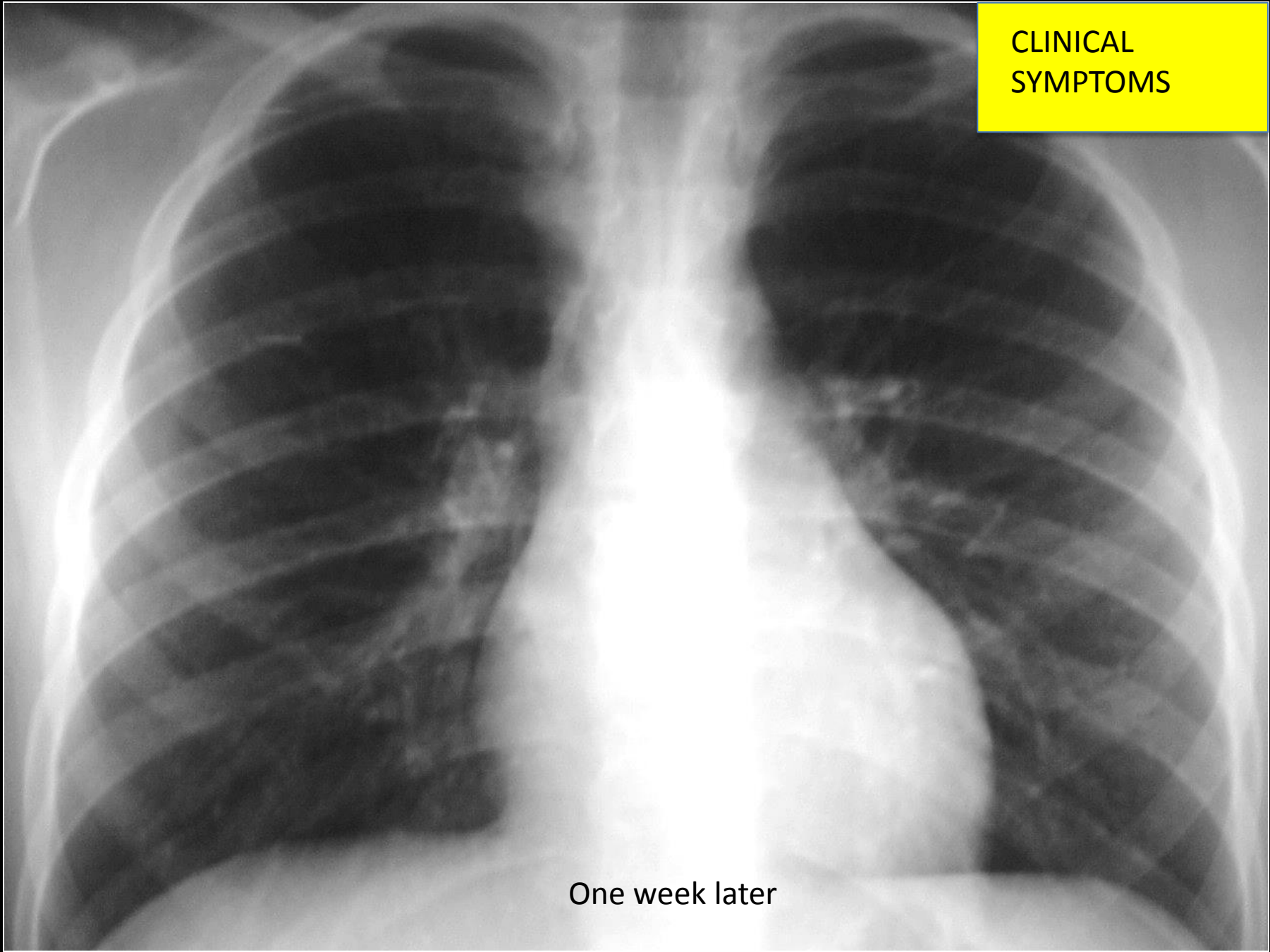


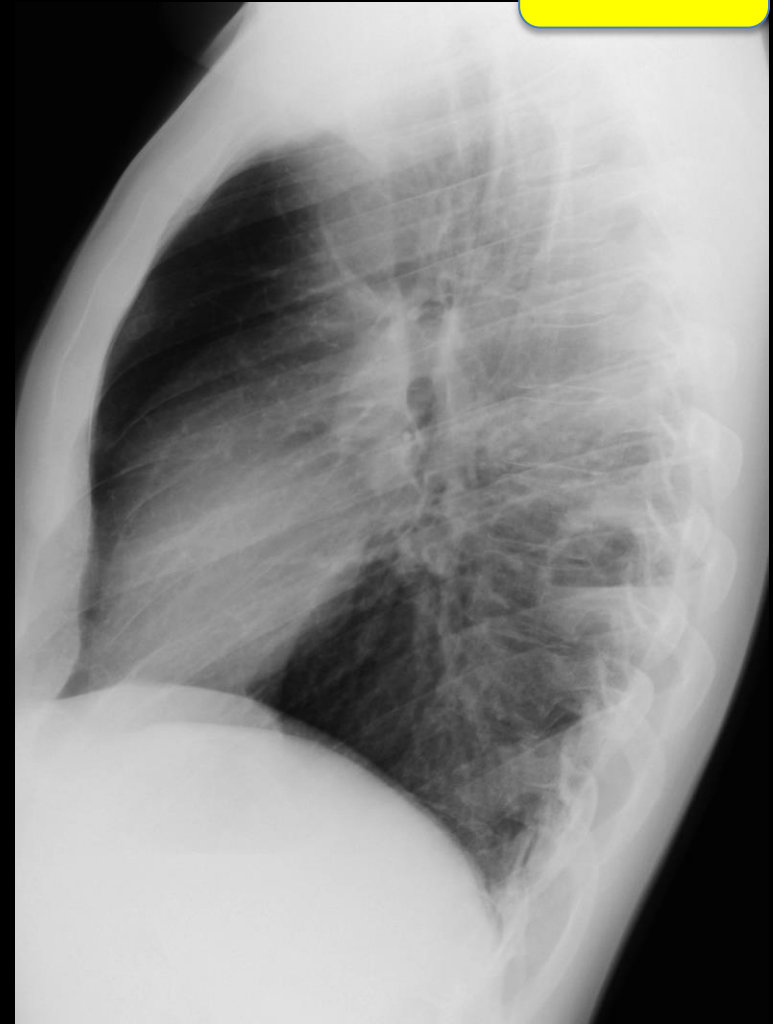
1. TB
2. Lymphoma
3. Pneumonia
4. None of the above

27 y.o. male with fever, chills and cough for the last two days

CLINICAL
SYMPTOMS

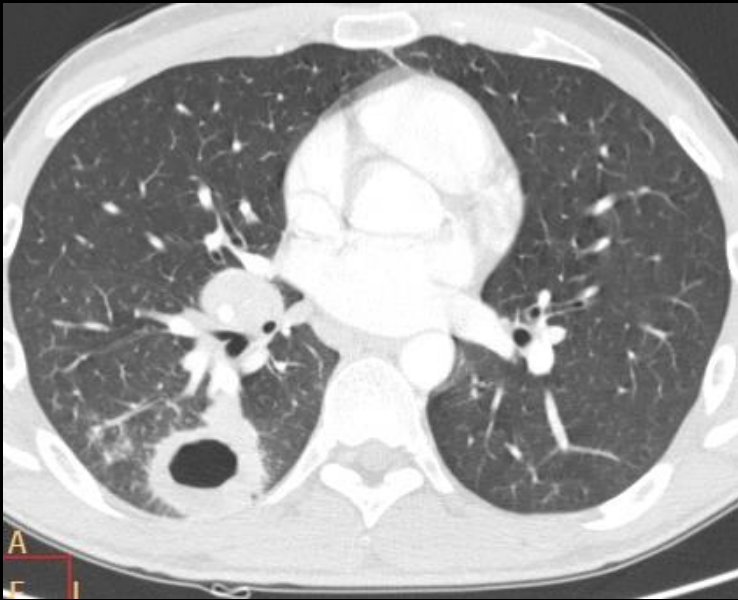
One week later





Less likely diagnosis:

1. Carcinoma
2. Tuberculosis
3. Pulmonary abscess
4. Hydatid cyst



Three weeks later

Final diagnosis: pulmonary abscess





Diagnosis:

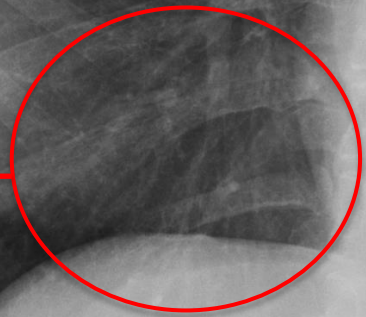
1. Eosinophilic pneumonia
2. Pleural fibrosis
3. Parasitic disease
4. None of the above

