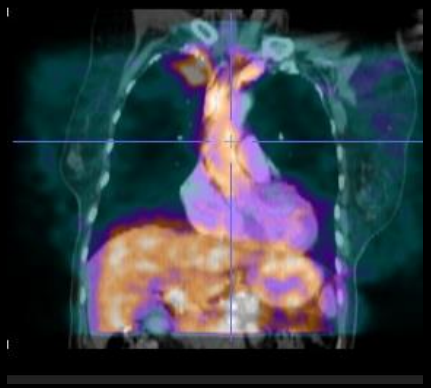
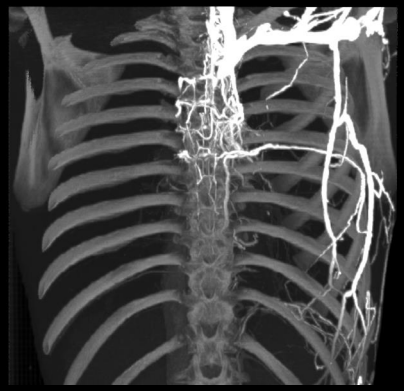
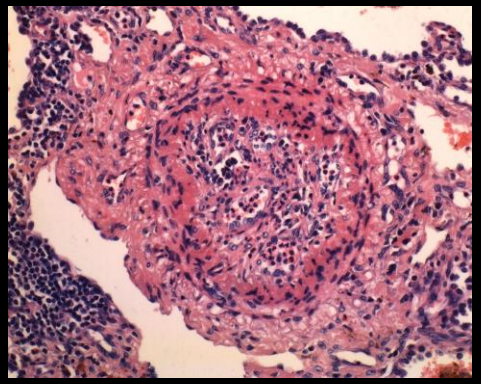
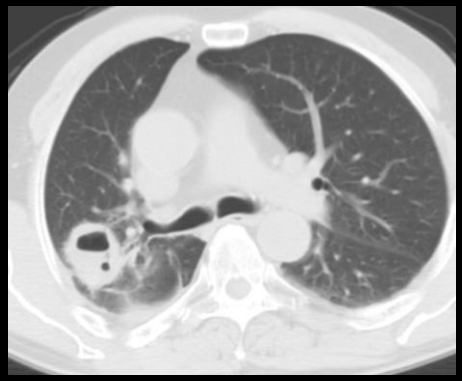





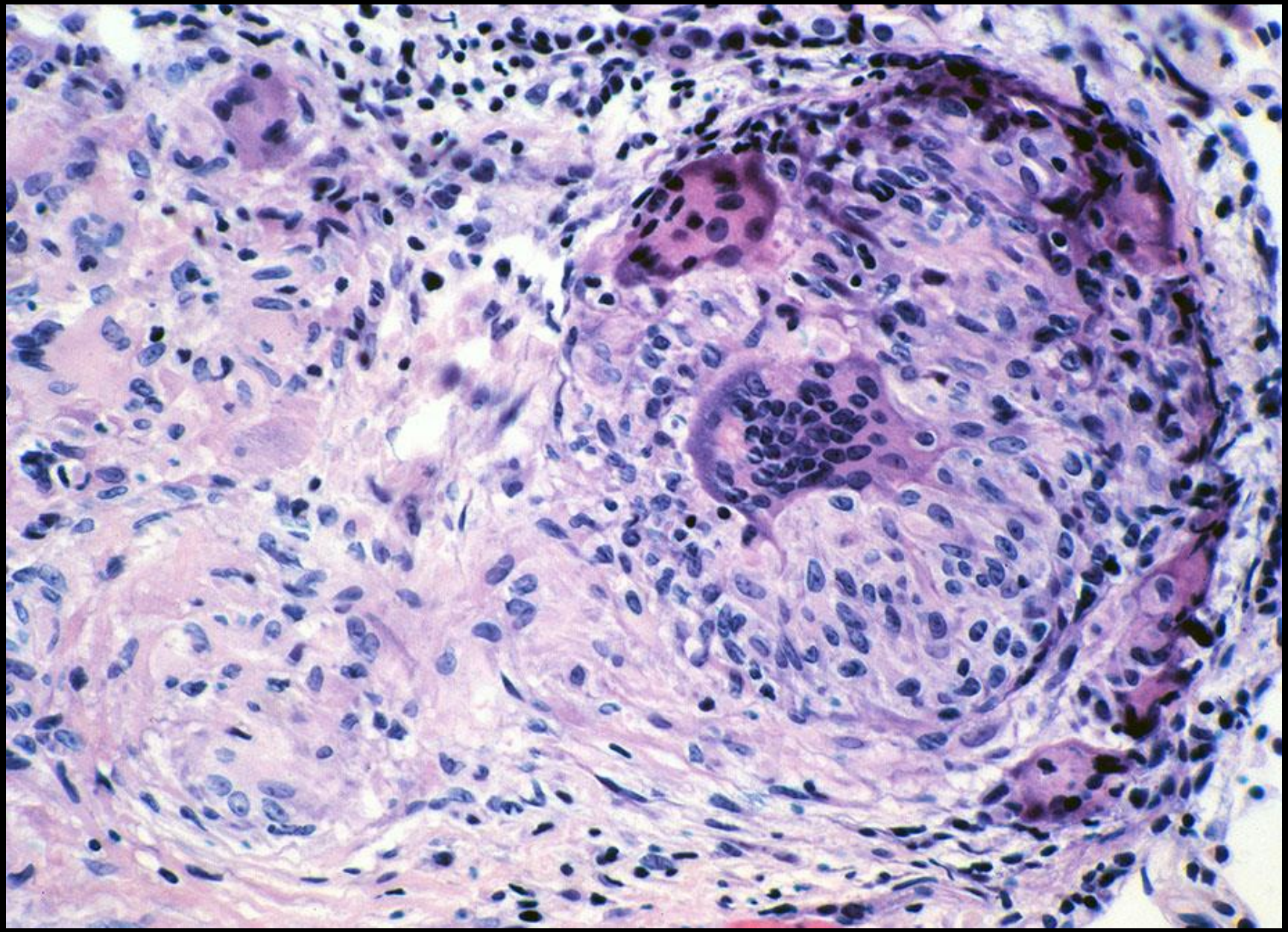
Imagerie des granulomatoses vascularites et connectivites

Emmanuel Coche, MDPhD
Cliniques Universitaires St-Luc
Brussels-Belgium

DES Radiologie
2ème cycle
16 Novembre 2018

I/Granulomatoses

- Sarcoïdose (BBS)
- Granulomatose de Wegener (granulomatose avec polyangéite)
- Granulomatose à cellules de Langerhans…
- Granulomatose lymphomatoïde bronchocentrique
- *Granulomatose causées par agents infectieux*
  - *Mycobactéries typiques /atypiques*
  - *Aspergillus, coccidioidomycoses, blastomycoses…..*



Sarcoïdose (BBS)

- Maladie granulomateuse d'origine inconnue
- Entre 20-40 ans /tout âge (4% > 60 ans)
- Fatigue, malaise, perte de poids, toux, dyspnée
- Erythème noueux, uvéite, lésions cutanées
- Atteinte systémique: muscles, os, yeux, reins, cœur, tractus gastrointestinal…
- R/ 50% répondent aux stéroïdes, R/immunosuppresseur

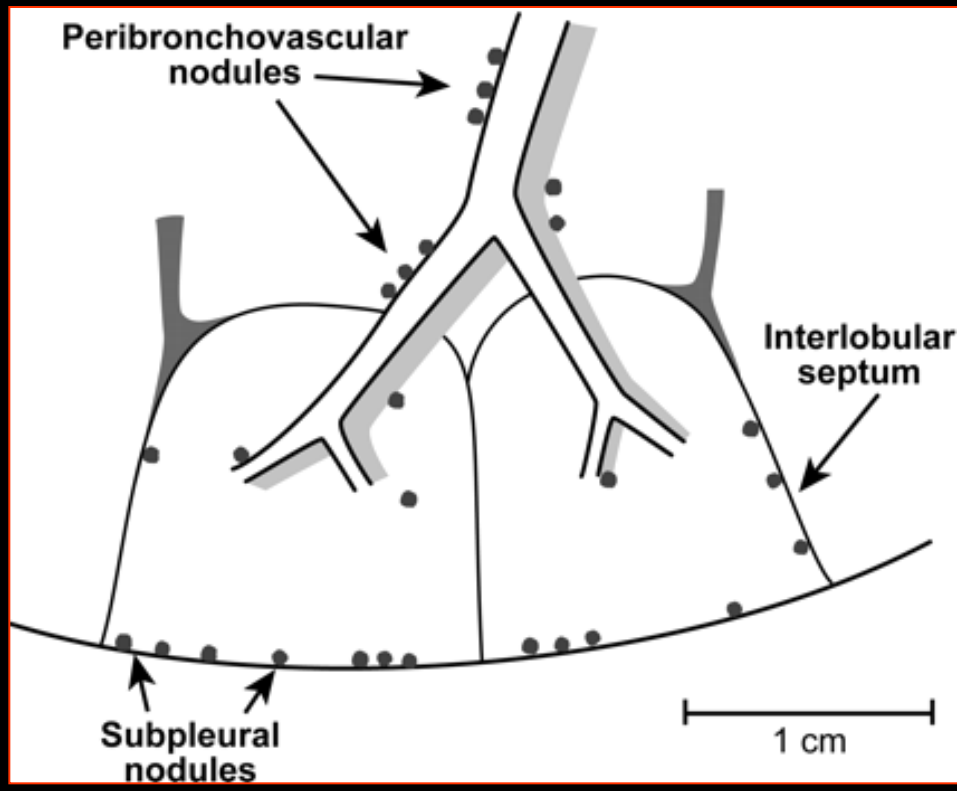
Imagerie

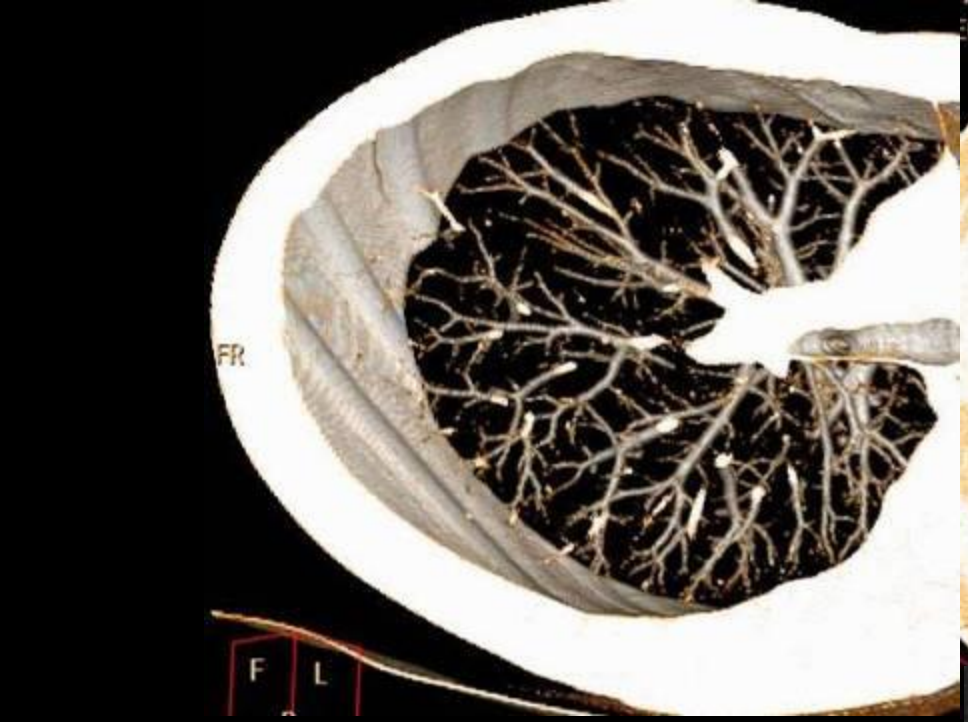
- Adénopathies hilaires et médiastinales symétriques
- Micronodules (1-5 mm)
- Atteinte centri-lobulaire, périvasculaire, lymphatique, septae sous-pleuraux
- Fibrose progressive et massive, kystes, bulles…
- Sarcoïdose alvéolaire: nodules et densifications avec bronchogramme aérique

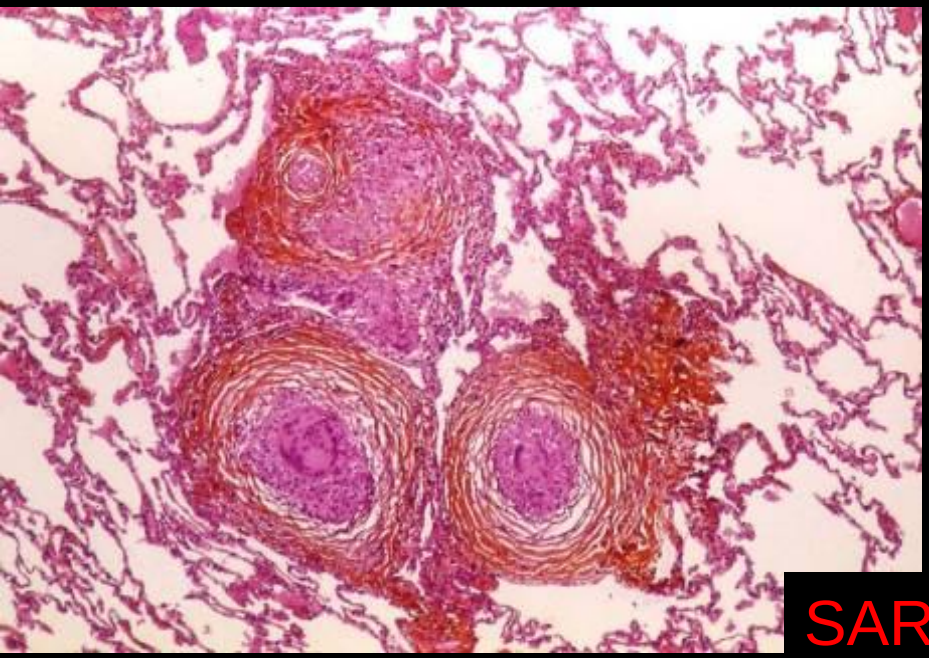
Modèle micronodulaire péri-lymphatique

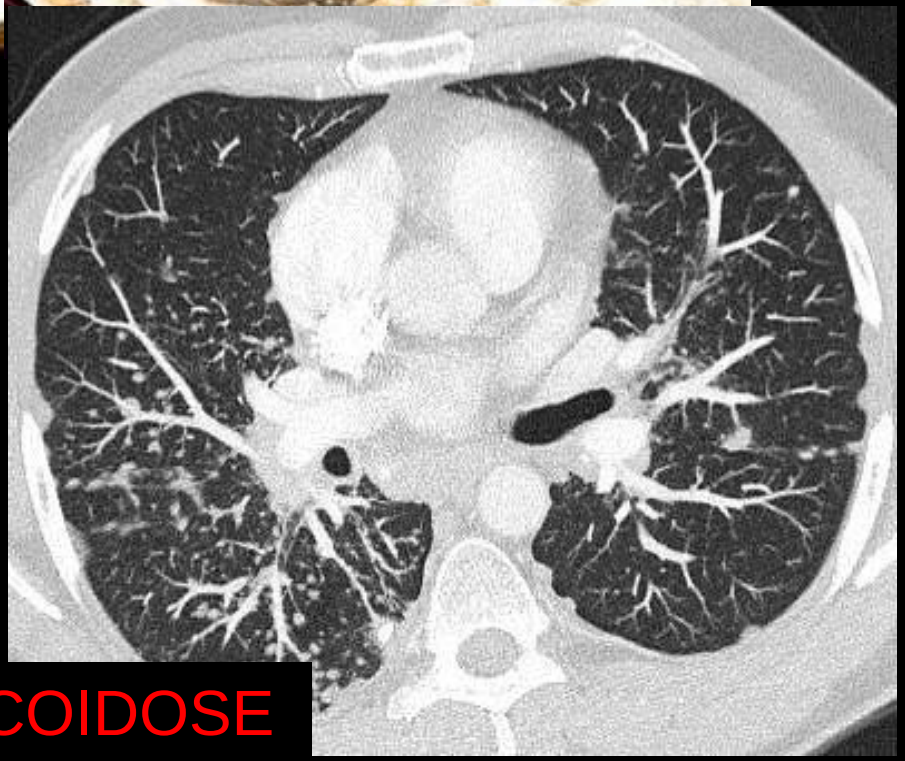
Caractéristiques :

- contours nets
- forte densité
- distribution
  - Le long des scissures et de la plèvre périphérique
  - Le long des septa interlobulaires
  - Le long des trajets vasculaires et bronchiques
  - au cœur du lobule : axes artériolo-bronchiolaires

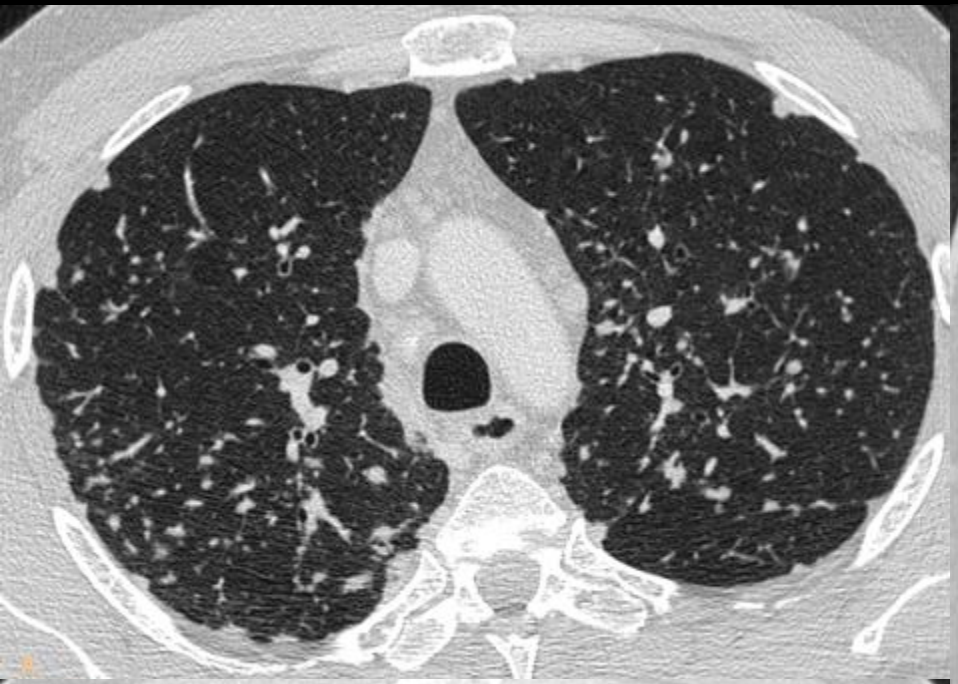


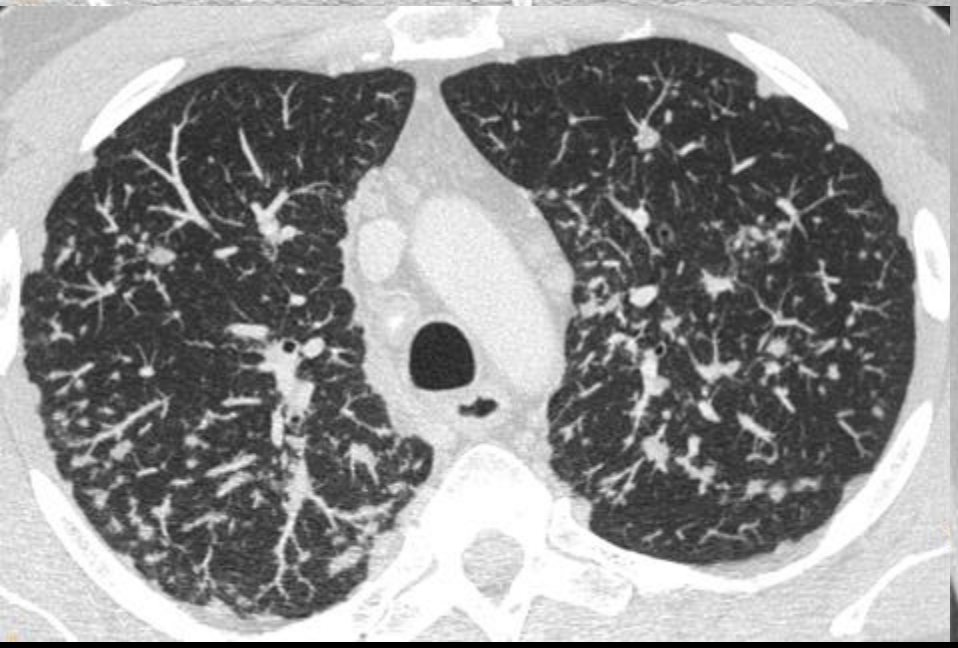


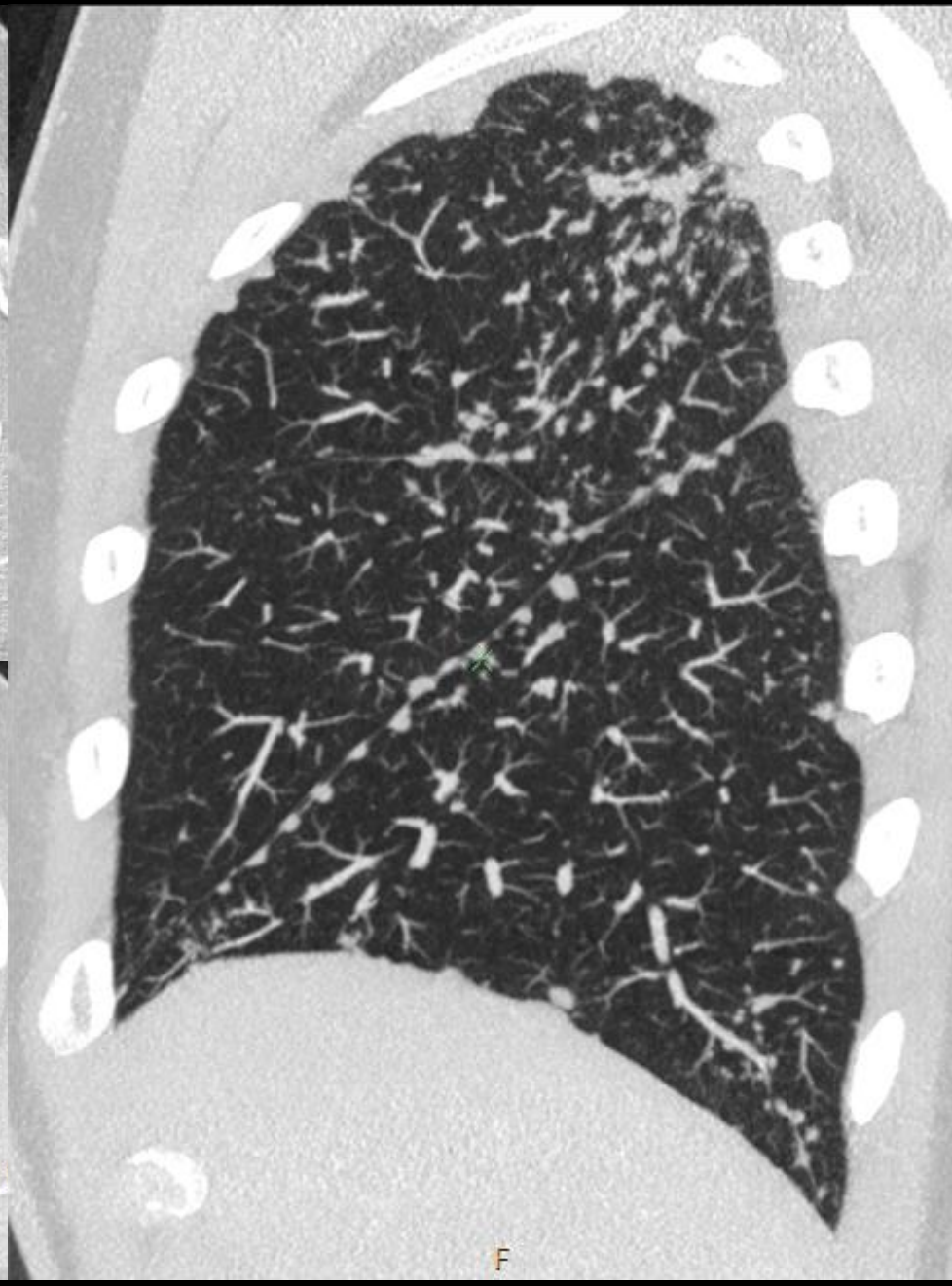




SARCOIDOSE



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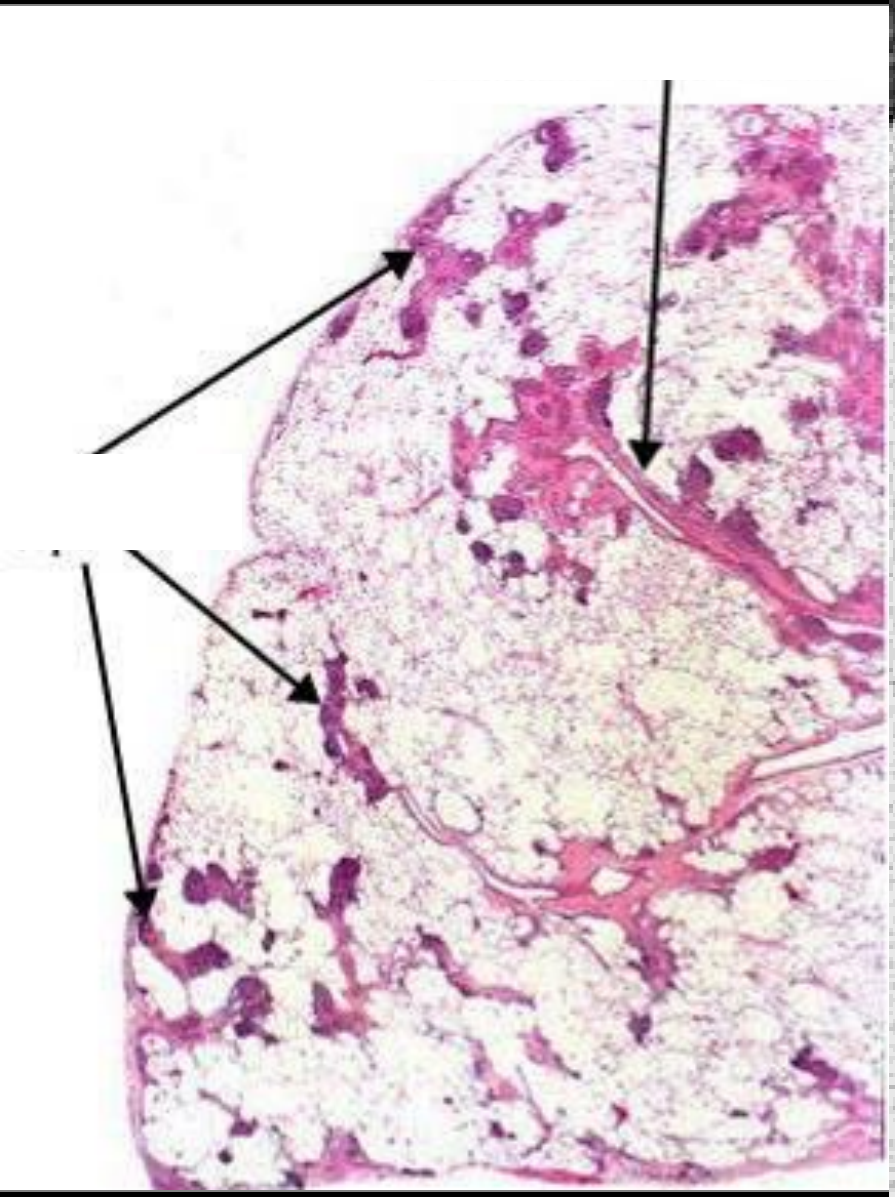
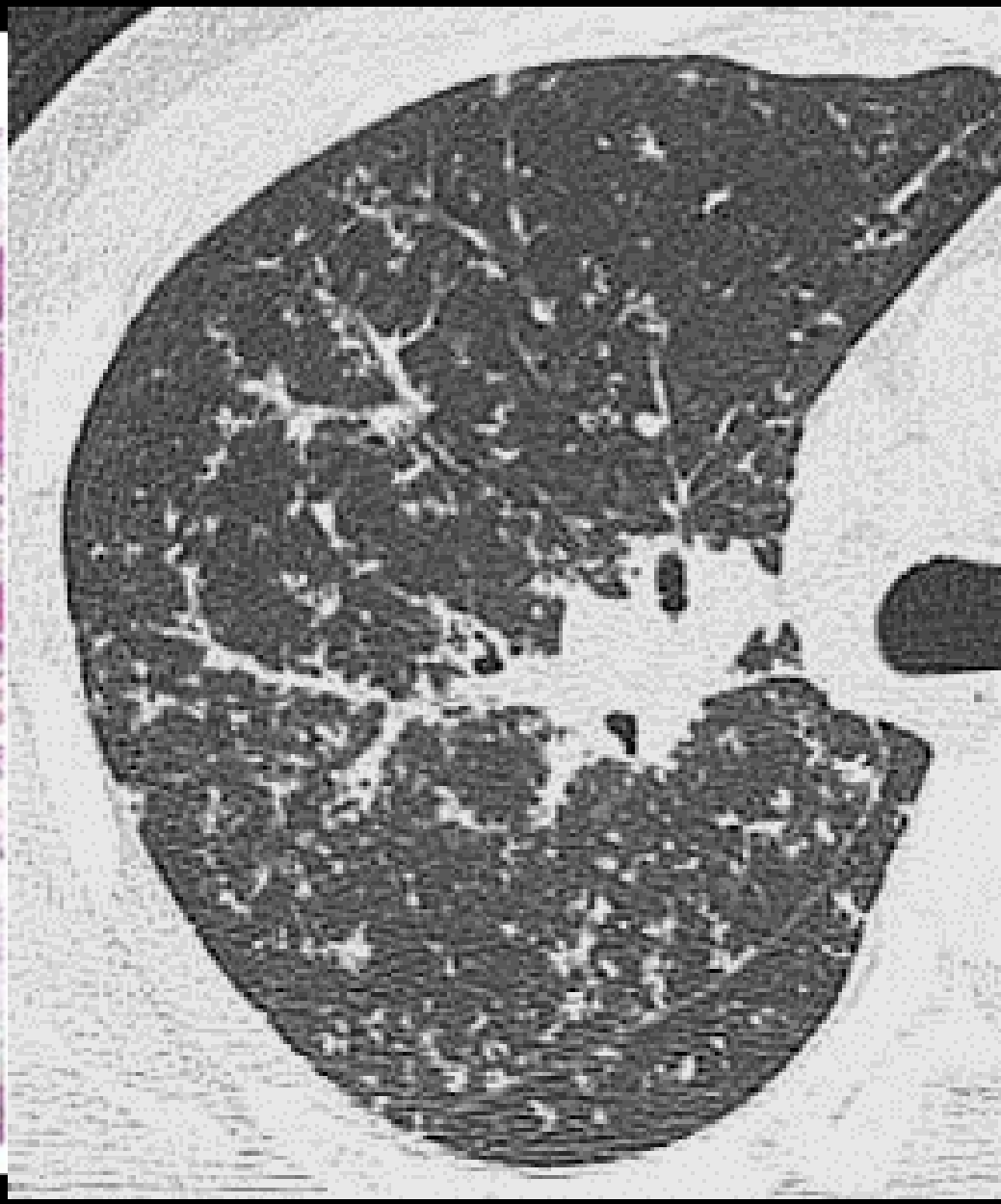
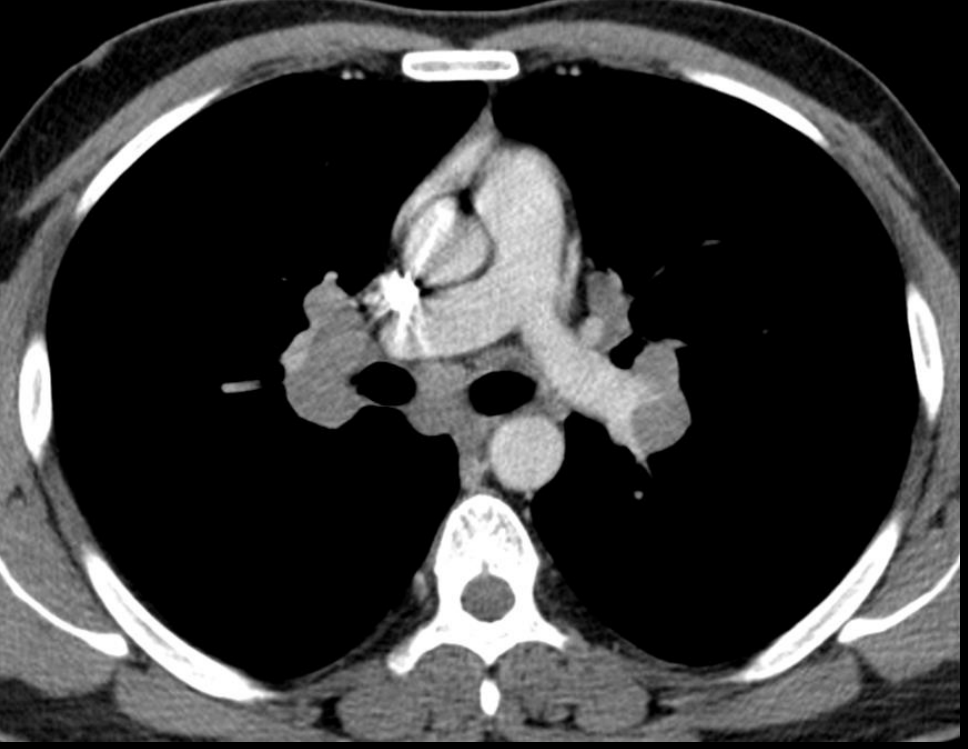
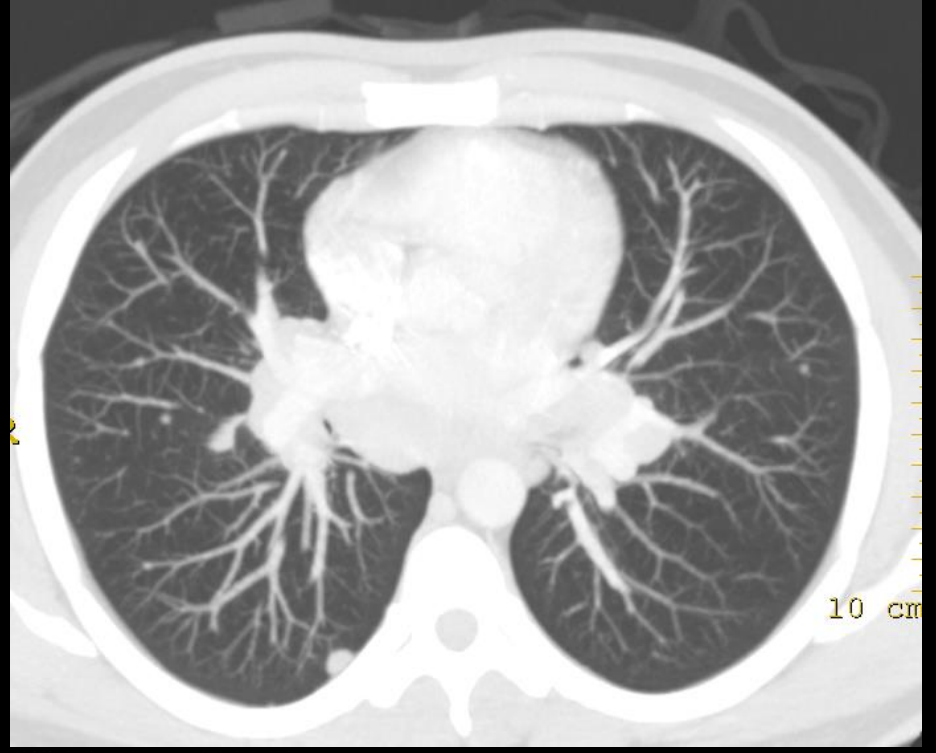




Stadification

- Stade 0: Rx normale
- Stade I: Adénopathies
- Stade II: Adénopathies/ opacités parenchymateuses
- Stade III: Opacités parenchymateuses
- Stade IV: Fibrose pulmonaire

