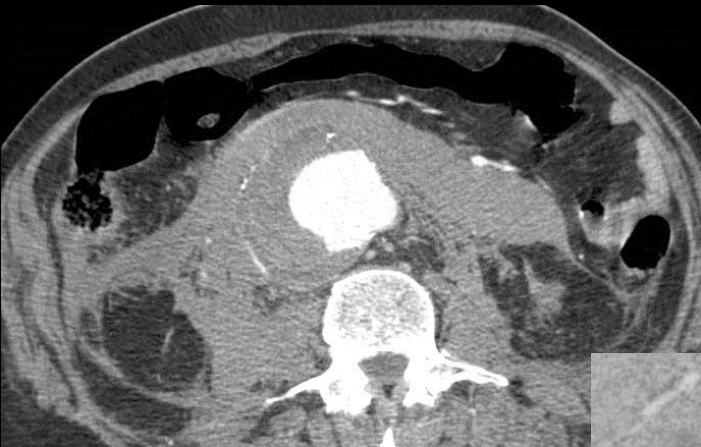
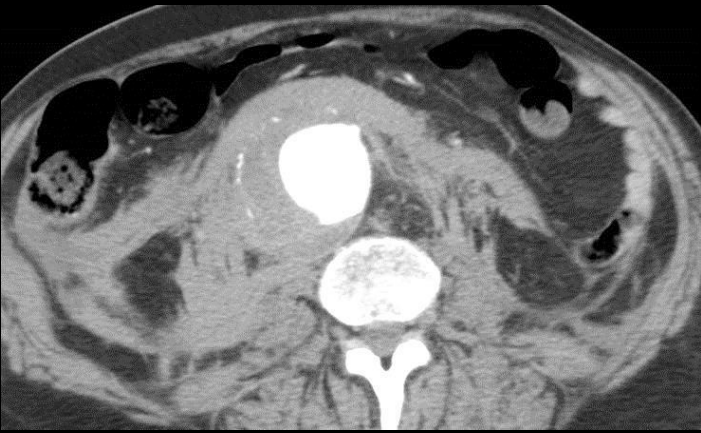


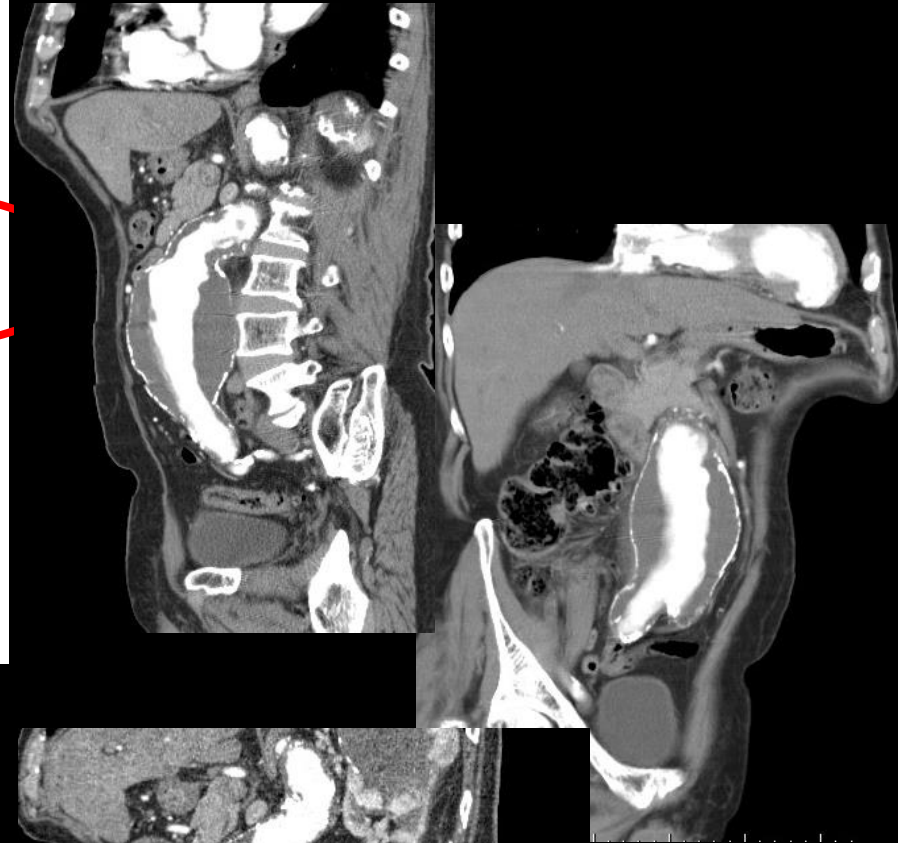
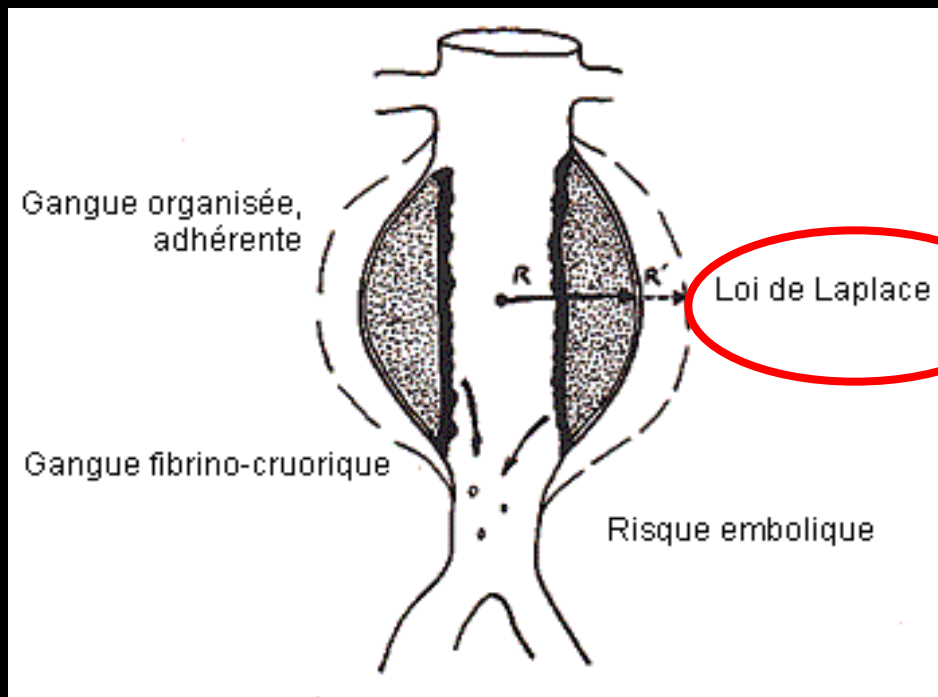
Cas 35