LOCATION

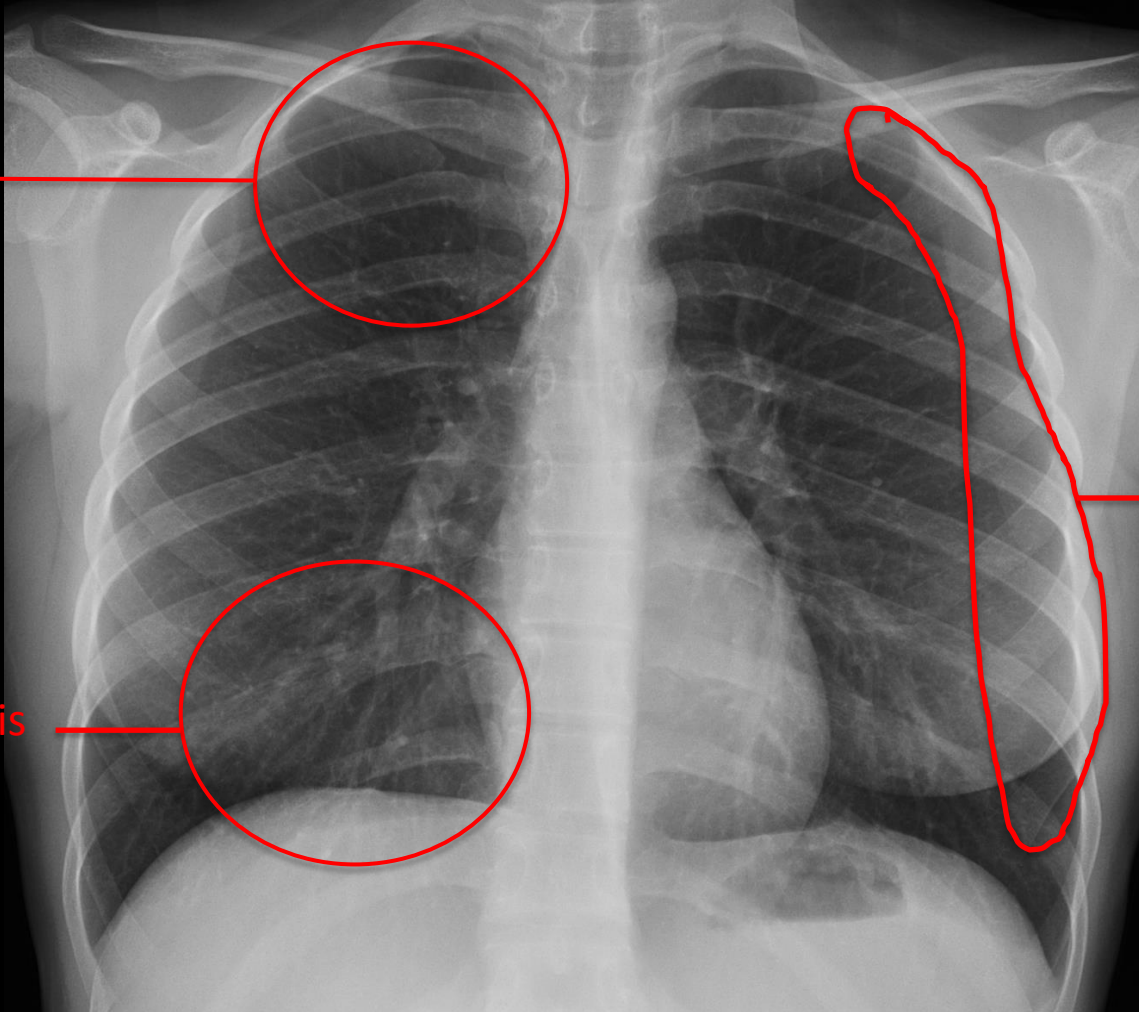
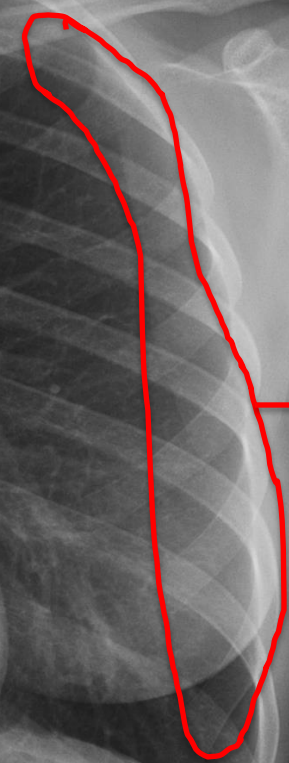
Tuberculosis
Carcinoma

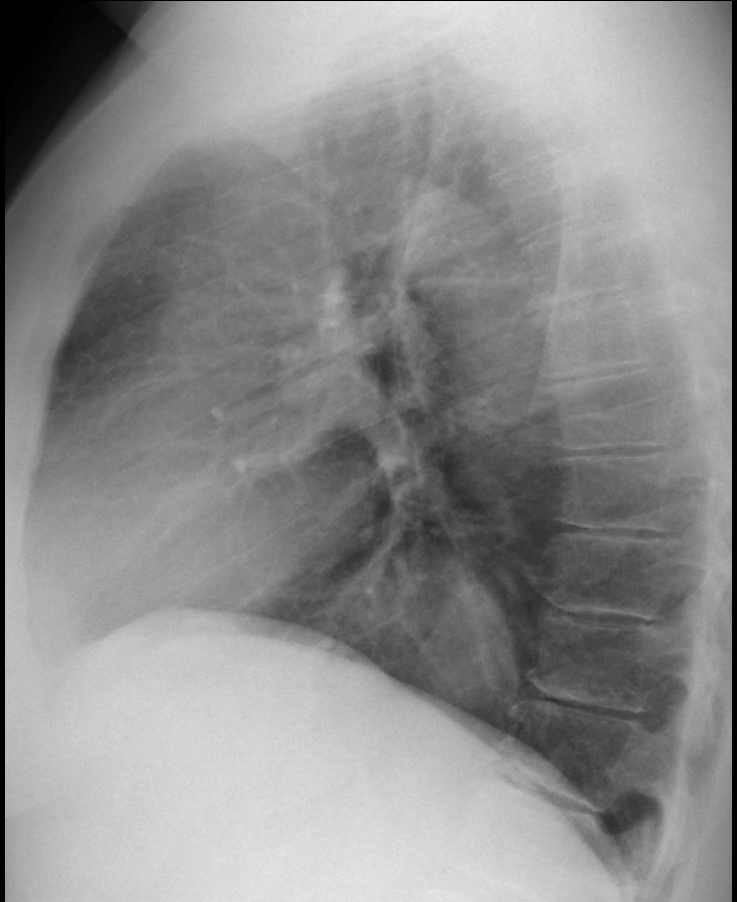
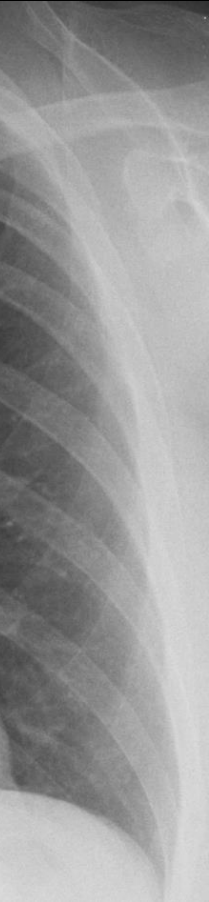
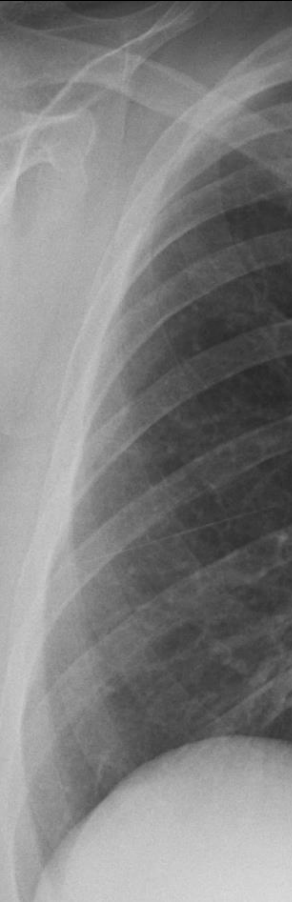


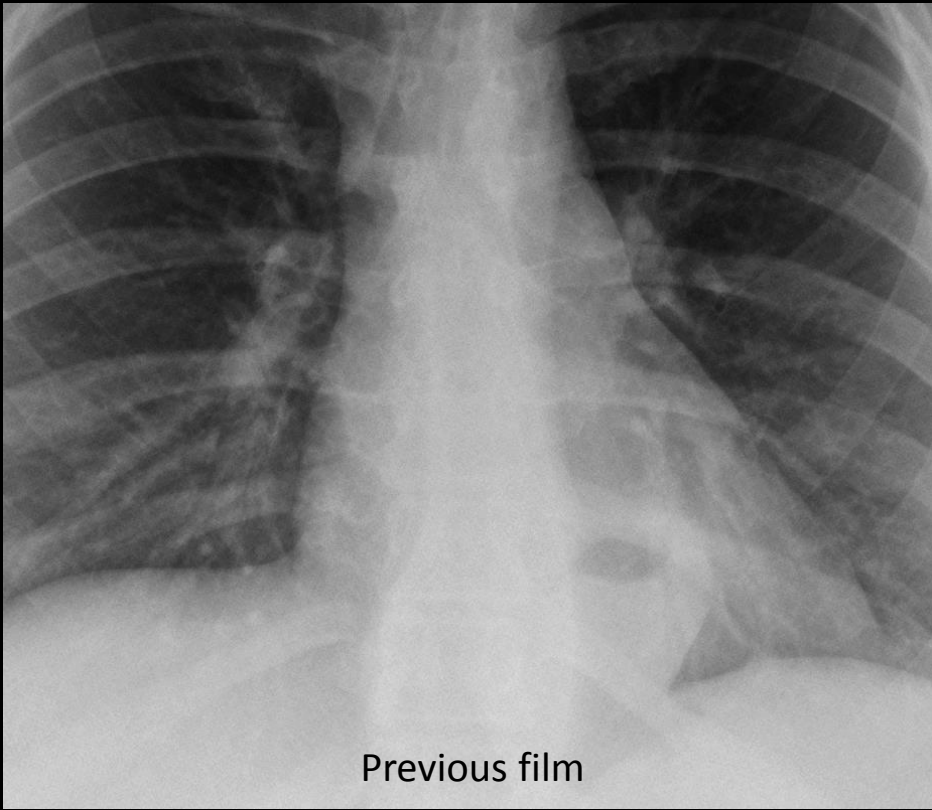
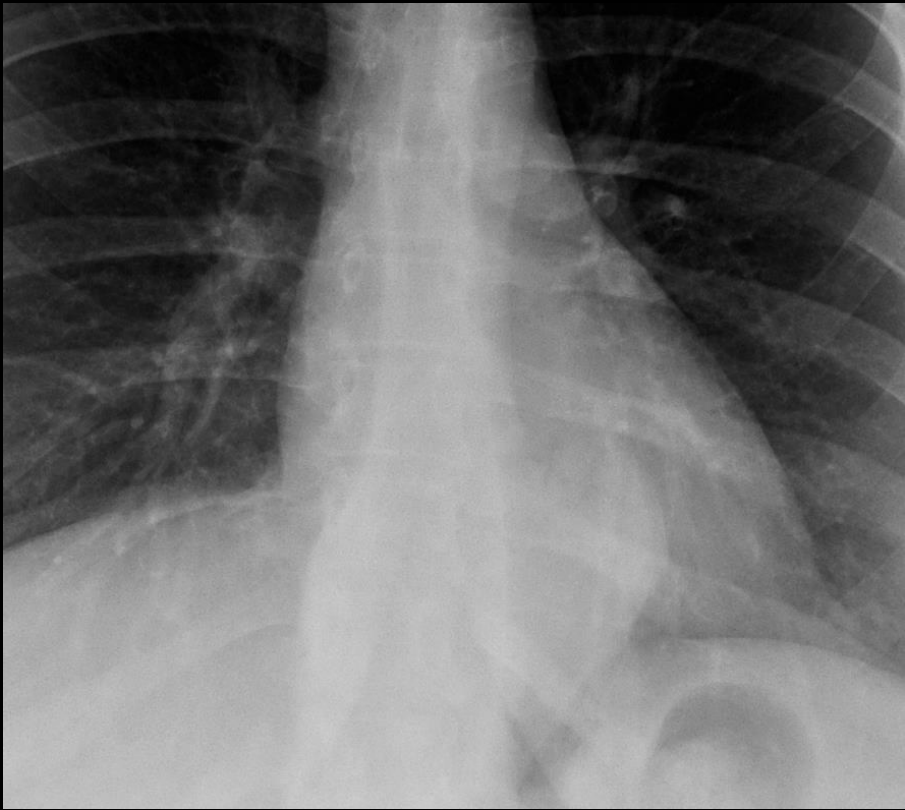
Aspiration
Bronchiectasis
Congenital