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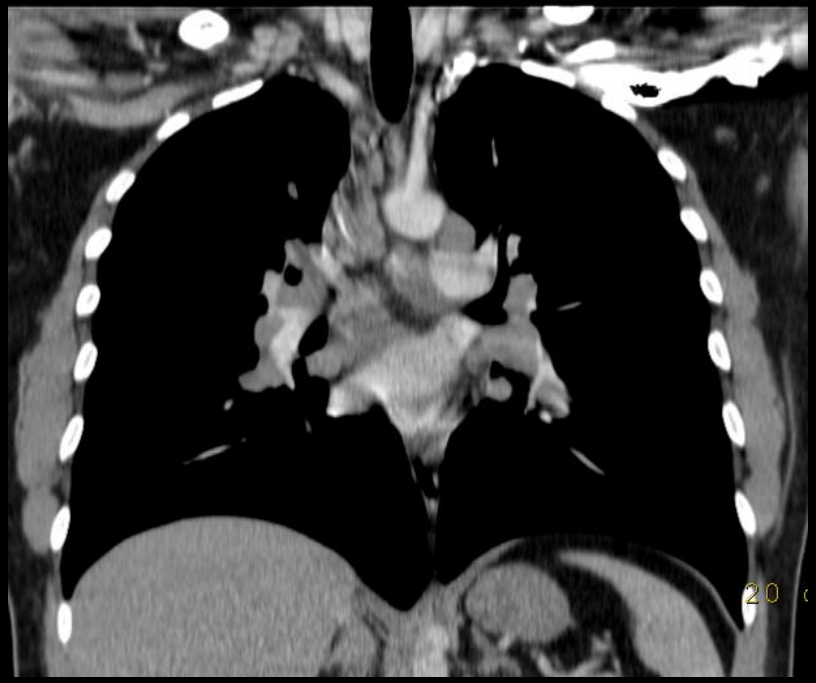
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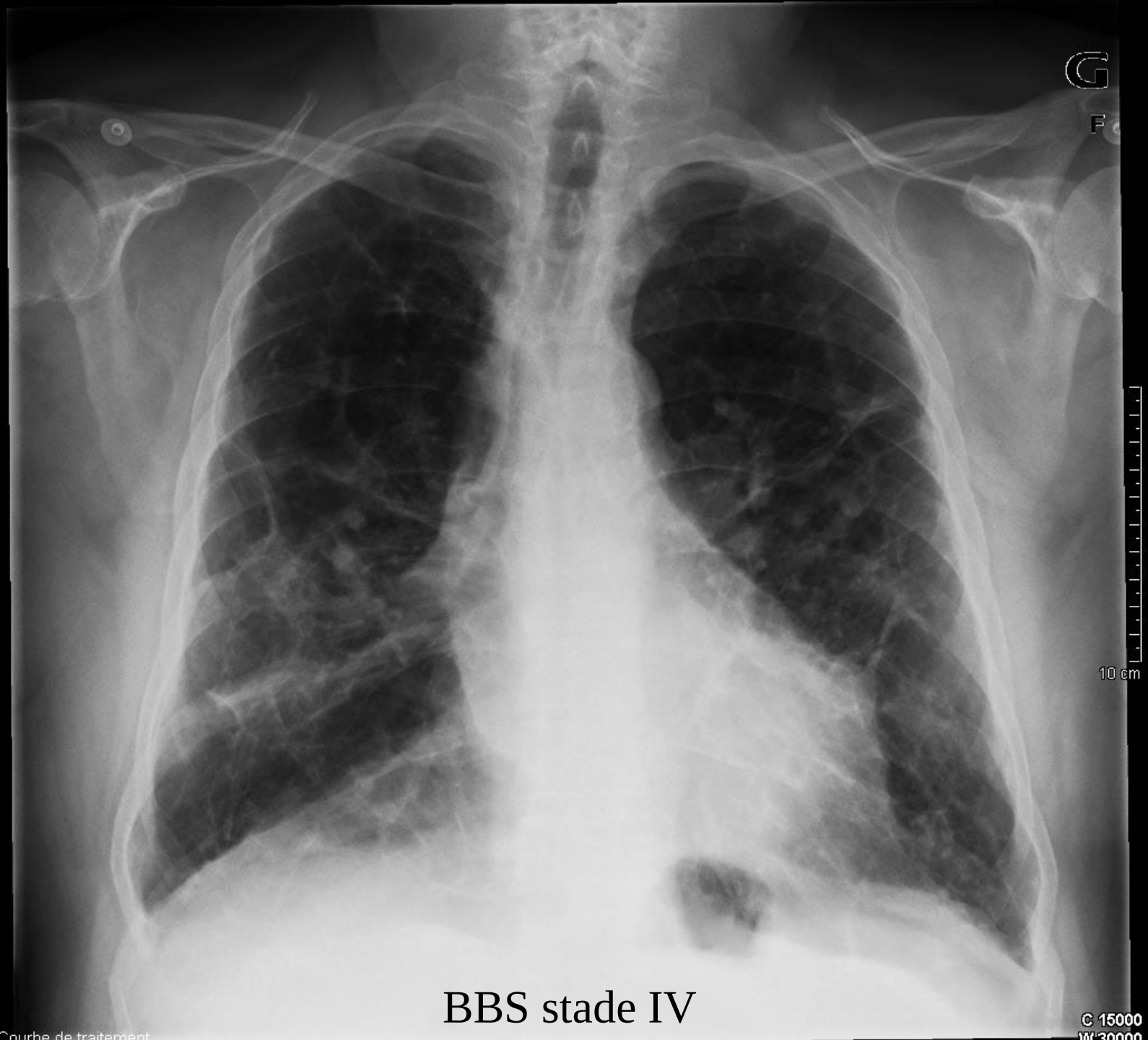
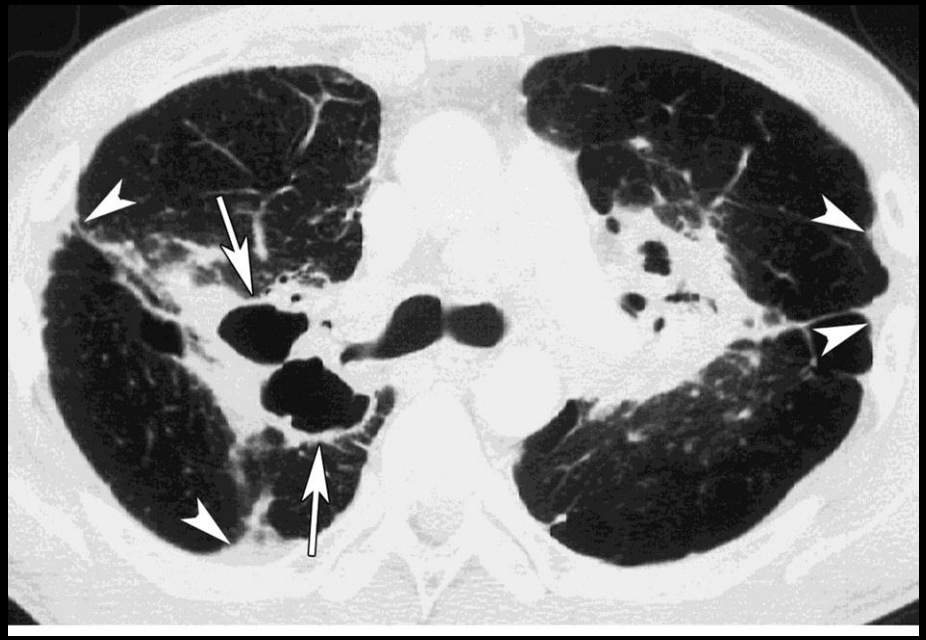


BBS stade IV

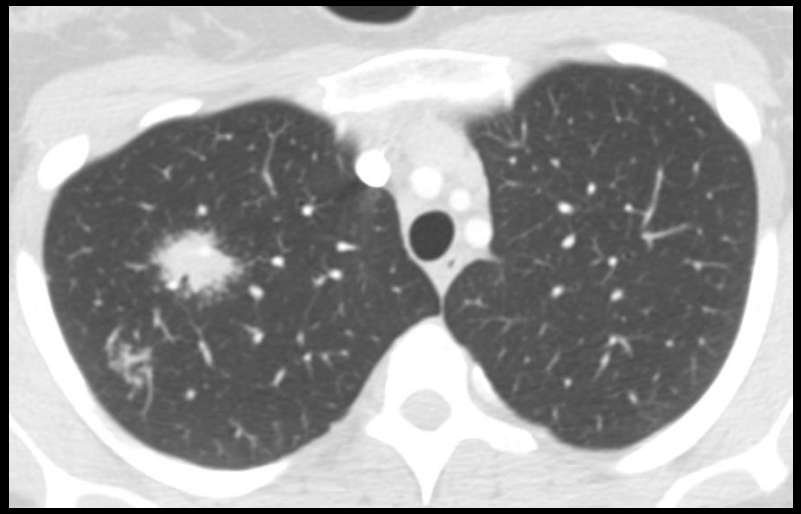
Radiologic Manifestations of Sarcoidosis in Various Organs

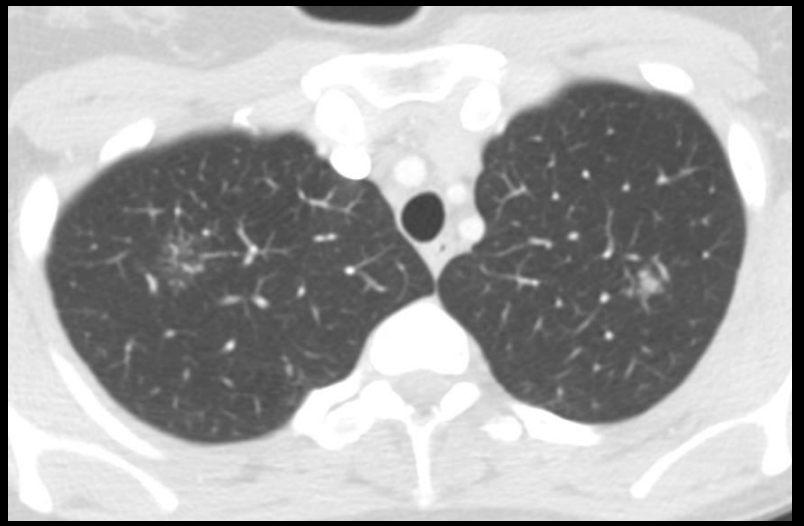
Takashi Koyama, Hiroyuki Ueda, Kaori Togashi, Shigeaki Umeoka, Masako Kataoka, Sonoko Nagai

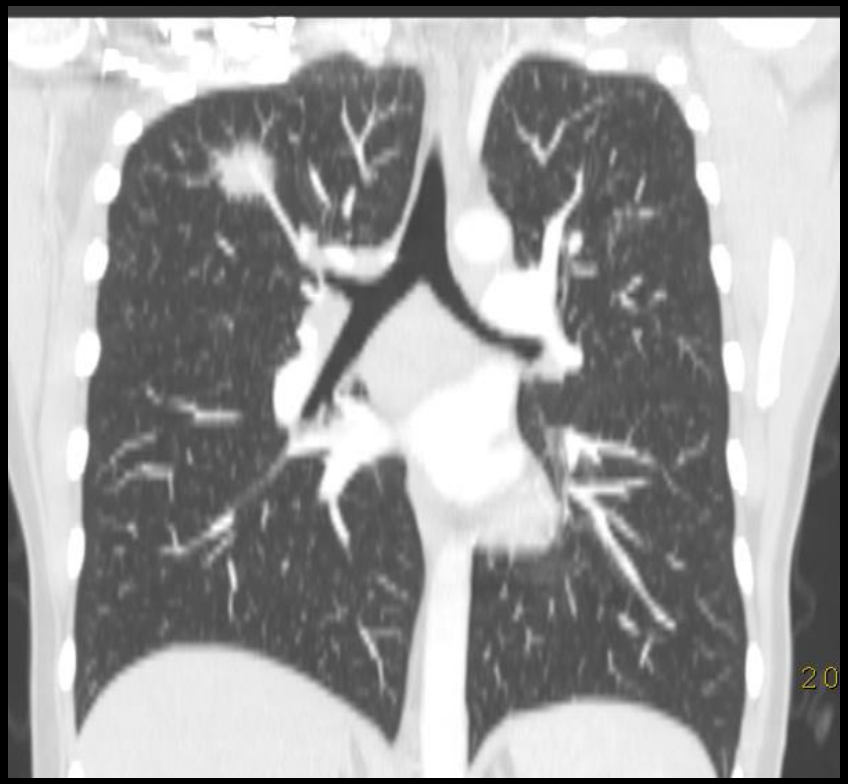


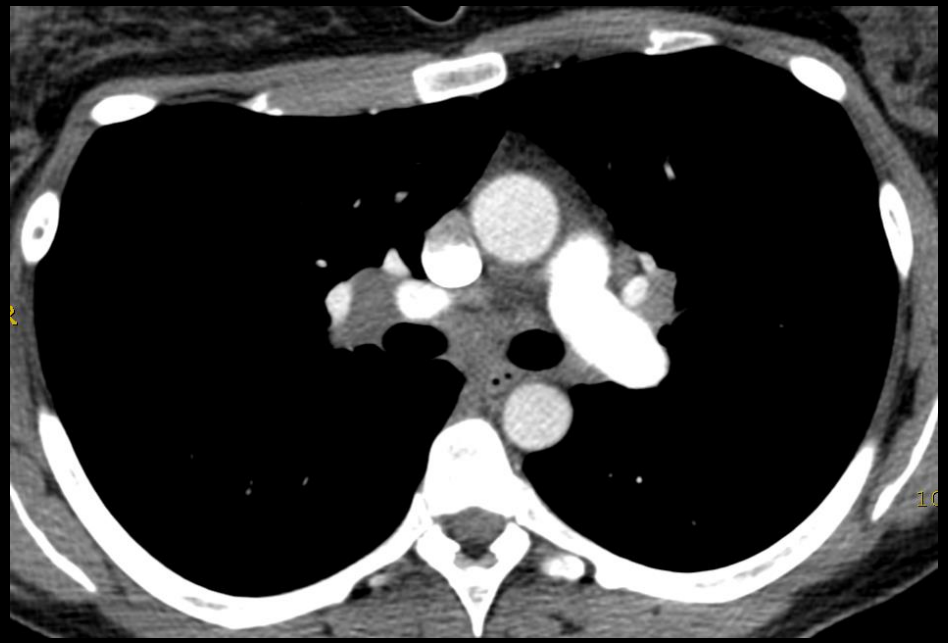
Pulmonary sarcoidosis in a 60-year-old man. Chest CT scan demonstrates extensive fibrotic change and cavitary lesions with a central distribution (arrows) that distort the lung parenchyma. Irregular thickening of the pleura (arrowheads) and overinflation of the peripheral lung parenchyma are also seen.

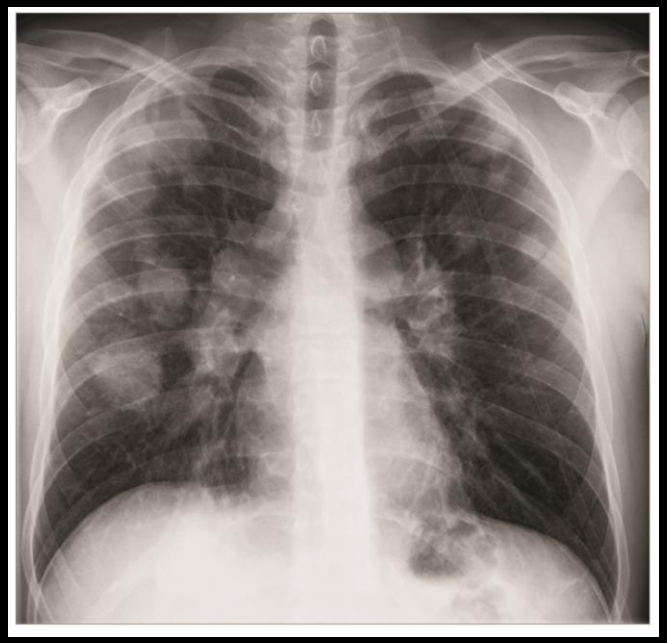
Radiographics. 2004 Jan-Feb;24(1):87-104

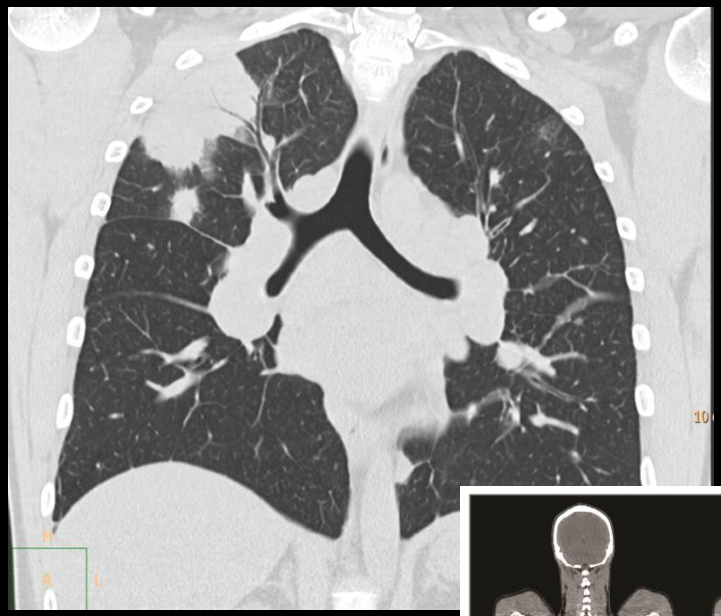


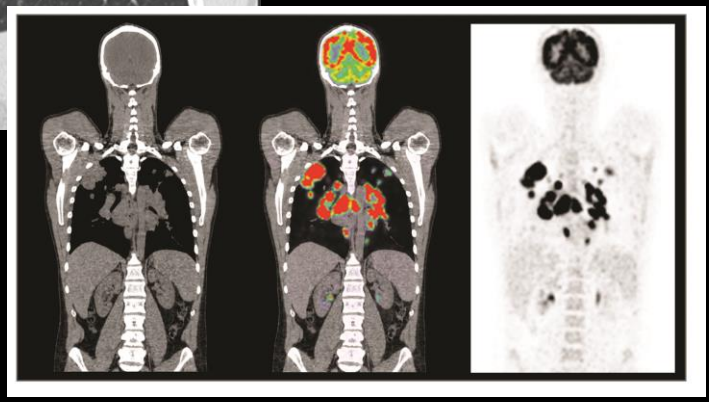


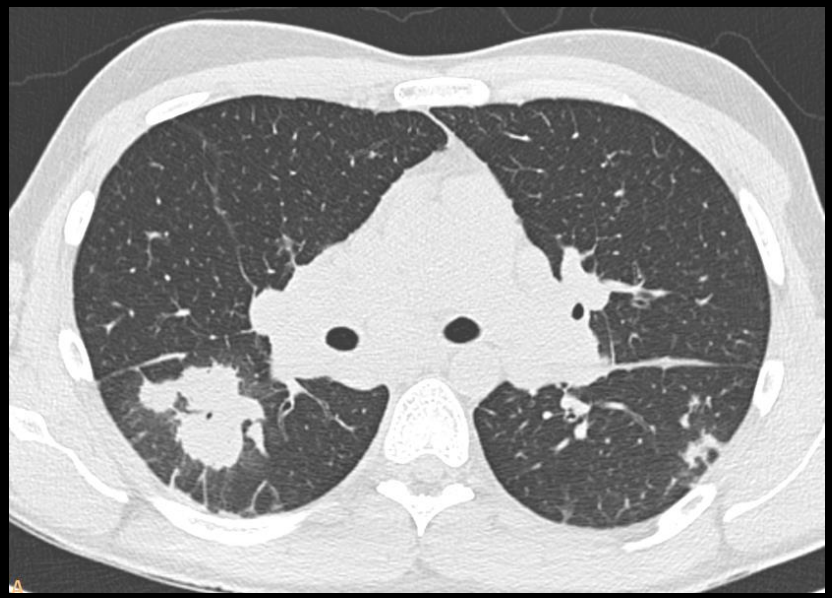




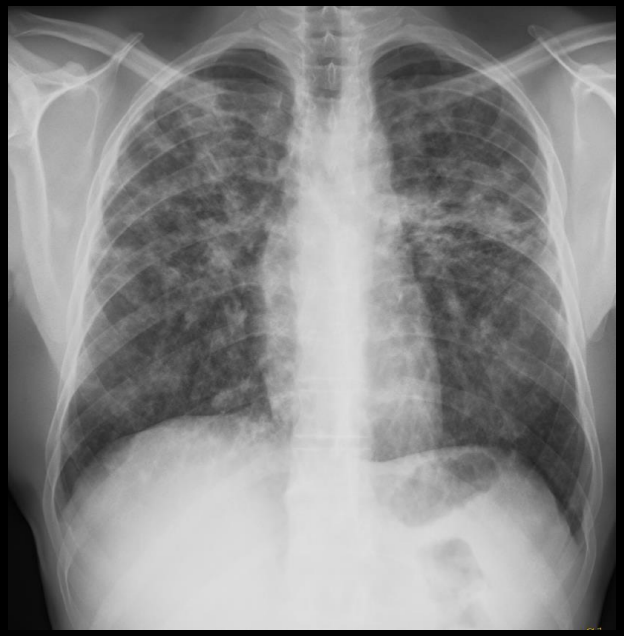


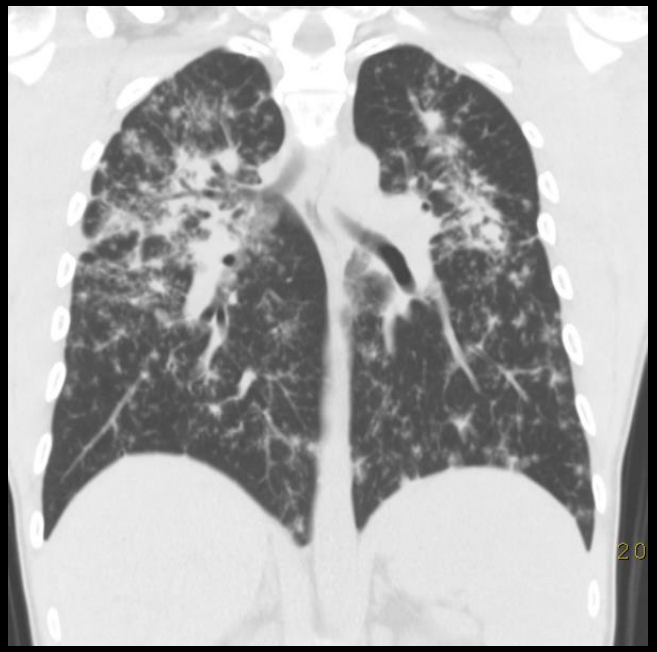


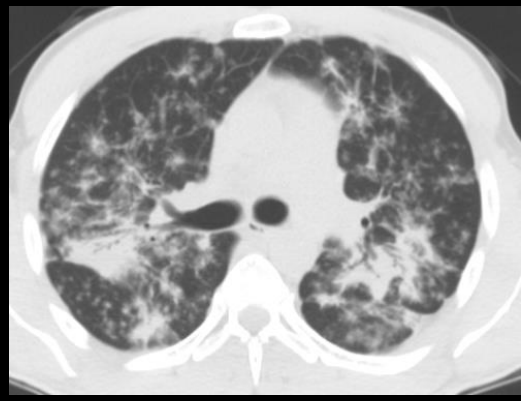


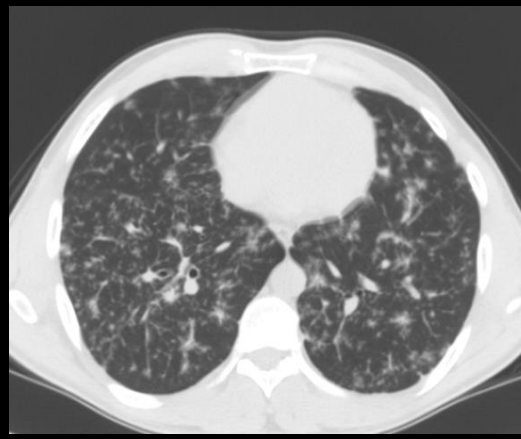


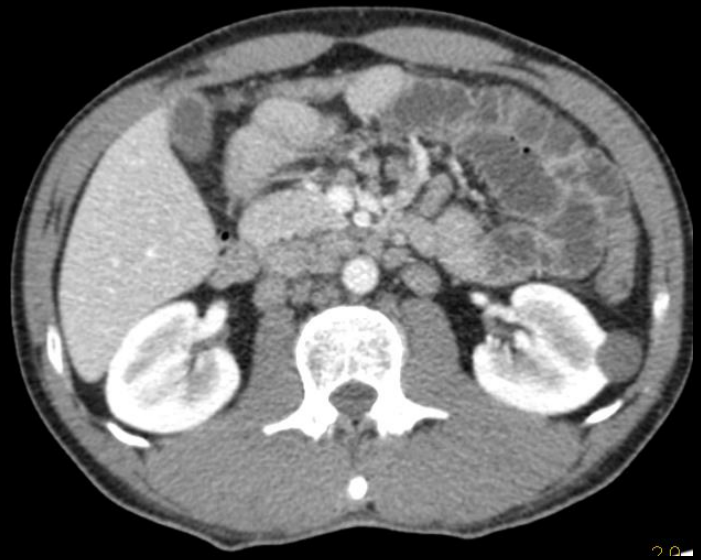
A 27-year-old Caucasian smoking male presented with a three-week history of arthralgia and fever. He had some indurated lesions on his lower limbs. Blood tests showed a raised CRP (6,4mg/dl- normal value<1) and serum lysozyme (1880 ng/ml- normal value : 379-819). Pulmonary function tests revealed a restrictive pattern.

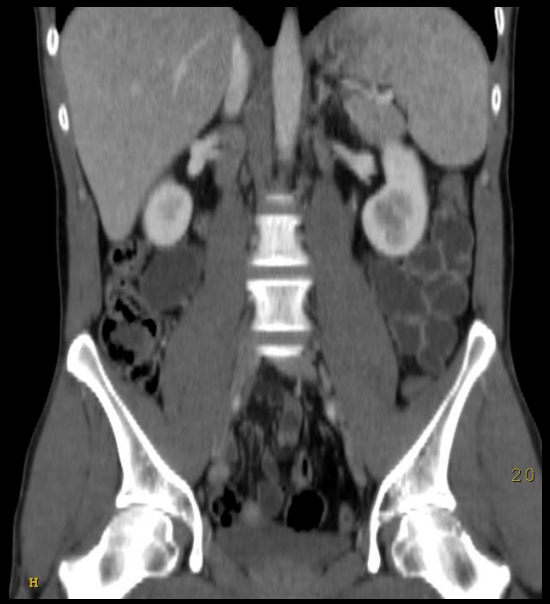


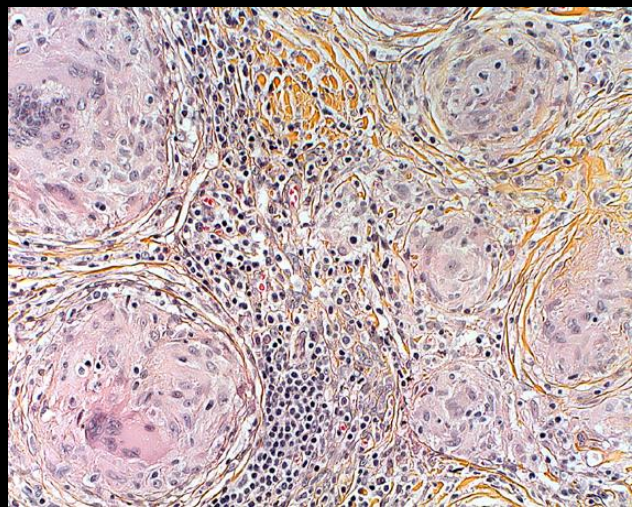












BBS multisystémique

RadioGraphics

Radiologic Manifestations of Sarcoidosis in Various Organs[1]

Takashi Koyama, MD • Hiroyuki Ueda, MD • Kaori Togashi, MD
Shigeaki Umeoka, MD • Masako Kataoka, MD • Sonoko Nagai, MD

CME FEATURE

See accompanying test at http://www.rsna.org/education/rg_cme.html

LEARNING OBJECTIVES FOR TEST 3

After reading this article and taking the test, the reader will be able to:

- Recognize both typical and atypical imaging features of sarcoidosis in various anatomic locations.
- Describe clinical manifestations that play an important role in diagnosing sarcoidosis.
- Discuss various clinical settings and syndromes that are related to sarcoidosis.

Sarcoidosis is a systemic disorder of unknown cause with a wide variety of clinical and radiologic manifestations. The diagnosis is usually made on the basis of these manifestations supported by histologic findings. Systemic manifestations (eg, Löfgren syndrome, Heerfordt syndrome) are commonly seen at clinical examination. Bilateral hilar lymphadenopathy is the most common radiologic finding—frequently with associated pulmonary infiltrates—and typically has a characteristic perivascular distribution at high-resolution chest computed tomography. Radiologic findings in the short tubular bones of the hands and feet and magnetic resonance imaging findings of nodular involvement of muscle are often sufficient to raise suspicion for sarcoidosis. In the liver, spleen, kidneys, and scrotum, coalescing granulomas form nodules whose imaging features may occasionally be nonspecific, although familiarity with the relevant clinical settings will be helpful in recognizing the presence of sarcoidosis. Radiologic recognition of cardiac and central nervous system involvement is also important because patients may be only mildly symptomatic. The clinical course and prognosis of sarcoidosis are highly variable, often correlating with the mode of onset. Familiarity with the clinical and radiologic features of sarcoidosis in various anatomic locations plays a crucial role in diagnosis and management.

Abbreviations: ACE = angiotensin-converting enzyme, CNS = central nervous system, FLAIR = fluid-attenuation inversion recovery

Index terms: Abdomen, diseases, 70.22, 76.22, 77.22, 81.22, 847.22 • Head and neck, 20.22 • Nervous system, diseases, 10.22, 30.22 • Sarcoidosis, ++.22 • Thorax, diseases, 51.22, 60.22, 679.22

RadioGraphics 2004; 24:87–104 • **Published online** 10.1148/rg.241035076

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[2]++, multiple body systems

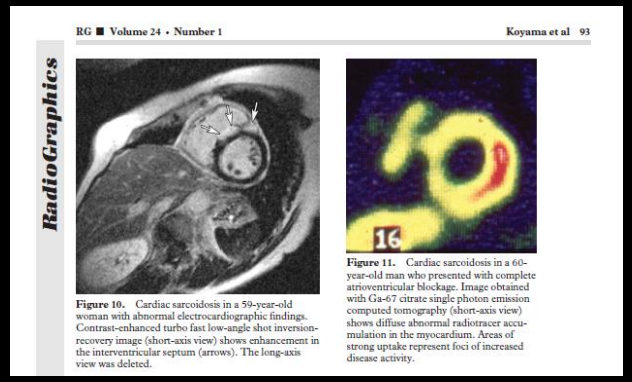


Figure 10. Cardiac sarcoidosis in a 59-year-old woman with abnormal electrocardiographic findings. Contrast-enhanced turbo fast low-angle shot inversion-recovery image (short-axis view) shows enhancement in the interventricular septum (arrows). The long-axis view was deleted.

Figure 11. Cardiac sarcoidosis in a 60-year-old man who presented with complete atrioventricular blockage. Image obtained with Ga-67 citrate single photon emission computed tomography (short-axis view) shows diffuse abnormal radiotracer accumulation in the myocardium. Areas of strong uptake represent foci of increased disease activity.

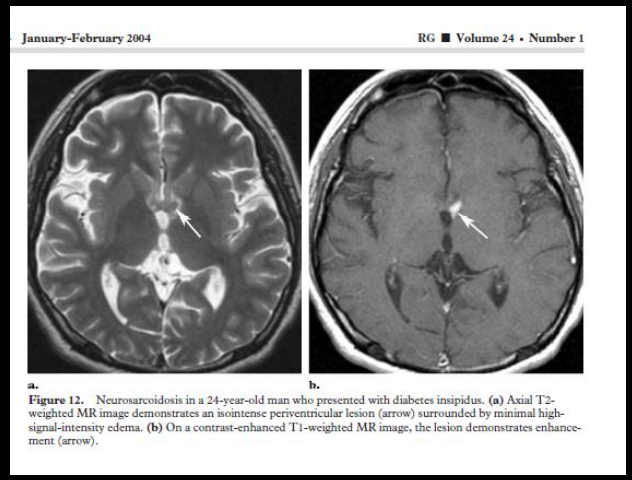


Figure 12. Neurosarcoidosis in a 24-year-old man who presented with diabetes insipidus. **(a)** Axial T2-weighted MR image demonstrates an isointense periventricular lesion (arrow) surrounded by minimal high-signal-intensity edema. **(b)** On a contrast-enhanced T1-weighted MR image, the lesion demonstrates enhancement (arrow).

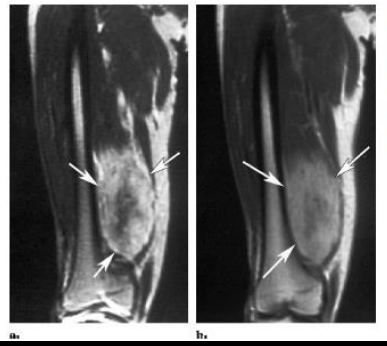


Figure 27. Nodular type muscle involvement in the same patient as in Figure 25. T2-weighted **(a)** and contrast-enhanced **(b)** MR images demonstrate a nodular type muscle lesion (arrows). The lesion has a central area of decreased signal intensity (as it did with all sequences). The periphery of the lesion demonstrates increased signal intensity on the T2-weighted image and prominent enhancement on the contrast-enhanced image.