**Rupture d'AAA avec hématome rétropéritonéal**



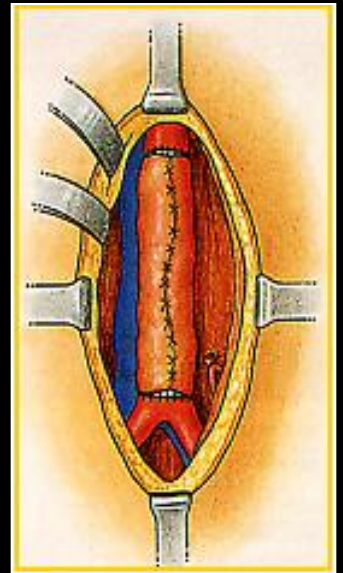
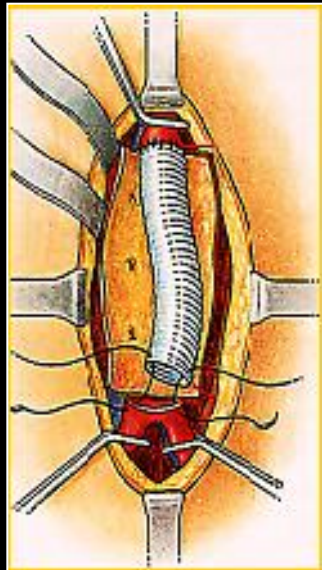
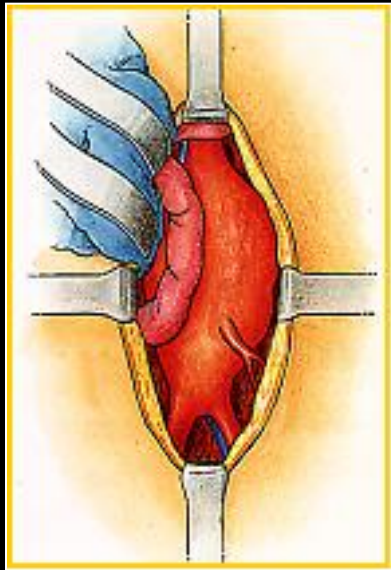
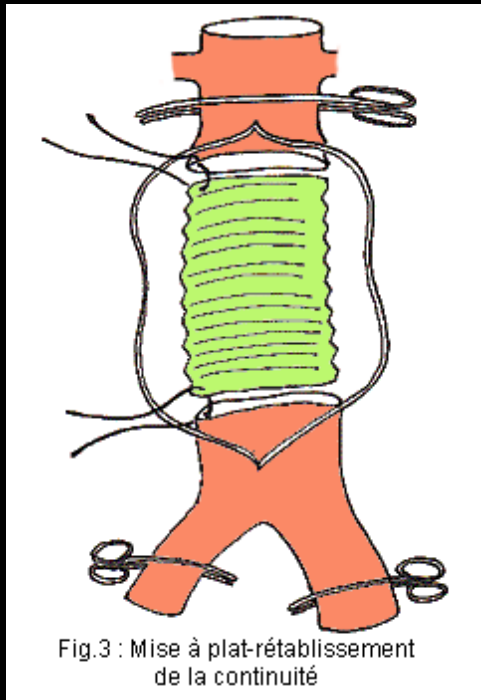


un anévrisme tend spontanément à augmenter de volume car , selon la loi de Laplace , plus le **diamètre** (D) est grand, plus la **tension pariétale** (T) qui s'exerce sur les parois est importante (à pression P et épaisseur e constante) donc plus l'anévrisme se dilate