Eosinophilic
pneumonia
Lung infarct
Pleural disease

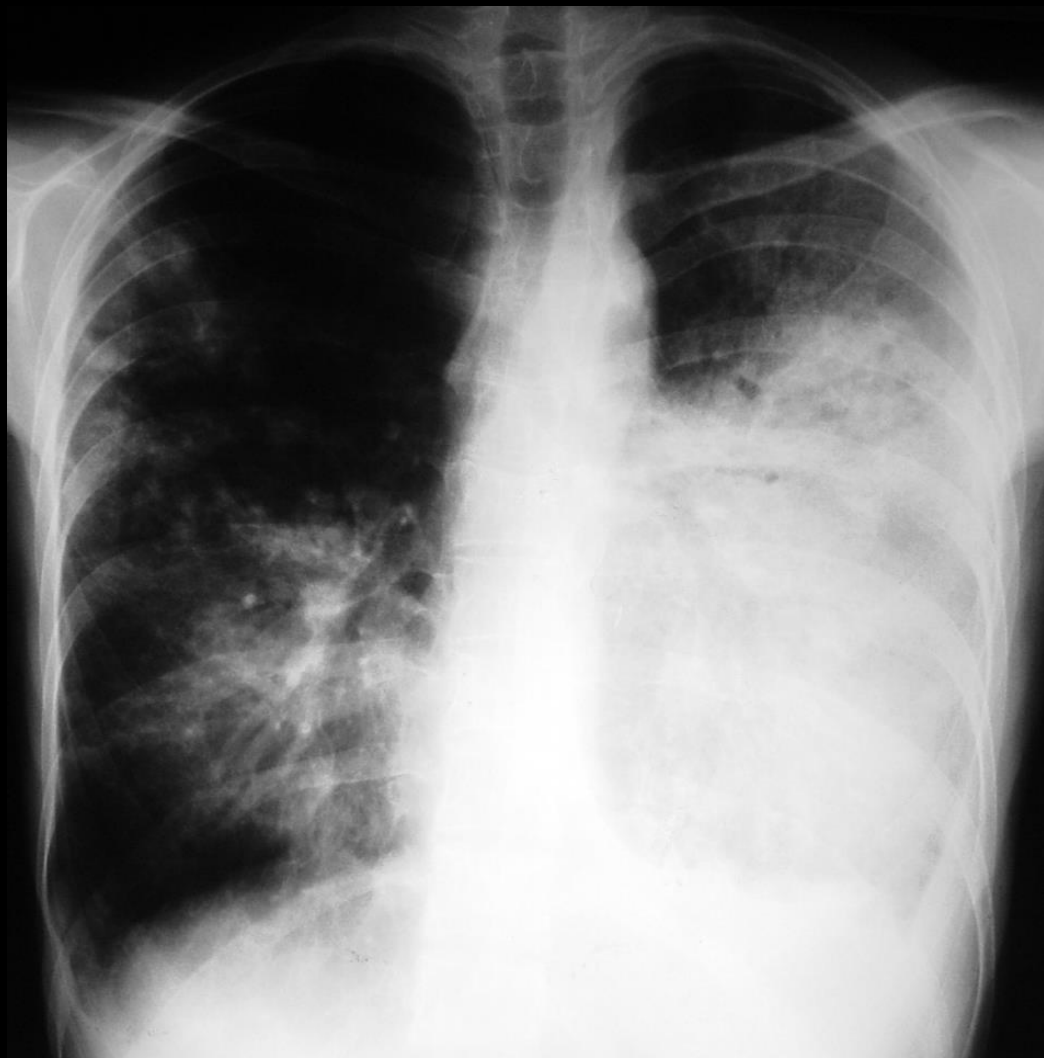






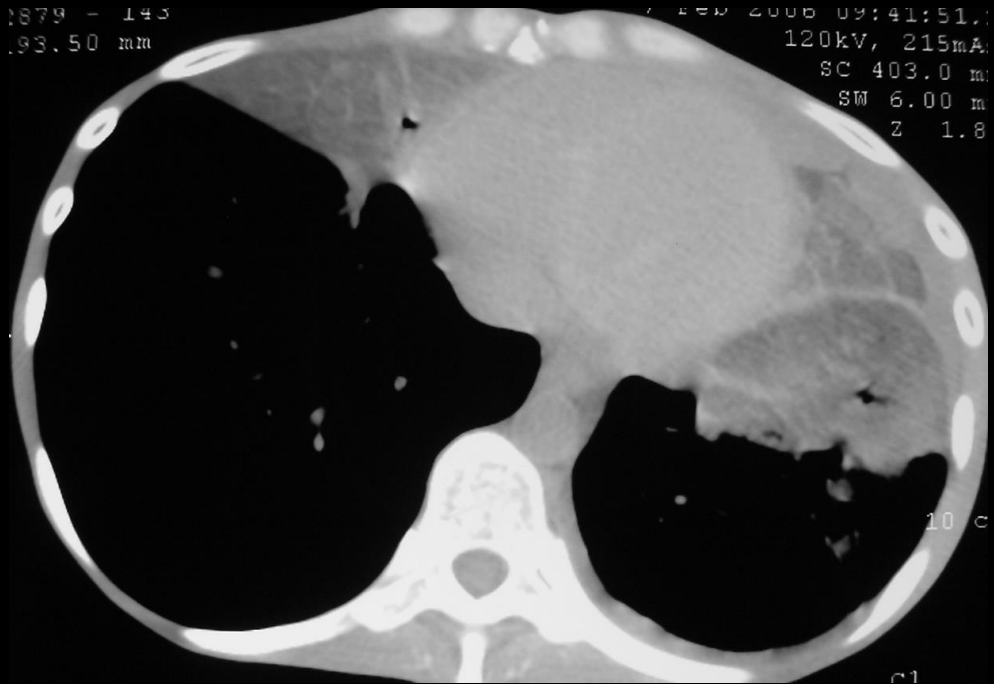
Previous film

27 y.o. woman with anorexia and weight loss



1879 - 143
93.50 mm

7 FEB 2006 09:41:51.1
120kV, 215mA
SC 403.0 m
SW 6.00 m
Z 1.8



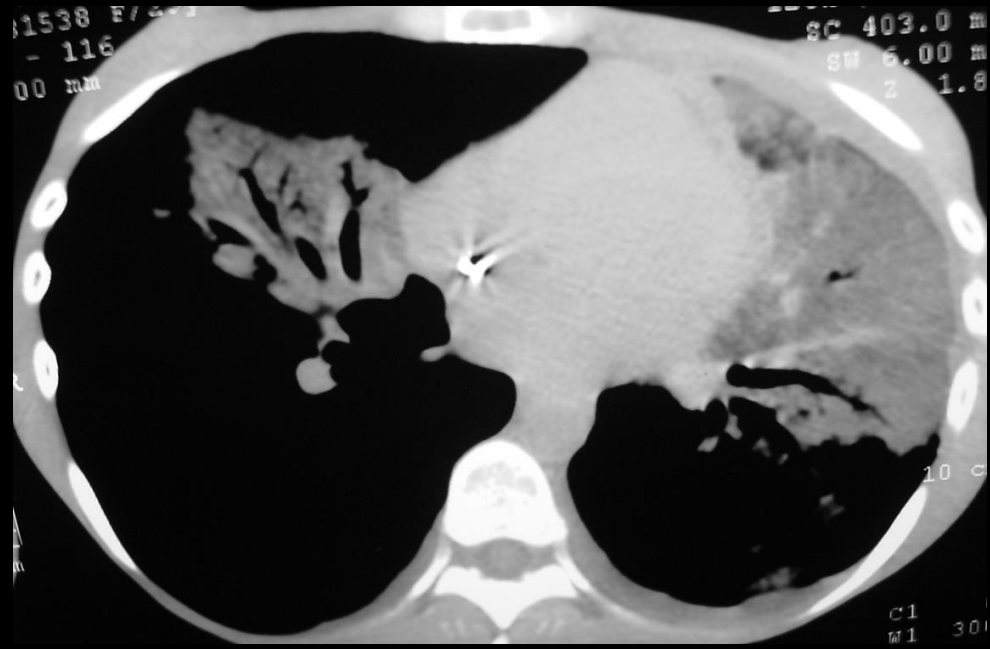
10 c

C1

Lipoid pneumonia

1538 F/40