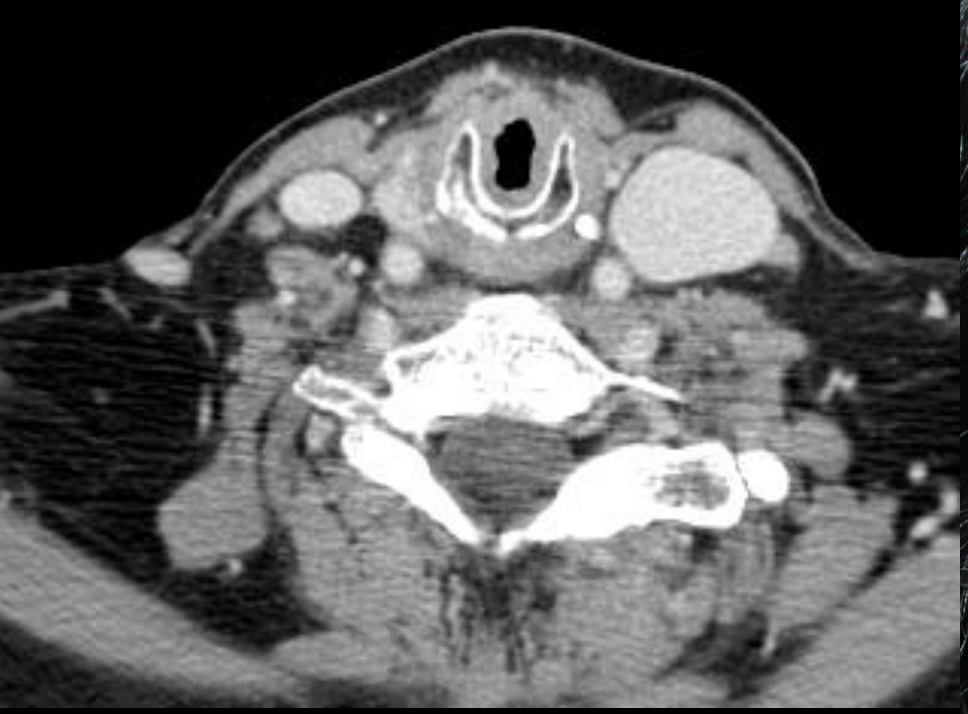
Granulomatose avec polyangéite (Wegener)

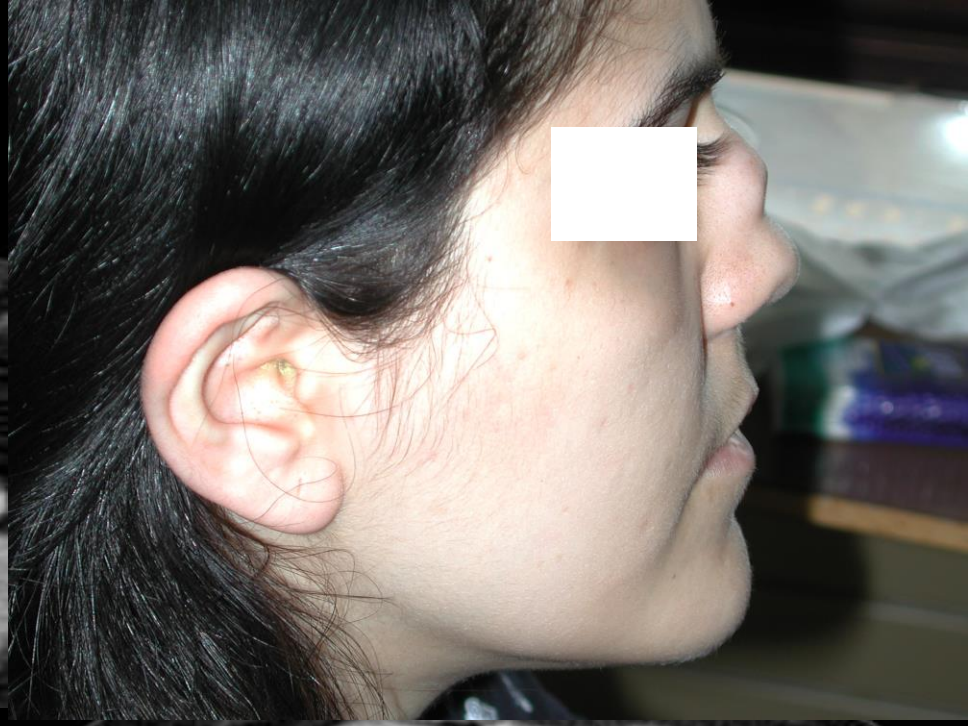
- Maladie multisystémique à expression clinique variable
- Inflammation granulomateuse nécrosante
  - Voies aériennes supérieures et inférieures
  - Reins
  - Organes systémiques et tissus
- 3/100 000 cas/an aux USA
- Pic: 30-50 ans
- C-ANCA, Anticorps anti-cellule endothéliale

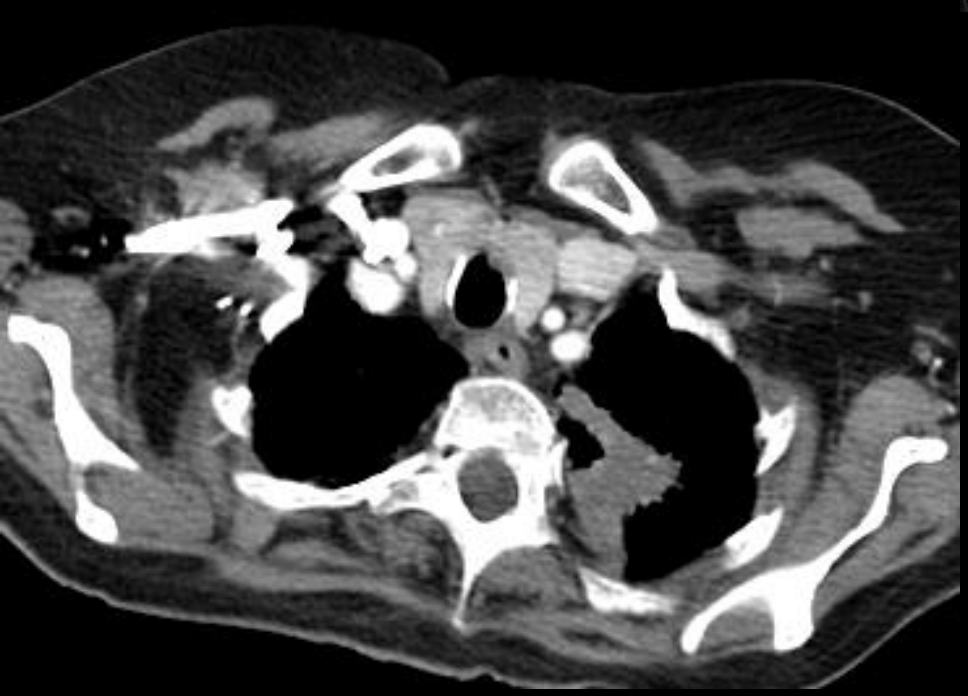
Anomalies CT chez 57 patients avec granulomatose de

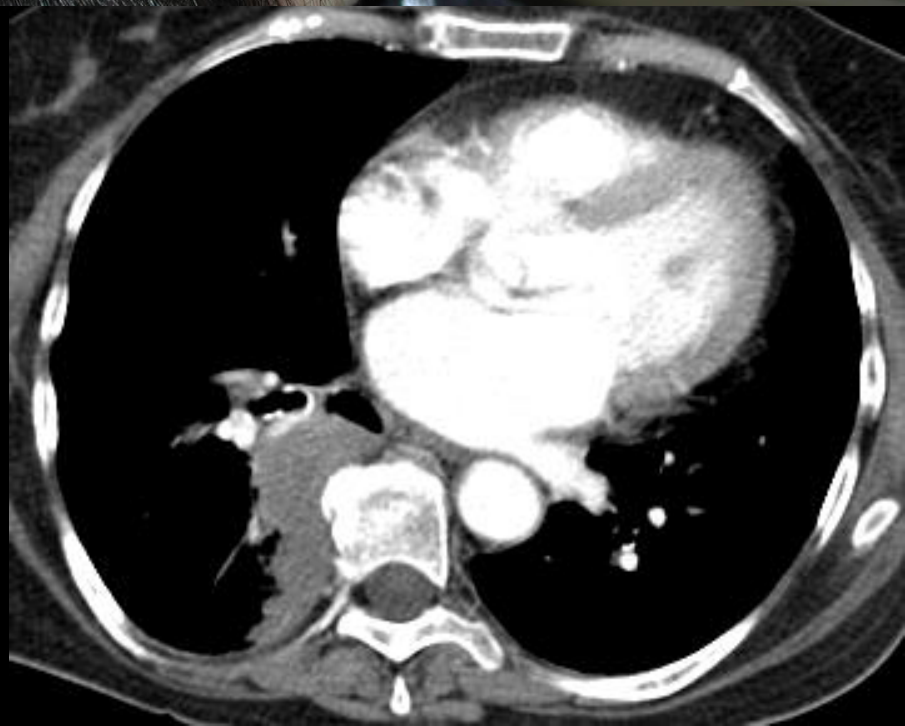
- Nodules-masses (1-10 cm) 165
- Nodules excavés et masses 36
- Densifications 50
- Verre dépoli 32
- Epaississement paroi bronchique
  - Niveau Segmentaire/ ss segm 64
  - Niveau trachéal 9
  - Bronchiectasies 21
- Epcht pleural 9
- Ggl hilaire/médiastinal

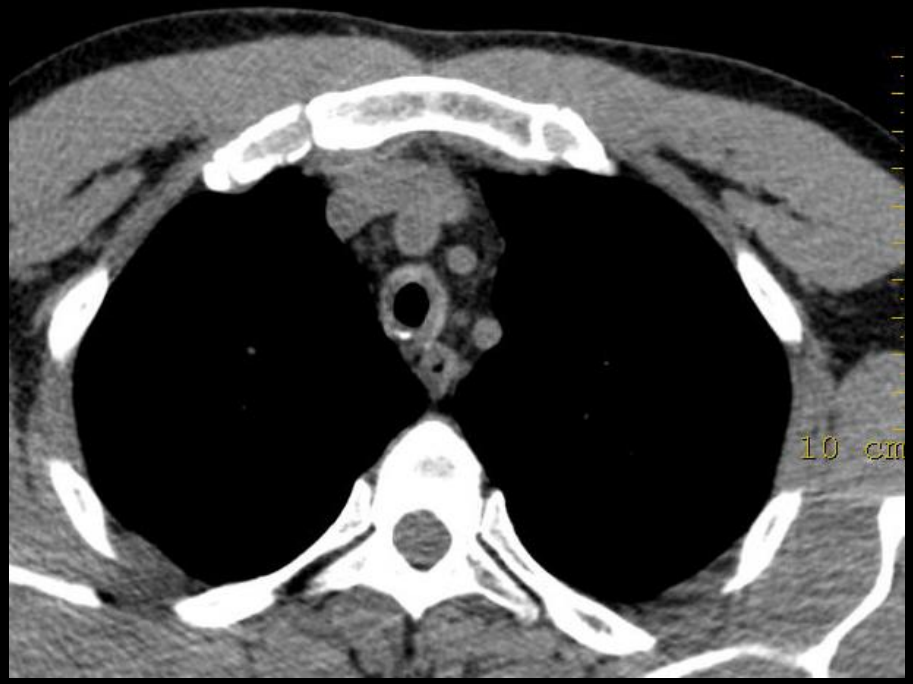
Lohrmann C, **Uhl M**, **Kotter E**, **Burger D**, **Ghanem N**, **Langer M**. **Pulmonary manifestations of Wegener granulomatosis: CT findings in 57 patients and a review of the literature.** Eur J Radiol.







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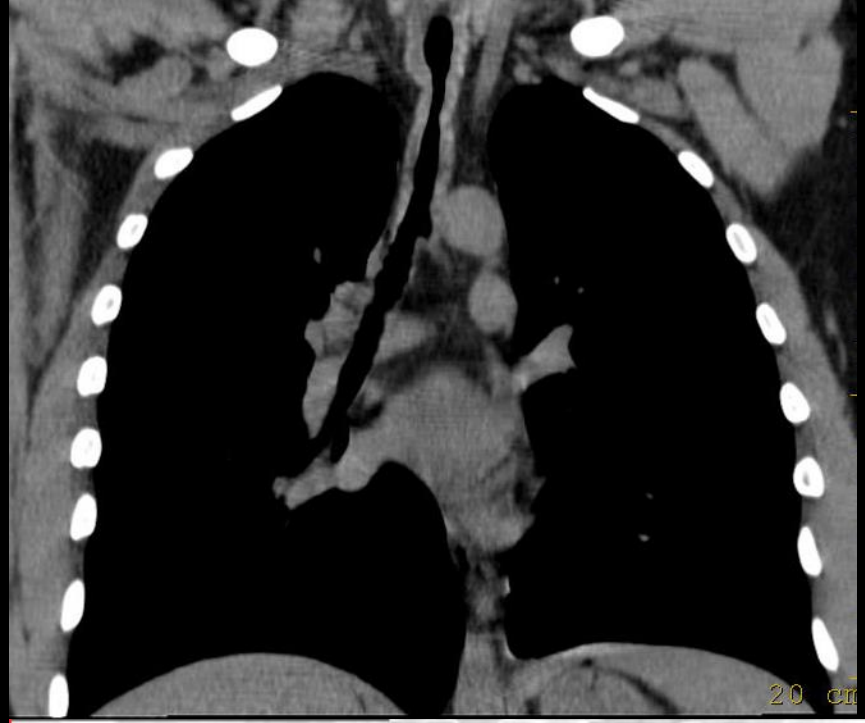
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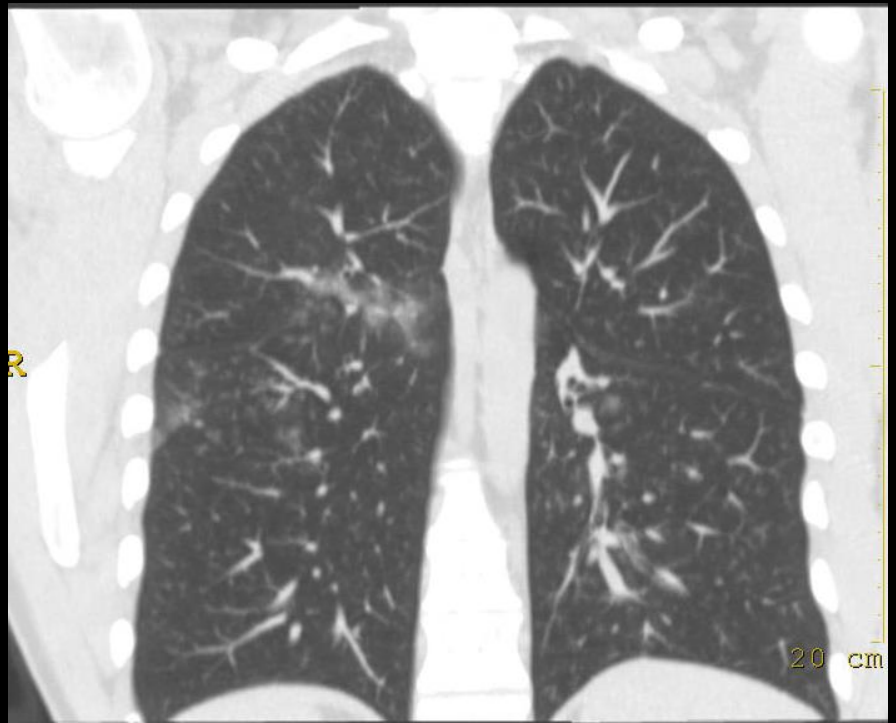
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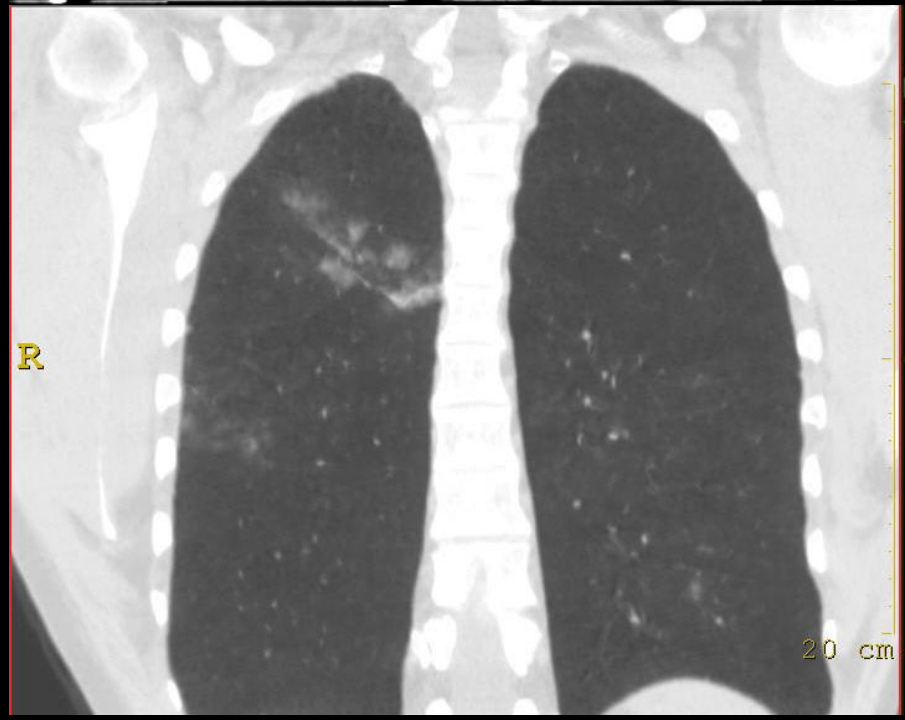
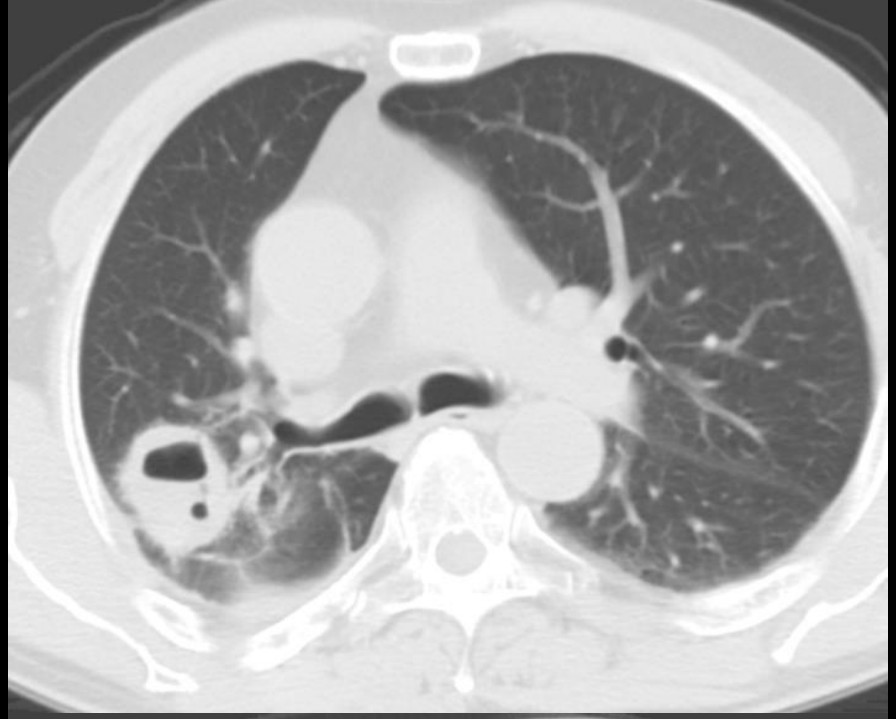
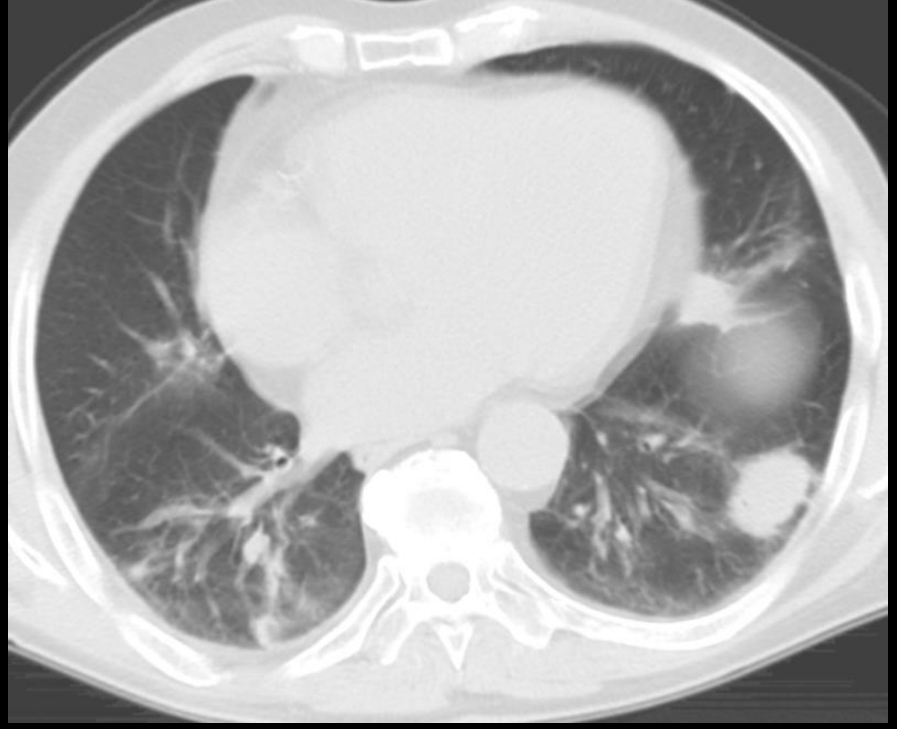
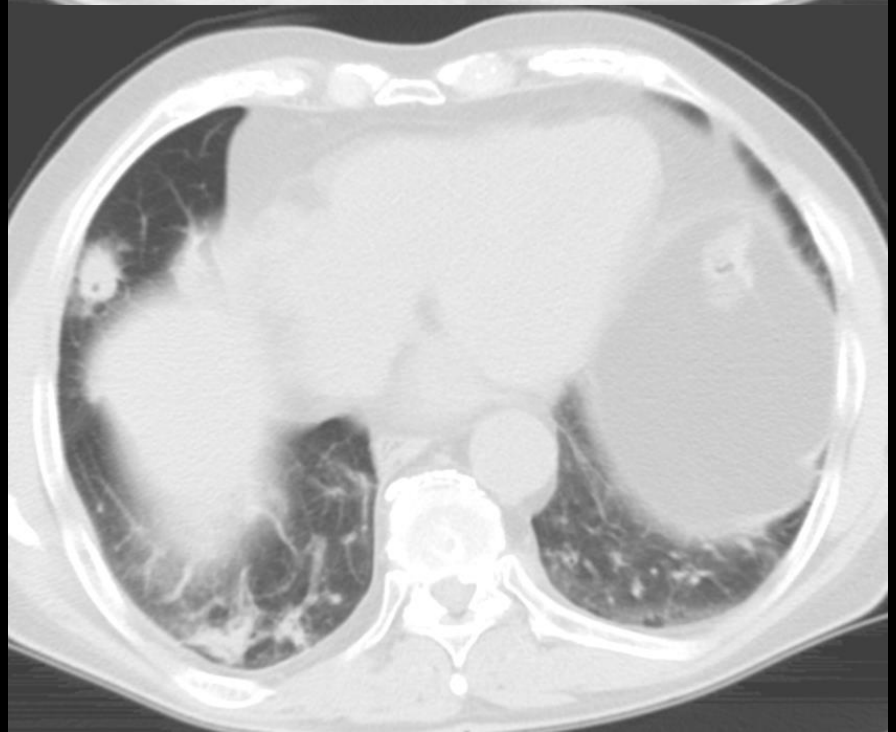
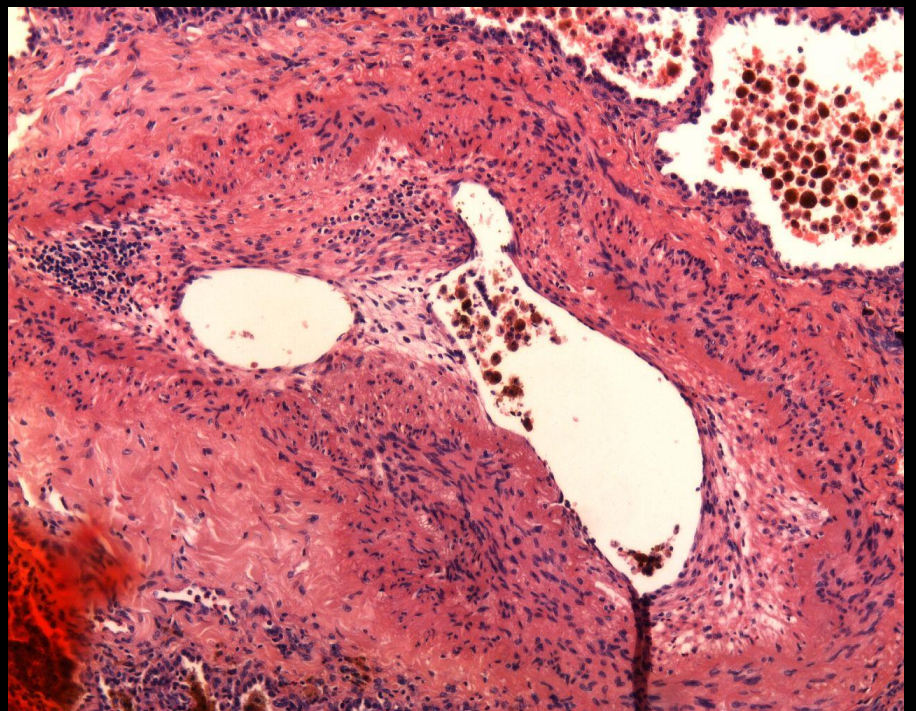
20 cm


R
20 cm

Histiocytose Langerhansienne

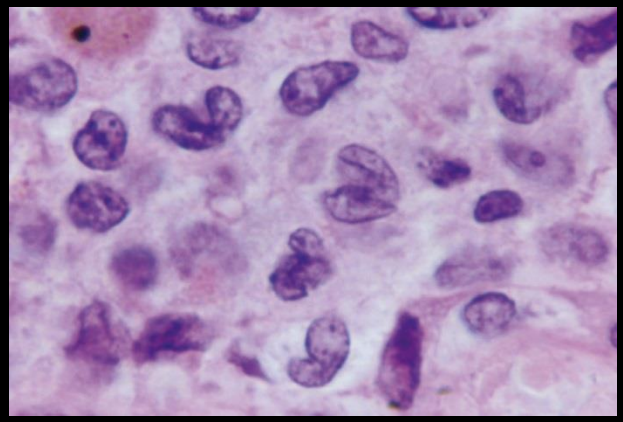
- Décrit en 1868 par Paul Langerhans
- Maladie rare : prévalence exacte et incidence inconnue- 90 % des patients atteints sont fumeurs.
- Jeunes adultes: entre 20-40 ans
- Sex ratio variable
- Toux et dyspnée (50%)- 25% asymptomatiques
- Plaintes générales-PNO spontané
- Association fréquente avec l'emphysème ou des lésions de fibrose

Histiocytose Langerhansienne

- Prolifération d'histiocytes CD1+ (cellules de Langerhans) formant des granulomes.

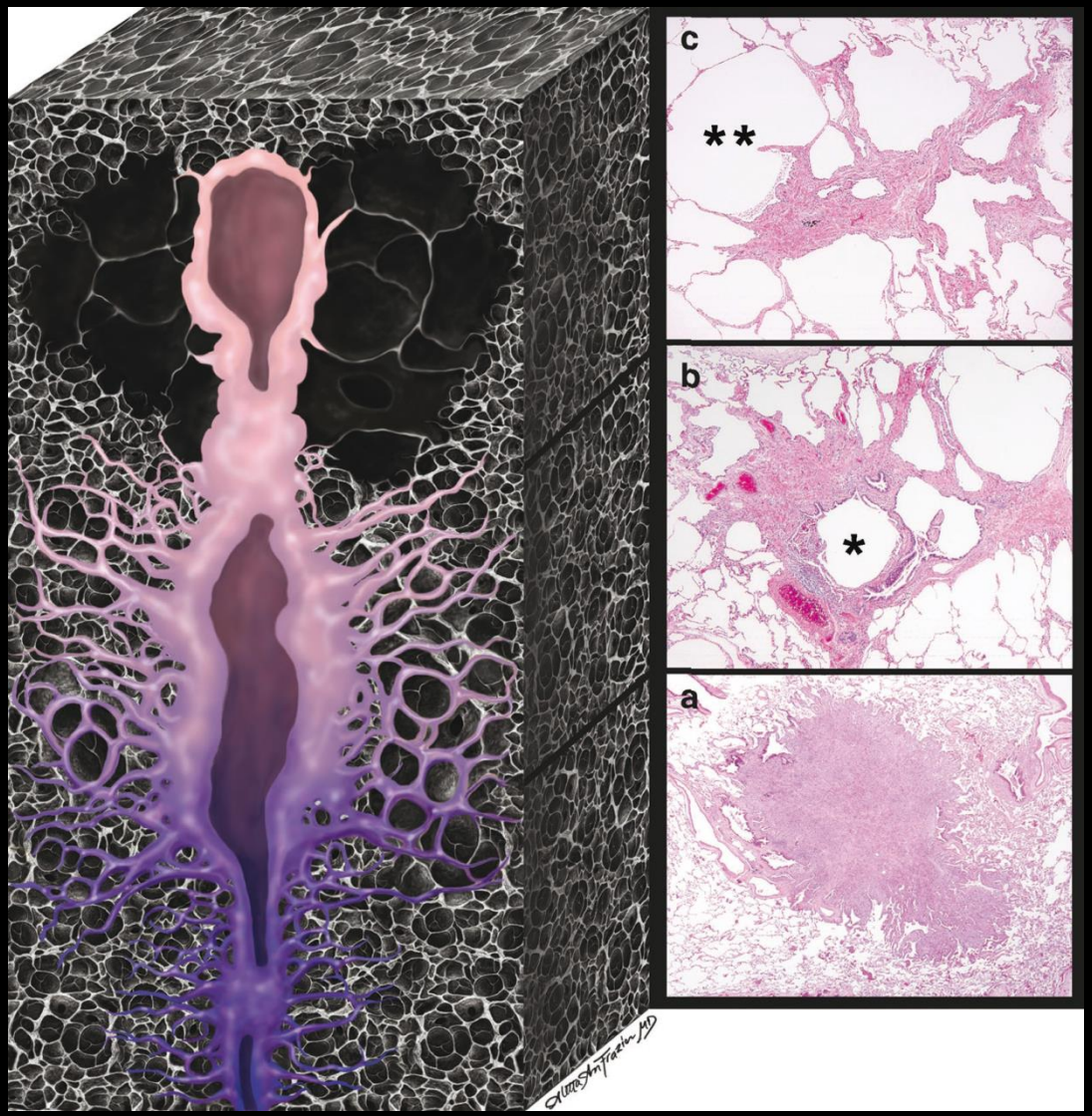
→ Bronchiolectasies/cavitation

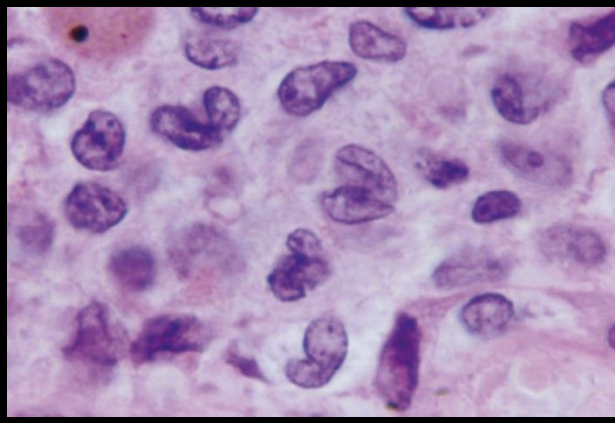
→ Kystes

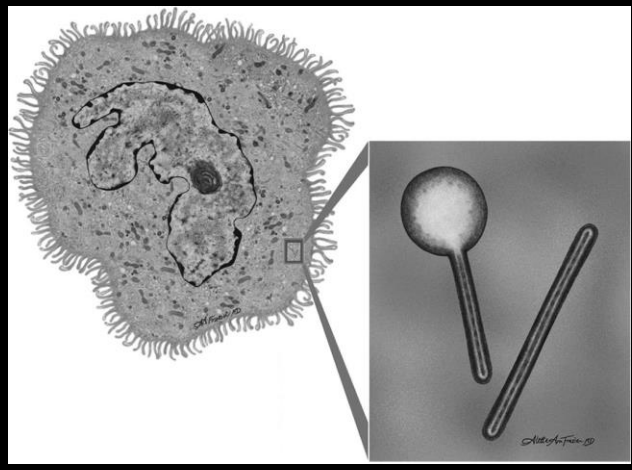


Similitudes avec d'autres affections: Hand-Shuller-Christian (affection multisystémique fulminante enfant) , Letter Swye, granulome à éosinophiles

Histiocytose Langerhansienne





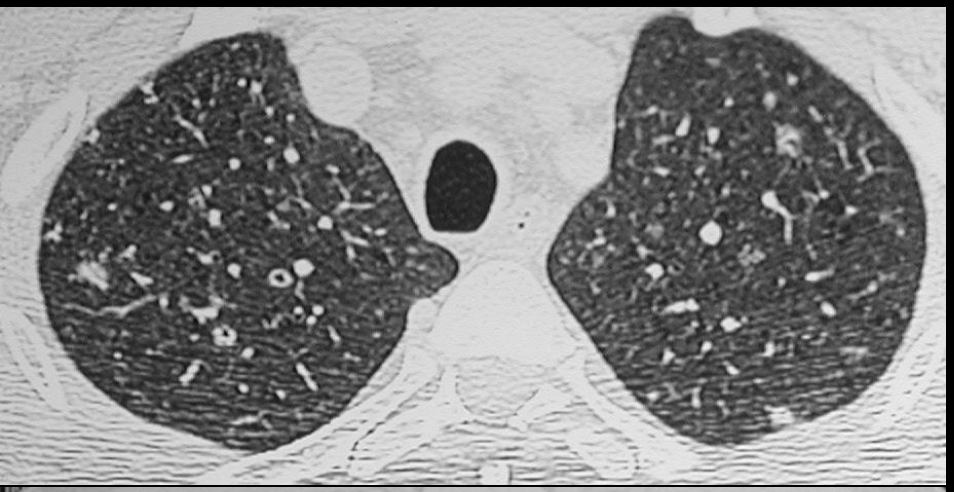


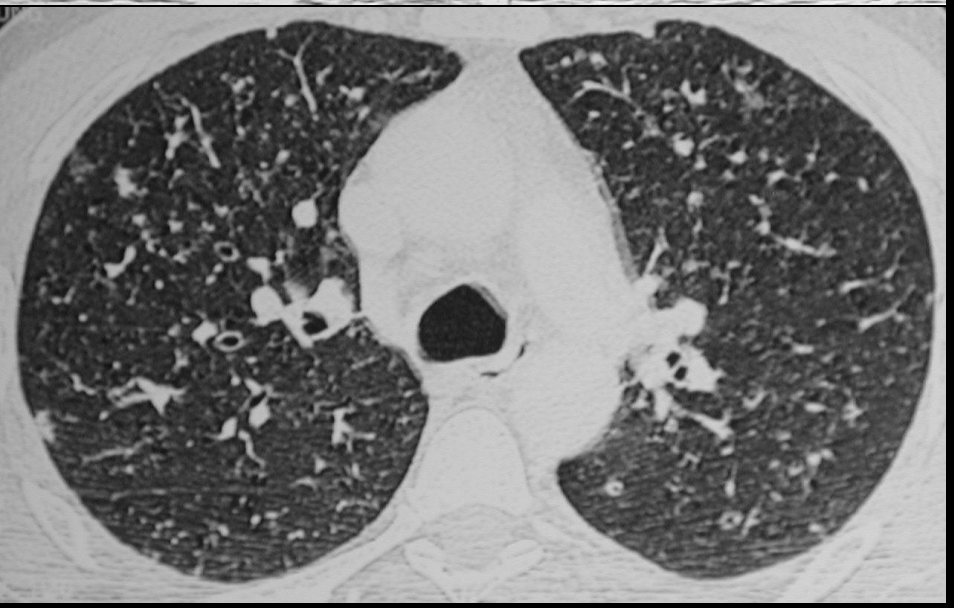
Abbot Radiographics 2004

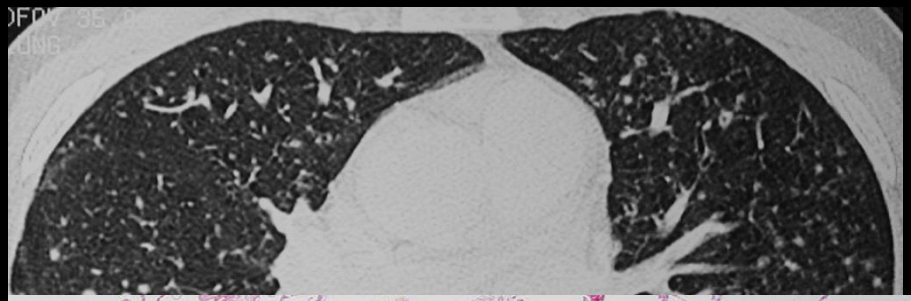
Manifestations CT

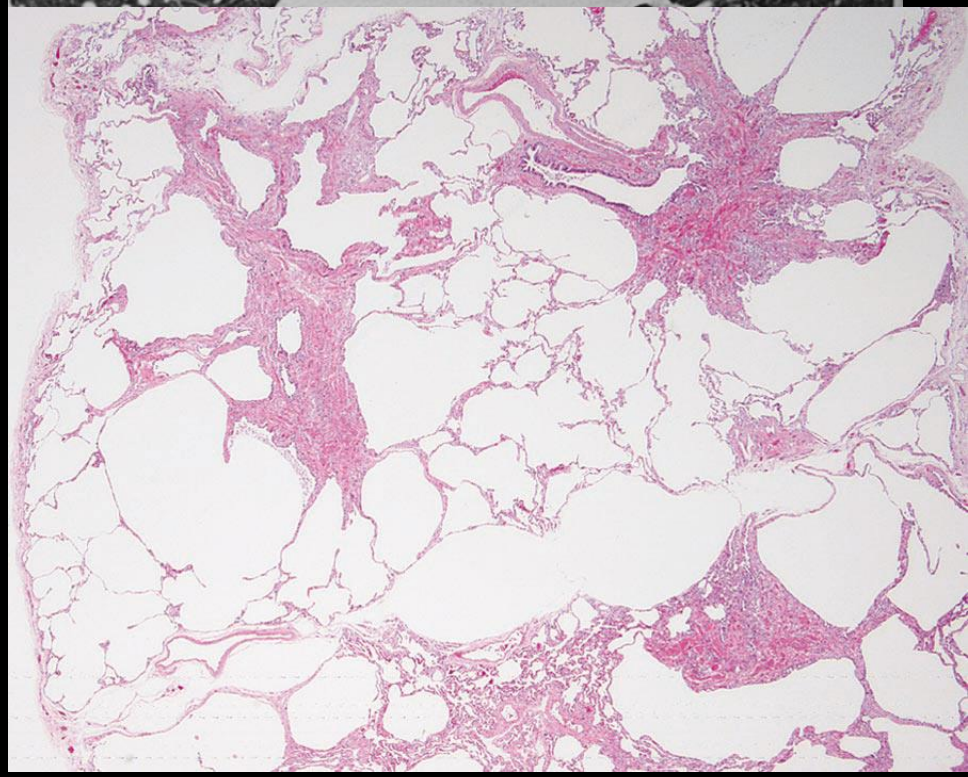
- Bilatéral et symmétrique
- Zones supérieures et moyennes avec épargne des sinus costo-diaphragmatiques
- Au début: nodules de 1 -10 mm de Ø
- Ensuite nodules excavés
- Kystes (1-3 cm Ø) de forme « bizarre »
- Pattern réticulaire