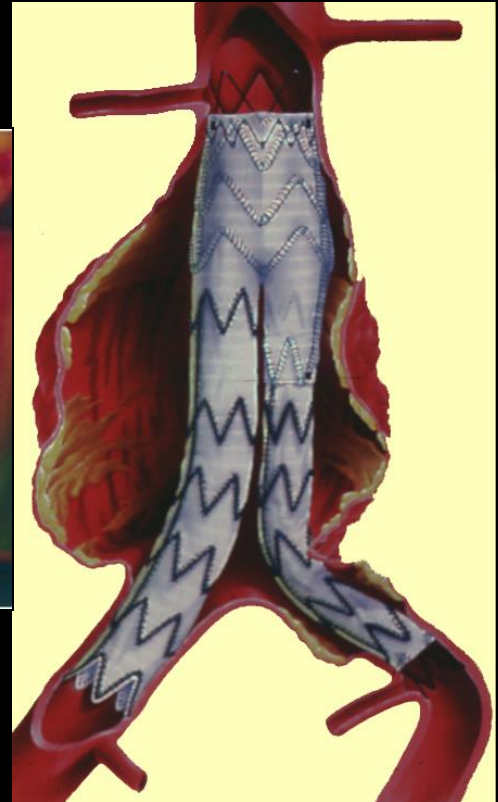
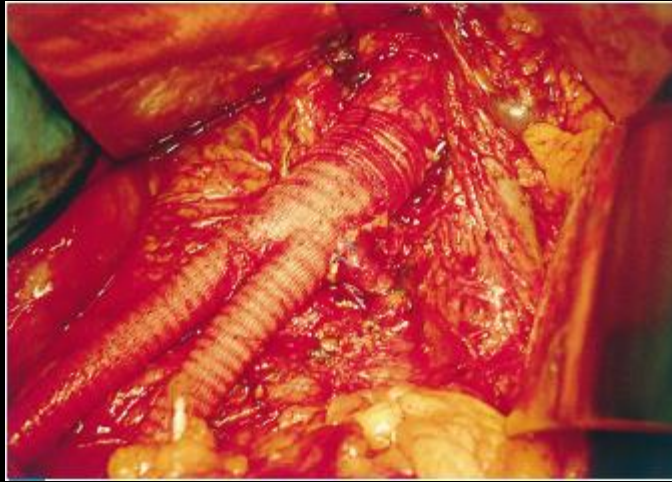
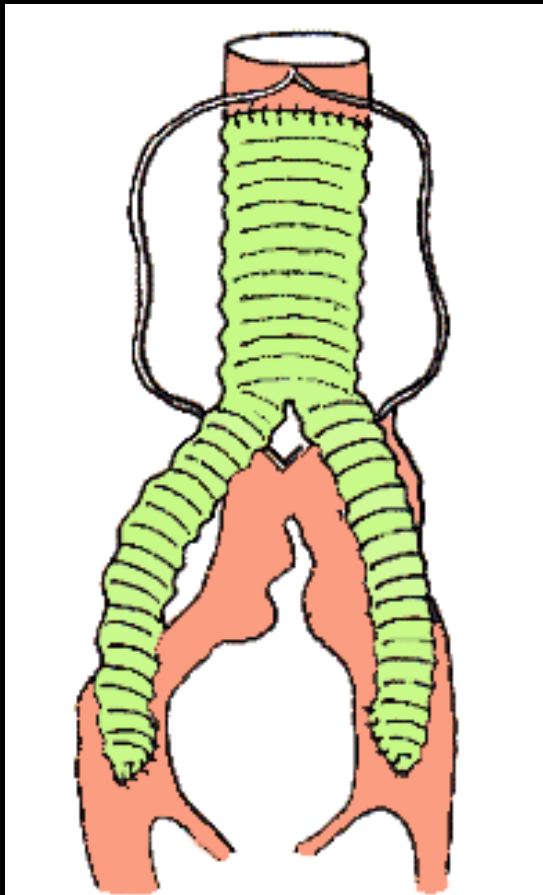
$$T = P \times R / 2e$$



12.4 mm (2D)

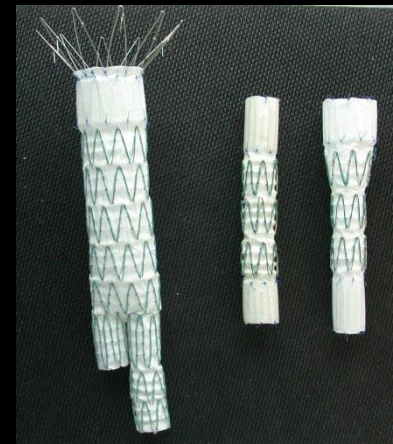
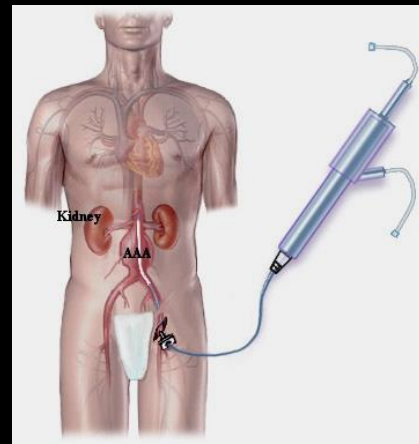