- 116
00 mm

SC 403.0 m
SW 6.00 m
Z 1.8

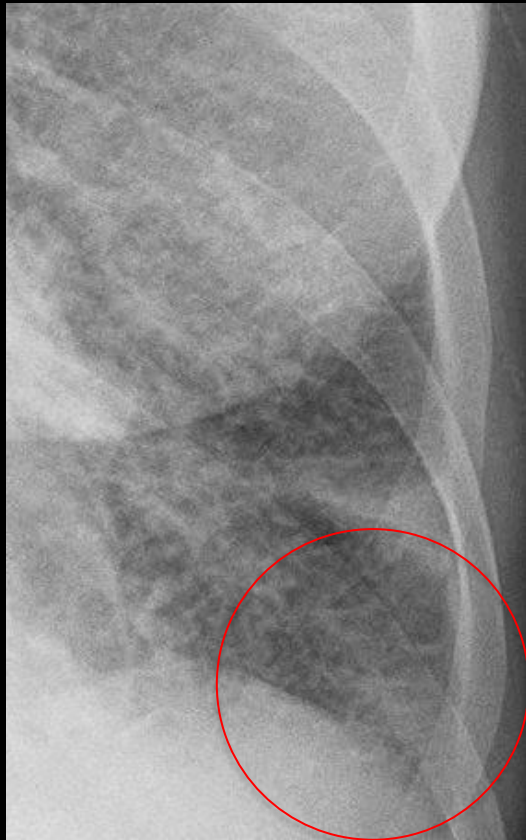
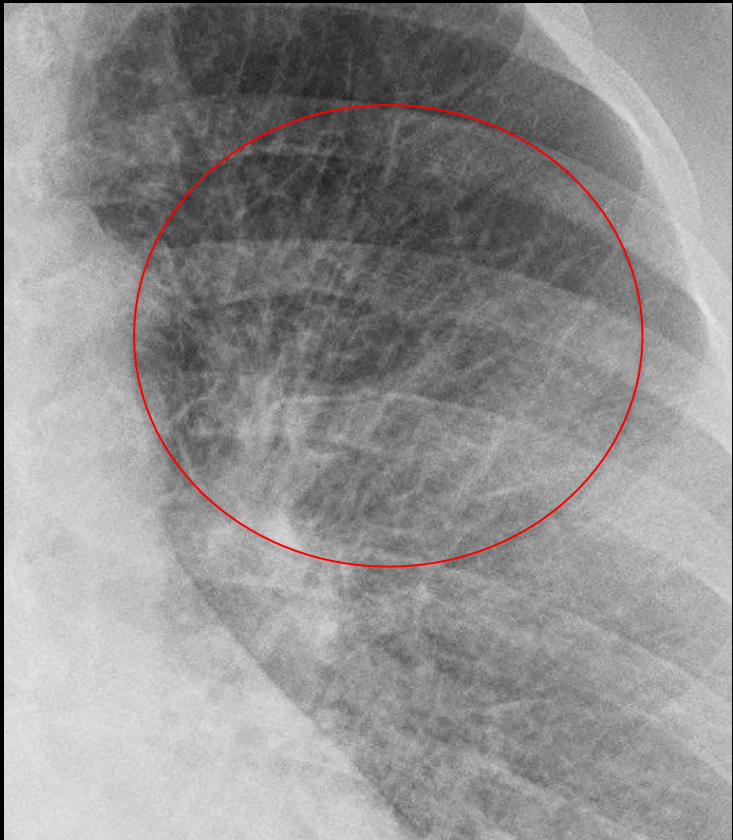


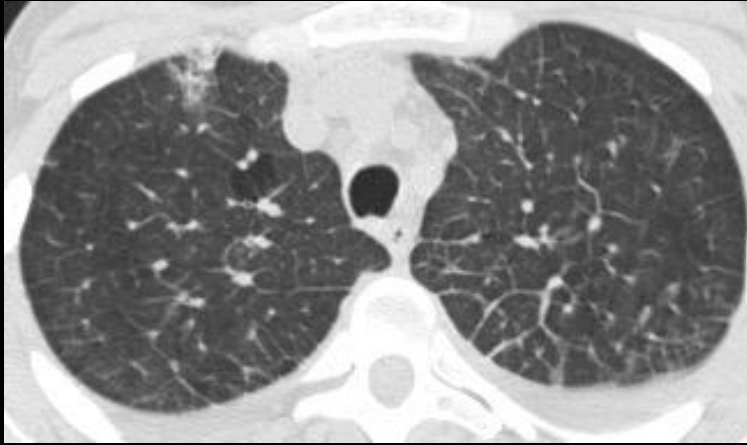
10 c

C1
W1 301



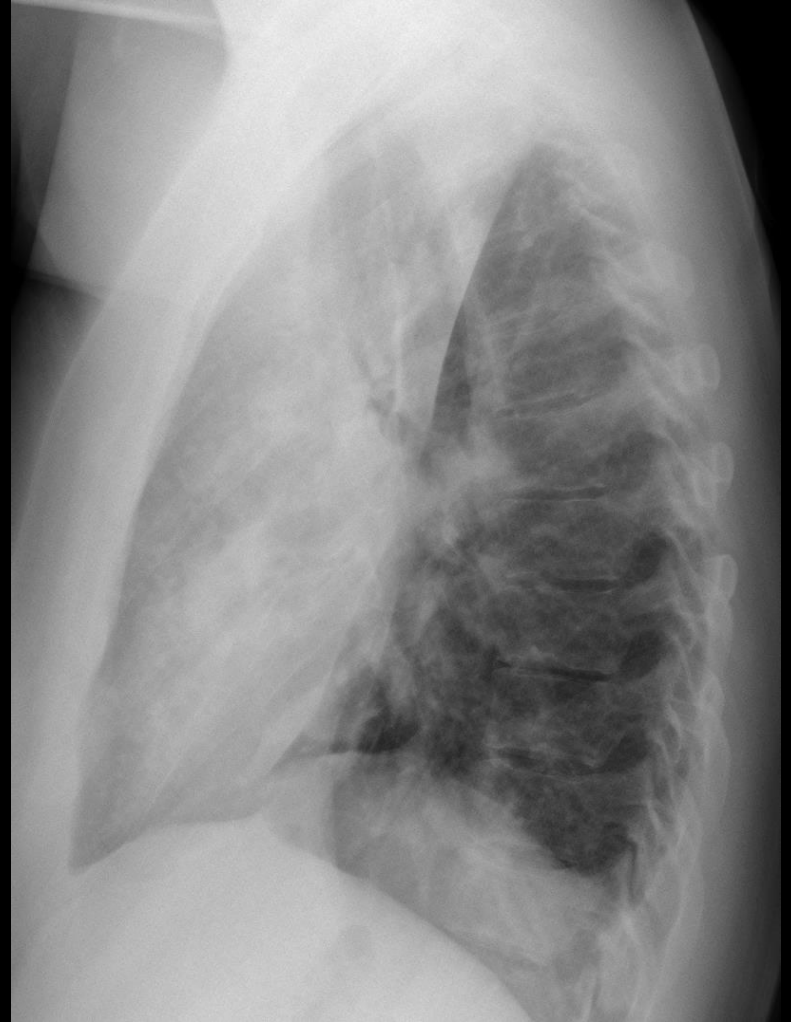
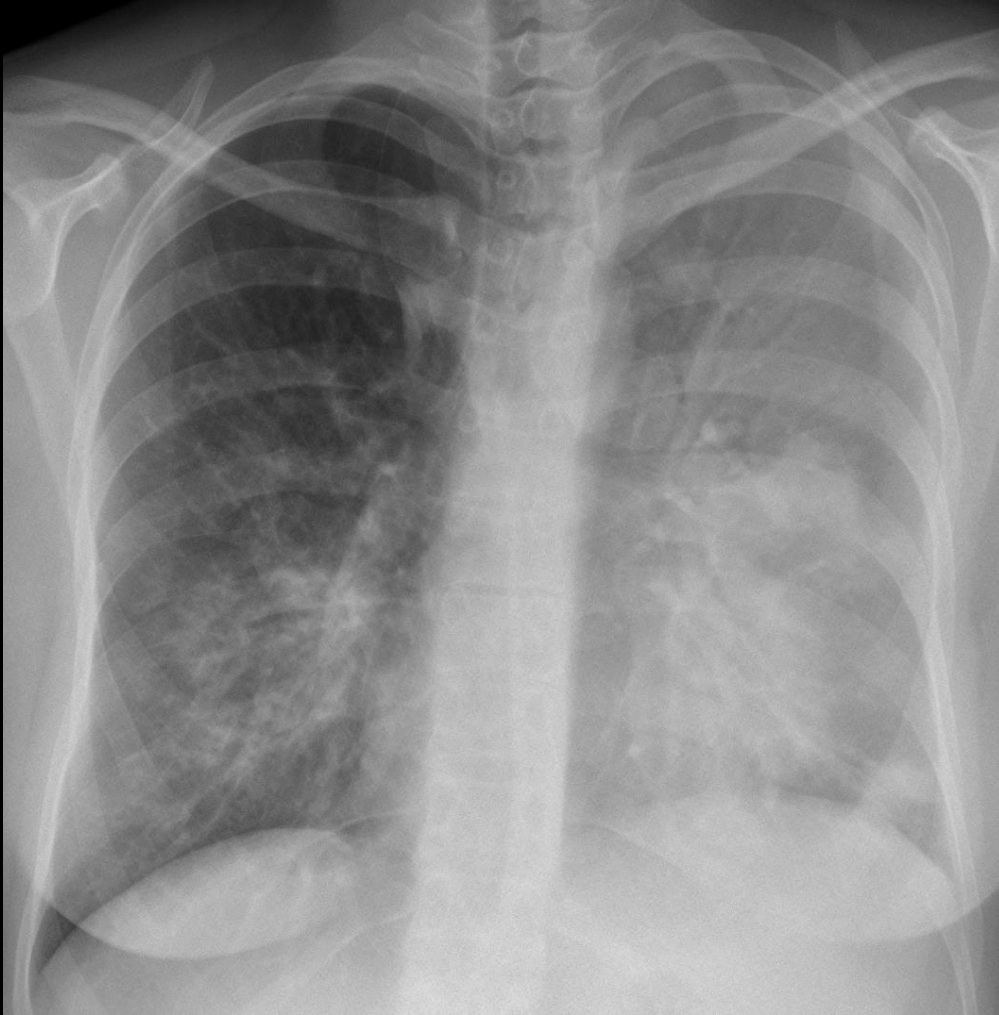
- Diagnosis:
1. Pulmonary fibrosis
 2. Pulmonary edema
 3. Sarcoidosis
 4. None of the above