Histiocytose Langerhansienne

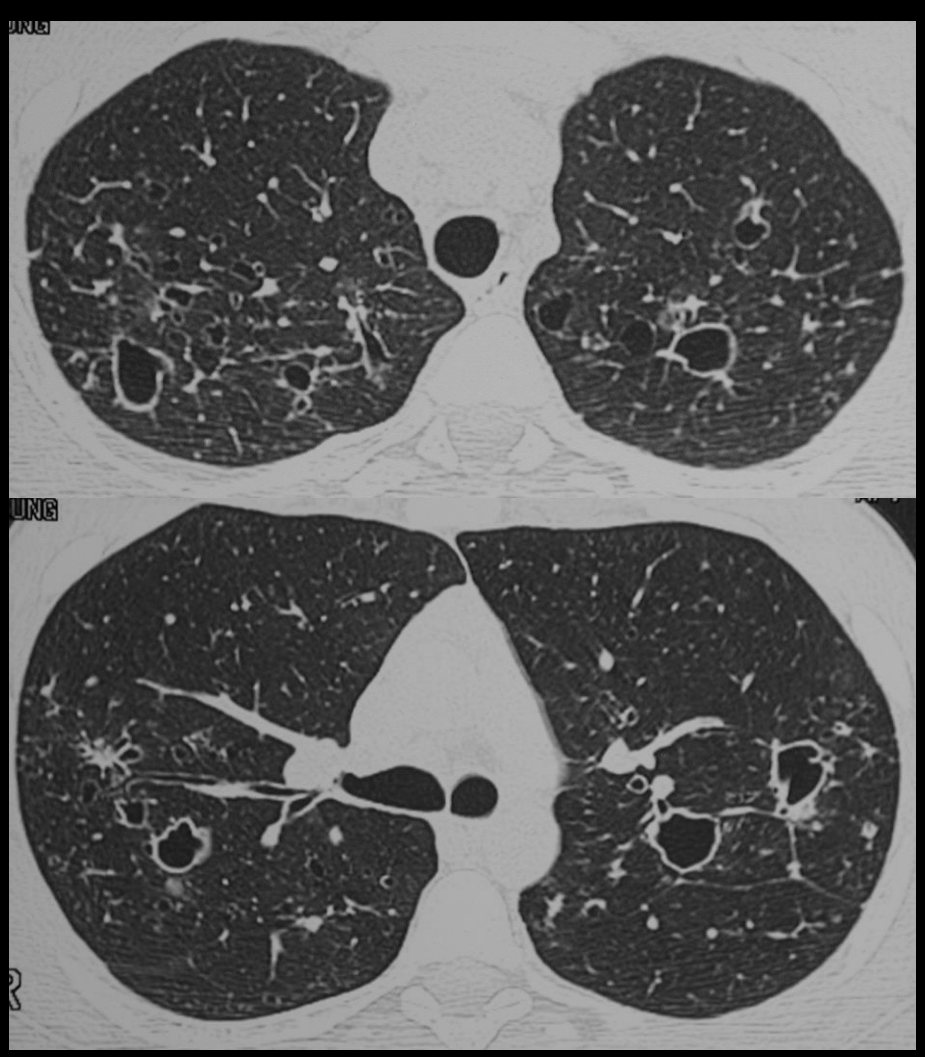


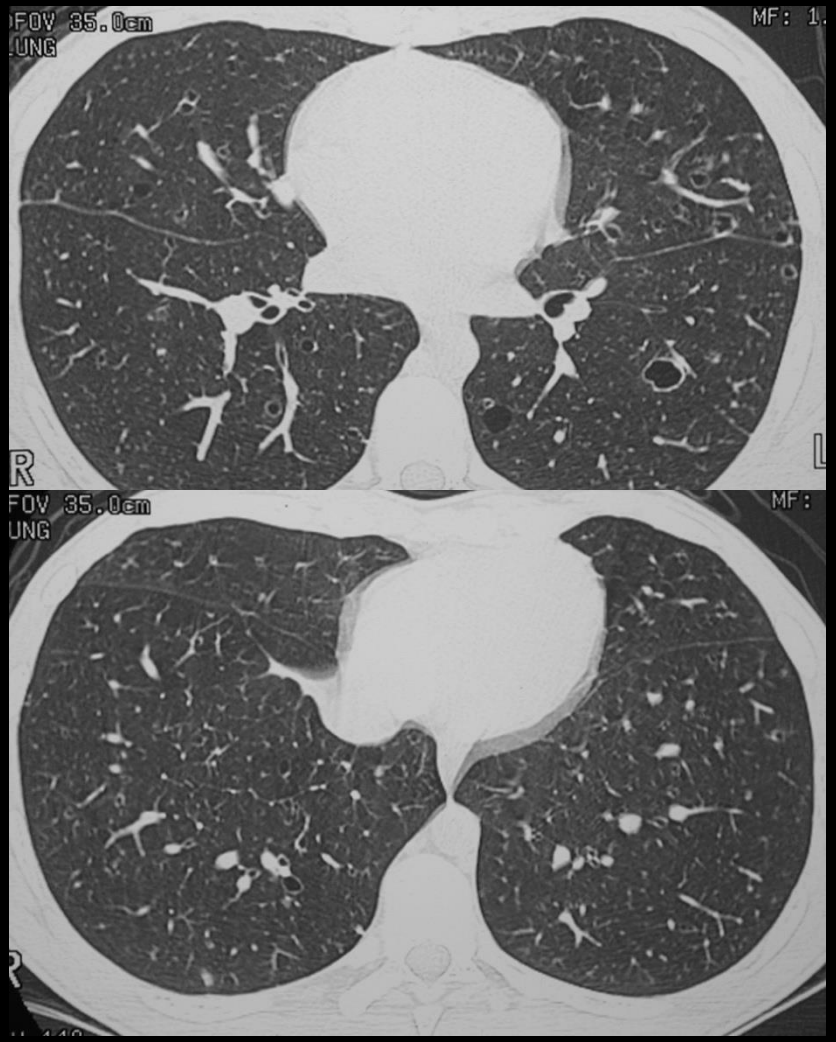




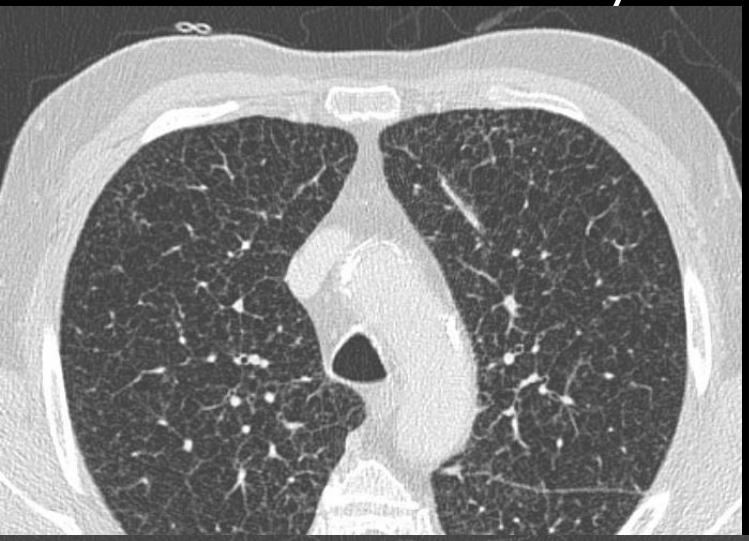


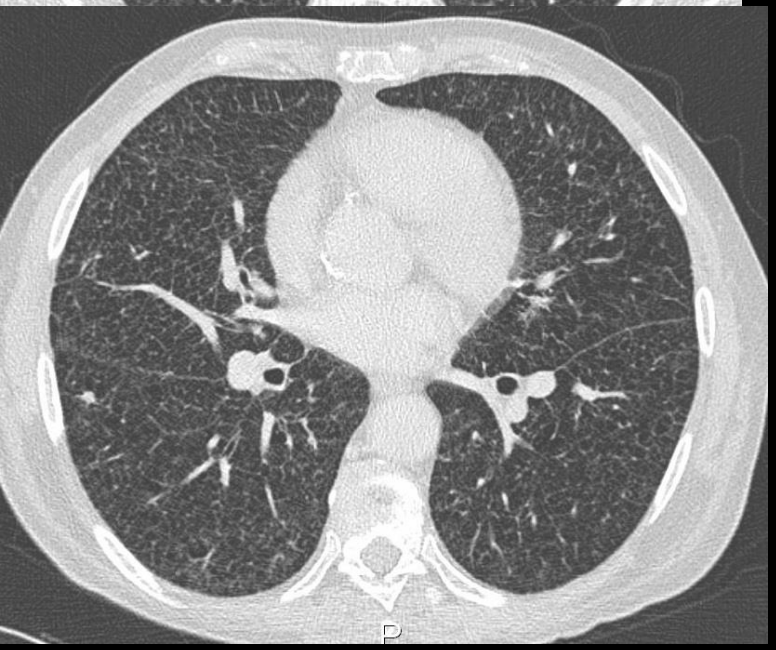
Histiocytose Langerhansienne

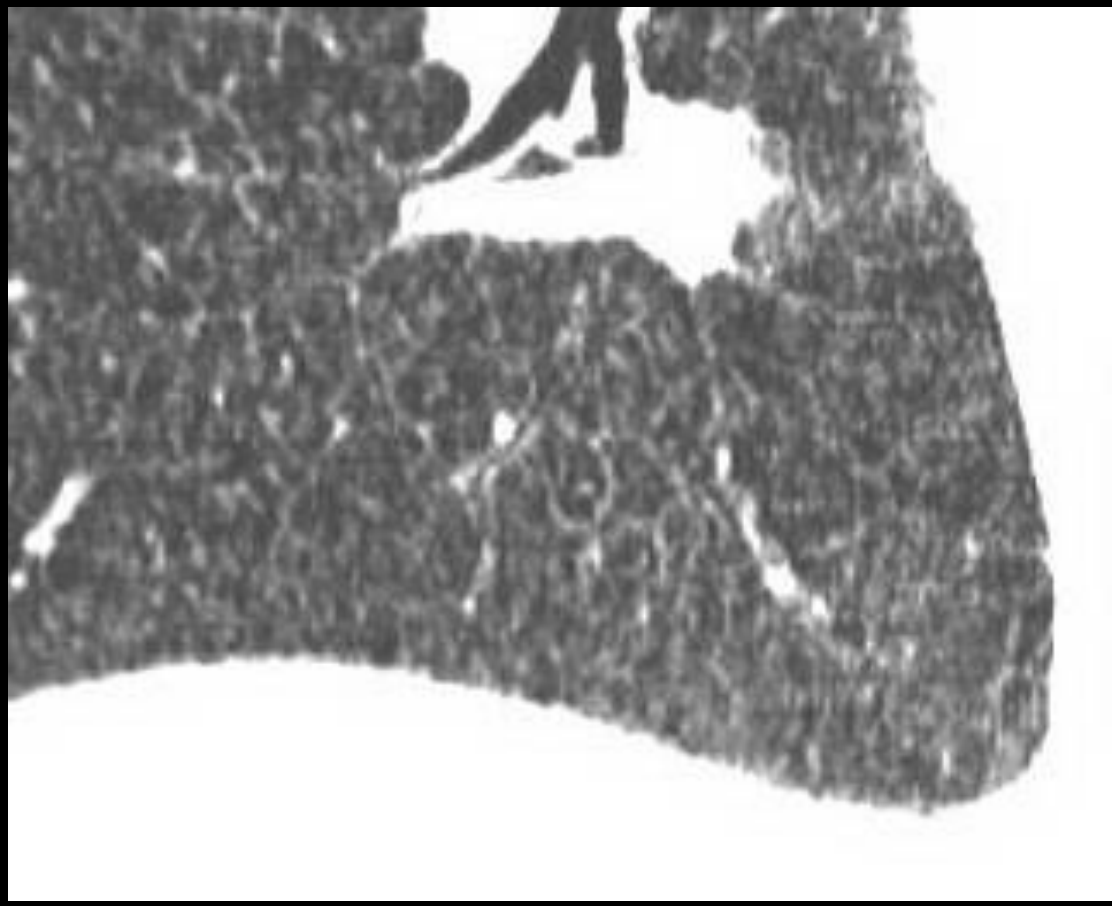




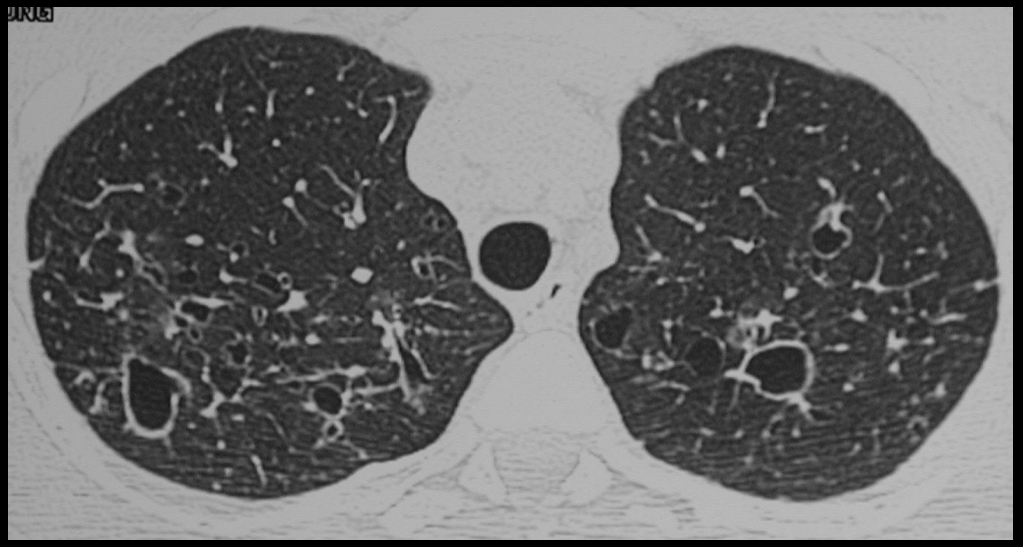
Histiocytose Langerhansienne







Histiocytose Langerhansienne



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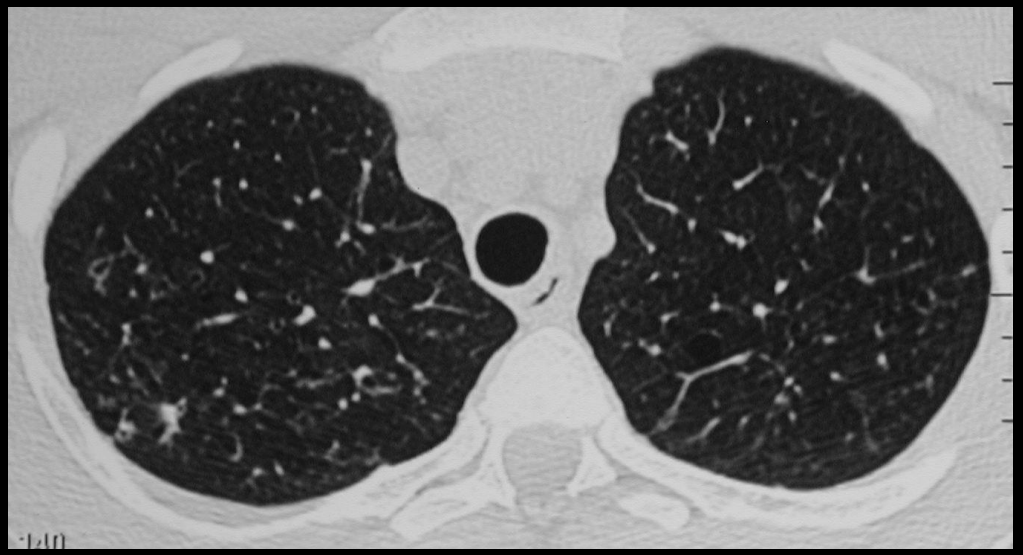


T1

Diagnostic différentiel en fct des stades

Table 1 Lesion presentation patterns: diseases to differentiate from PLCH

Nodules/micronodules	Cavitating nodules	Cysts
Lung metastasis	Wegener disease/vasculitis nodules	Lymphangioleiomyomatosis
Tuberculosis/infectious nodules	Lung metastasis	Centrilobular emphysema
Sarcoidosis, silicosis	Septic emboli	UIP
Wegener disease/vasculitis nodules	Cavitated *P. jiroveci* lesions	Lung metastasis
[a]RB-ILD		LIP[a,b], HP[a,b], DIP[a,b]
		Cystic fibrohistiocytic tumour
		Birt Hogg Dubé syndrome
		Light-chain disease
		Amyloidosis
		Pneumatocoeles

[a] *RB-ILD* respiratory bronchiolitis interstitial lung disease, *DIP* desquamative interstitial pneumonia, *LIP* lymphocytic interstitial pneumonia, *HP* hypersensitivity pneumonitis

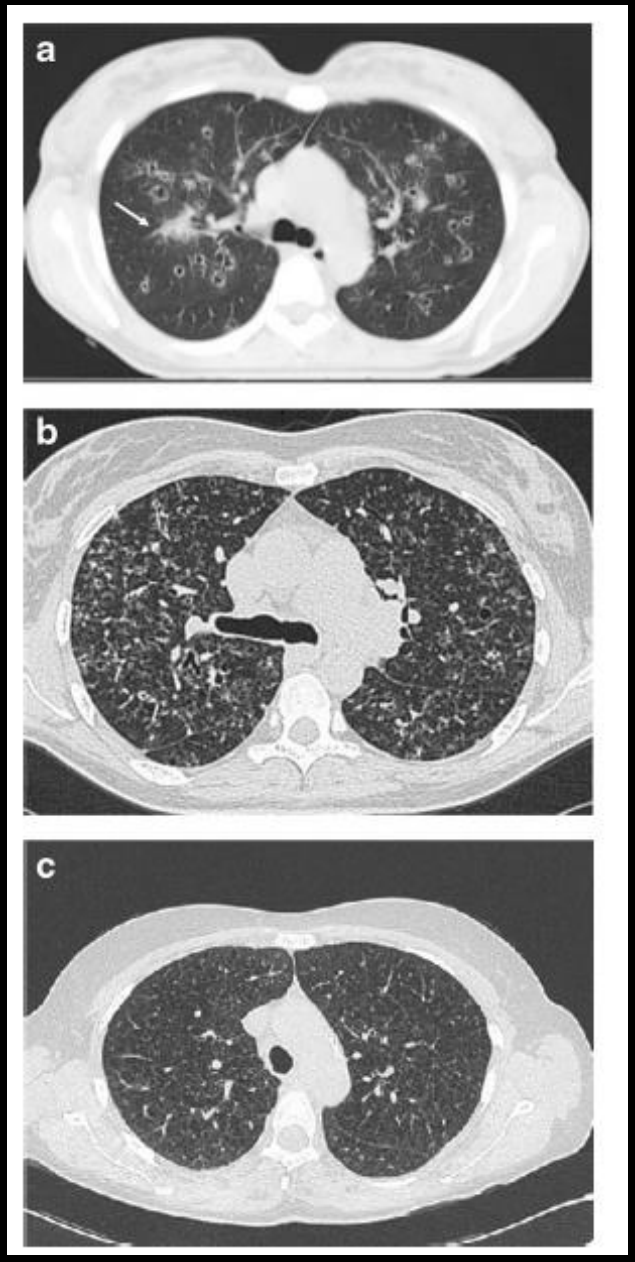
[b] Usually in association with ground-glass opacities and pulmonary changes that may suggest the disease

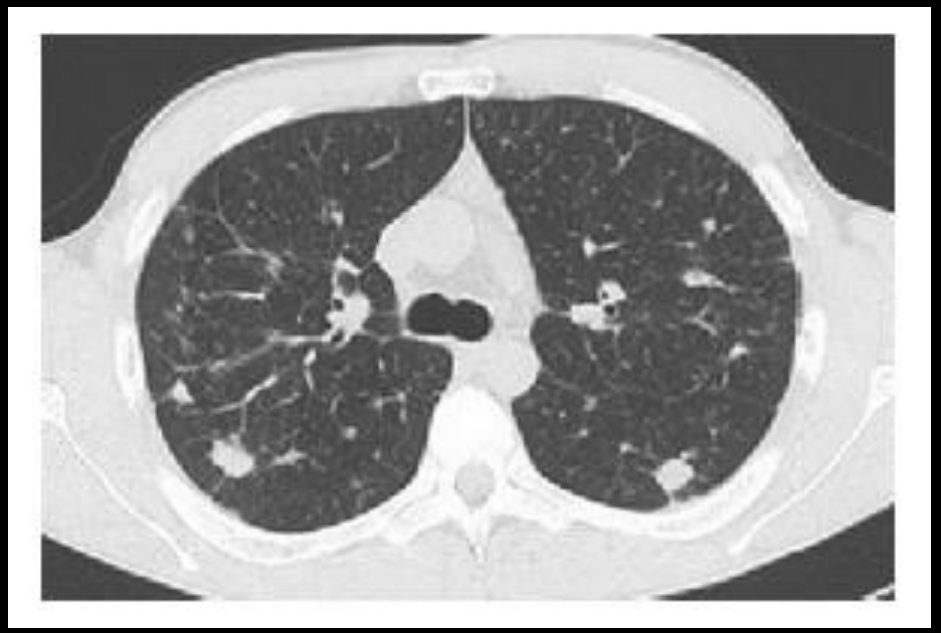
Insights Imaging (2014) 5:483–492
DOI 10.1007/s13244-014-0338-0

PICTORIAL REVIEW

Pulmonary Langerhans cell histiocytosis: the many faces of presentation at initial CT scan

M. C. Castoldi · A. Verrioli · E. De Juli · A. Vanzulli





Insights Imaging (2014) 5:483–492
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PICTORIAL REVIEW

Pulmonary Langerhans cell histiocytosis: the many faces of presentation at initial CT scan

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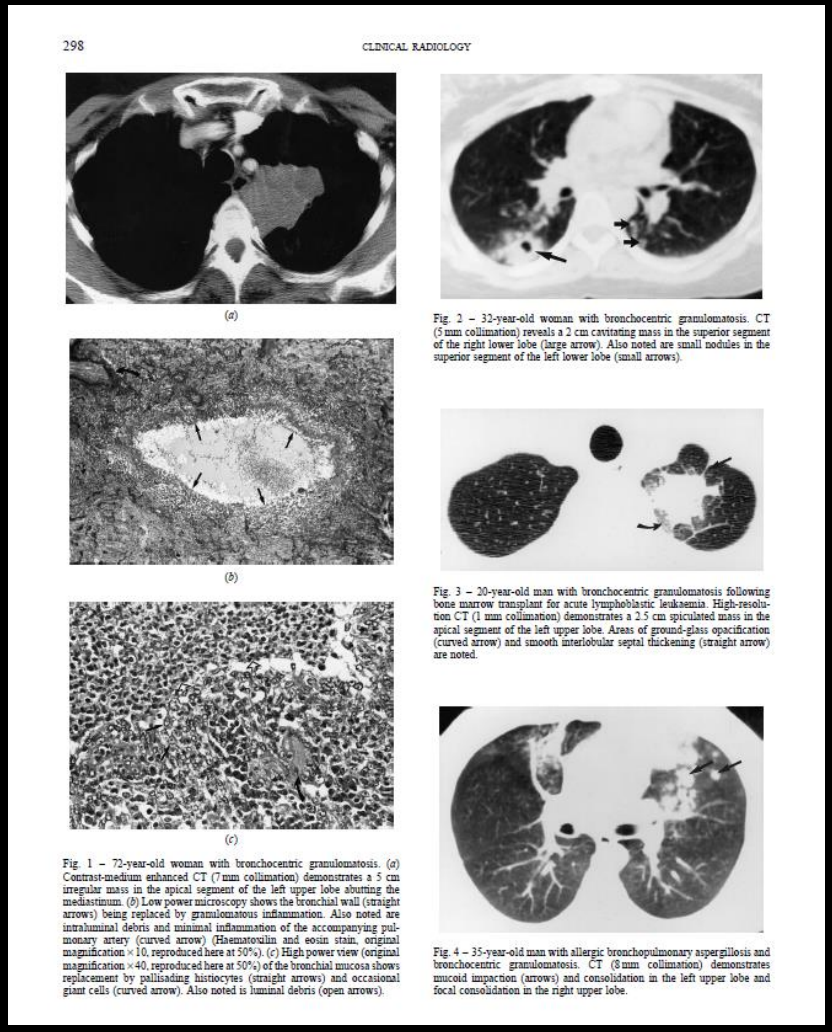
Granulomatose bronchocentrique


298 CLINICAL RADIOLOGY

(a)

(b)

(c)

Fig. 1 – 72-year-old woman with bronchocentric granulomatosis. (*a*) Contrast-medium enhanced CT (7 mm collimation) demonstrates a 5 cm irregular mass in the apical segment of the left upper lobe abutting the mediastinum. (*b*) Low power microscopy shows the bronchial wall (straight arrows) being replaced by granulomatous inflammation. Also noted are intraluminal debris and minimal inflammation of the accompanying pulmonary artery (curved arrow) (Haematoxilin and eosin stain, original magnification × 10, reproduced here at 50%). (*c*) High power view (original magnification × 40, reproduced here at 50%) of the bronchial mucosa shows replacement by pallisading histiocytes (straight arrows) and occasional giant cells (curved arrow). Also noted is luminal debris (open arrows).

Fig. 2 – 32-year-old woman with bronchocentric granulomatosis. CT (5 mm collimation) reveals a 2 cm cavitating mass in the superior segment of the right lower lobe (large arrow). Also noted are small nodules in the superior segment of the left lower lobe (small arrows).

Fig. 3 – 20-year-old man with bronchocentric granulomatosis following bone marrow transplant for acute lymphoblastic leuksemia. High-resolution CT (1 mm collimation) demonstrates a 2.5 cm spiculated mass in the apical segment of the left upper lobe. Areas of ground-glass opacification (curved arrow) and smooth interlobular septal thickening (straight arrow) are noted.

Fig. 4 – 35-year-old man with allergic bronchopulmonary aspergillosis and bronchocentric granulomatosis. CT (8 mm collimation) demonstrates mucoid impaction (arrows) and consolidation in the left upper lobe and focal consolidation in the right upper lobe.

- Bronchocentric granulomatosis can be divided into two main patterns:
- Mass lesions and lobar consolidation with atelectasis.
- However, the imaging features are non-specific and histological confirmation
- is required.
- In the original descriptions, 30–50% of cases were reported in asthmatic individuals. The present study emphasizes the greater prevalence in non-asthmatic patients.

Clinical Radiology (2000) 55, 296–300
doi:10.1053/crad.1999.0380, available online at http://www.idealibrary.com on IDEAL®

Bronchocentric Granulomatosis: Computed Tomographic Findings in Five Patients

S. WARD*, L. E. HEYNEMAN*, J. D. A. FLINT†, A. N. LEUNG‡, E. A. KAZEROONI¶, N. L. MÜLLER*

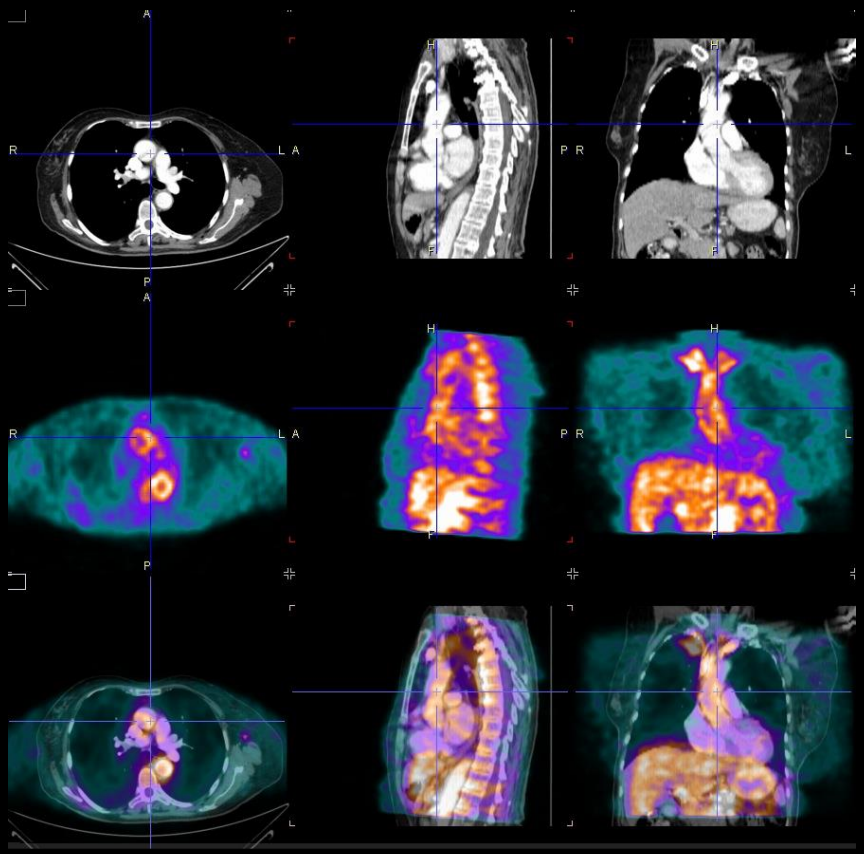
II/Vascularites

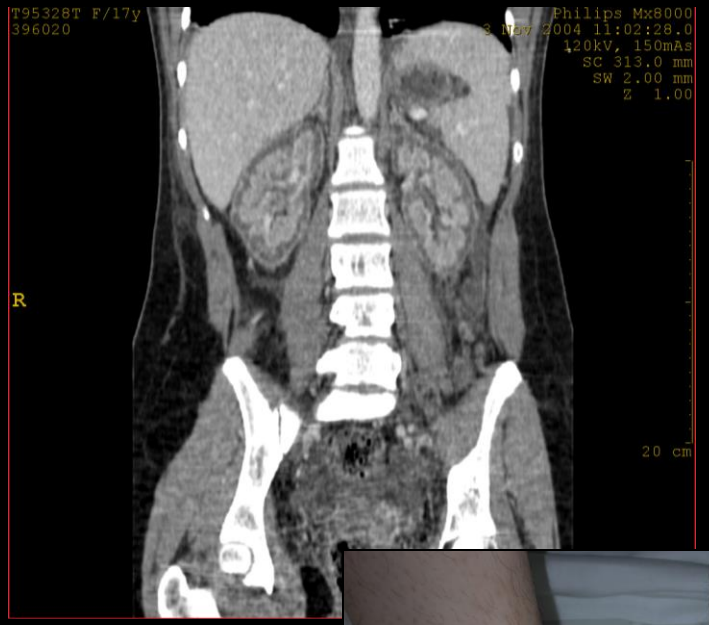
- Inflammation des vaisseaux
- Maladie auto-immune
- La lumière vasculaire est souvent compromise
- Ischémie des tissus dans les territoires concernés
- Vasculite ou ses conséquences peuvent être la seule manifestation de la maladie

Vascularite

Maladie rare d’origine immunologique présumée

vaisseau





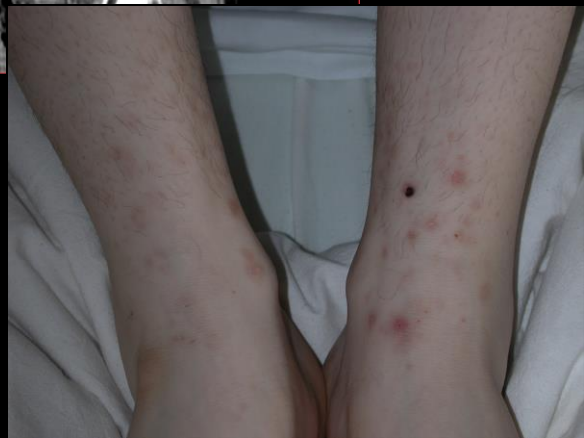
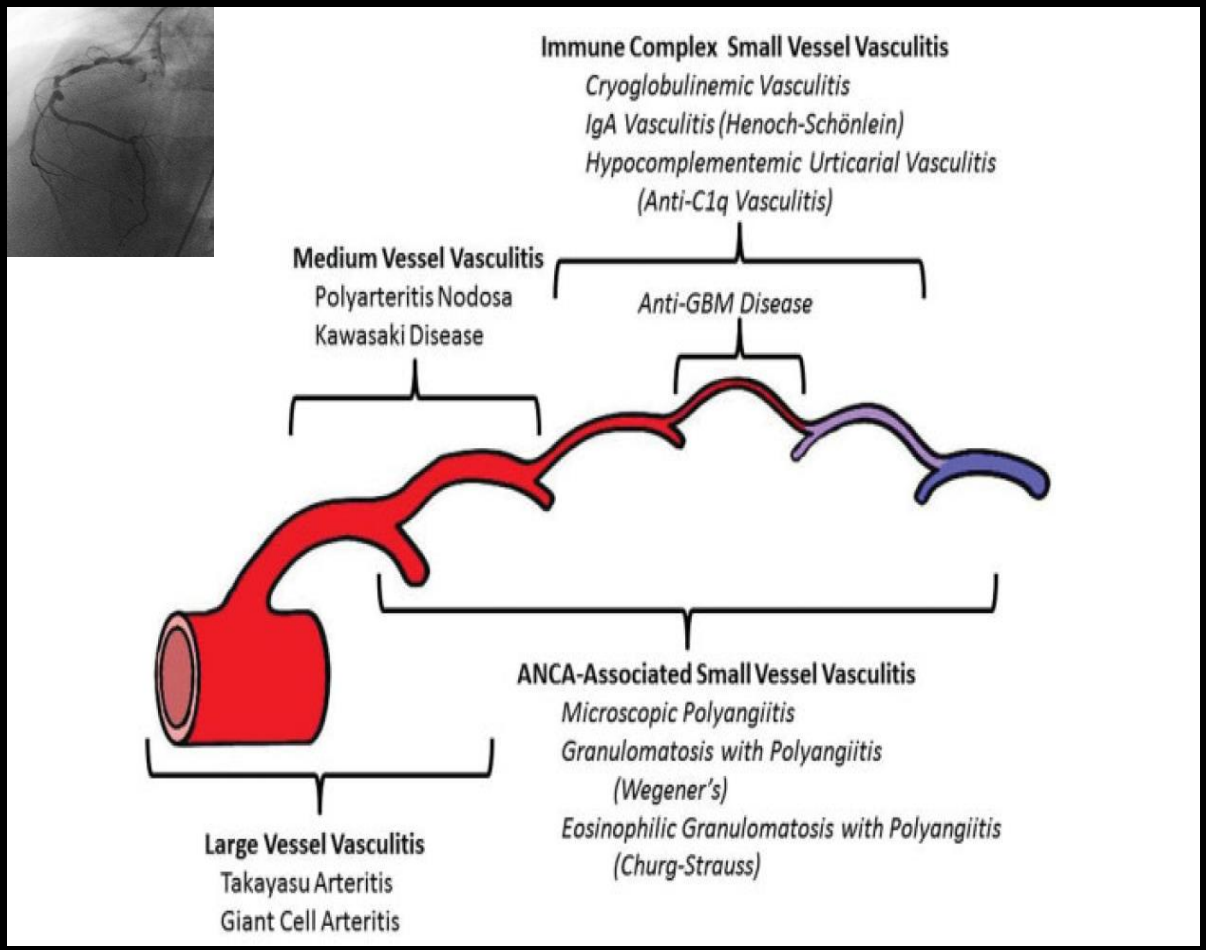
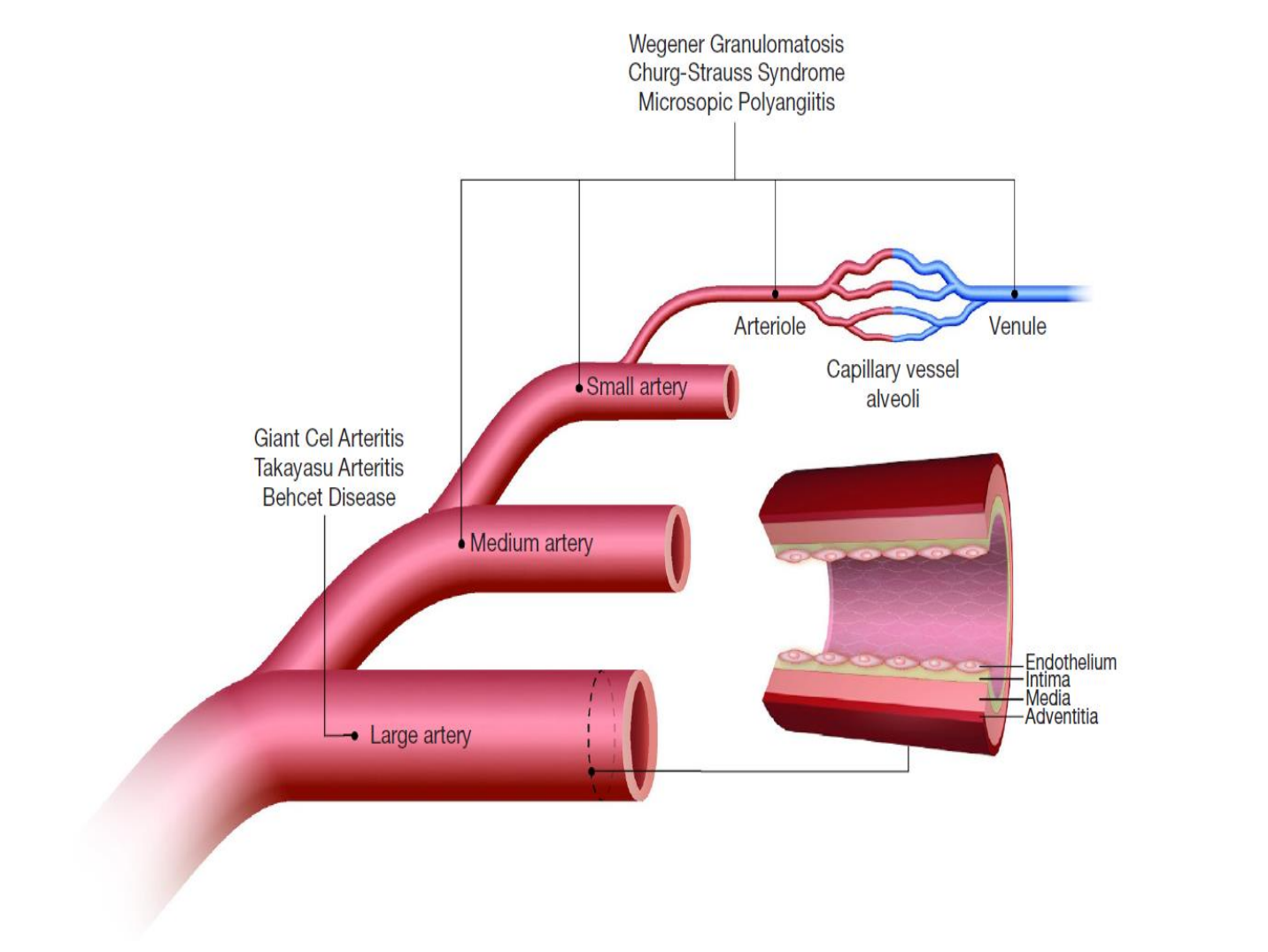