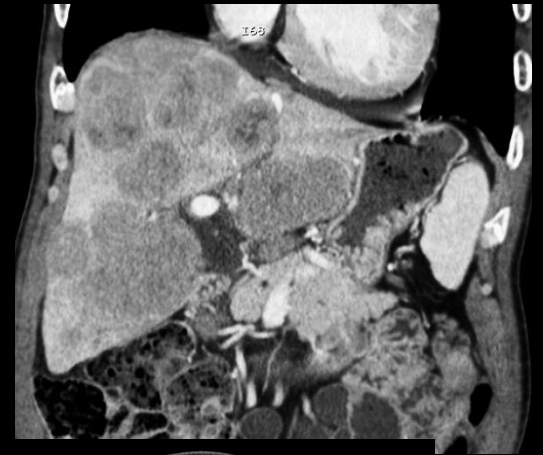
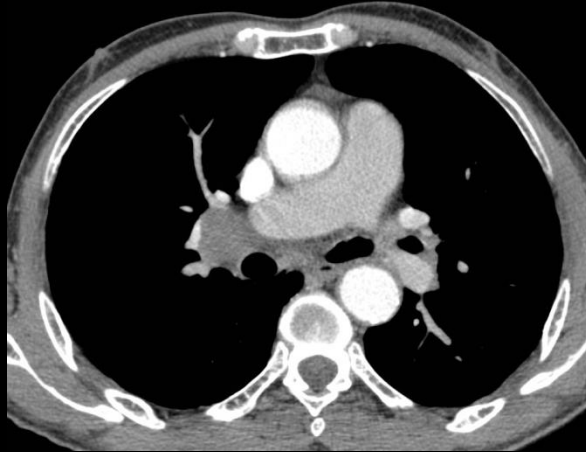
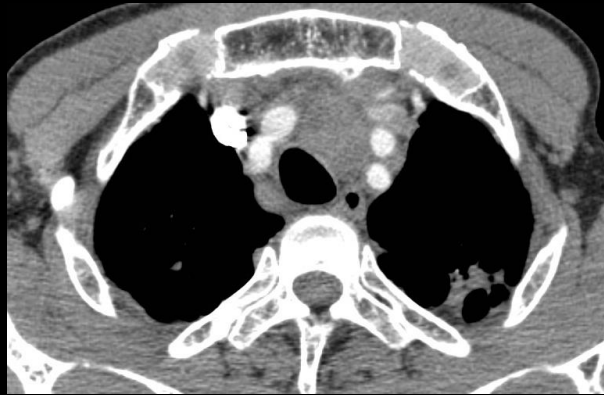




**endo**prothèse aorto-iliaque

prothèse aorto-iliaque :  
« culotte aortique »

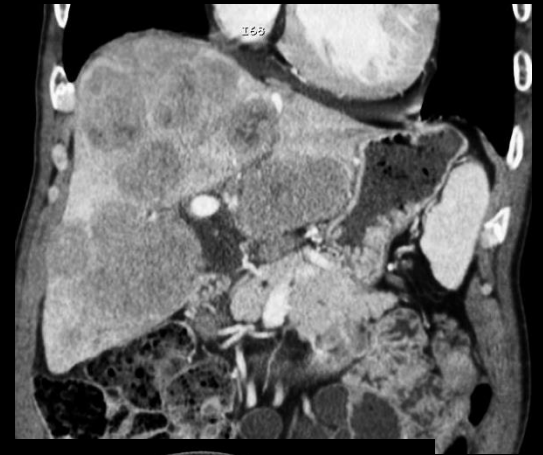
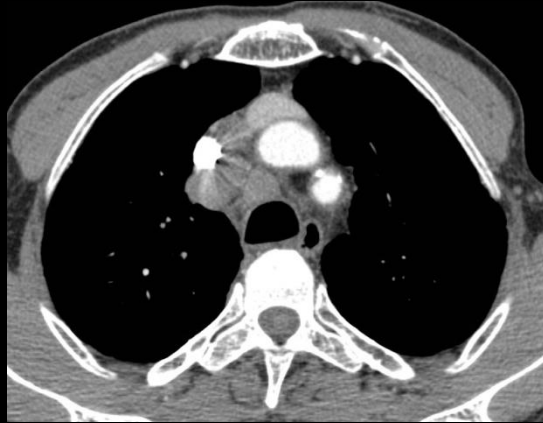
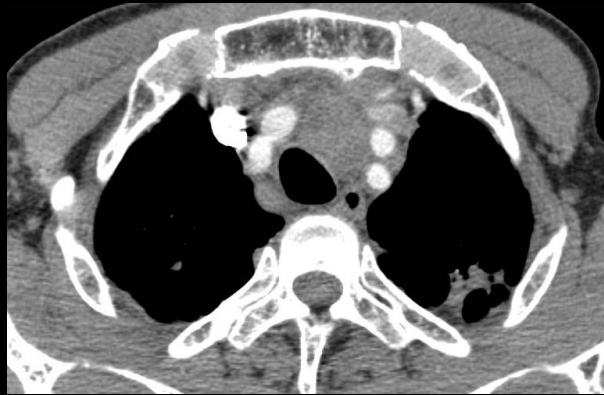