Final diagnosis: Pulmonary edema secondary to an autoimmune reaction in a lupus patient

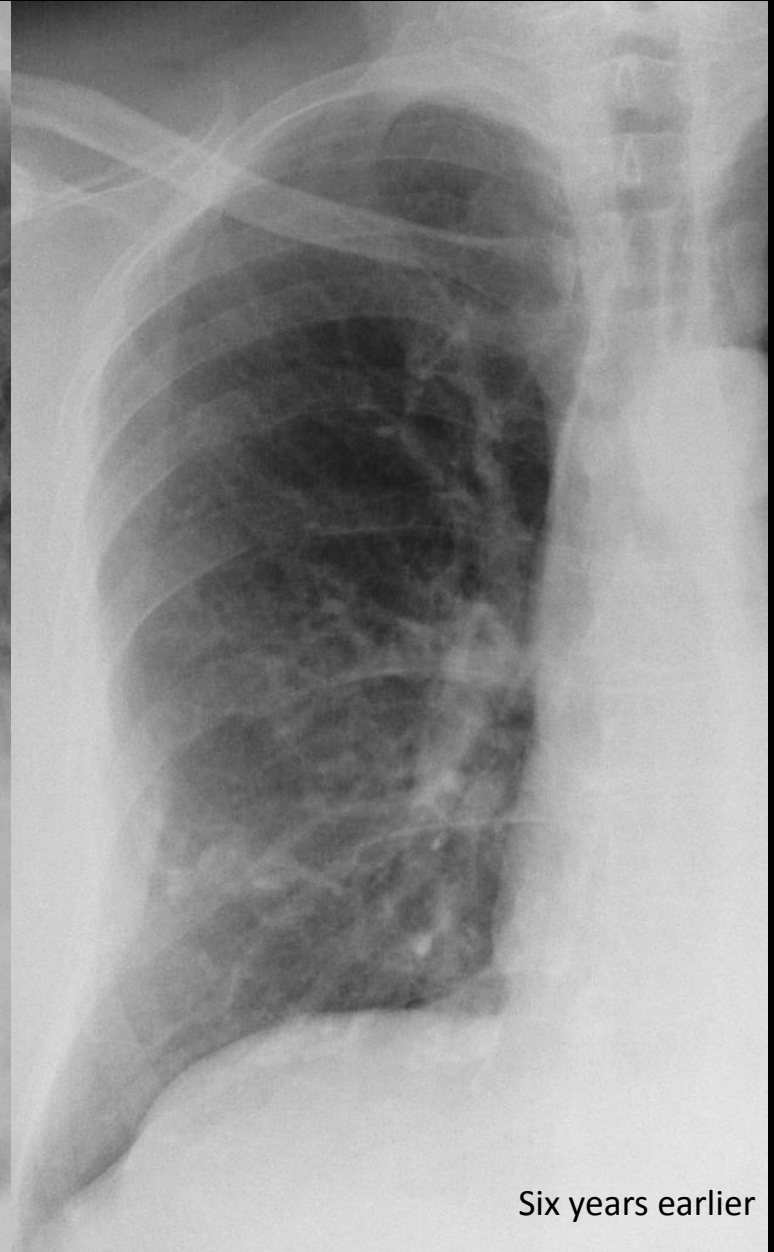
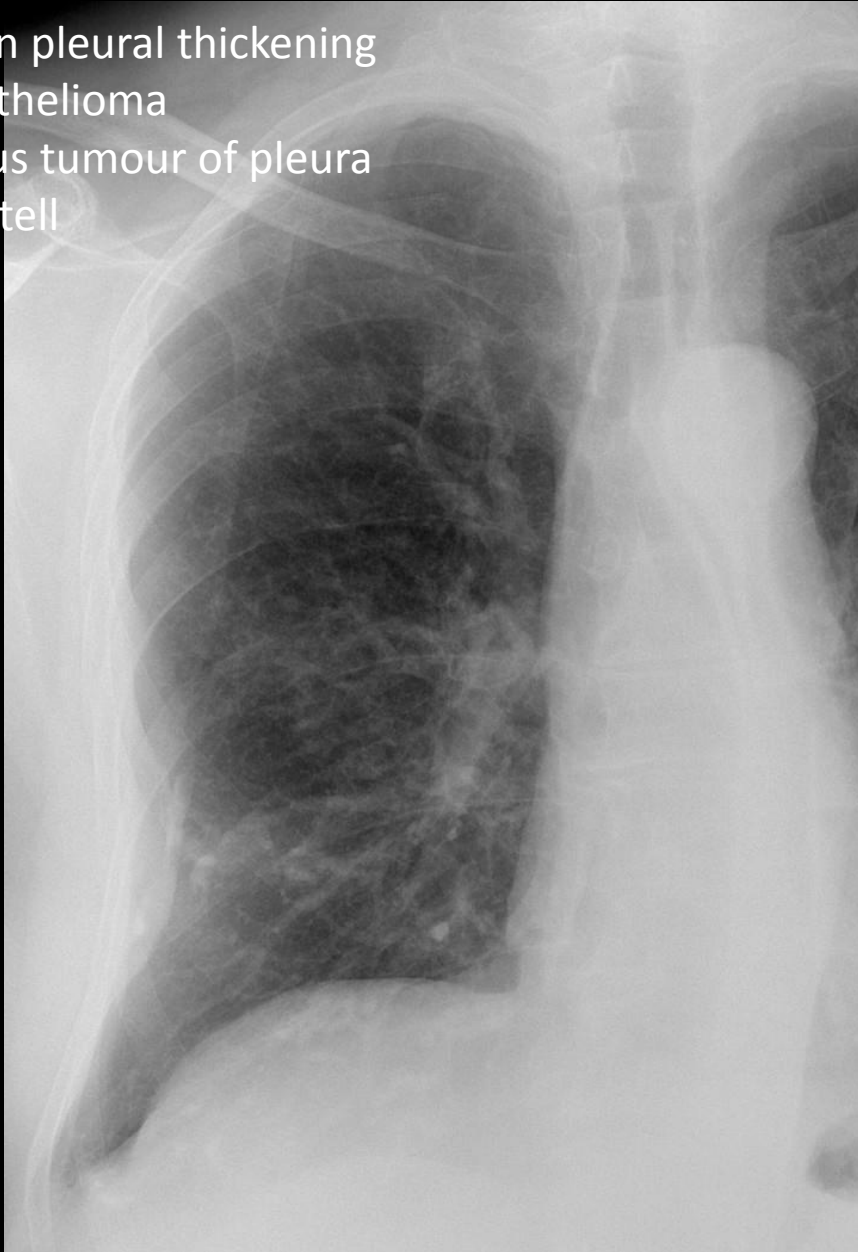
52 y.o. woman with fever and anorexia