Table 2. Names for vasculitides adopted by the 2012 International Chapel Hill Consensus Conference on the Nomenclature of Vasculitides

- **Large vessel vasculitis (LVV)**
  - Takayasu arteritis (TAK)
  - Giant cell arteritis (GCA)
- **Medium vessel vasculitis (MVV)**
  - Polyarteritis nodosa (PAN)
  - Kawasaki disease (KD)
- **Small vessel vasculitis (SVV)**
  - Antineutrophil cytoplasmic antibody (ANCA)–associated vasculitis (AAV)
    - Microscopic polyangiitis (MPA)
    - Granulomatosis with polyangiitis (Wegener's) (GPA)
    - Eosinophilic granulomatosis with polyangiitis (Churg-Strauss) (EGPA)
  - Immune complex SVV
    - Anti–glomerular basement membrane (anti-GBM) disease
    - Cryoglobulinemic vasculitis (CV)
    - IgA vasculitis (Henoch-Schönlein) (IgAV)
    - Hypocomplementemic urticarial vasculitis (HUV) (anti-C1q vasculitis)
- **Variable vessel vasculitis (VVV)**
  - Behçet's disease (BD)
  - Cogan's syndrome (CS)
- **Single-organ vasculitis (SOV)**
  - Cutaneous leukocytoclastic angiitis
  - Cutaneous arteritis
  - Primary central nervous system vasculitis
  - Isolated aortitis
  - Others
- **Vasculitis associated with systemic disease**
  - Lupus vasculitis
  - Rheumatoid vasculitis
  - Sarcoid vasculitis
  - Others
- **Vasculitis associated with probable etiology**
  - Hepatitis C virus–associated cryoglobulinemic vasculitis
  - Hepatitis B virus–associated vasculitis
  - Syphilis-associated aortitis
  - Drug-associated immune complex vasculitis
  - Drug-associated ANCA-associated vasculitis
  - Cancer-associated vasculitis
  - Others

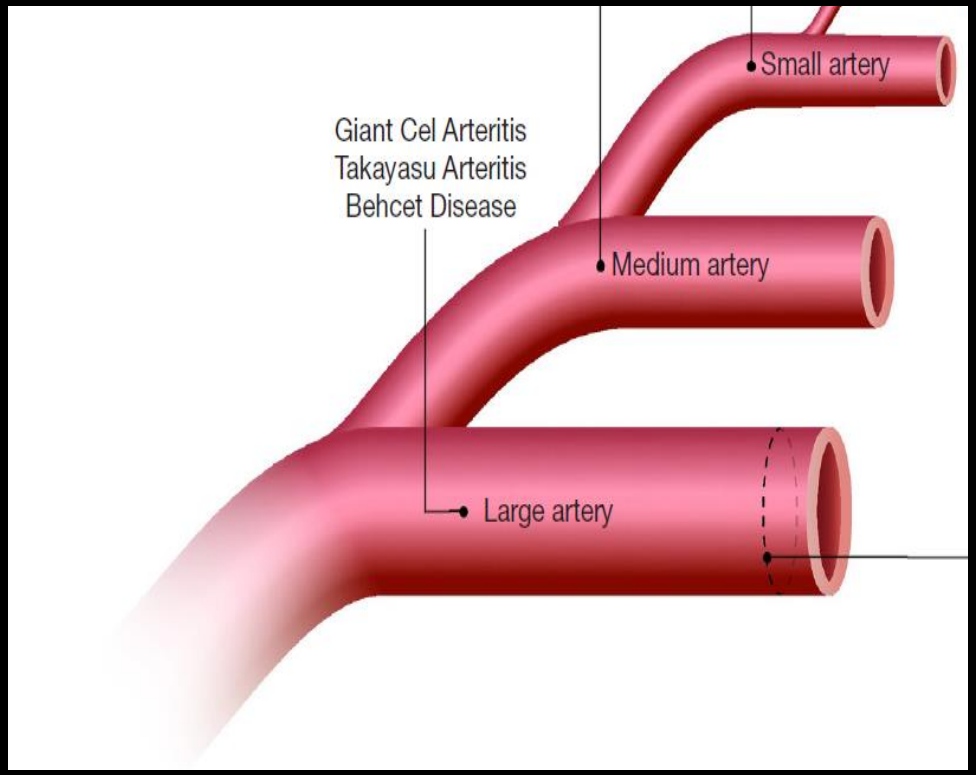


Jennette JC et al. Arthritis and Rheumatism. 2013



Batra et al. Pulmonary vasculitis: diagnosis and endovascular therapy. Cardiovasc Diagn Ther 2018

Vascularites pulmonaires des gros vaisseaux



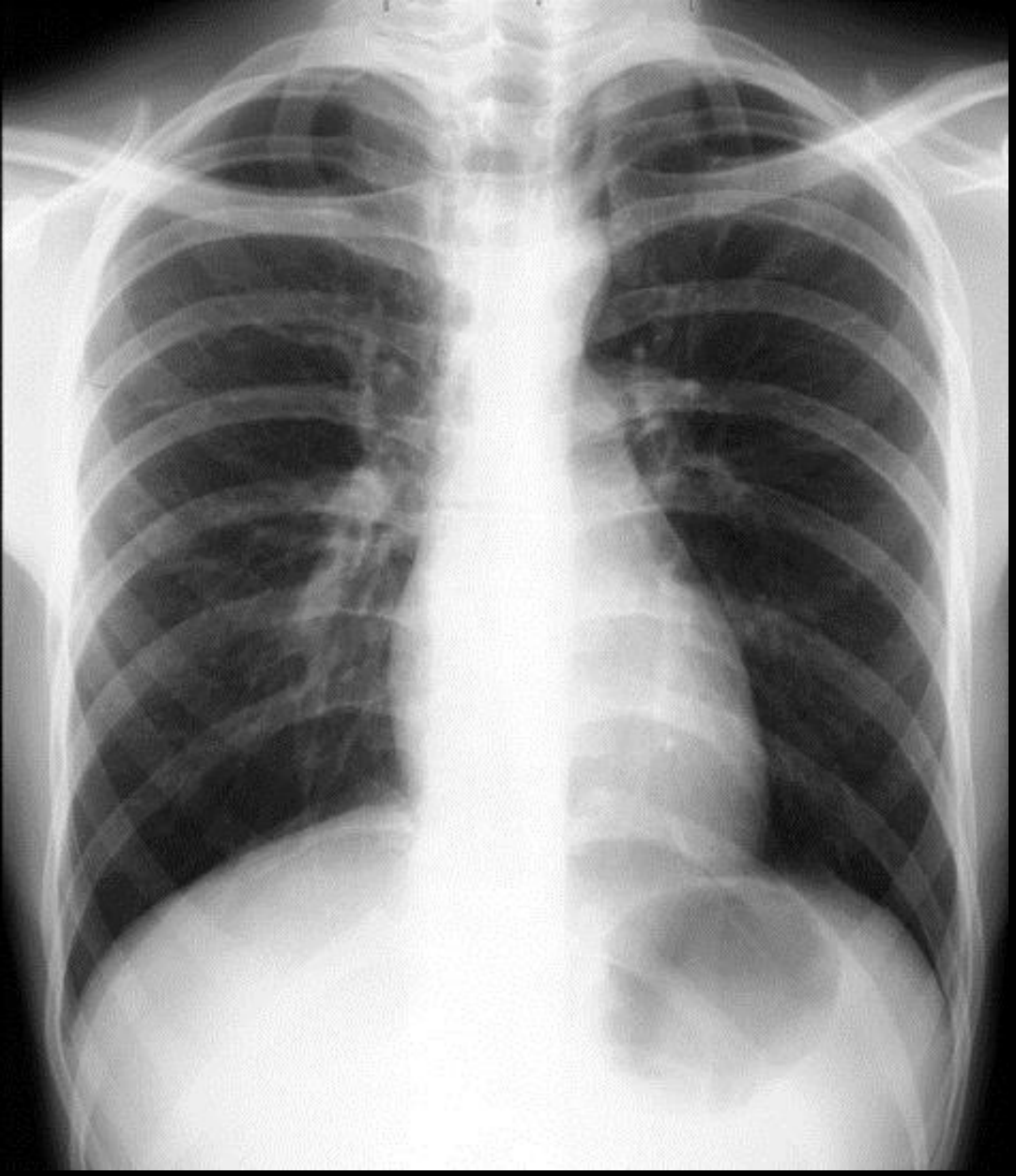
- Behcet
- Takayasu
- Artérite à cellules géantes (Horton)

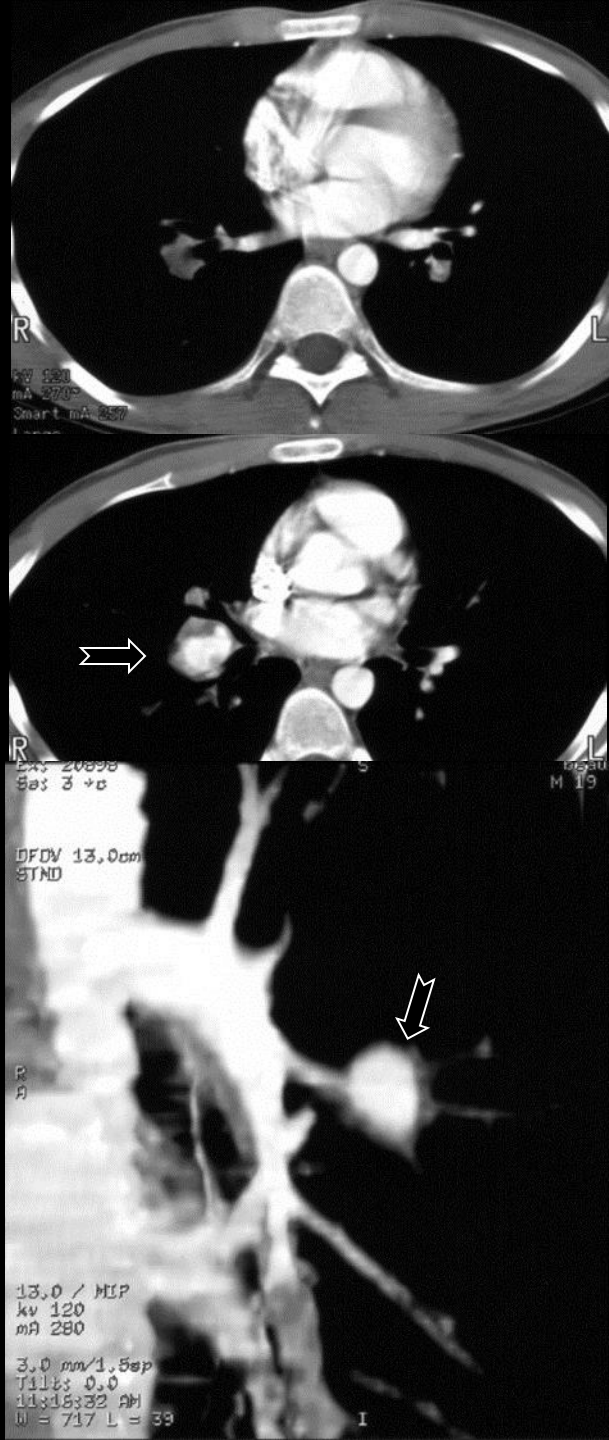
Courtoisie JY
Gaubert
CHU Marseille

Maladie de Behçet

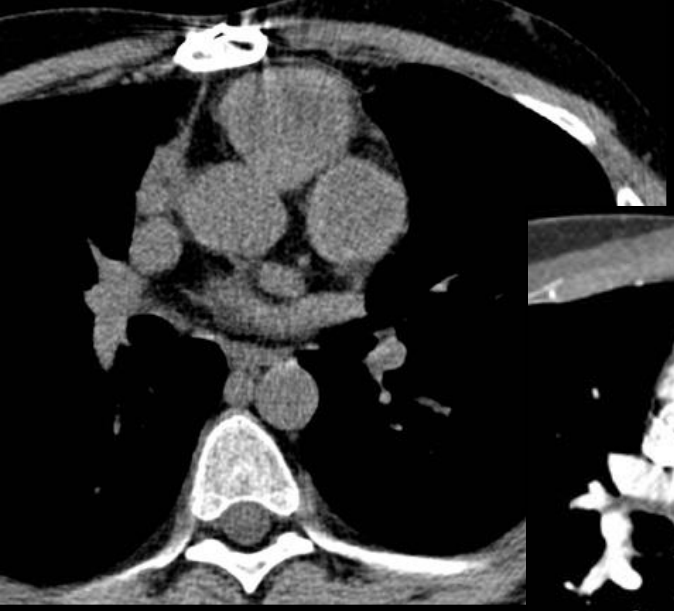
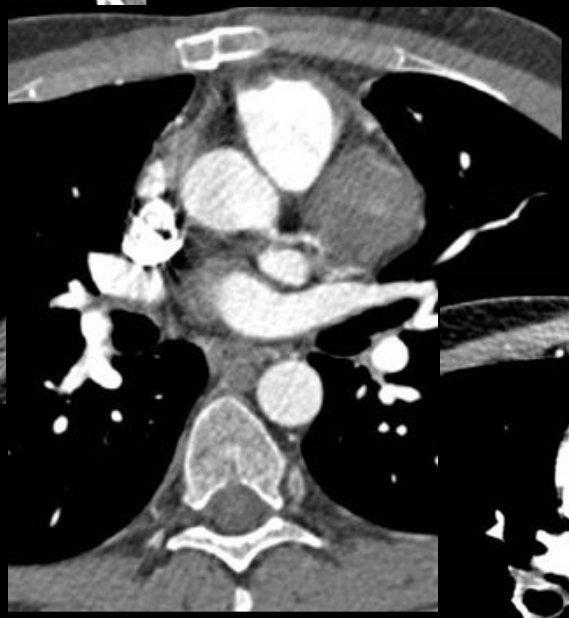
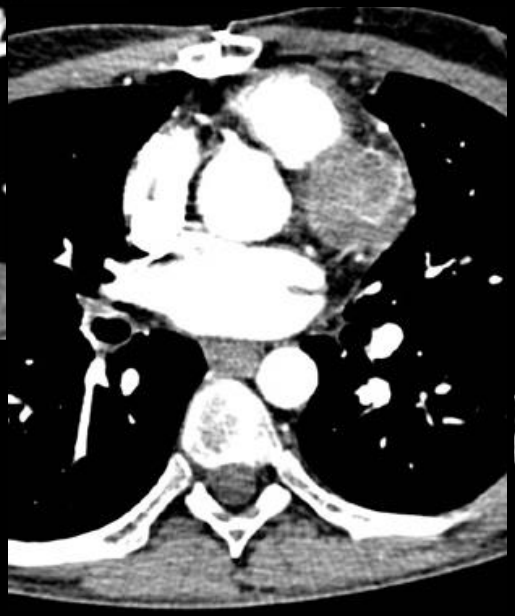
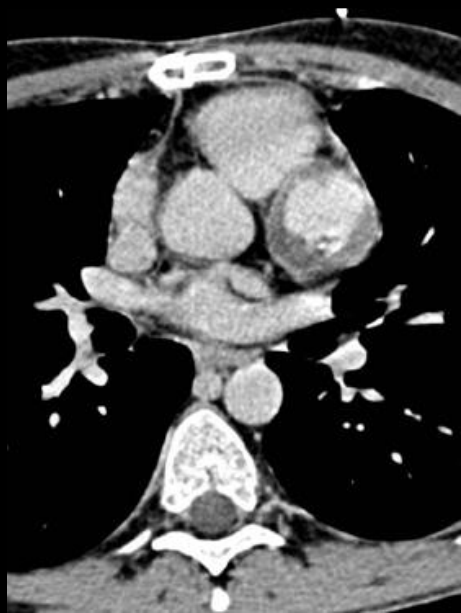
- Maladie systémique rare: 80-370/100 10^3 en Turquie
  - stomatite aptheuse récurrente
  - Ulcères génitaux
  - Lésions dermatologiques et uvéite
- Atteinte pulmonaire rare
  - Anérysme artère pulmonaire : simple ou multiples
  - Thrombose ou occlusion de la VCS, A. pulmonaires
  - Infarctus pulmonaire, hémorragie, BOOP, fibrose, emphysème, adénopathies, épanchement péricardique..

Hiller N, Lieberman S, Chajek-Shaul T, Bar-Ziv J, Shaham D. Thoracic manifestations of Behcet disease at CT. Radiographics. 2004;24(3):801-8.

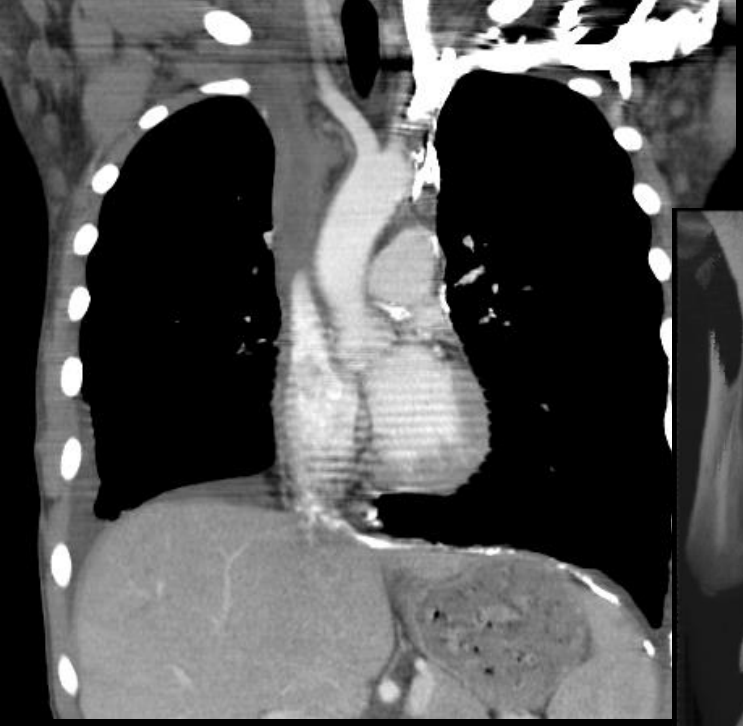


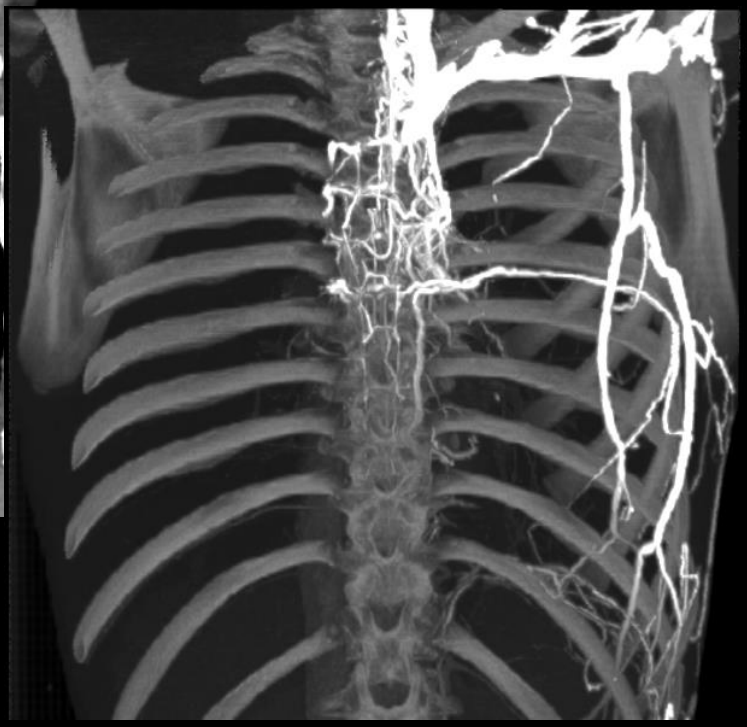


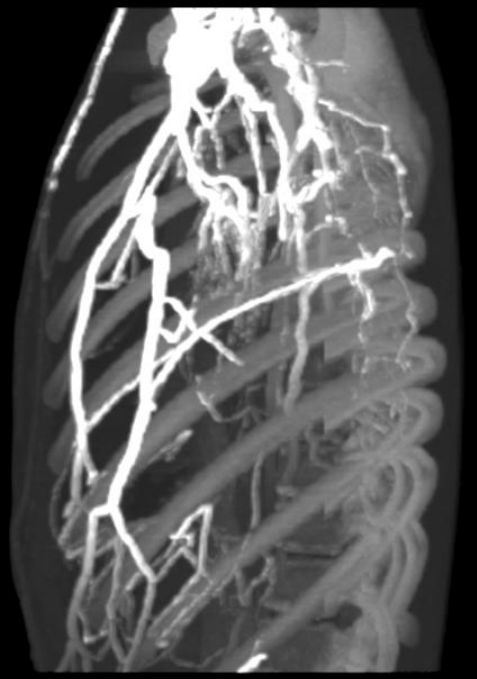
1997: Homme de 18 ans, arthralgies diffuses, augmentation des paramètres inflammatoires

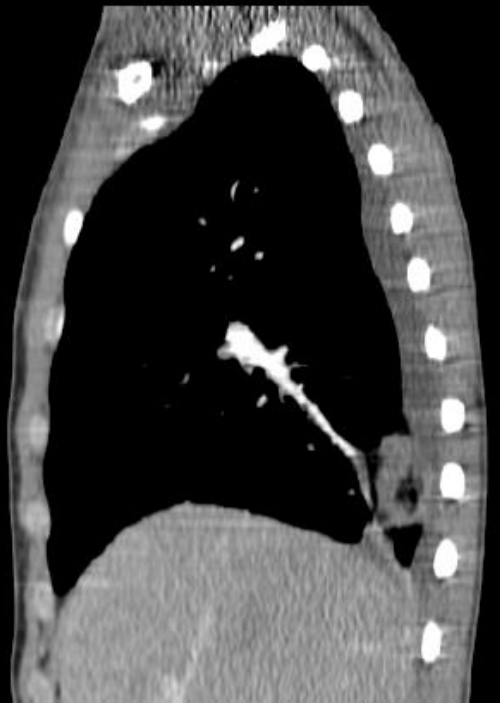





2005 Douleurs thoraciques









Homme de 18 ans, Maladie de Behcet

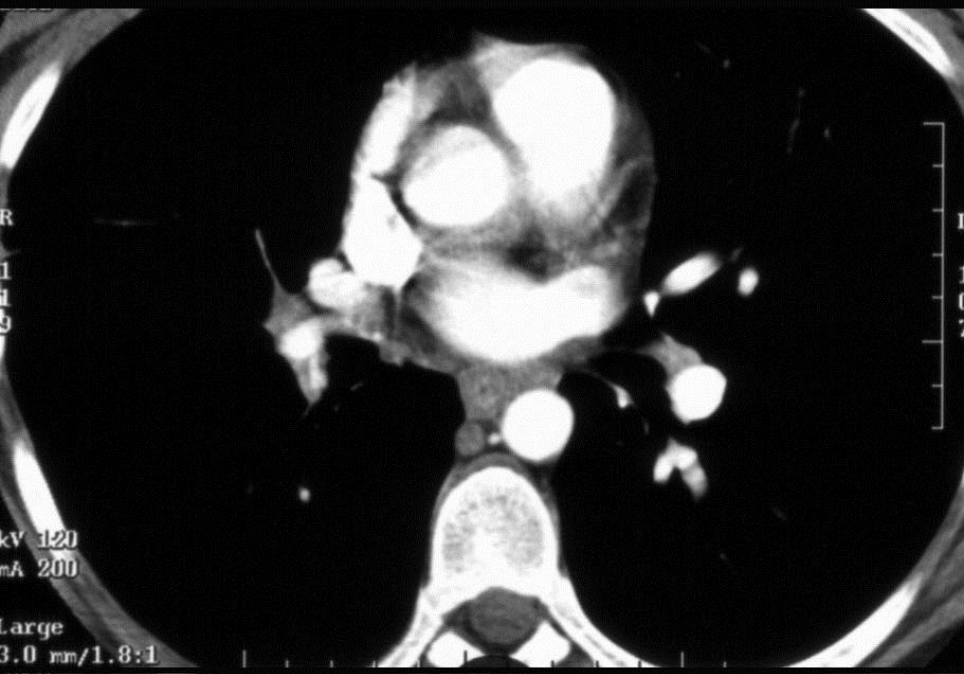
Syndrome veine cave supérieur

CT multicoupe

Artérite de Takayasu

- Artérite rare atteignant principalement l’ aorte et ses branches principales
- Atteinte préférentielle des femmes
- Installation entre 10 et 40 ans
- Manifestations radiologiques
  - Aorte (10-75%): contours irréguliers, calcifications, ectasie de la crosse aortique
  - Artères pulmonaires (50-70%): sténose, occlusion de branches segmentaires ou sous-segmentaires

Matsunaga N, Hayashi K, Sakamoto I, Ogawa Y, Matsumoto T.Takayasu arteritis: protean radiologic manifestations and diagnosis. Radiographics. 1997;17(3):579-94.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kV 120
mA 200
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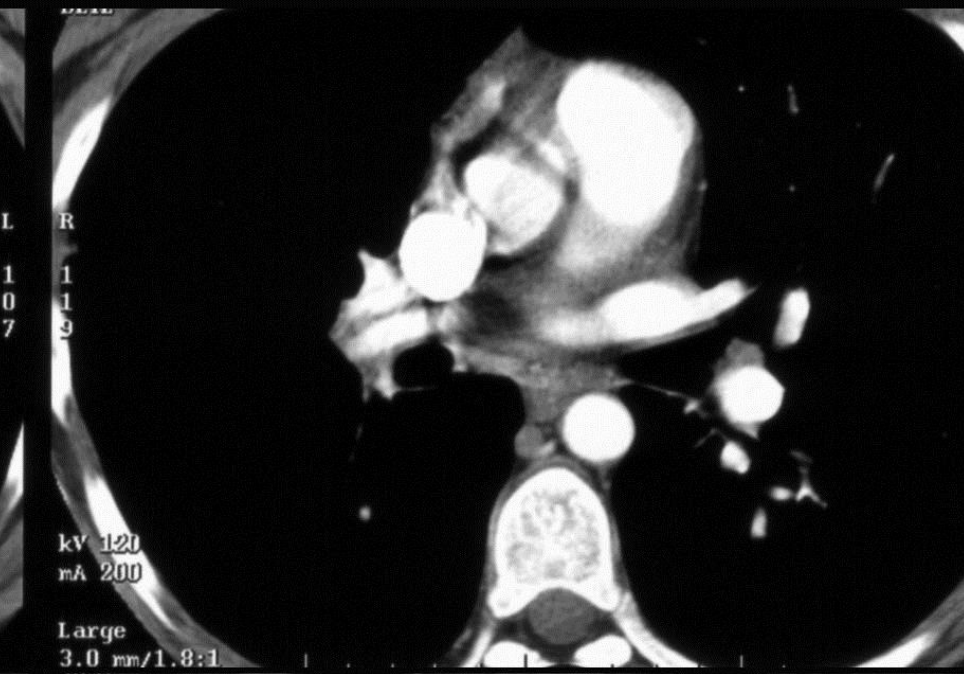
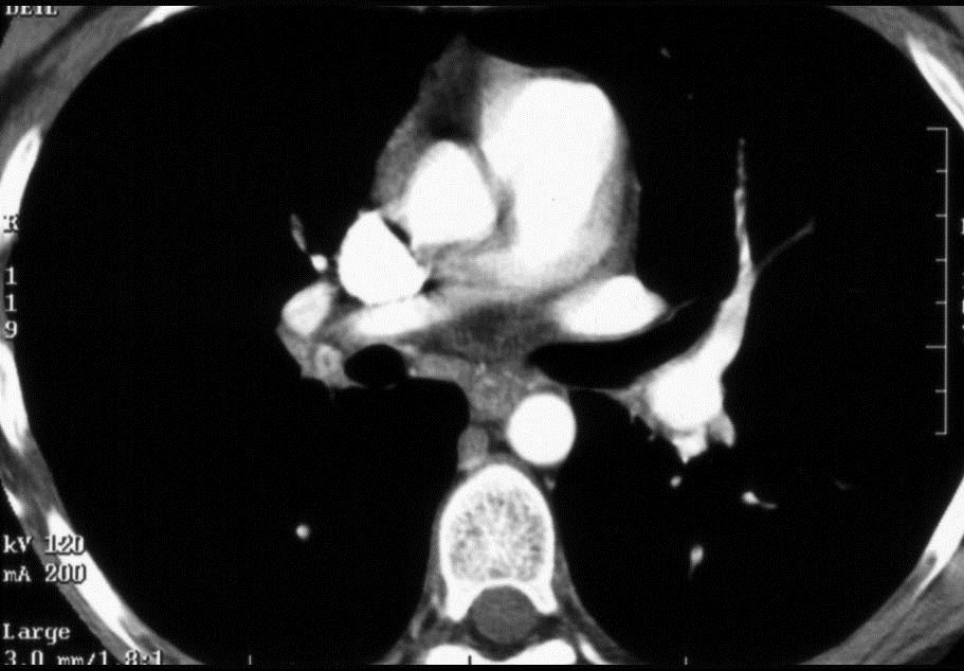
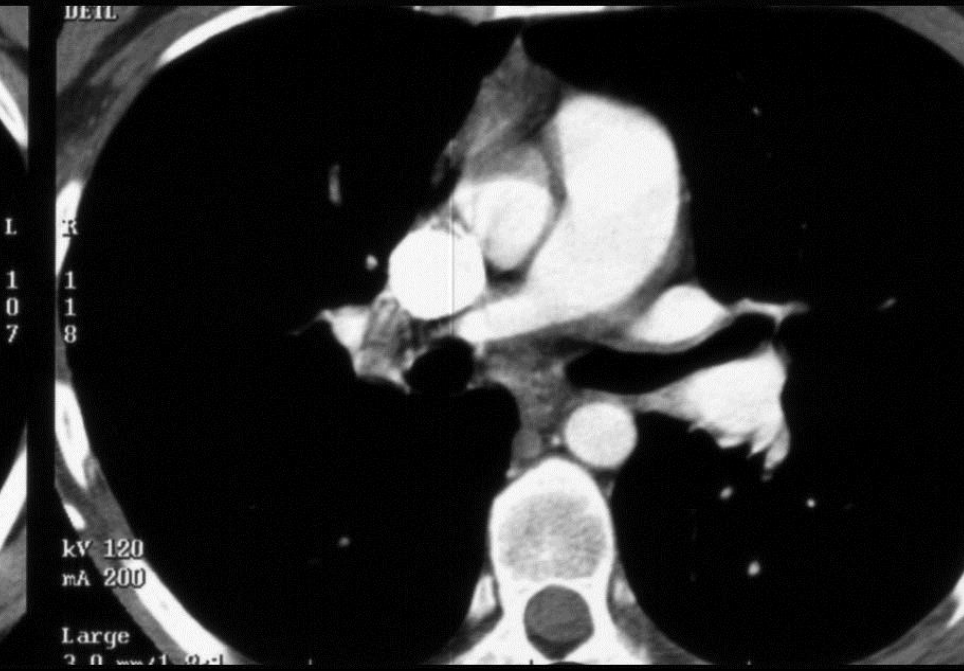
3.0 mm/1.8:1


R
kV 120
mA 200
Large
3.0 mm/1.8:1


R
L
kV 120
mA 200
Large


R
kV 120
mA 200
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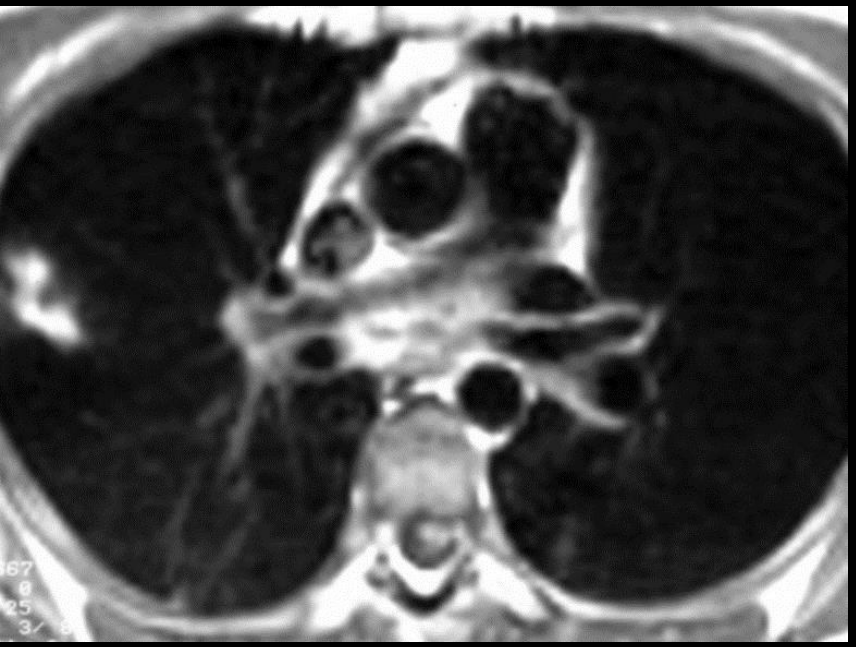
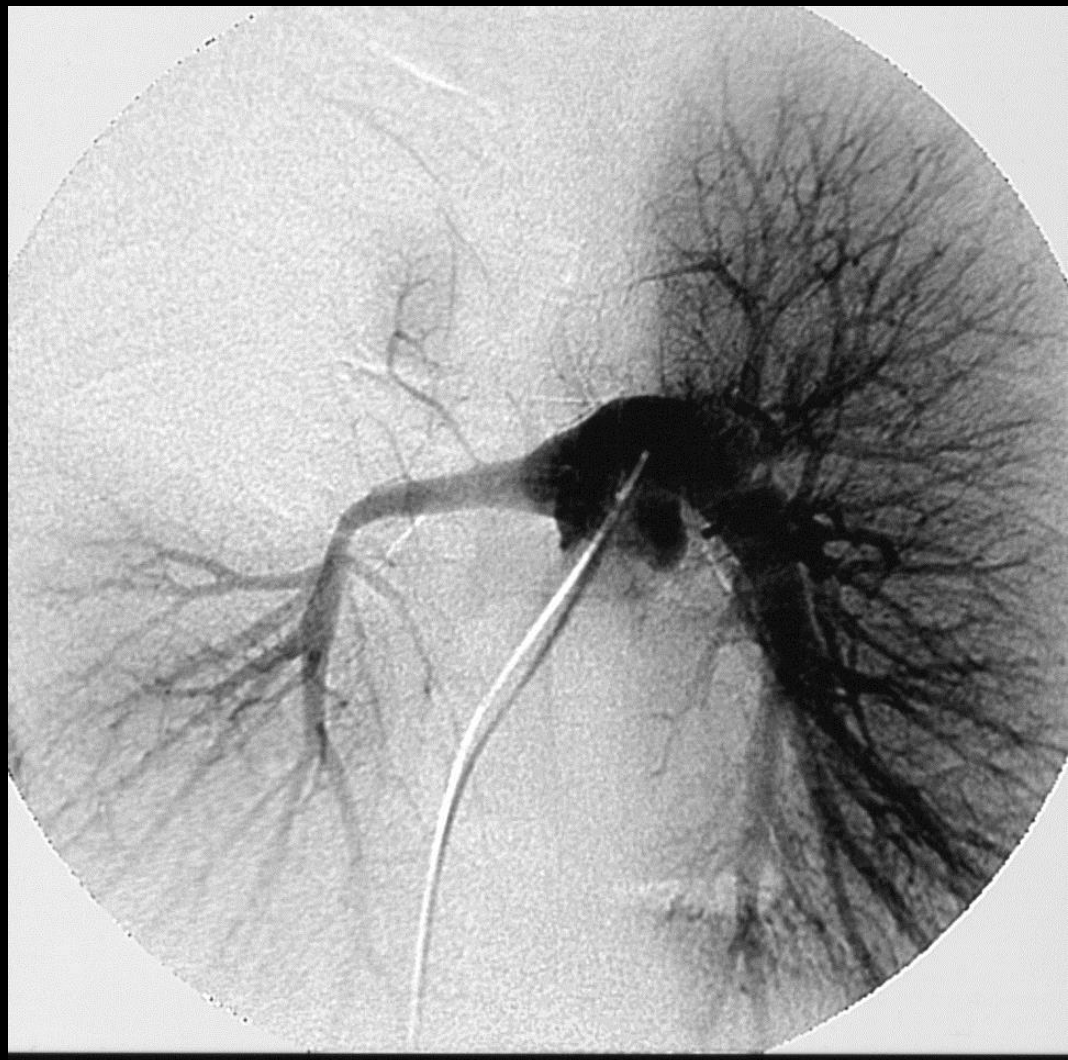