Patient de 74 ans, AEG, douleurs de l'hypocondre droit  
Cholestase biologique







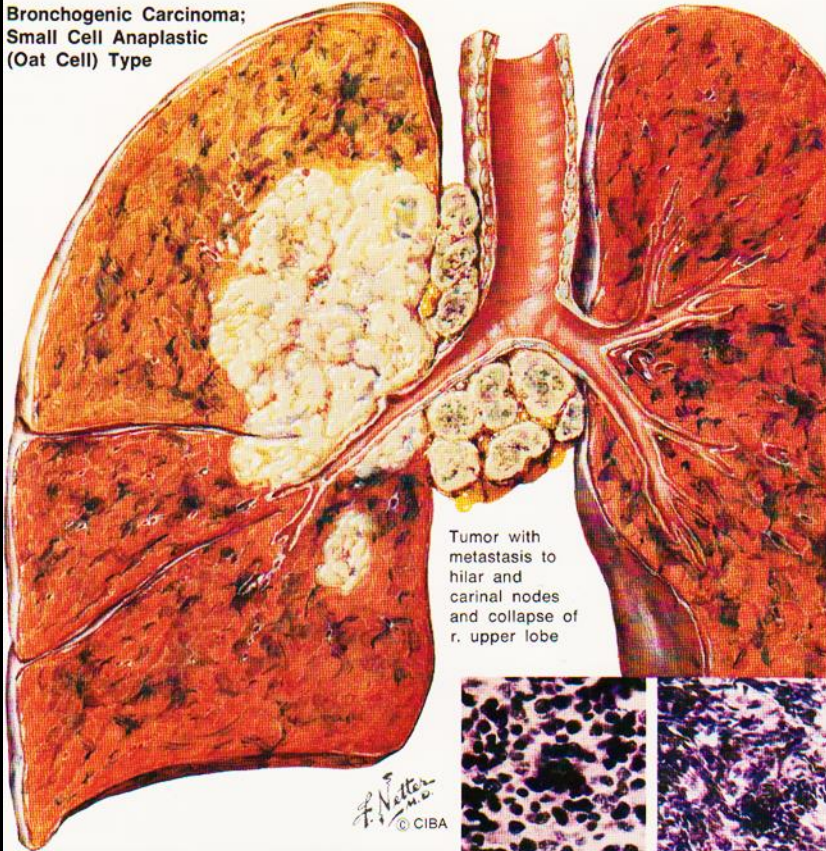
Patient de 74 ans, AEG, douleurs de l'hypocondre droit  
Cholestase biologique

**Carcinome à petites cellules  
et métastases hépatiques**



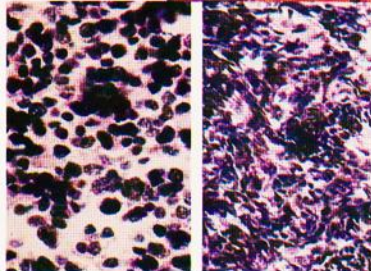


**Bronchogenic Carcinoma;  
Small Cell Anaplastic  
(Oat Cell) Type**



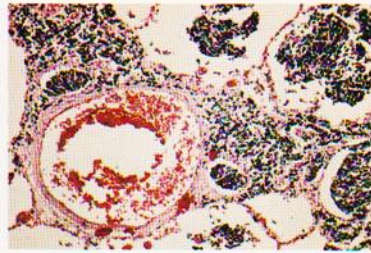
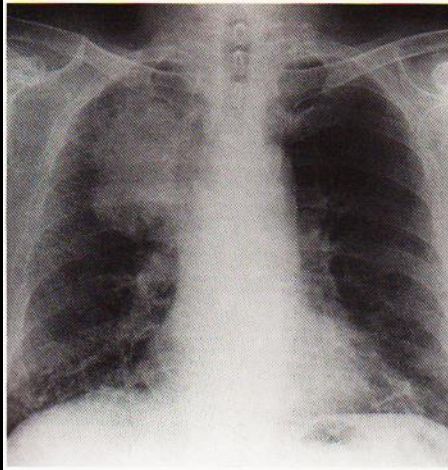
Tumor with metastasis to hilar and carinal nodes and collapse of r. upper lobe

*F. Netter M.D.*  
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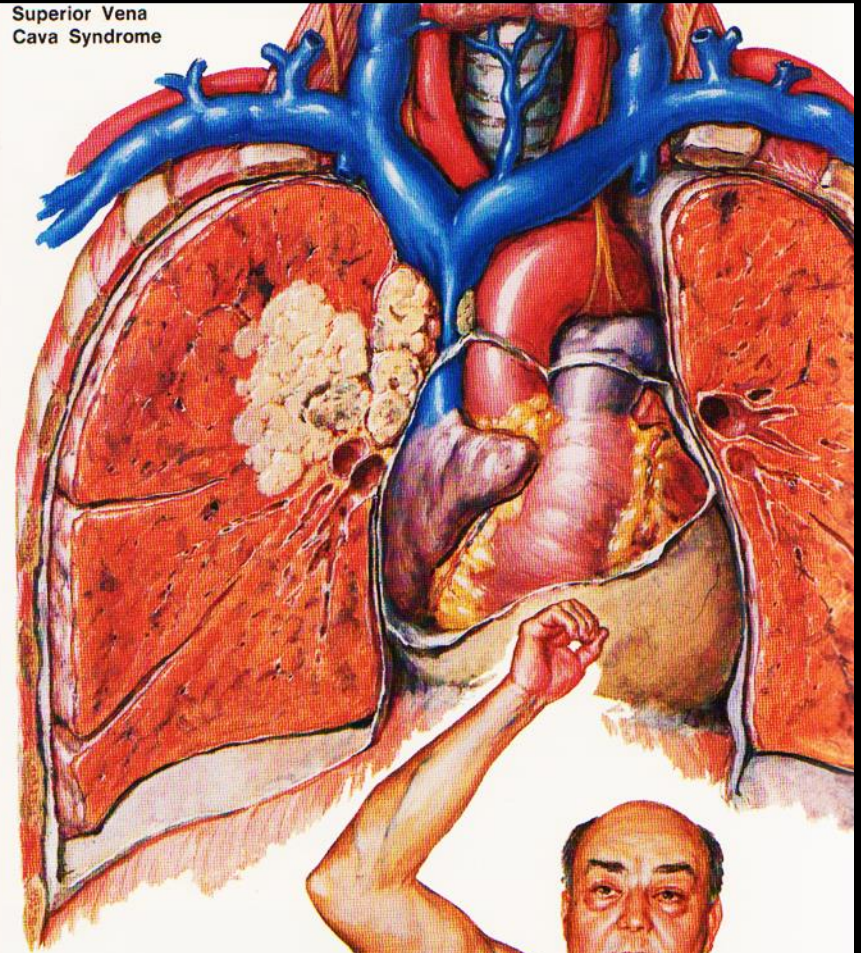
Masses of small cells with hyperchromatic round to oval nuclei and scant cytoplasm