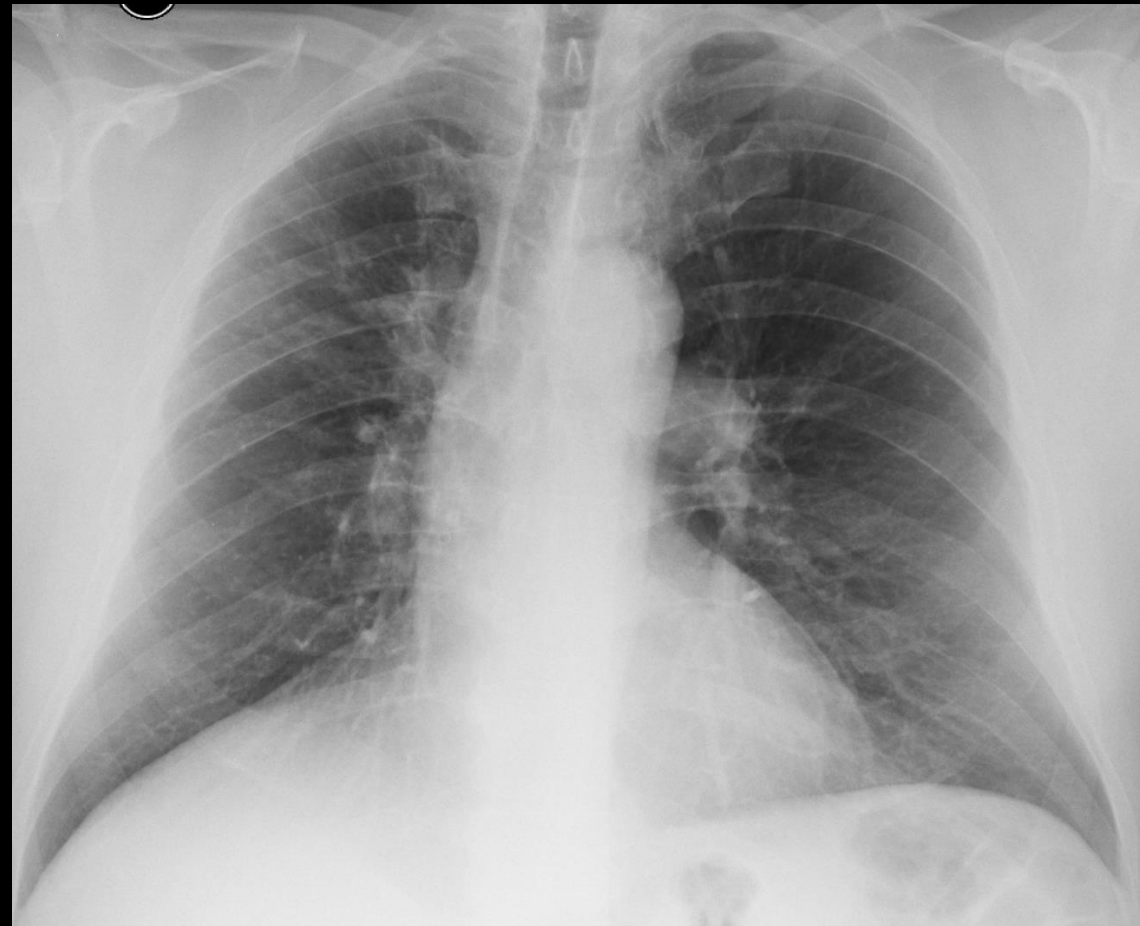
LUL pneumonia

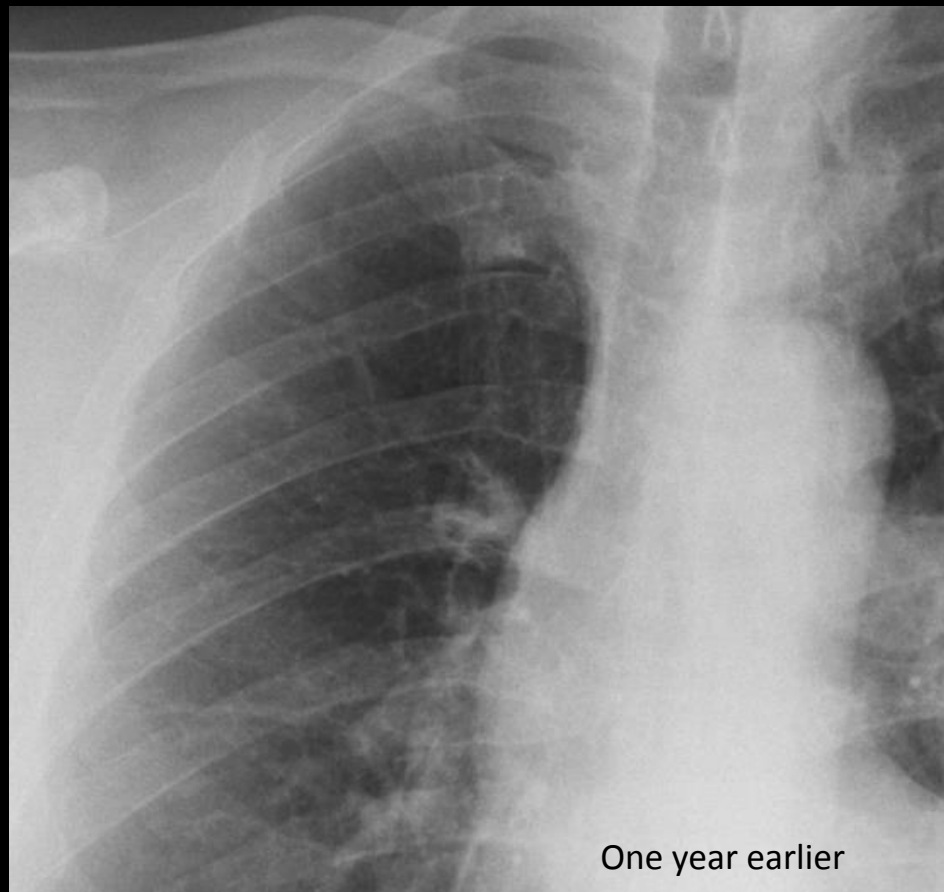
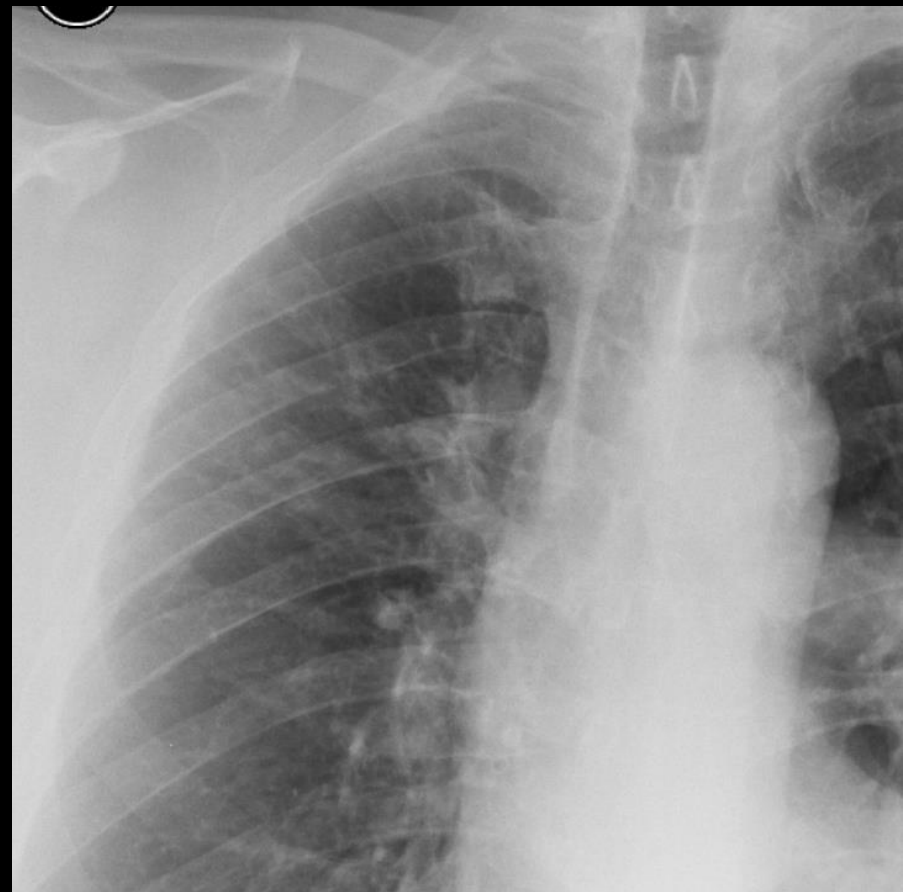
1. Benign pleural thickening
2. Mesothelioma
3. Fibrous tumour of pleura
4. Can't tell

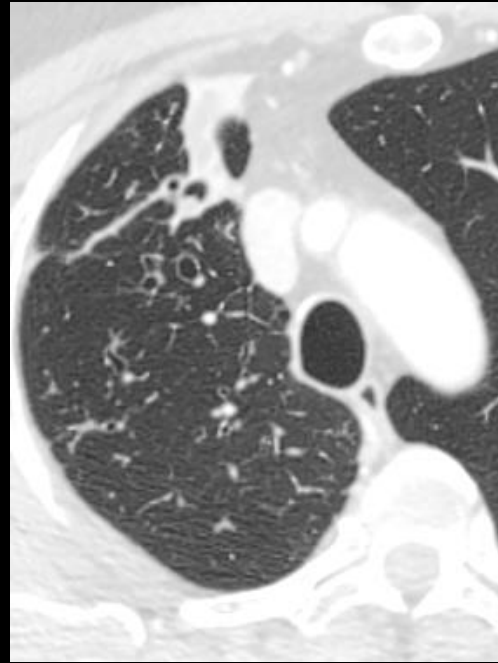
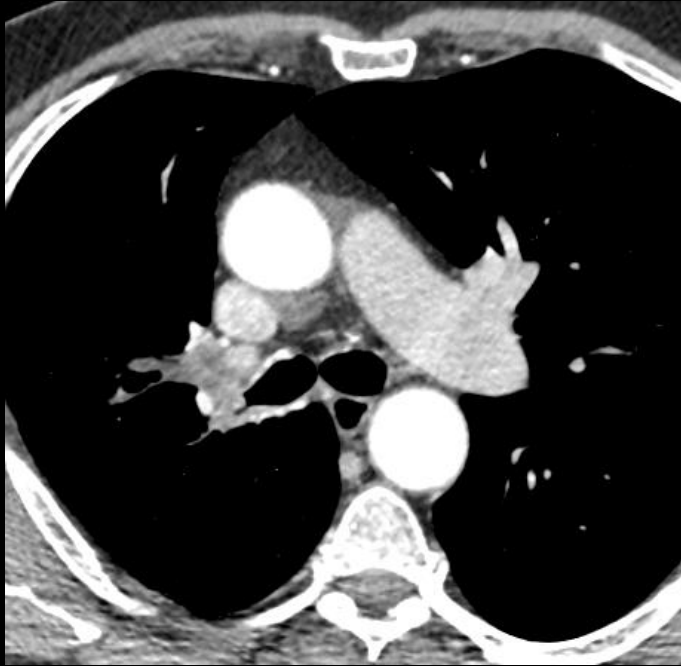