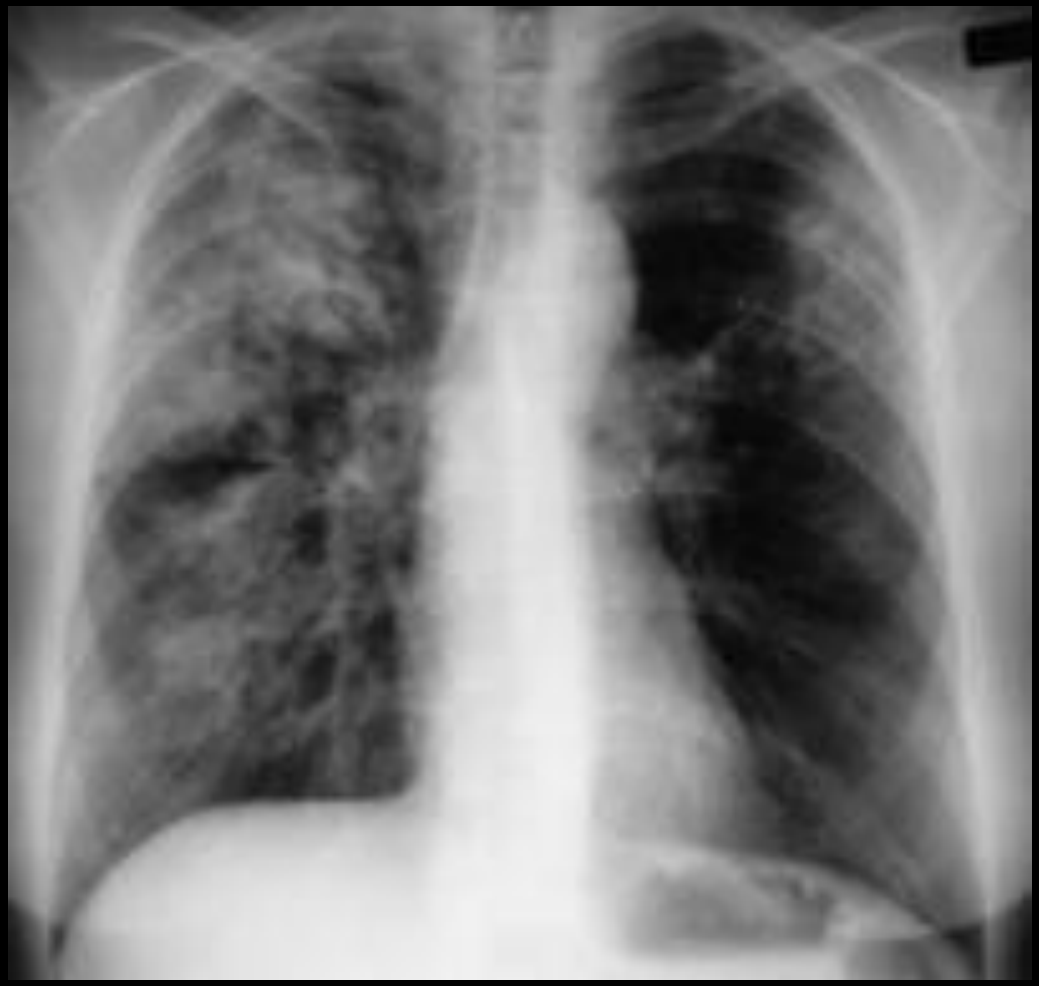


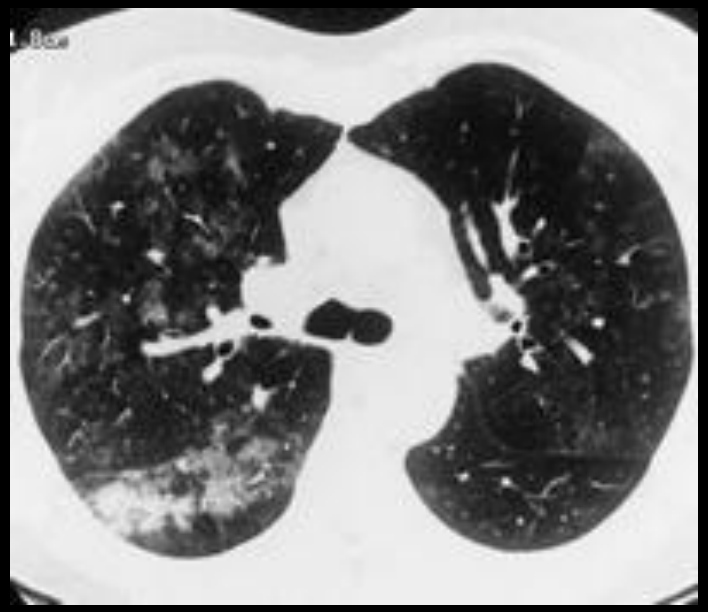
Ferretti G, et al Initial isolated Takayasu's arteritis of the right pulmonary artery: MR appearance. Eur Radiol. 1996;6:429-32

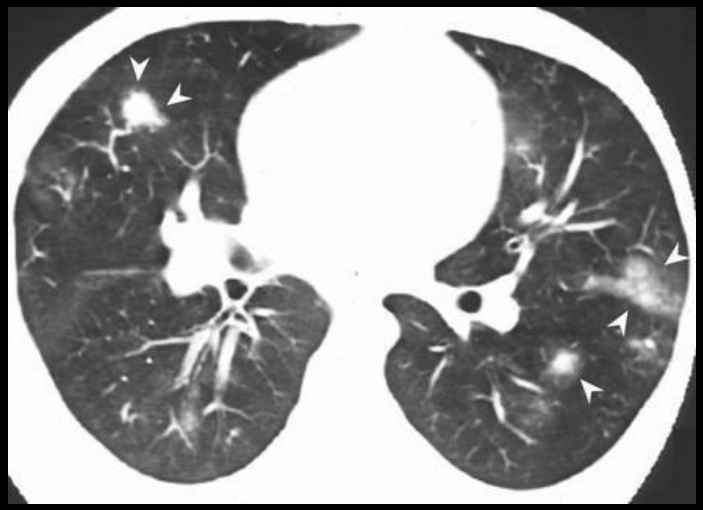
Granulomatose éosinophile avec polyangéite (Churg-Strauss)

- Maladie rare: $2.4/10^6$ cas
- Asthme, fièvre, éosinophilie sanguine
- Vascularite nécrosante et inflammation extravasculaire granulomateuse
- Manifestations HRCT (communes)
  - Densifications parenchymateuses et « verre dépoli »
  - Distribution hétérogène et plutôt périphérique
  - Epaississement des septae interlobulaires
  - Nodules centrilobulaires
  - Epaississement des parois bronchiques
  - Epanchements pleuraux

Churg-Strauss syndrome: high resolution CT and pathologic findings. J Thorac Imaging. 2005;20(2):74-80. Silva CI, Muller NL, Fujimoto K, Johkoh T, Ajzen SA, Churg A.







Divers

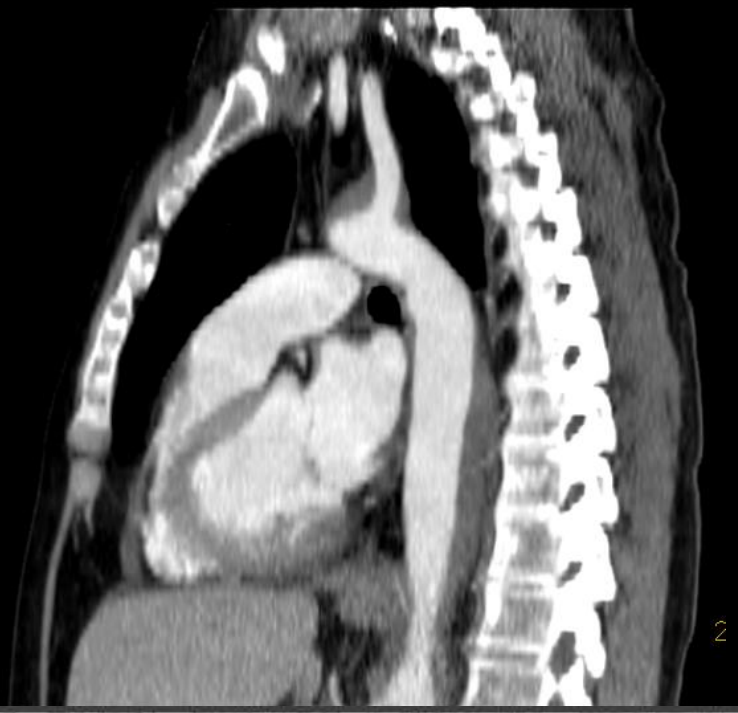
- Periartérite Noueuse:

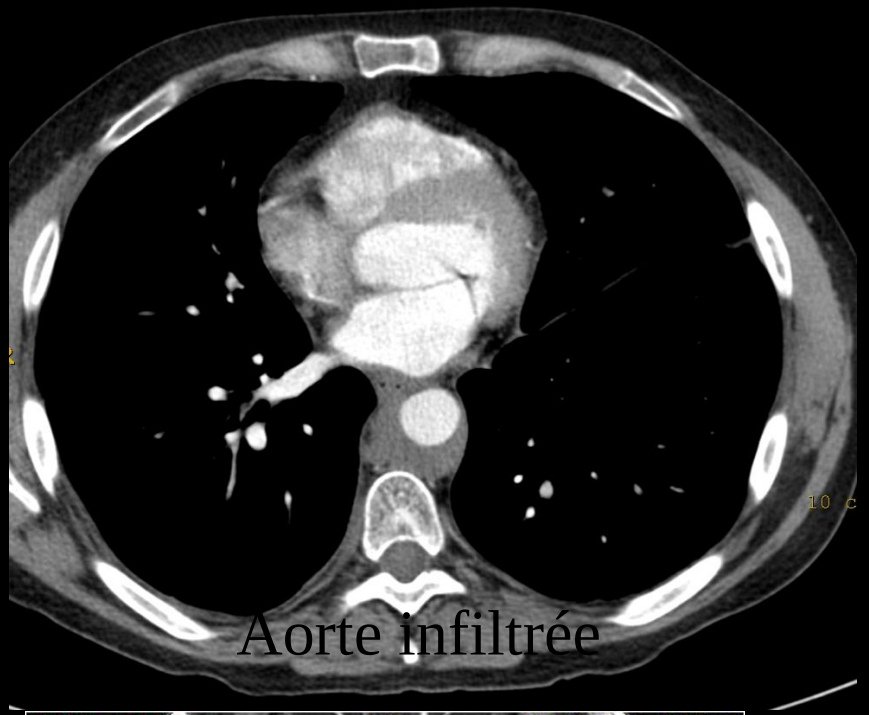
  Vascularite nécrosante / artères musculaires de petite à moyenne taille

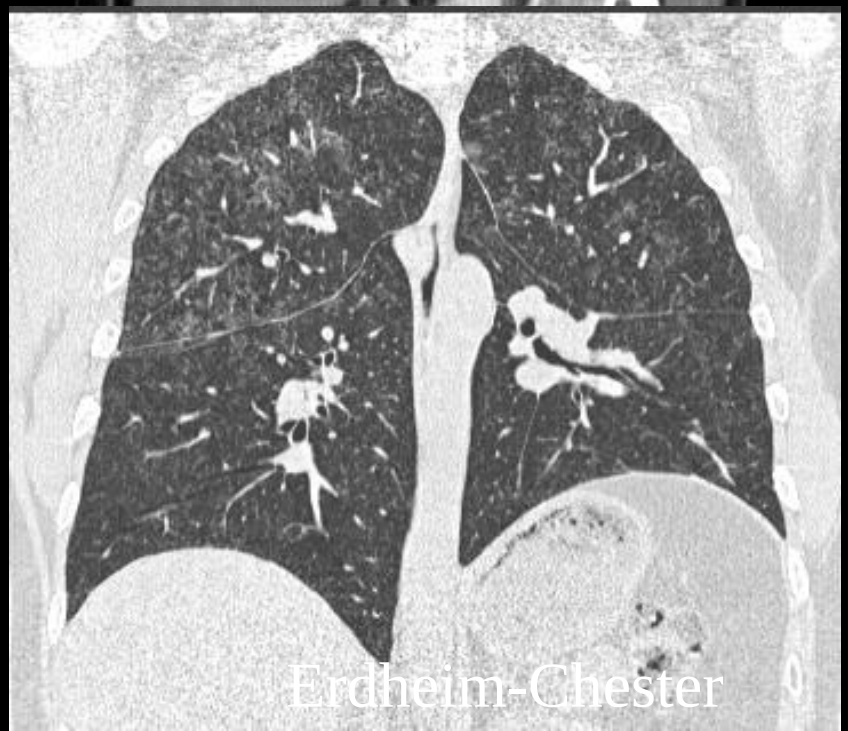
  Vascularite de la circulation pulmonaire est rare
- Maladie d'Erdheim-Chester :

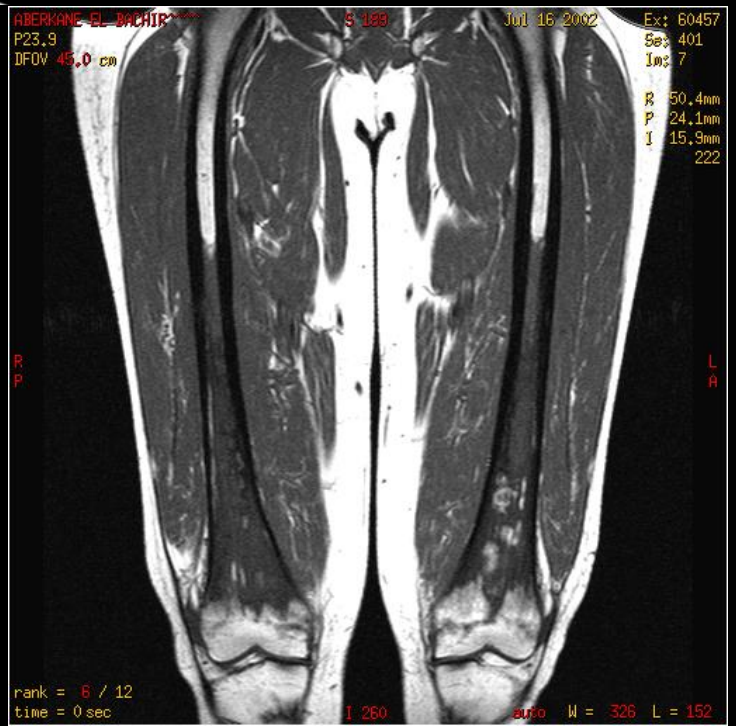
  Epaississement lisse des septae interlobulaires , nodules centri-lobulaires, épaississement scissuraux, épanchements pleuraux, aortite, masses extra-thoraciques
- Artérite à cellules géantes:

  Aortite (20-40%), atteinte coronaire, péricardite




Aorte infiltrée


Erdheim-Chester


ABERKANE EL BACHIR
P23.9
DFOV 45.0 cm
S 189
Jul 16 2002
Ex: 60457
Se: 401
Im: 7
R 50.4mm
P 24.1mm
I 15.9mm
222
R
P
L
A
rank = 6 / 12
time = 0 sec
I 260
auto
W = 326
L = 152

III/Connectivites

- Groupe hétérogène, affectant plusieurs organes
- Atteinte inflammatoire.
- Manifestations pulmonaires sont relativement fréquentes.
- Toutes les composantes du poumon peuvent être atteintes.
- Les symptômes respiratoires peuvent passer inaperçus en raison
  - Manque d’exercice
  - Atteinte du système musculo-squelettique

Classification

- Maladie rhumatoïde
- Lupus érythémateux disséminé
- Sclérose systémique progressive
- Dermatomyosite and polymyosite
- Syndrome de Sjögren
- Polychondrite atrophiante
- Spondylarthrite ankylosante …..

Diagnosis Disease of the chest. Fraser-Müller-Colman-Paré. Saunders

Atteinte thoracique dans les affections rhumatologiques

Table 1: Spectrum and relative prevalence of lung involvements in rheumatic diseases.

	Parenchymal		Pleural	Vascular	
	ILD	Airways		PAH	DAH
Rheumatoid arthritis	++	++	++	+	–
Systemic sclerosis	+++	–	–	+++	–
Myositis	+++	–	–	+	–
Systemic lupus erythematosus	+	+	+++	+	++

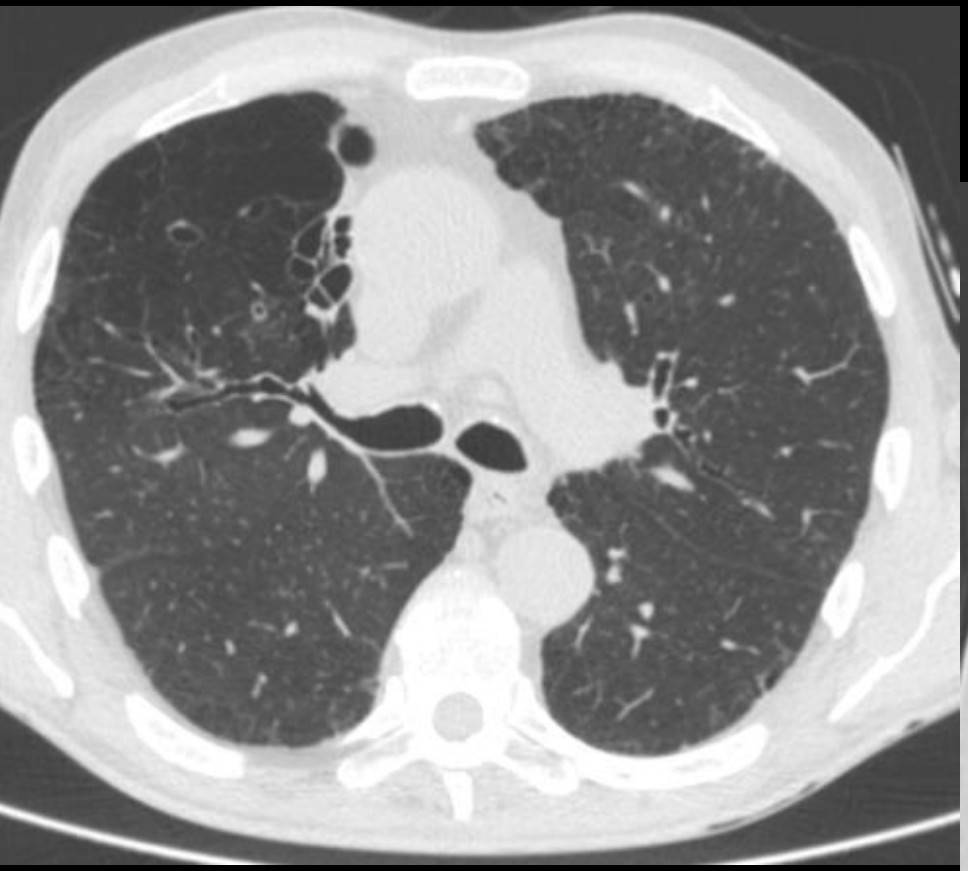
The signs show relative prevalence of each manifestation (none: –, low: +, medium: ++, and high: +++); ILD: interstitial lung disease; DAH: diffuse alveolar hemorrhage; PAH: pulmonary arterial hypertension (cited and modified from "Interstitial Lung Disease in Connective Tissue Disorders" by A. Fischer and R. du Bois. Lancet 2012; 380: 689–98).

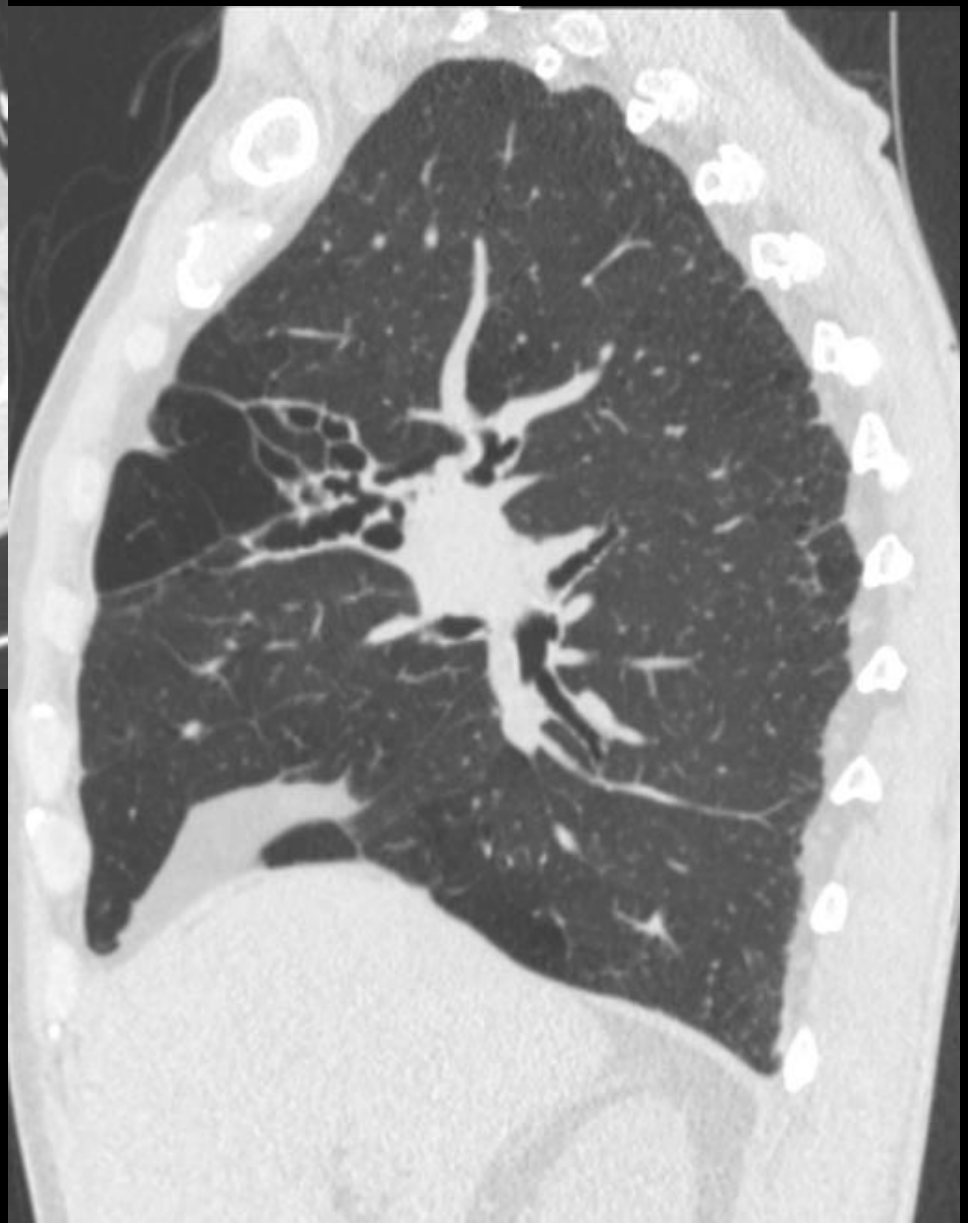
Fischer A[1], du Bois R.
Interstitial lung disease in connective tissue disorders.
Lancet. 2012 Aug 18;380(9842):689-98.

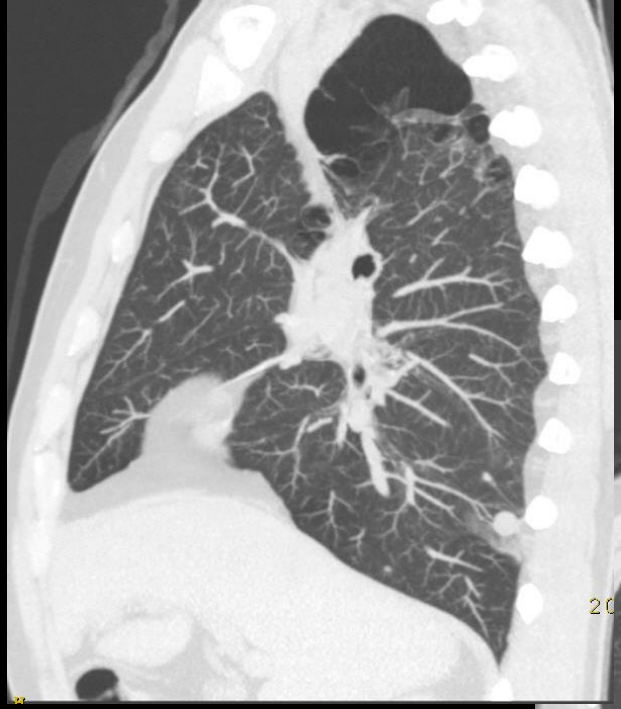
Maladie rhumatoïde

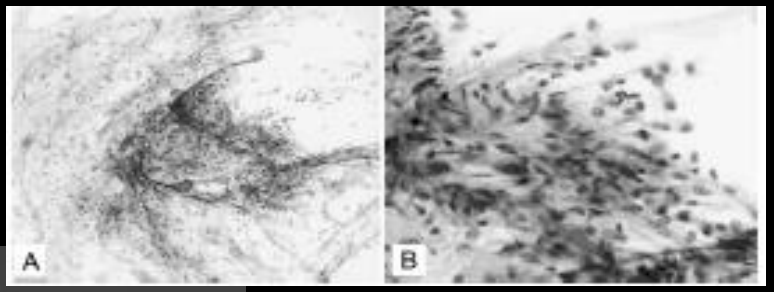
- Maladie de sytème fréquente (0.8% de la population)
- Manifestations pleuro-pulmonaires fréquentes
  - Épanchements pleuraux
  - Nodules rhumatoïdes
  - Pneumonie interstitielle : UIP, NSIP, BOOP
  - Vascularite pulmonaire
  - Atteinte des voies aériennes: bronchiectasies, Bronchiolite oblitérante, bronchiolite folliculaire

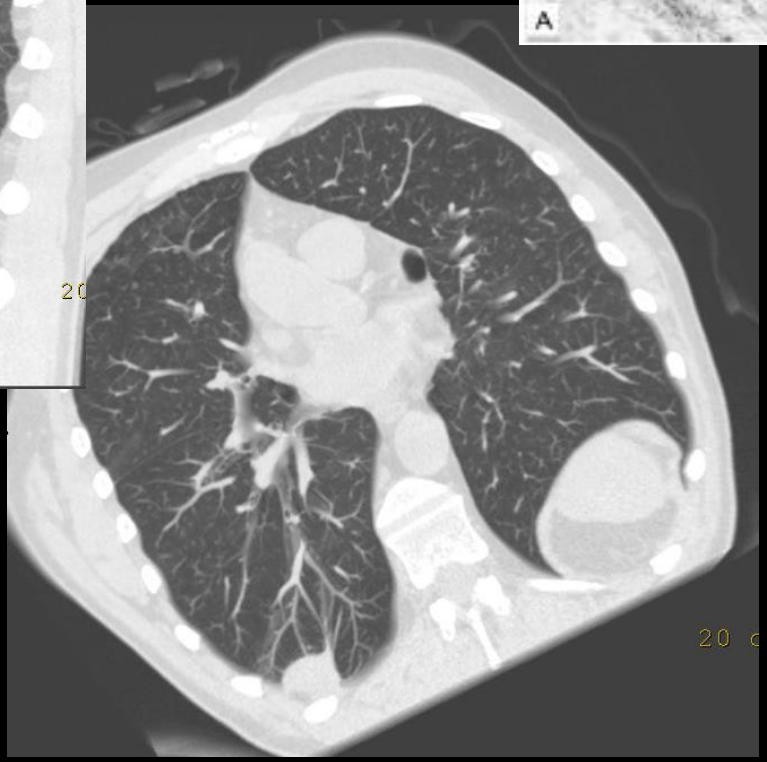
Tanaka N, Kim JS, Newell JD,et al. Rheumatoid arthritis-related lung diseases: CT findings. Radiology. 2004; 232(1):81-91.







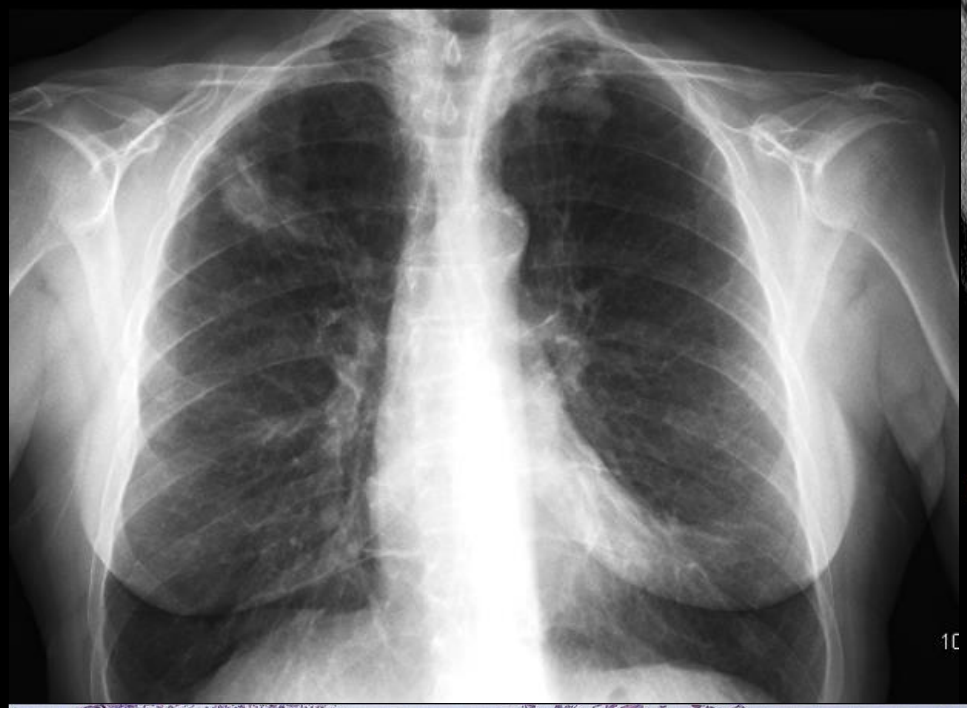


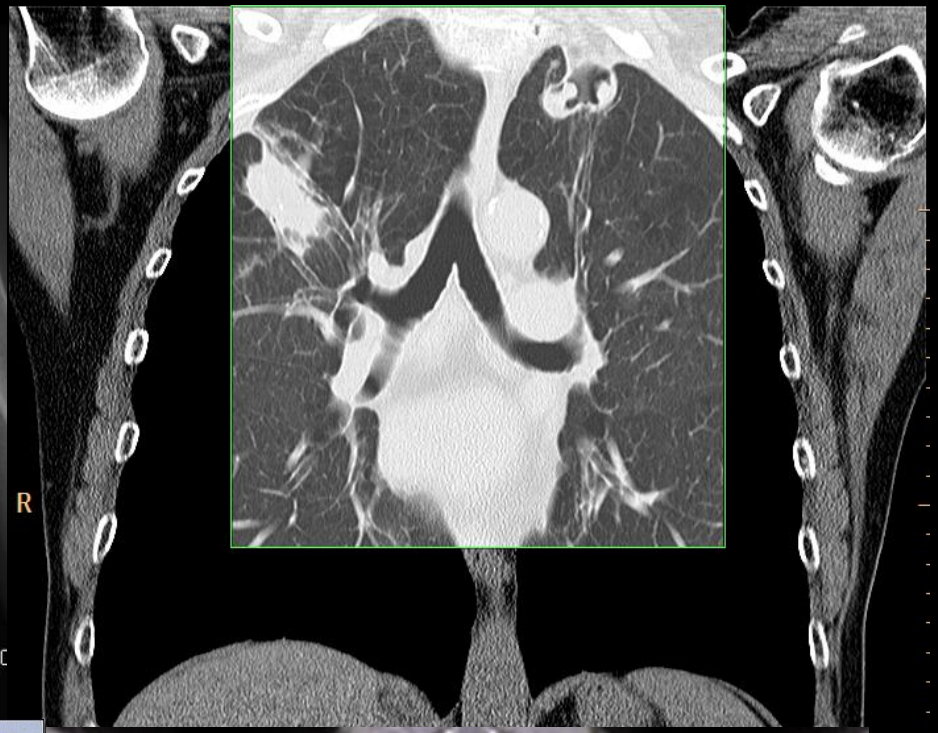


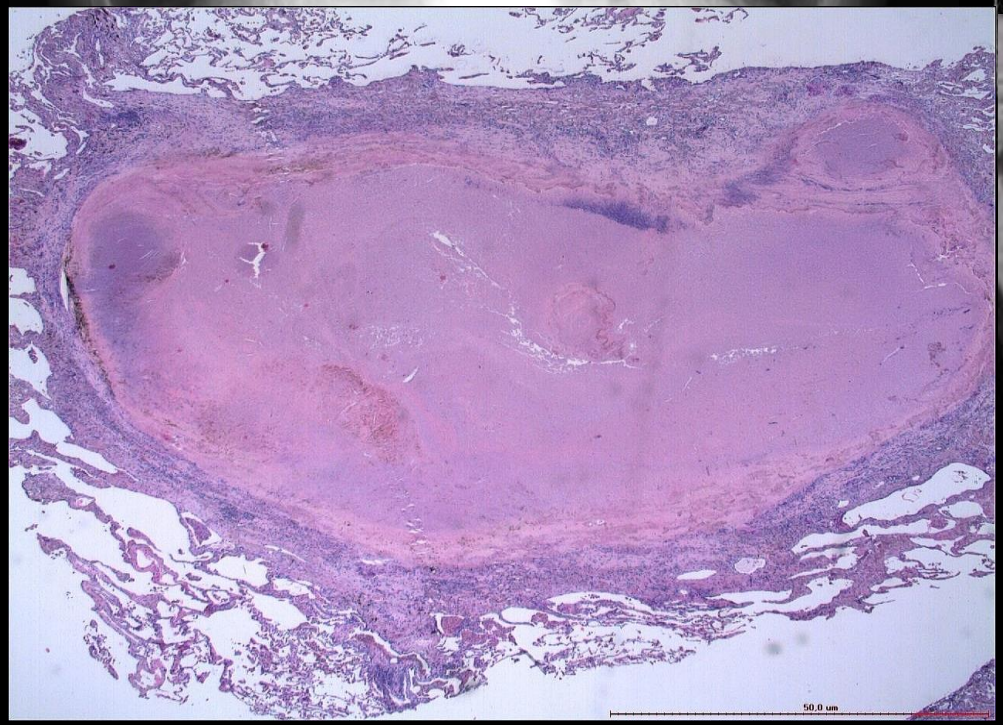
Nodules rhumatoïdes sont identifiés sur 1% des radiographies thoraciques

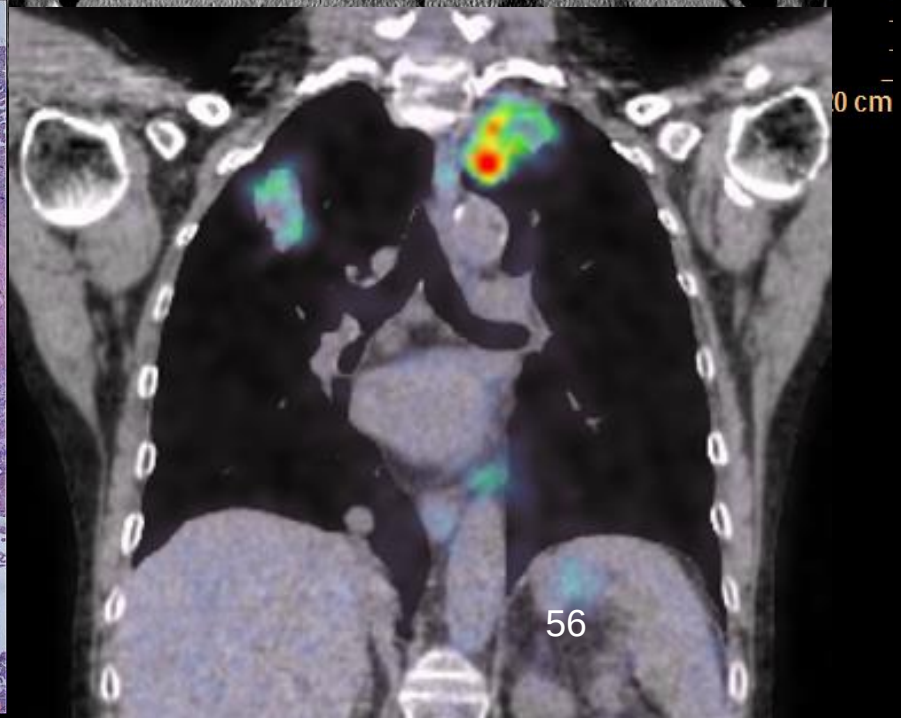
Qqs mm à qqs cms de diamètre, simple ou multiple, cavitation centrale (50%)