Biopsy specimen. Cells elongated (oatlike)

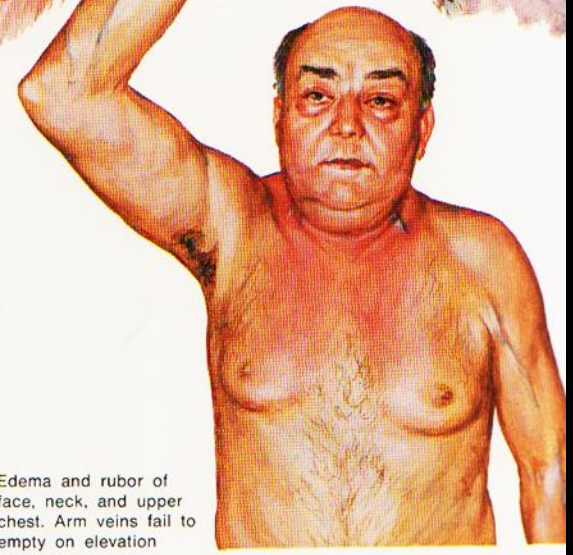


Intrapulmonary lymphatic spread of neoplas

**Superior Vena  
Cava Syndrome**



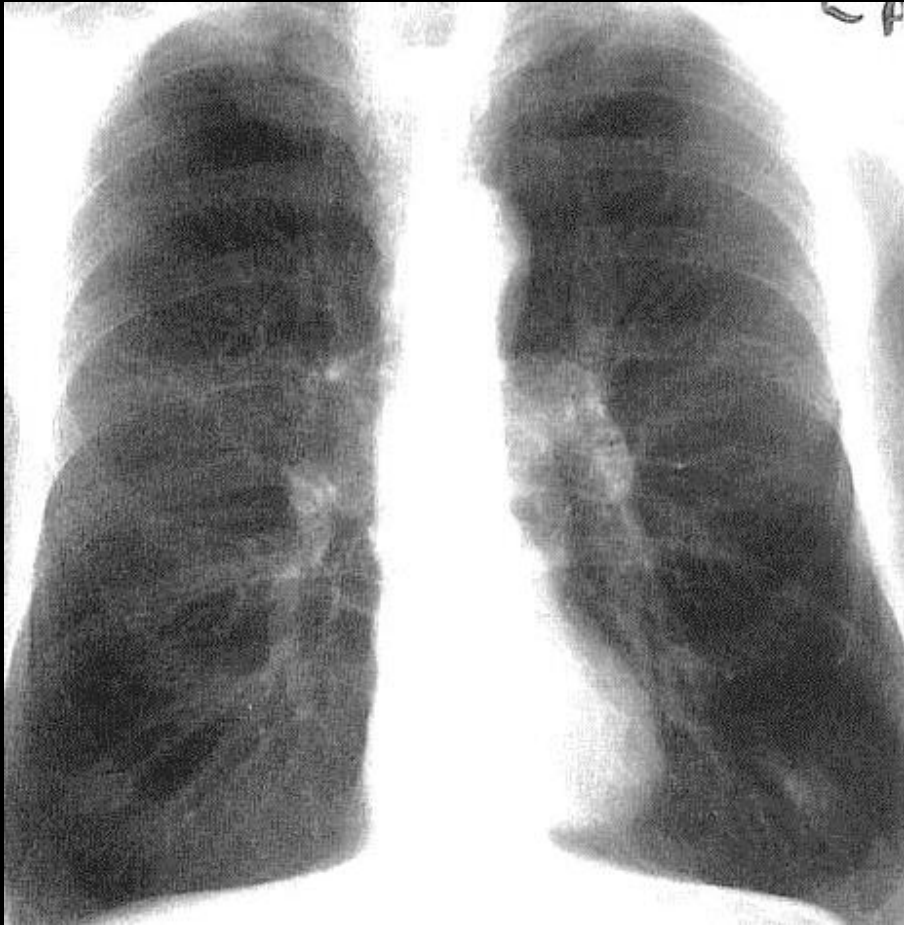
Obstruction of superior vena cava by cancerous invasion of mediastinal lymph nodes, with distention of brachiocephalic (innominate), jugular, and subclavian veins and tributaries