Six years earlier

Routine check-up in a 62 y.o. man



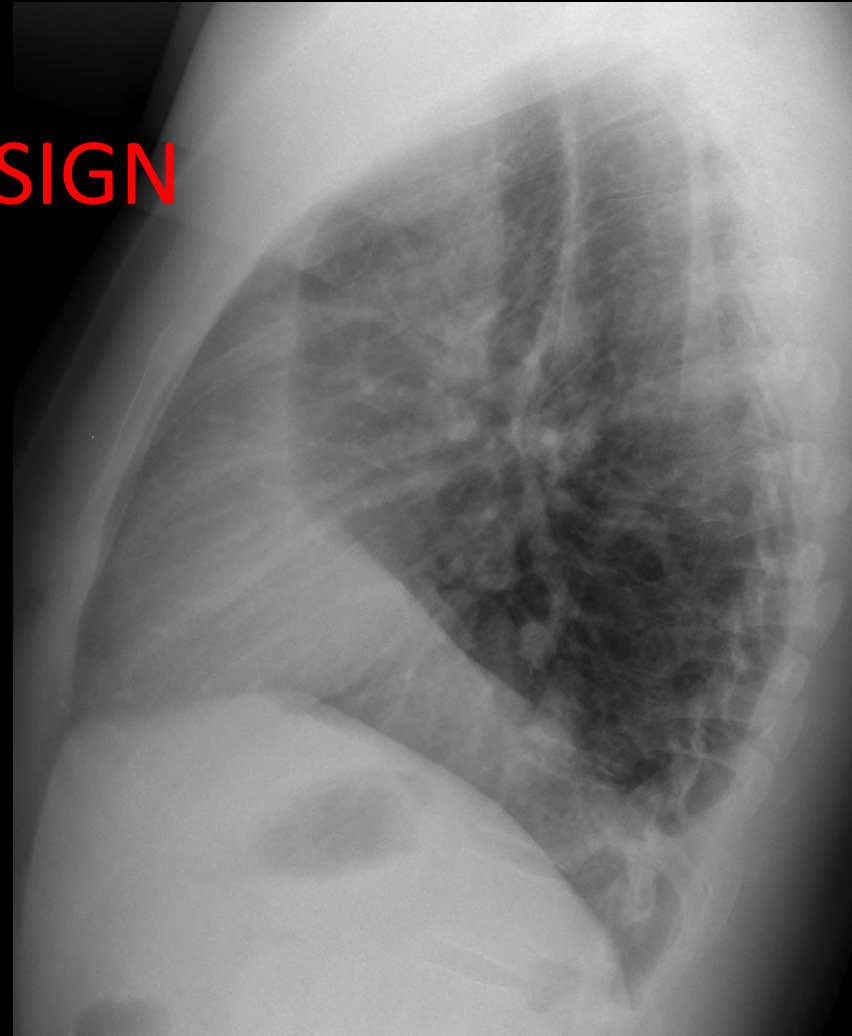
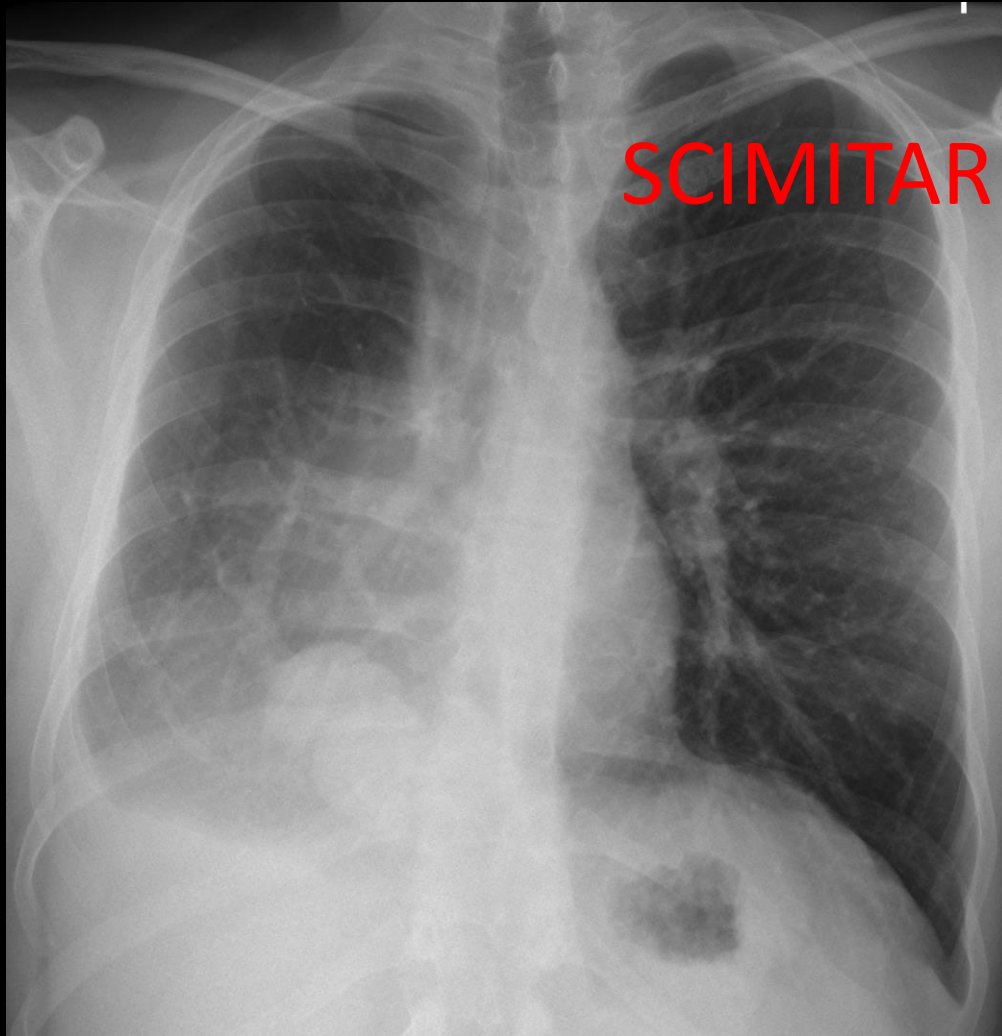




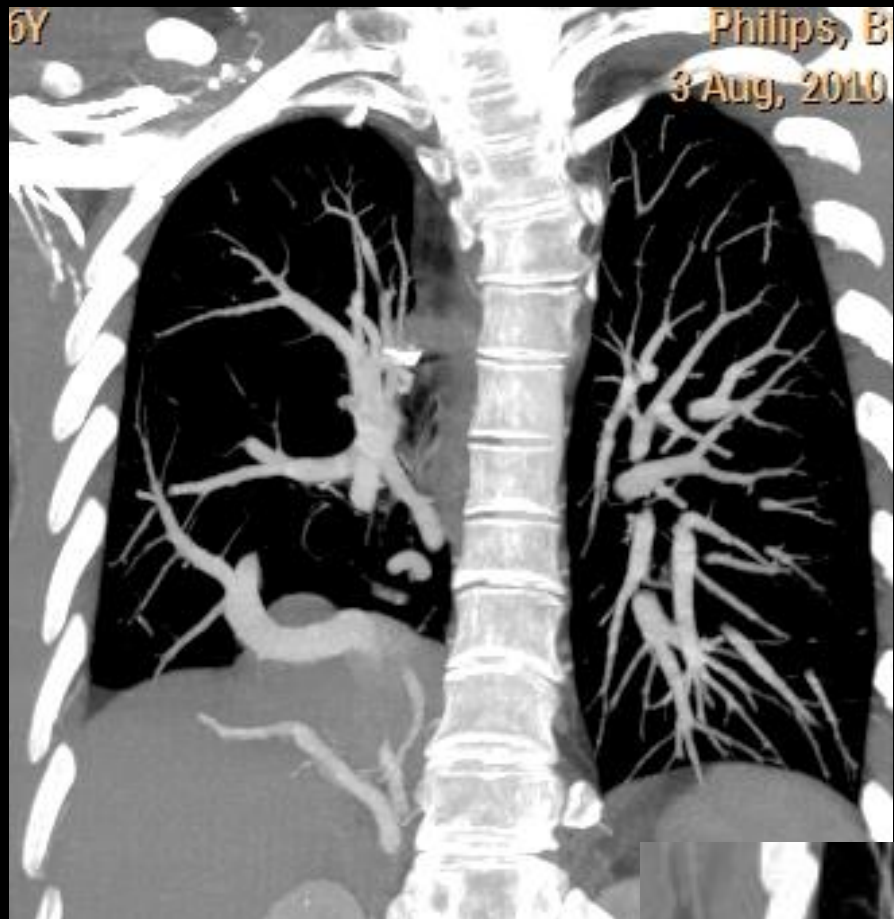
Final diagnosis: Carcinoma of the RUL bronchus diagnosed erroneously as chronic TB changes because previous films were not examined.