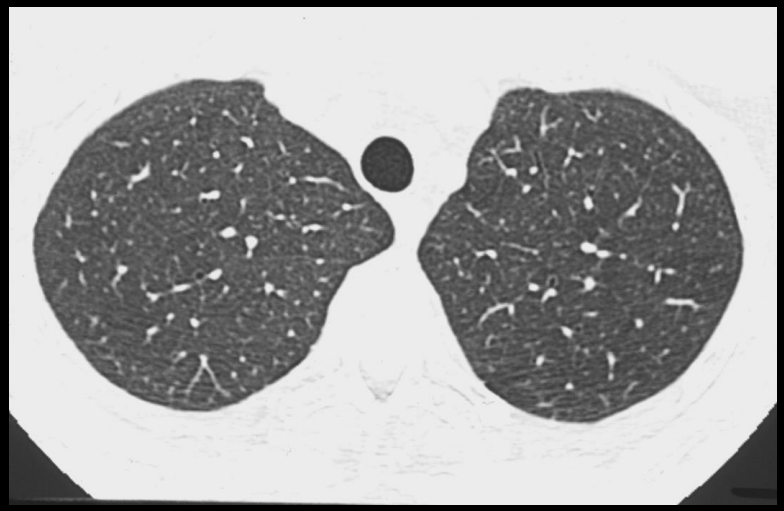
Gupta P, et al. Clin Rheumatol 2005; 24:402-405

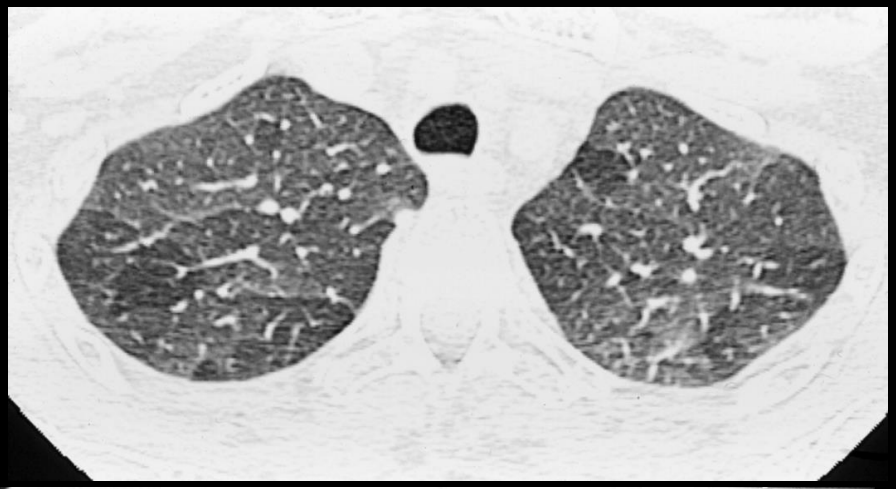


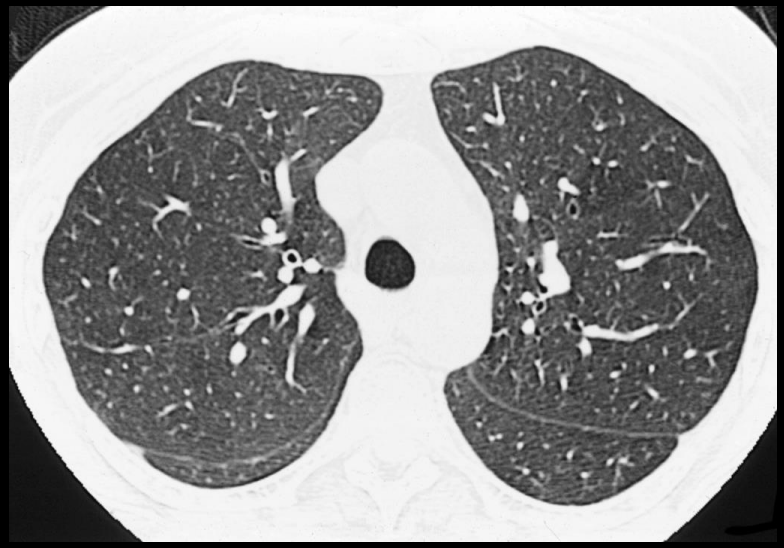

R

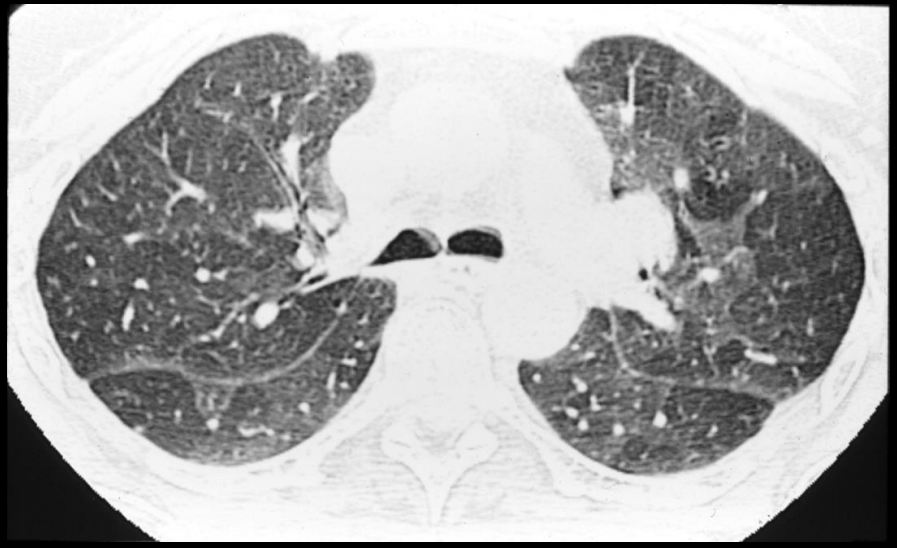

50.0 um


0 cm





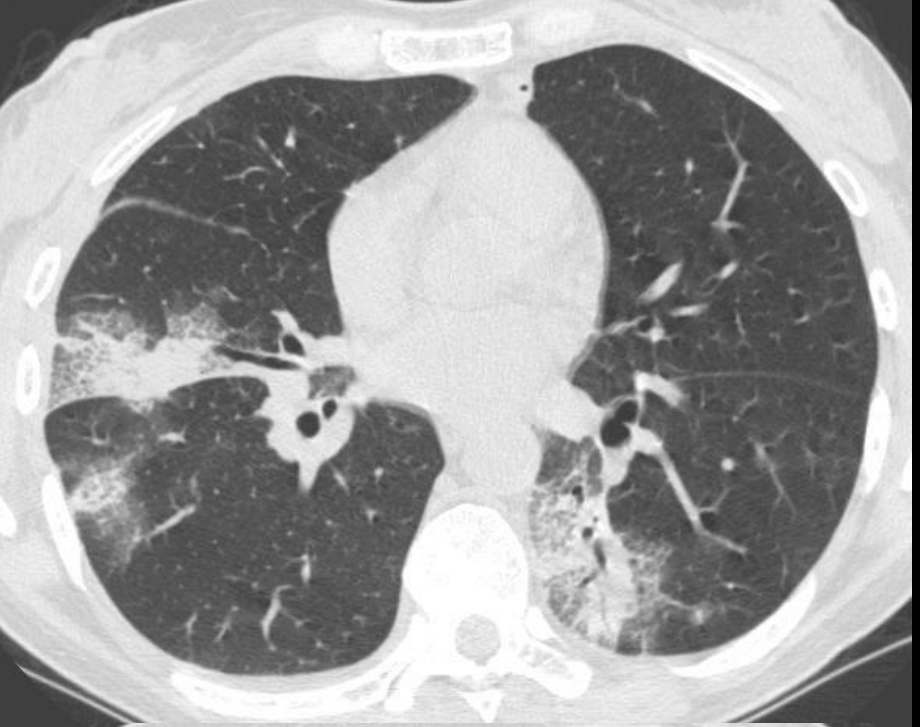


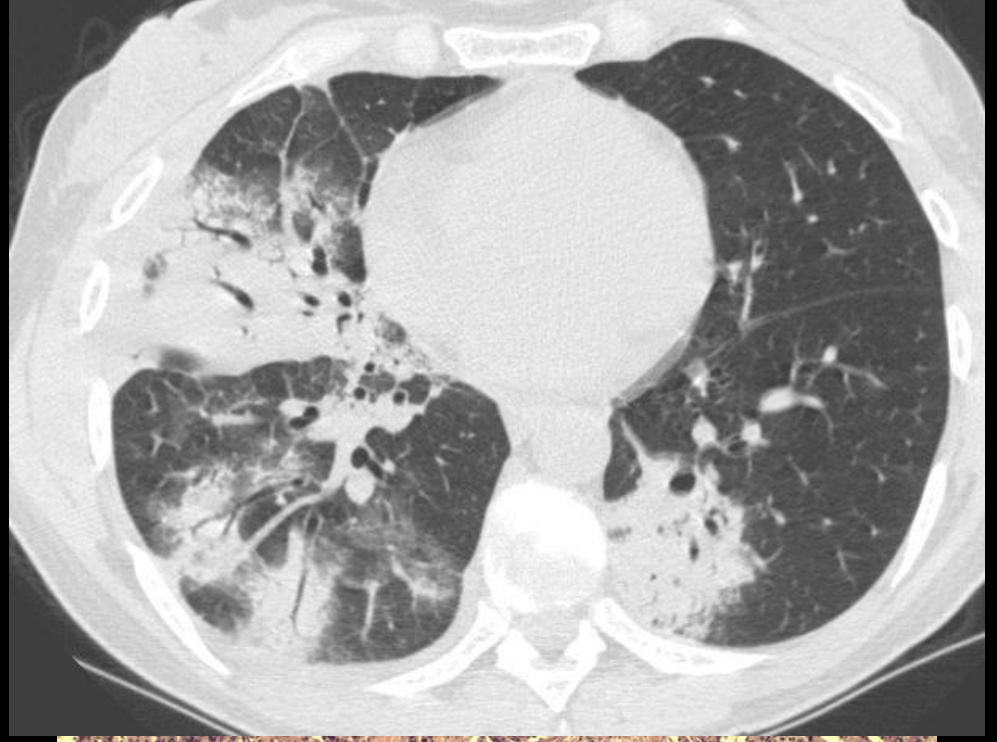


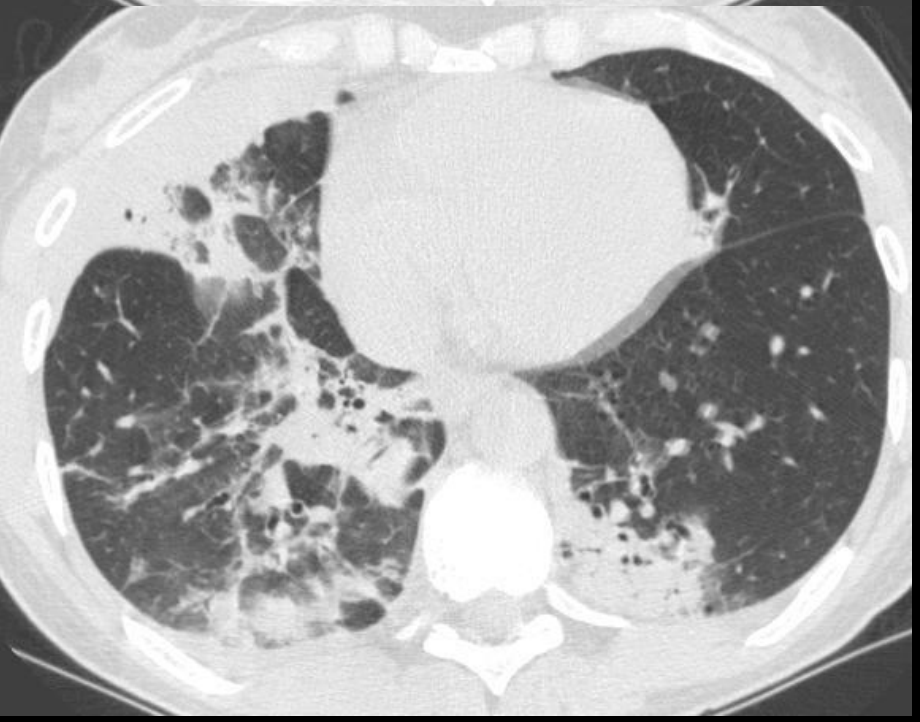
Lupus érythémateux disséminé

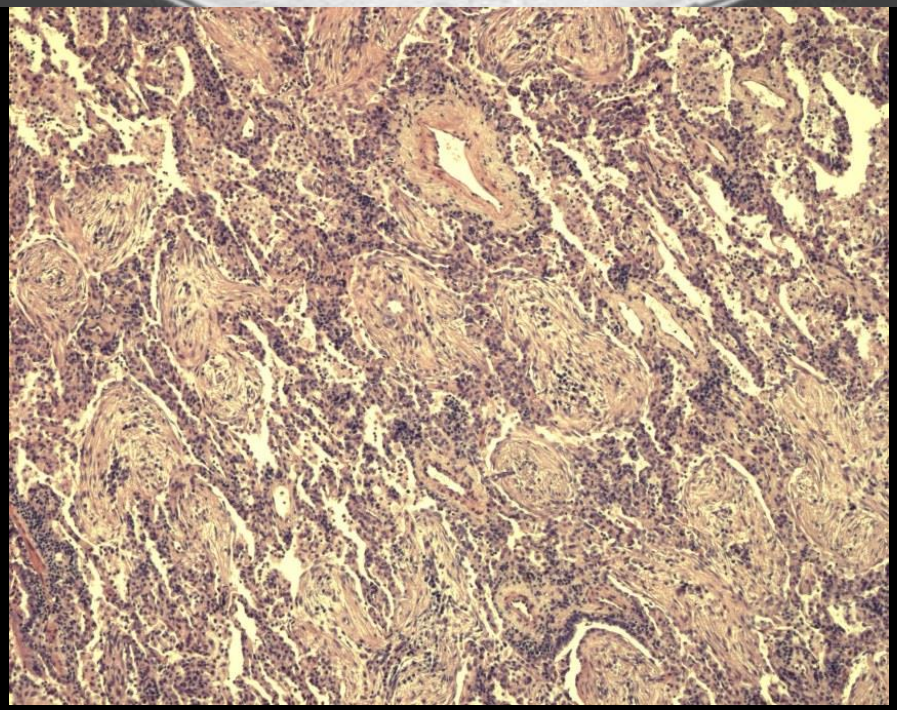
- Maladie multisystémique d'origine autoimmune (peau, reins, poumons, coeur)
- 25/100 000 sujets
- Maladie pleuro-pulmonaire (7-100%)
  - Epanchements pleuraux (50-83%)
  - Pneumonie lupique aiguë, pneumonie interstitielle, hémorragie pulmonaire….
  - Thrombose artère pulmonaire, EP, Hypertension AP
  - Bronchiolite oblitérante, BOOP
  - Dysfonction diaphragmatique

Fenlon HM, Doran M, Sant SM, Breatnach E.High-resolution chest CT in systemic lupus erythematosus. AJR Am J Roentgenol. 1996;166(2):301-7

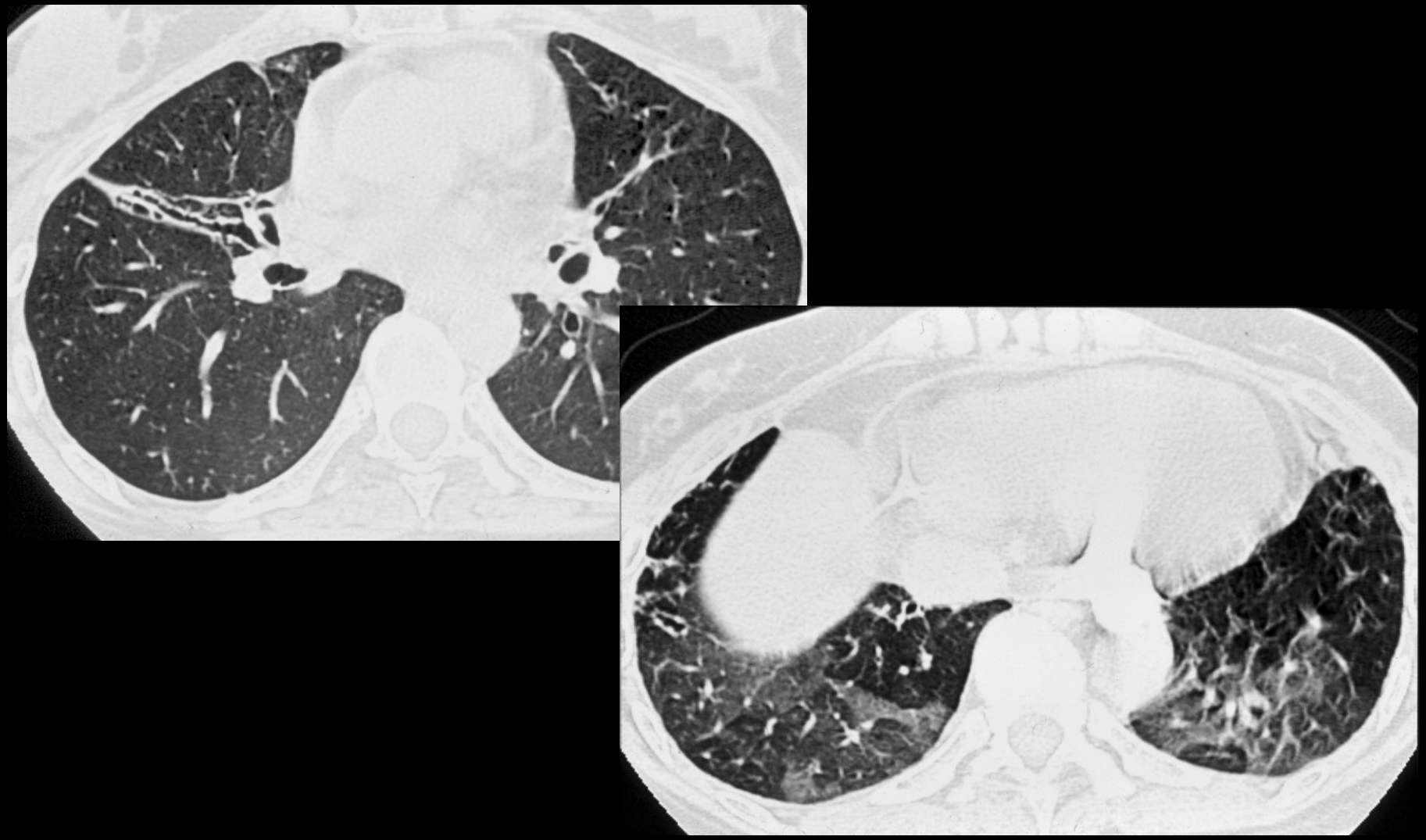








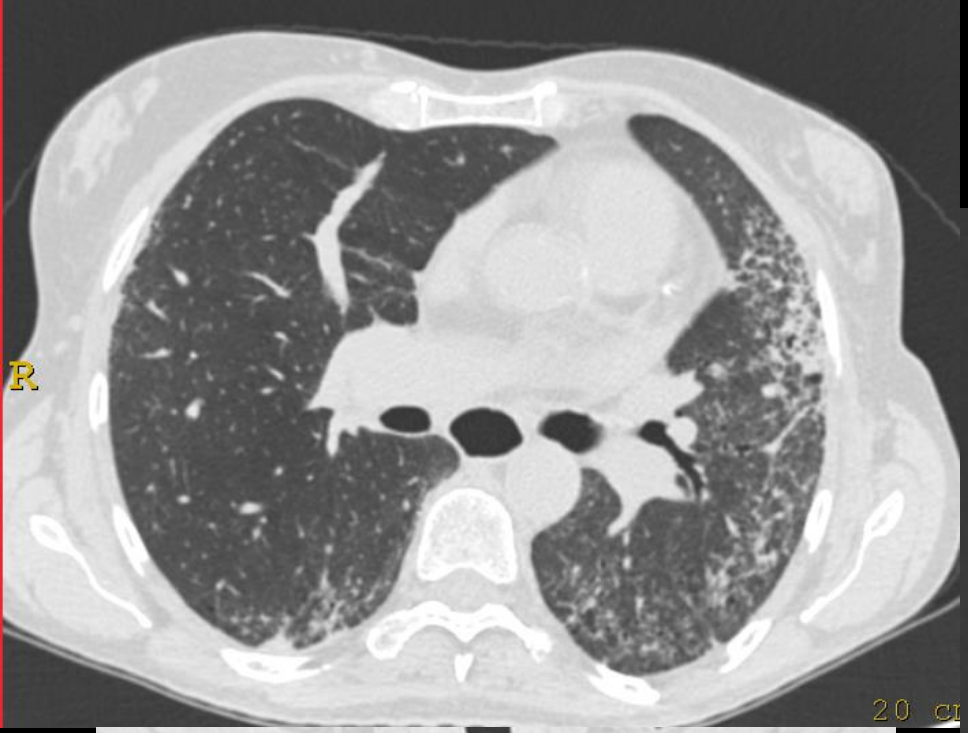
Bronchiectasies et piégeage expiratoire

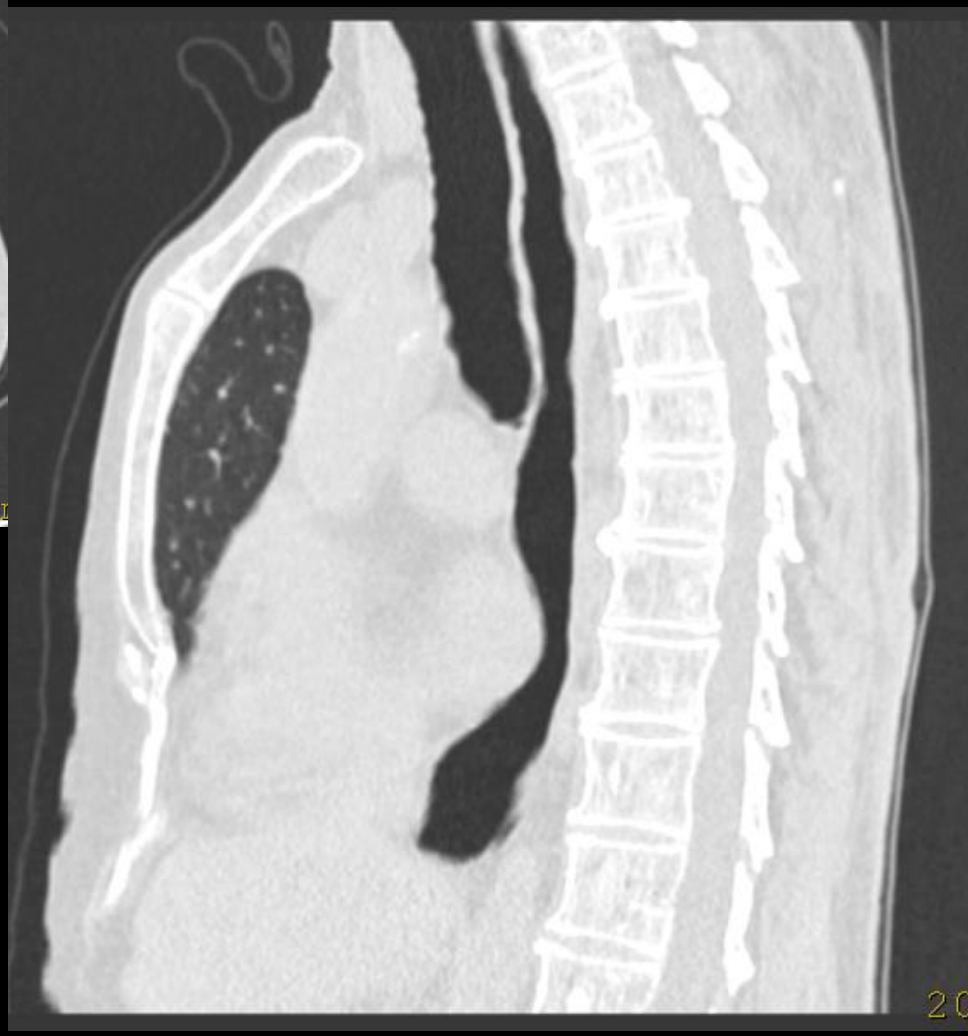


Sclérose systémique progressive

- Maladie systémique de cause inconnue
- Fibrose cutanée, vsx sanguins, et organes viscéraux
- Incidence 12 /10^6 cas/an
- Poumons: 2nd organe atteint
- Pneumonie Interstitielle et fibrose (NSIP, UIP)
- Hypertension pulmonaire , adénomégalies
- Atrophie et atonie de l'oesophage (12-40 mm plan coronal)

Bhalla M, Silver RM, Shepard JA, McLoud TC.Chest CT in patients with scleroderma: prevalence of asymptomatic esophageal dilatation and mediastinal lymphadenopathy.
AJR Am J Roentgenol. 1993;161(2):269-72.


R
20 cr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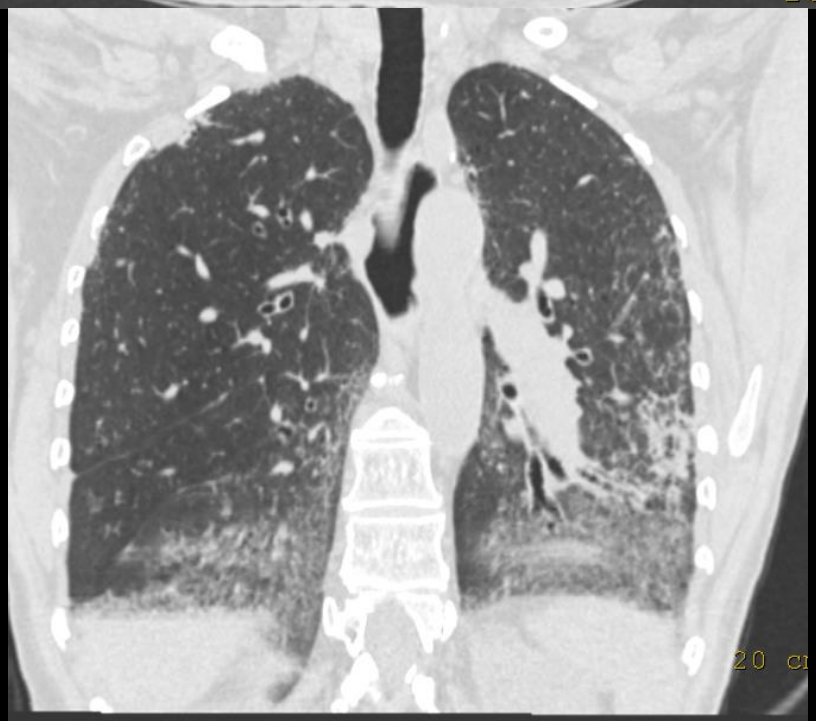
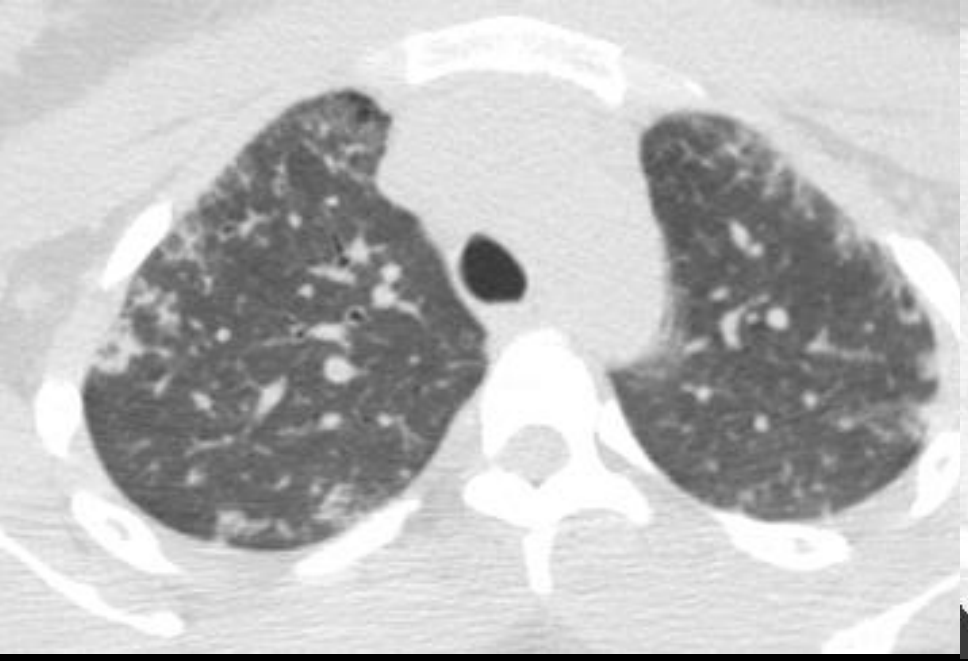
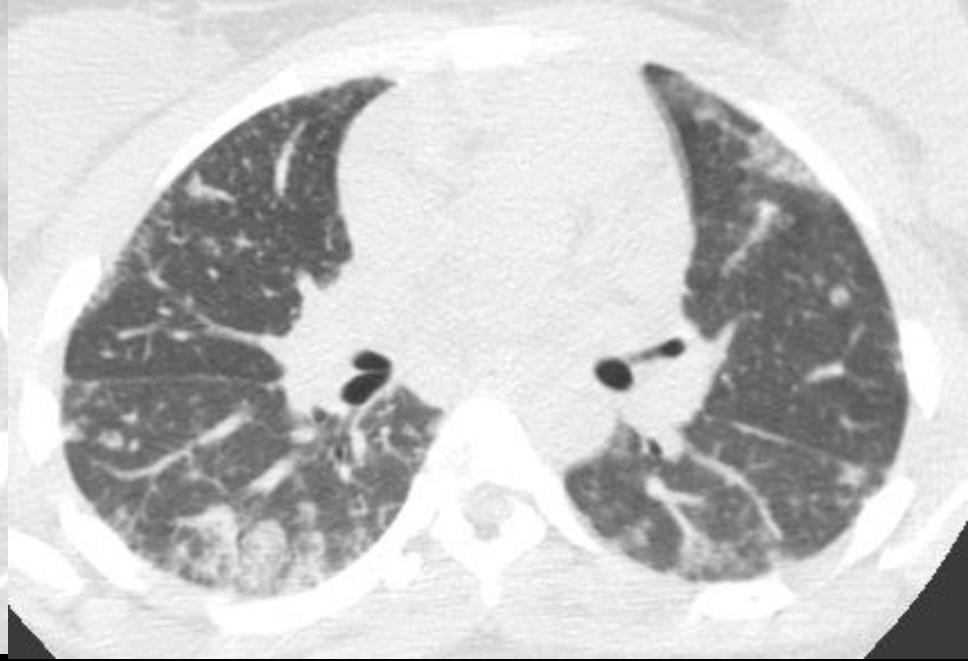

20 cr

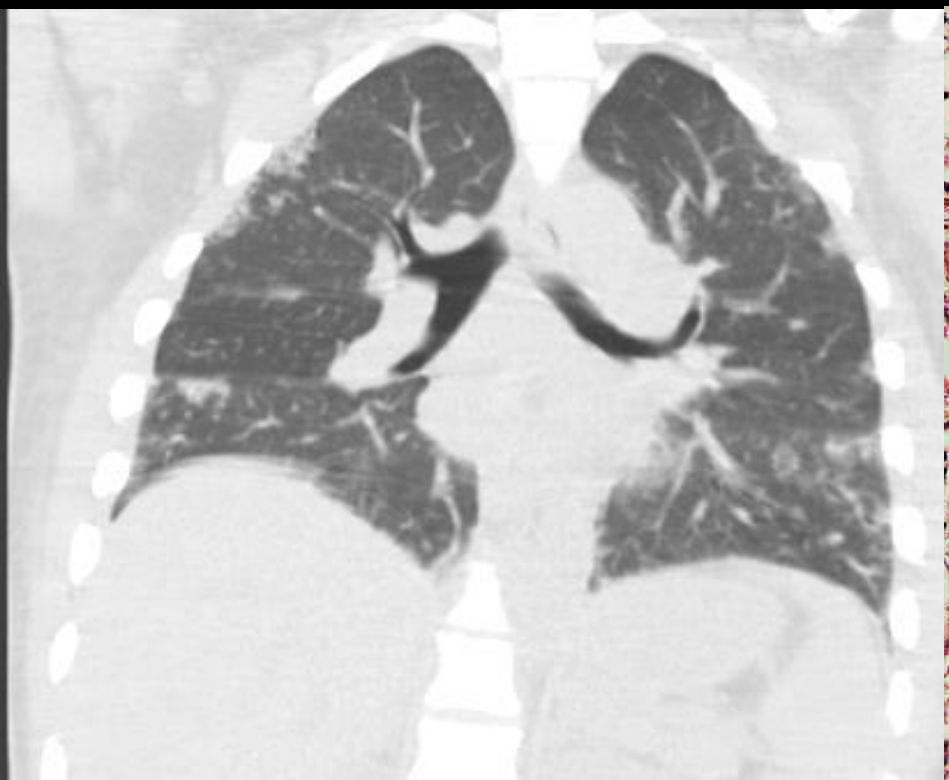
Dermatomyosite et polymyosite

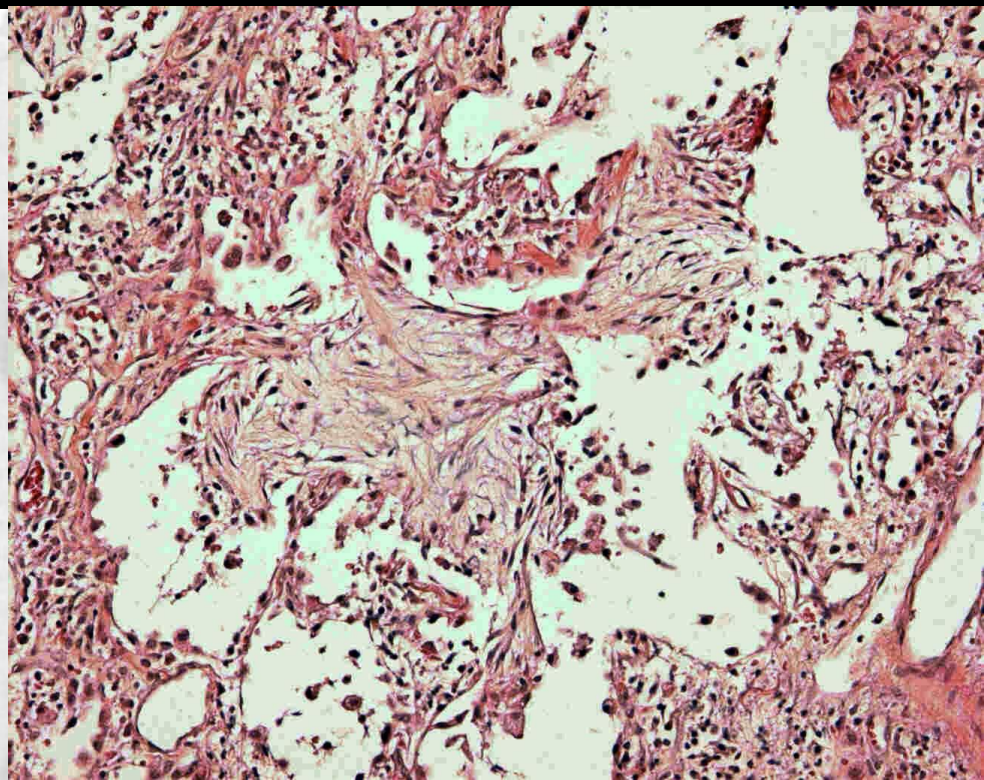
- Faiblesse et pfs douleurs dans les muscles proximaux
- Hypoventilation et détresse respiratoire
- Pneumonie interstitielle
  - Fibrose pulmonaire idiopathique
  - COP, NSIP
- Pneumonie d'aspiration

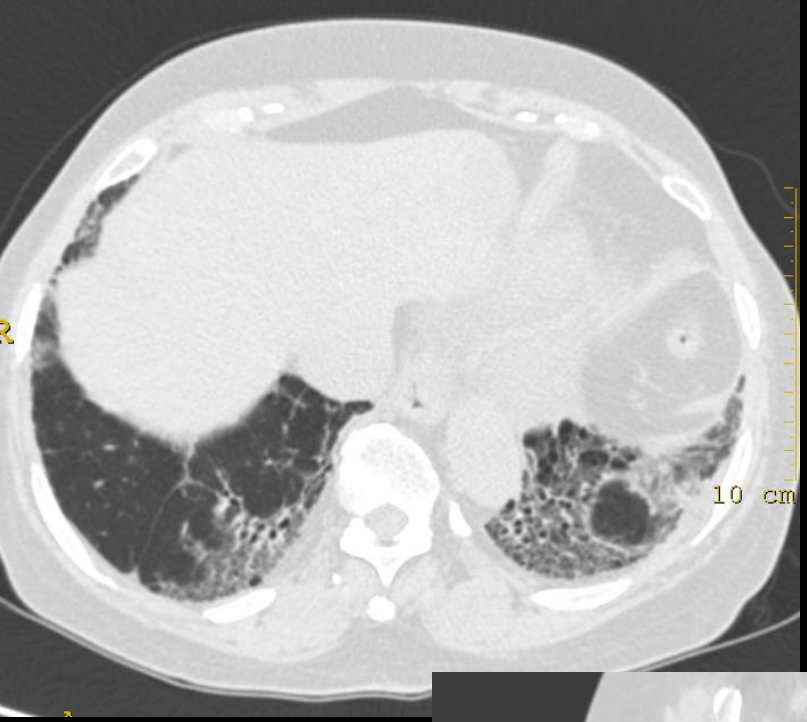
Douglas WW, et al. Polymyositis-Dermatomyositis-associated interstitial lung disease. Am J Respir Crit Care Med 2001;164: 1182-1185