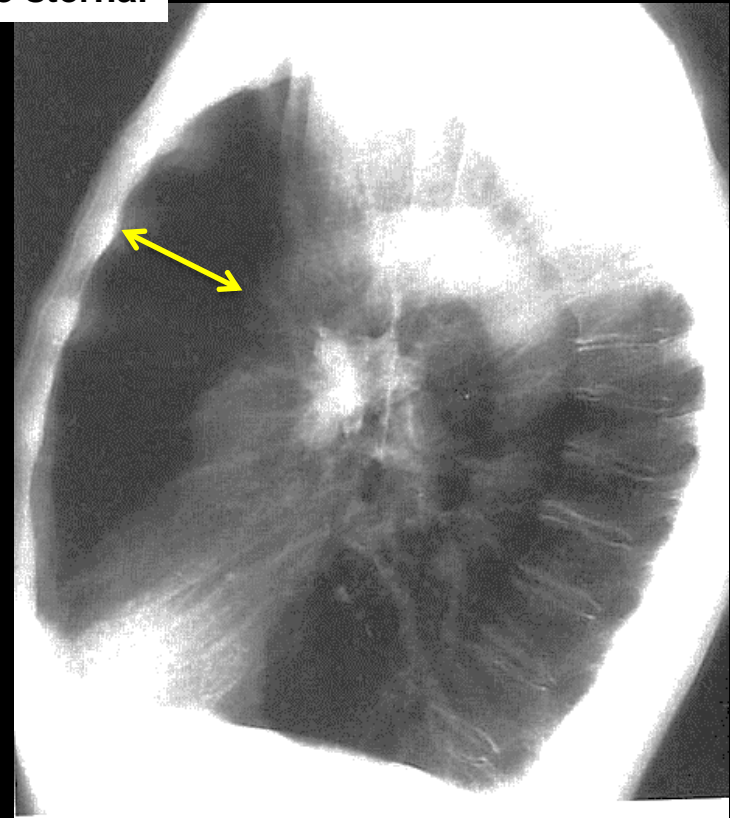
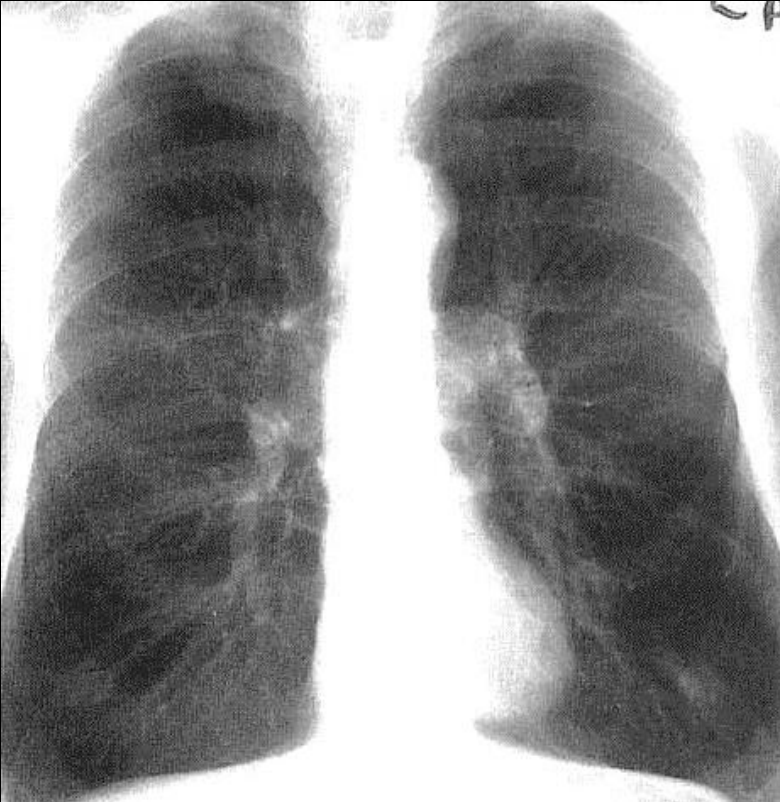


Edema and rubor of face, neck, and upper chest. Arm veins fail to empty on elevation

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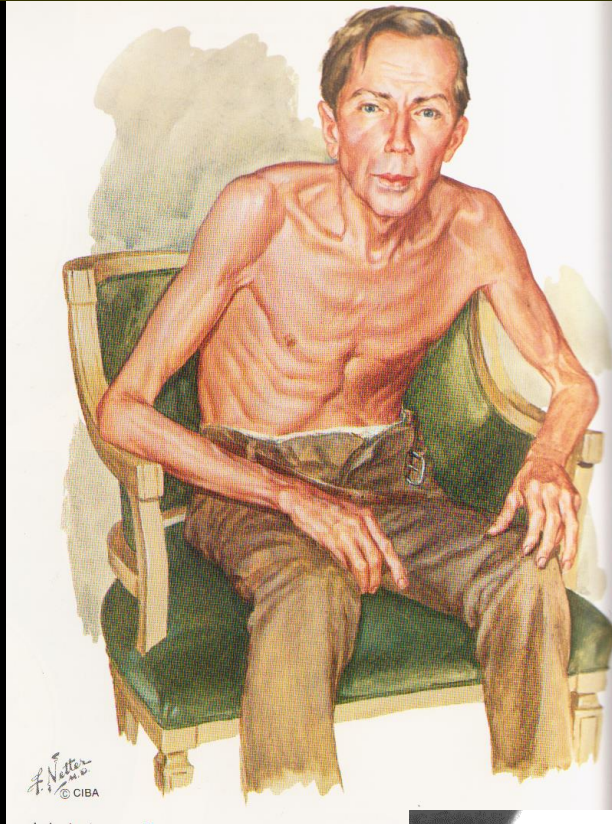


- Abaissement et aplatissement des coupoles diaphragmatiques
- " Ascension » et "amincissement" du cœur ; "cœur en goutte"
- Augmentation des EIC visibles
- Horizontalisation des côtes
- Cyphose dorsale, augmentation du diamètre antéropostérieur (thorax en « tonneau »)
- Bombement sternal (thorax "en tonneau")
- Élargissement de l'espace clair rétro sternal