36 y.o. man with moderate cough

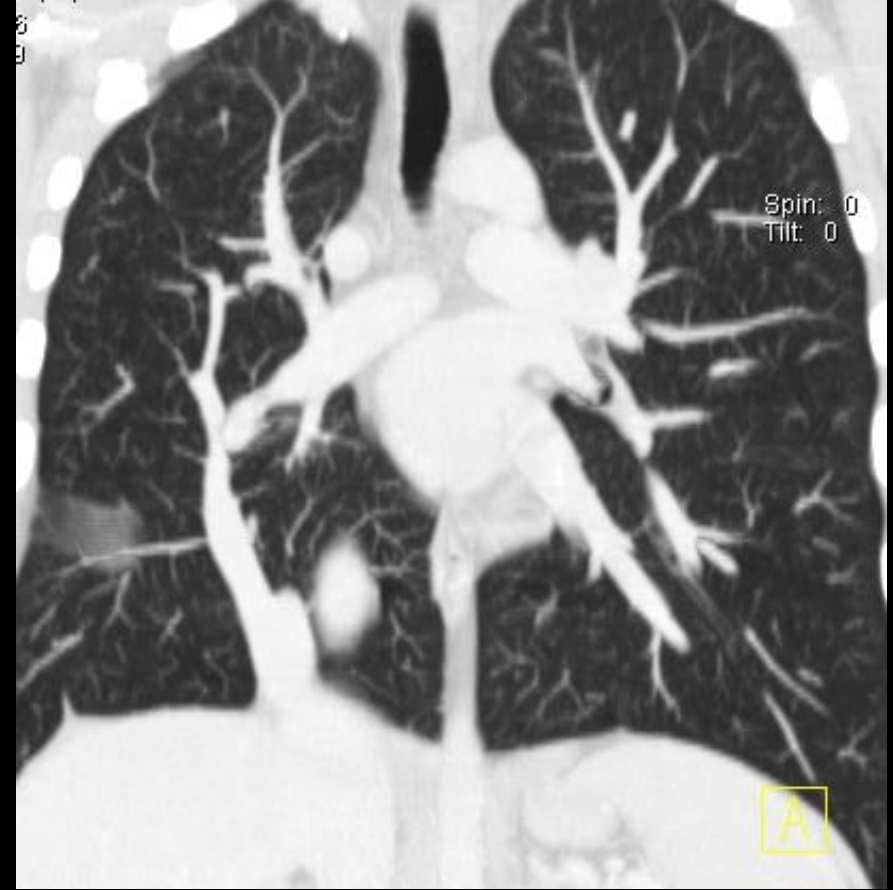
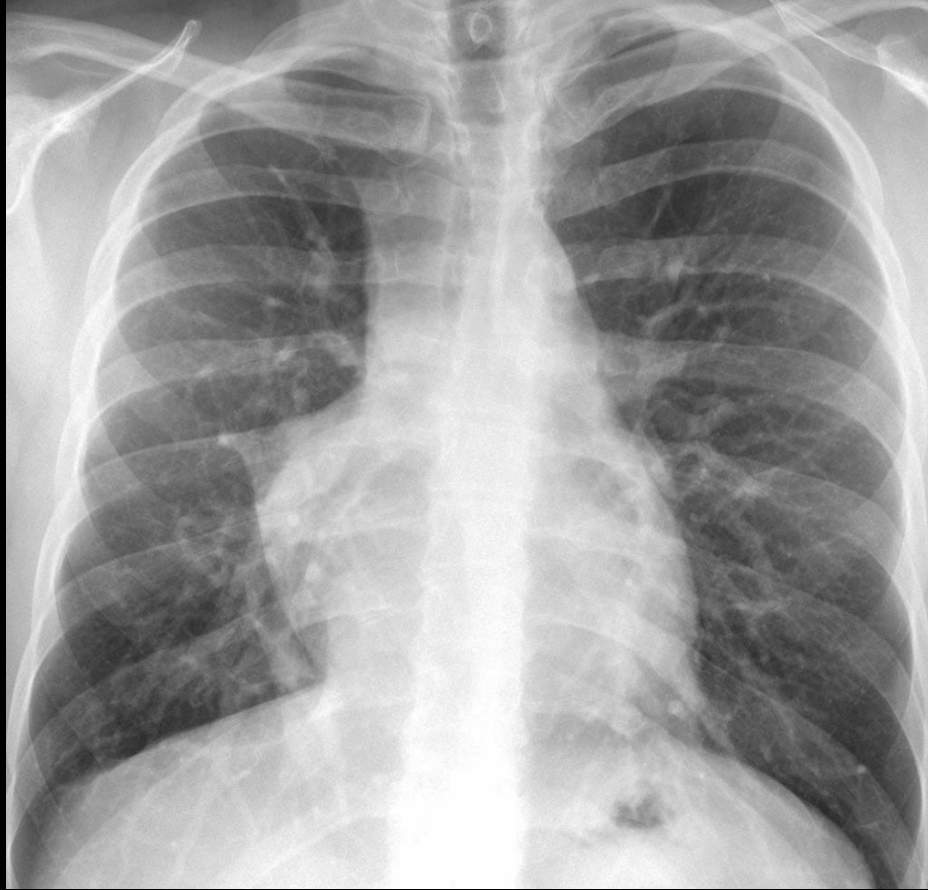
SCIMITAR SIGN



Signs are specific findings that lead to the correct diagnosis



Hypogenetic lung with
anomalous vein



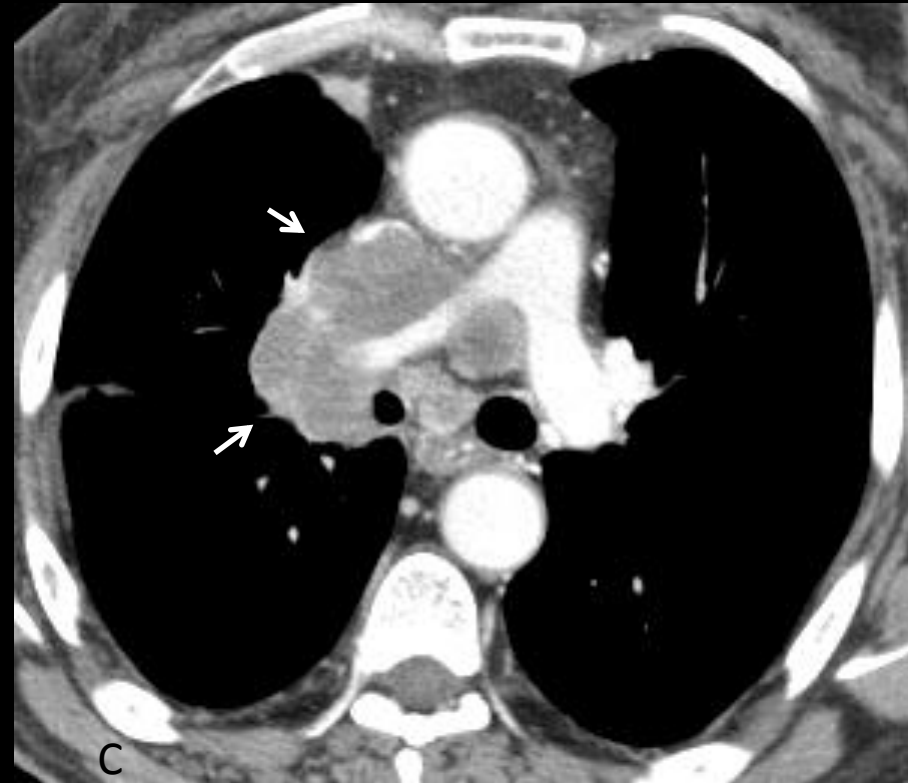
62 y.o. man with cough, fever and pain in the chest

GOLDEN SIGN

How sure are we that this patient has a carcinoma?

1. 20%
2. 40%
3. 60%
4. 80%





Final diagnosis: central carcinoma with RUL collapse and Golden sign



Follow Dr. Pepe's advice:

If you need extra help, use the following:

- Clinical symptoms
- Location of the finding
- Evolution (previous films)
- Selected signs



Gari Kasparov
Grand Master of chess



Jose Caceres
Grand Master of chess

Caceres' gamut of widespread Kerley lines

Acute: pulmonary edema

Chronic: lymphangitic metastases

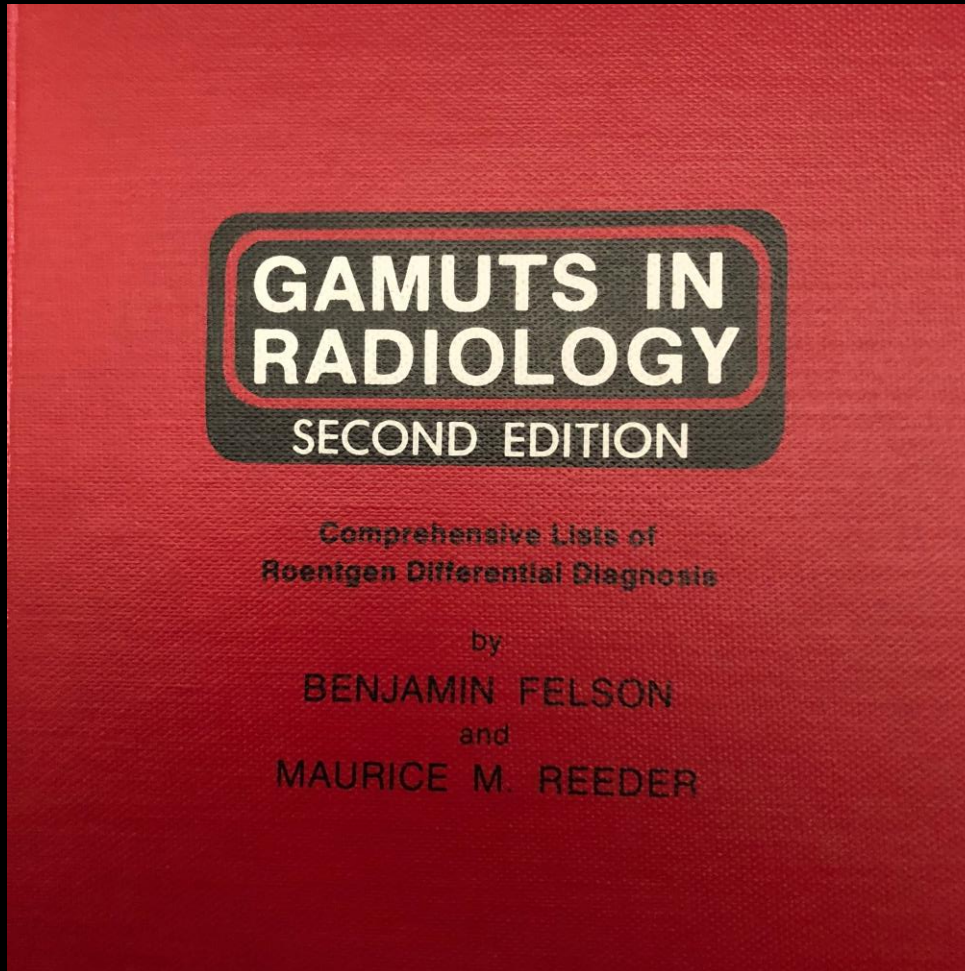


TABLE 1 : Gamut of Kerley Lines

Acute: Common:

Pneumonia,

Pulmonary edema, interstitial

Retained fetal lung fluid (transient tachypnea of newborn)

Uncommon: Pulmonary

Chronic: Common:

Bronchogenic

Idiopathic

Lymphangitic

Pneumoconiosis

Rheumatic mitral stenosis

hemorrhage

carcinoma,

Hilar metastases

Uncommon:

Alveolar cell carcinoma

Alveolar lymphoma

Alveolar proteinosis

Desquamative interstitial

Idiopathic pulmonary hemosiderosis

Interstitial fibrosis, any cause

Left atrial tumor

Lymphangiectasia, diffuse

Lymphangiomyomatosis

Mediastinal tumor with lymphatic

Mineral oil aspiration, lipoid pneumonia

Newborn cardiovascular syndromes (total anomalous

Pneumonitis(DIP) (late)

Pulmonary vein stenosis or thrombosis (venocclusive disease

Radiation fibrosis

Sarcoidosis

Thoracic duct ligation, obstruction, or injury