R
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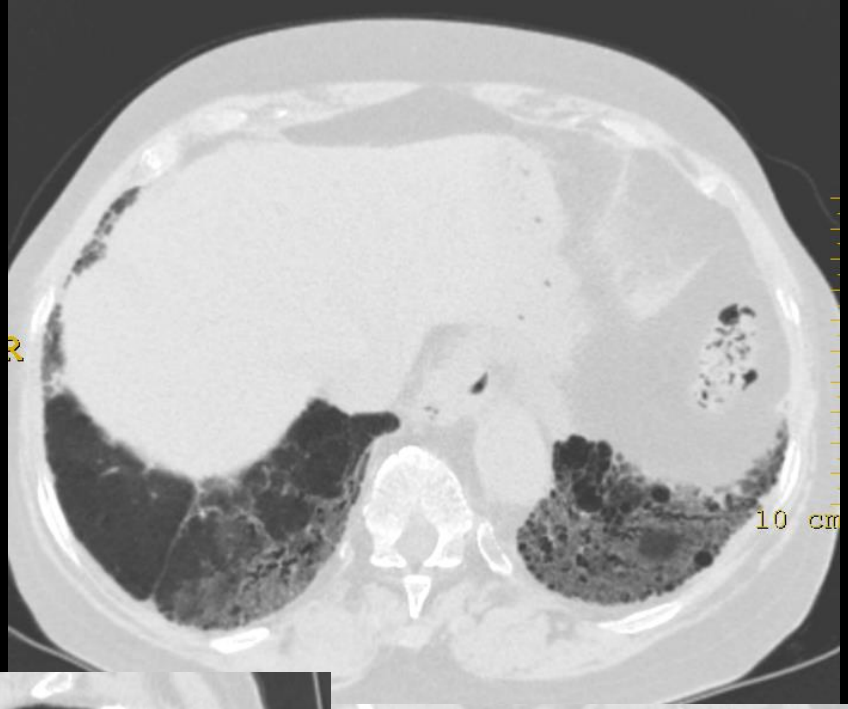
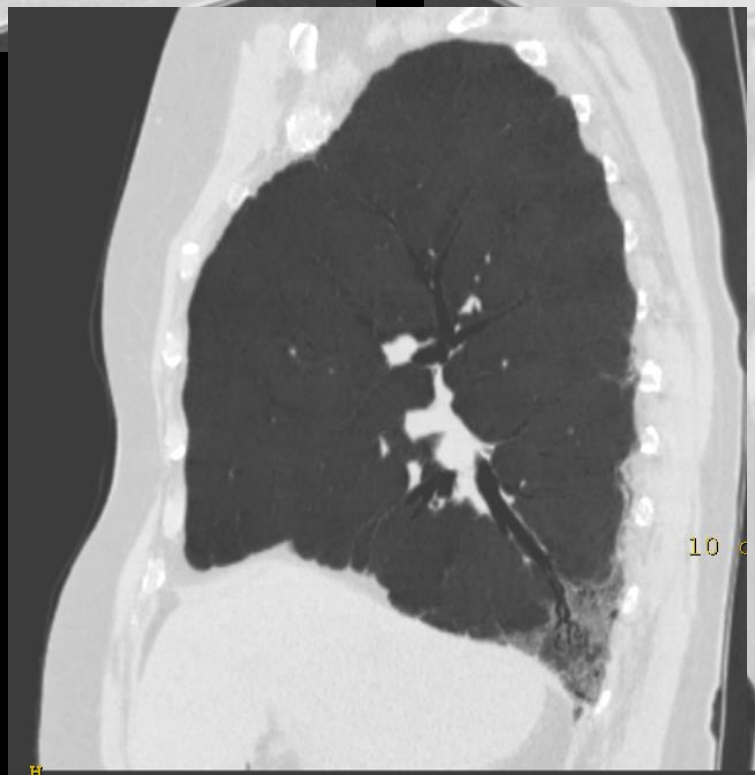
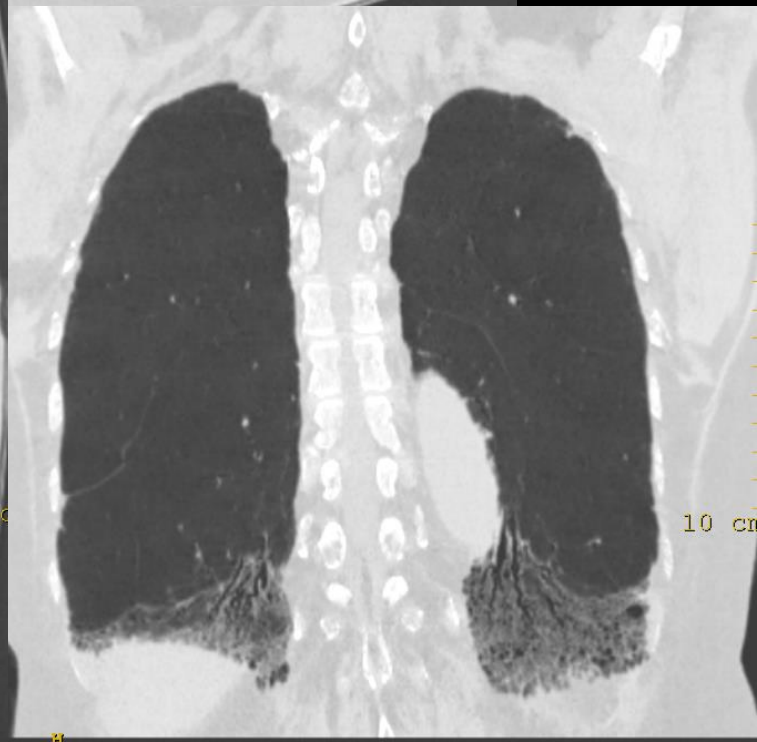

R
10 cm

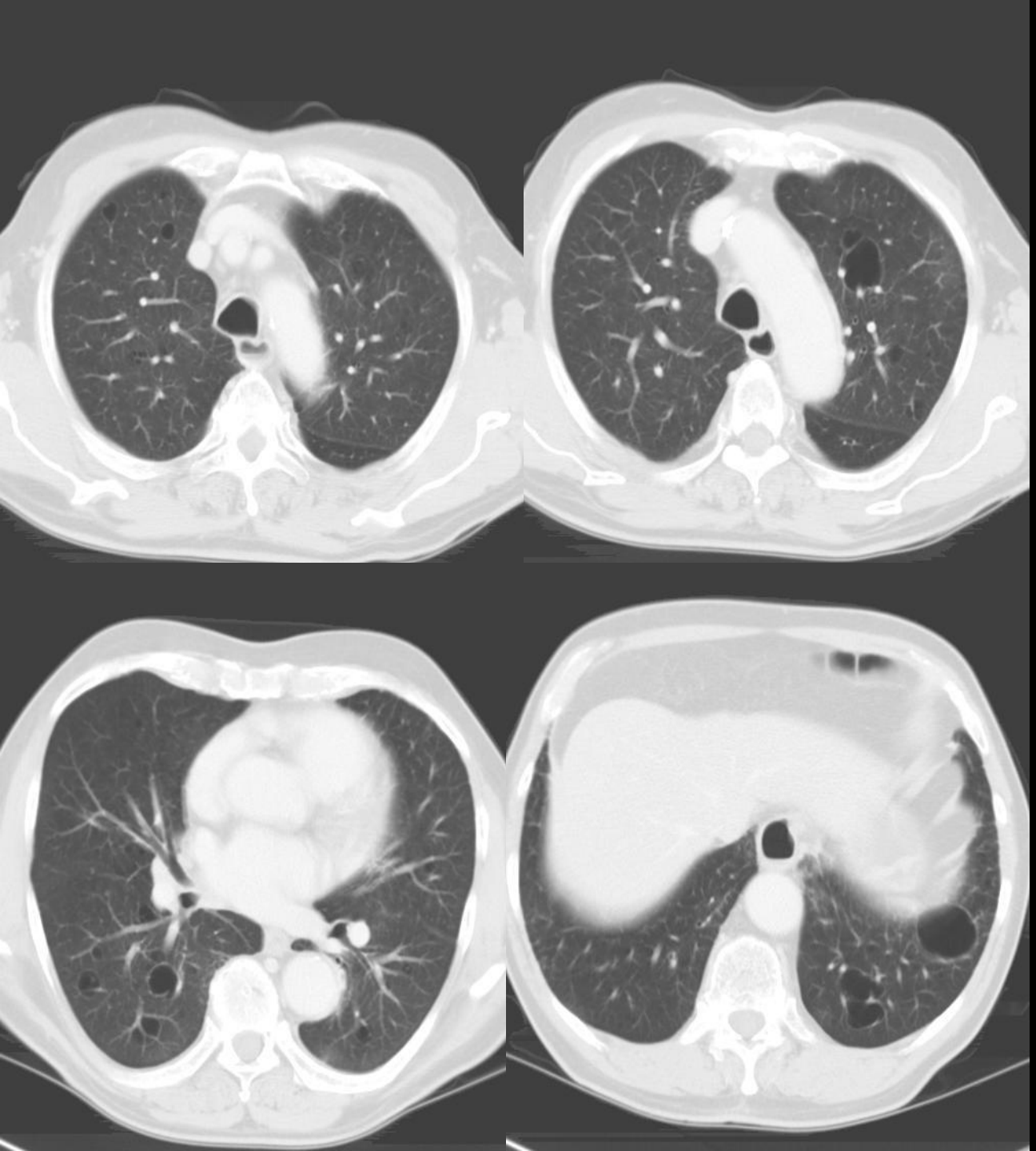
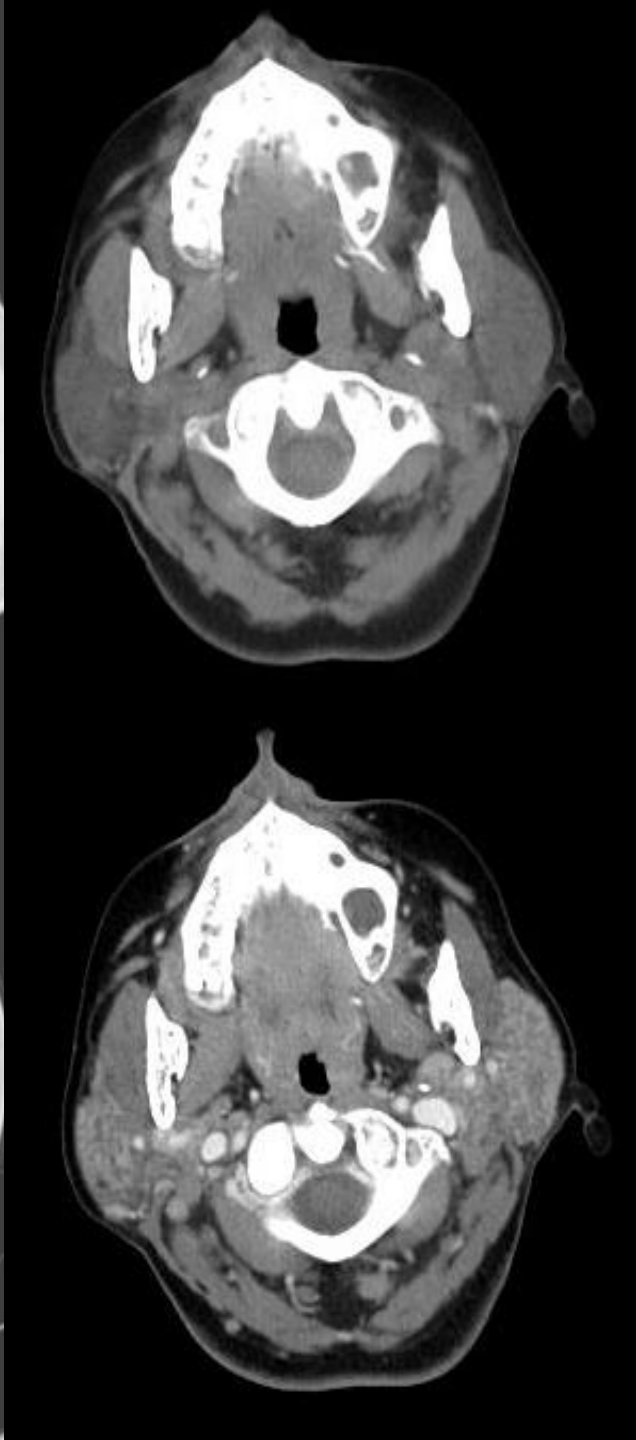

10 c

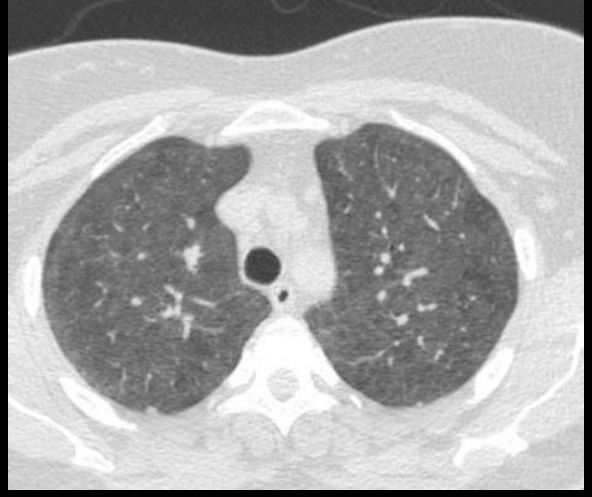

10 cm

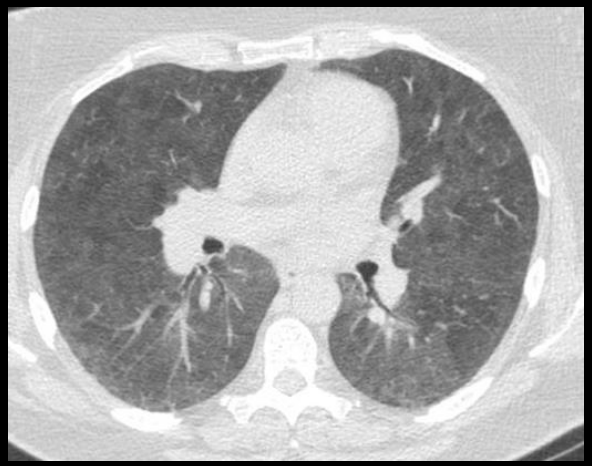
Syndrome de Sjögren

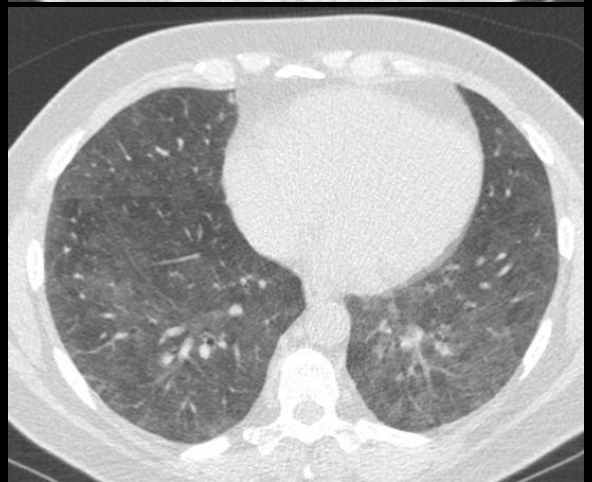
- Keratoconjonctivite, xerostomie, gonflement récurrent des parotides
- Processus autoimmun
- Infiltrats lymphoplasmocytaire au niveau de la trachée et des bronches
- Pneumonie lymphoïde interstitielle, fibrose interstitielle, lymphome, amyloïdose, bronchiolite oblitérante, épanchements pleuraux

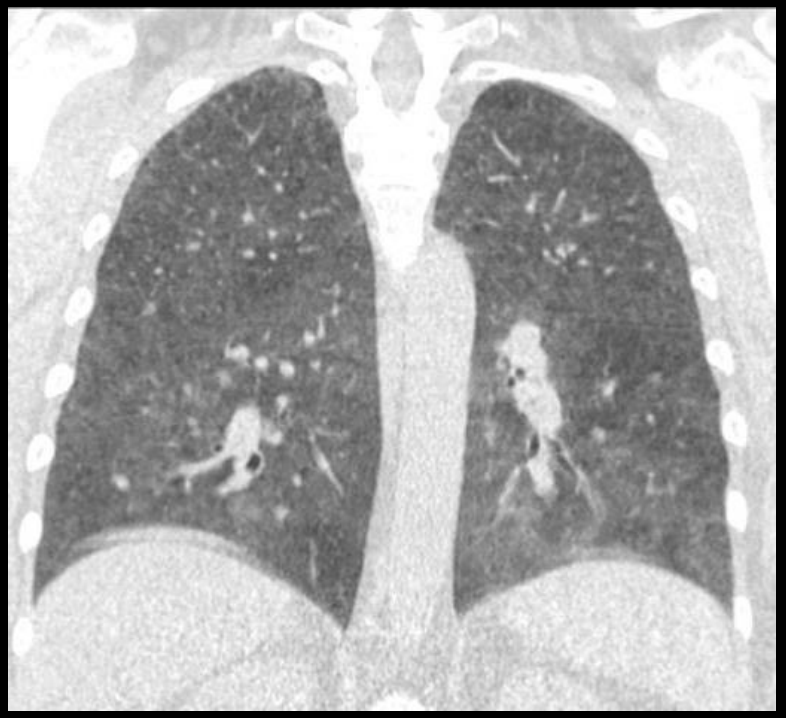
Tannoue LT. Pulmonary involvement in collagen vascular disease: a review of the pulmonary manifestations of the Marfan syndrome, ankylosing spondylitis, Sjögren's syndrome, and relapsing polychondritis. J Thorac imaging 1992;7:62-77

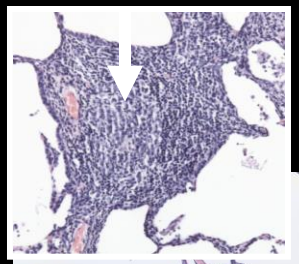



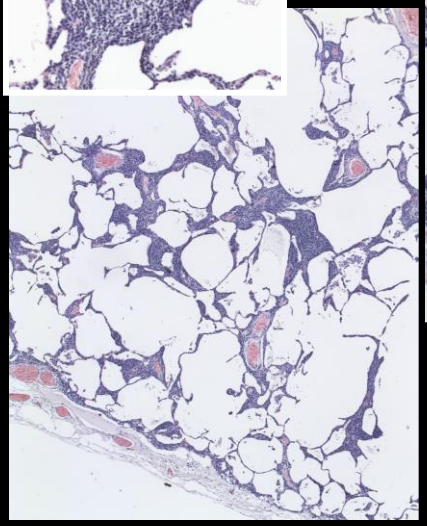


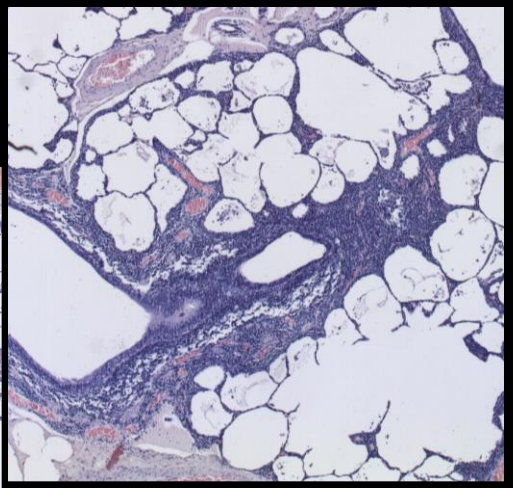








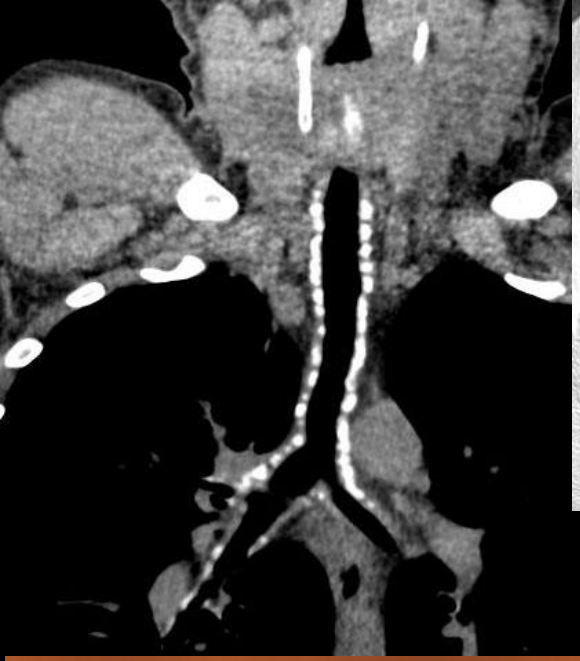


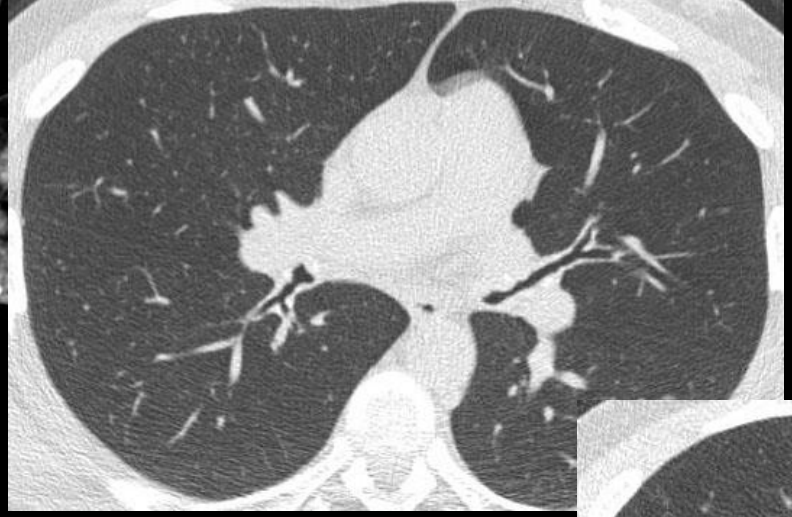


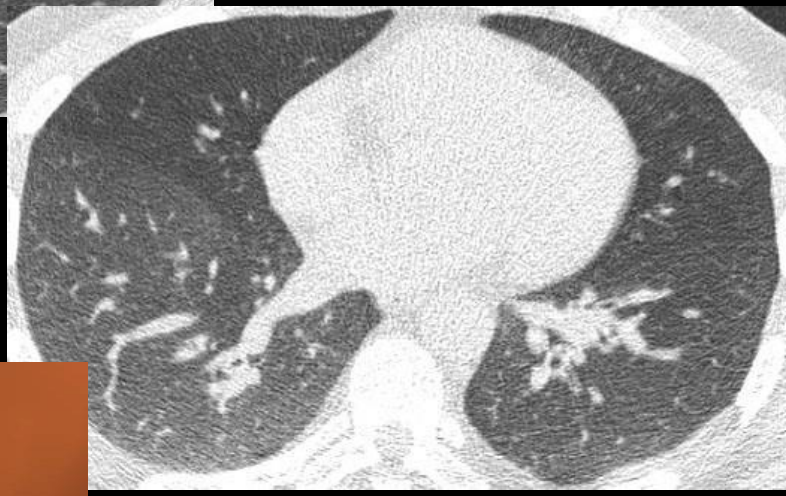
Polychondrite atrophiante

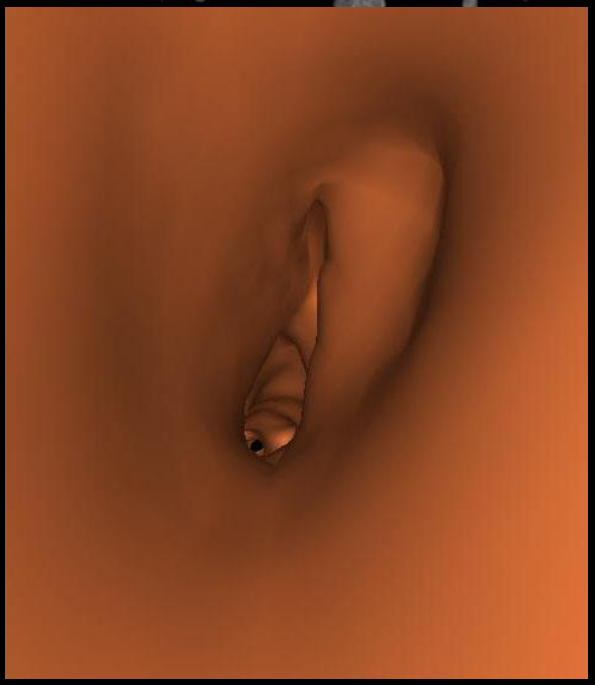
- Maladie rare (qqs 100 cas)
- Inflammation épisodique des cartilages
  - Chondrite auriculaire, chondrite nasale, inflammation oculaire, dommage cochléaire et vestibulaire
  - Chondrite laryngée, trachéale, bronchique
- Manifestations radiologiques
  - Sténose trachéale-bronchique
  - Pneumonie-atelectasie
  - CT expiratoire

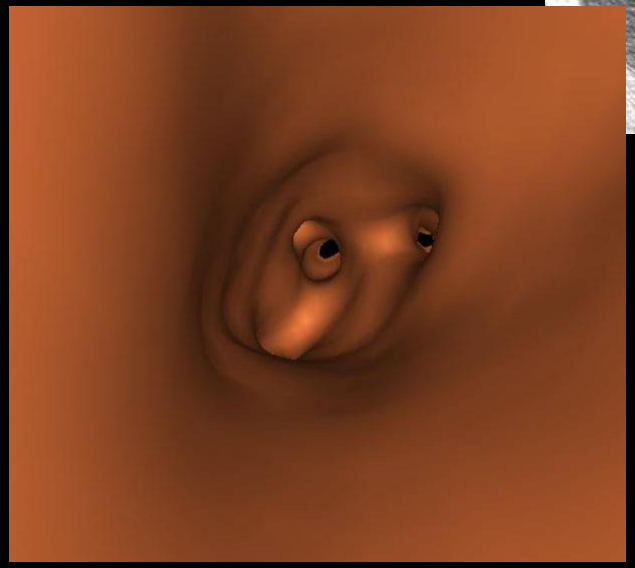
Staats BA, Utz JP, Michet CJ Jr. Relapsing polychondritis. Semin Respir Crit Care Med. 2002;23(2):145-54.

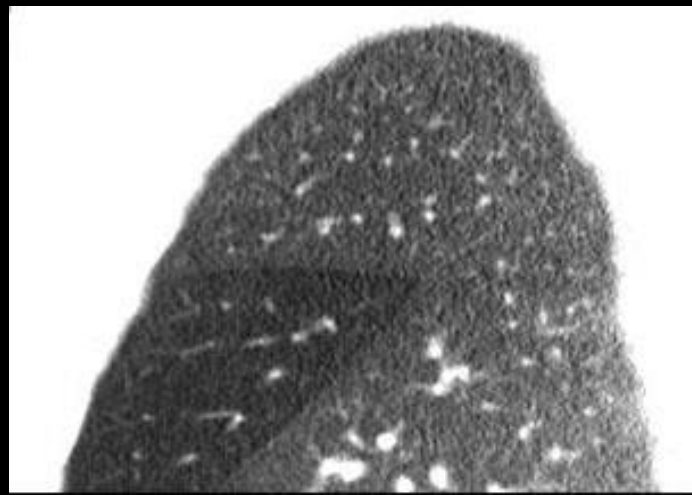






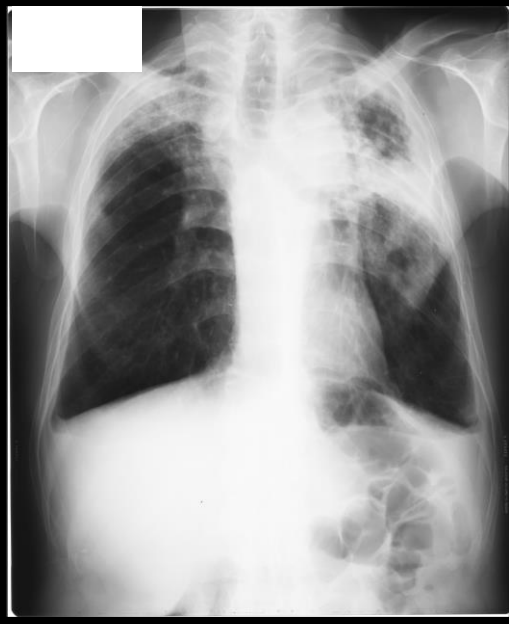


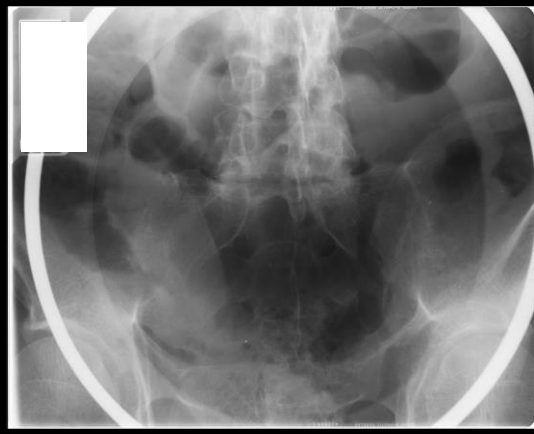




Spondylarthrite ankylosante

- Spondylarthrite séronégative
- Atteinte préférentielle du squelette axial
- Rigidité progressive de la colonne
- Anomalies pulmonaires (1%)
  - Fibrose des LS, atteinte interstitielles, DDB, Emphysème
  - Piégeage expiratoire

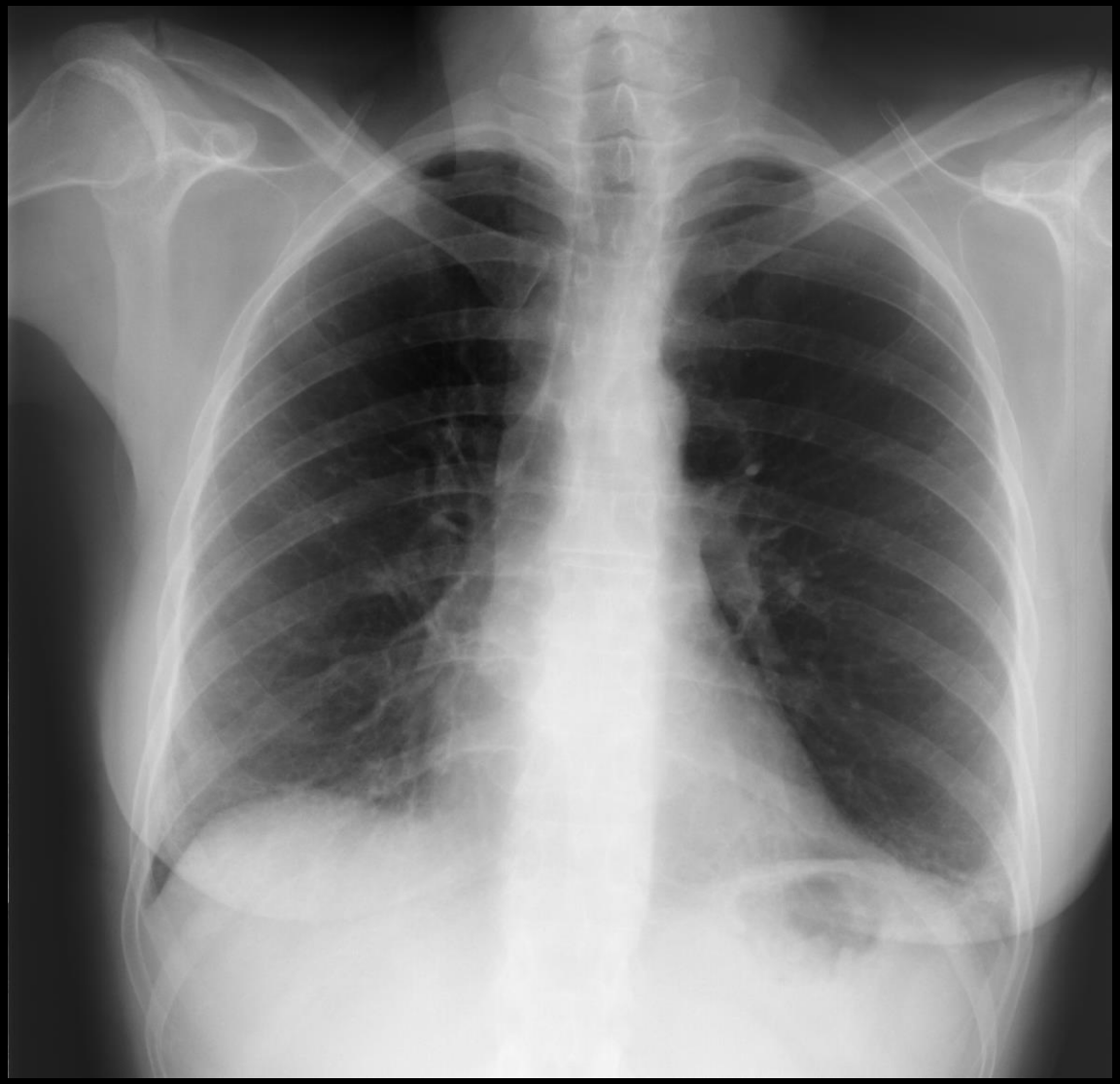


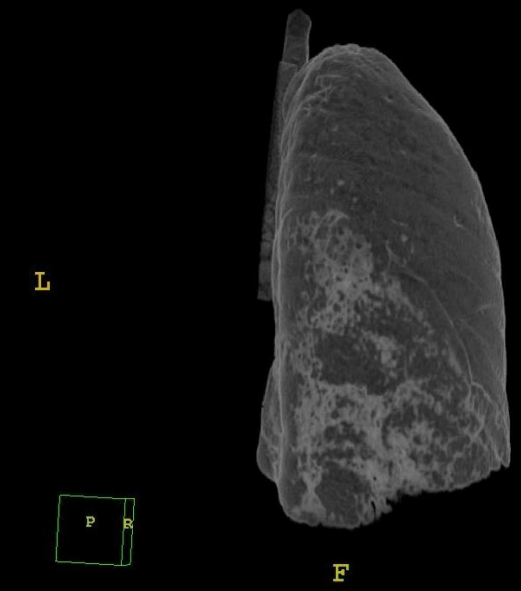


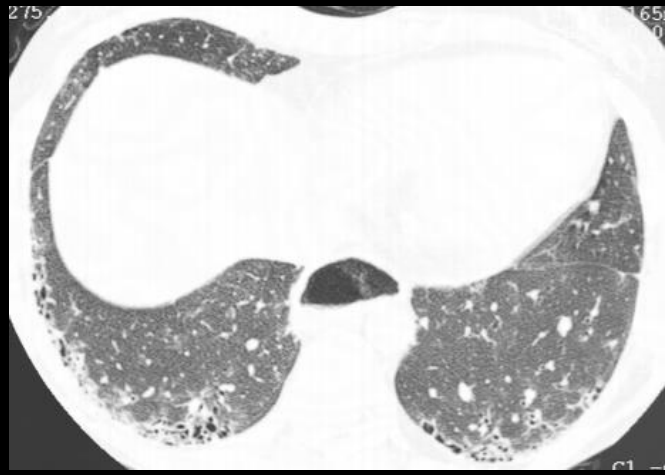
Souza AS Jr, Muller NL, Marchiori E, Soares-Souza LV, de Souza Rocha M.Pulmonary abnormalities in ankylosing spondylitis: inspiratory and expiratory high-resolution CT findings in 17 patients. J Thorac Imaging. 2004;19(4):259-63

Rôle du CT

- Détecter les anomalies parenchymateuses de façon précoce
  - Caractérisation des anomalies
  - Localisation pour biopsie
- Détecter les atteintes vasculaires/des voies aériennes
  - Modifications transmurales, maladies thrombo-emboliques
  - Trachée, bronche, piégeage expiratoire
- Illustrer les anomalies associées
  - coeur, plèvre, péricarde, tissus mous
- Suivre les effets du traitement







Schurawitzki H, Stiglbauer R, Graninger W. Interstitial lung disease in progressive systemic sclerosis: high-resolution CT versus radiography. Radiology. 1990 Sep;176(3):755-9