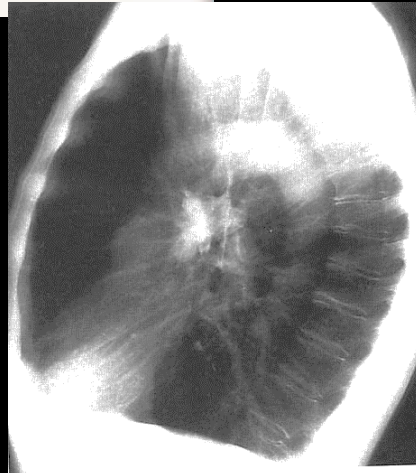
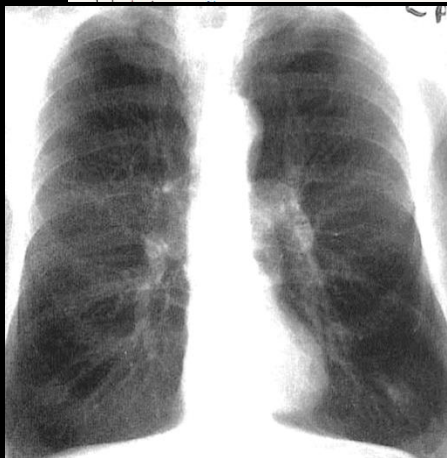
**distension thoracique**

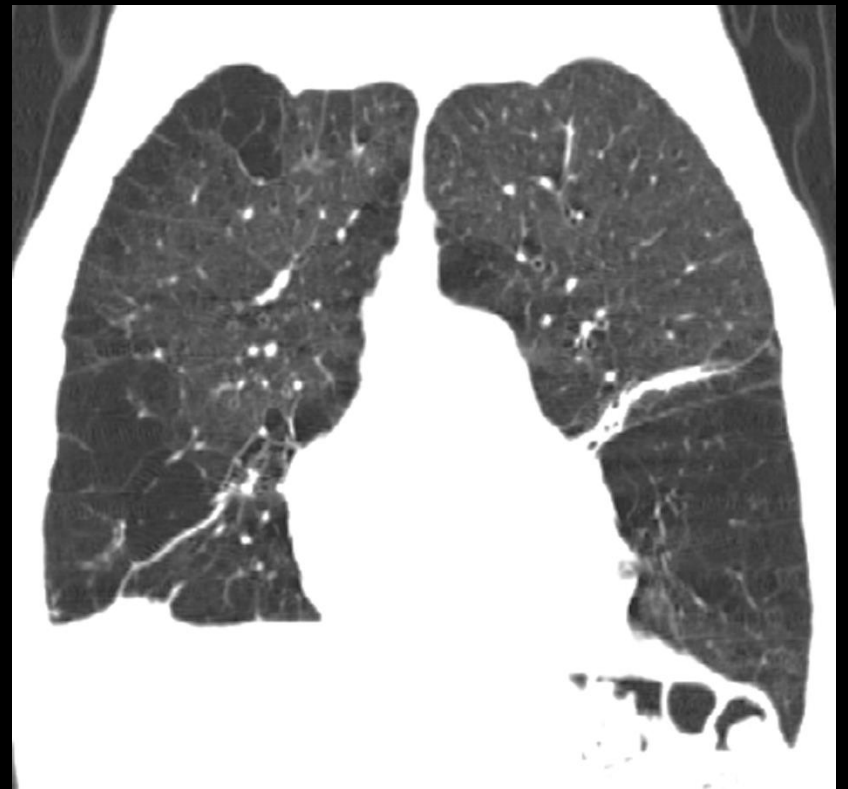
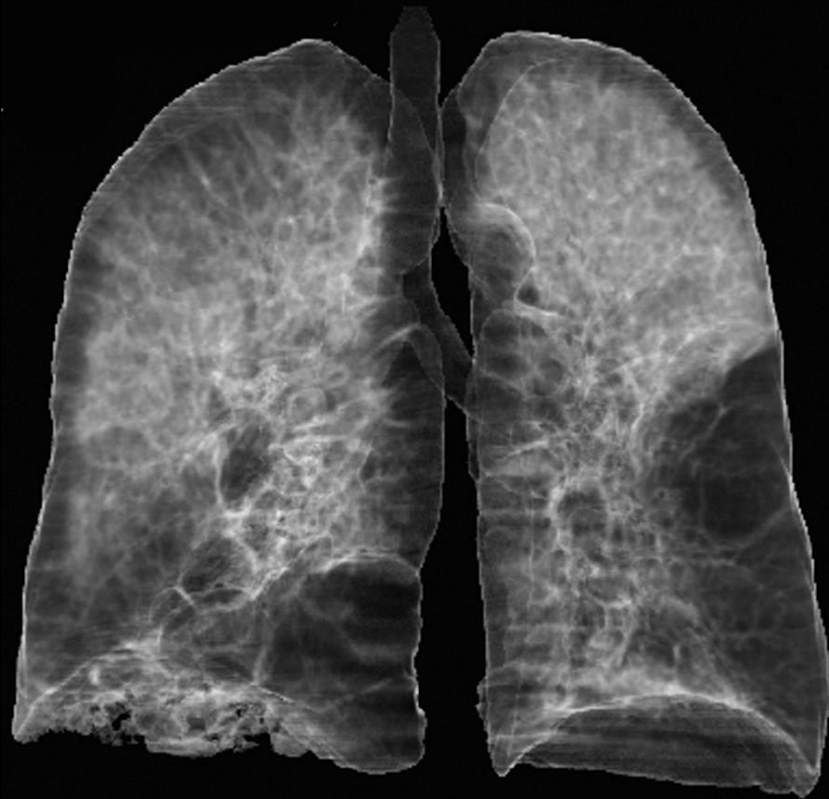
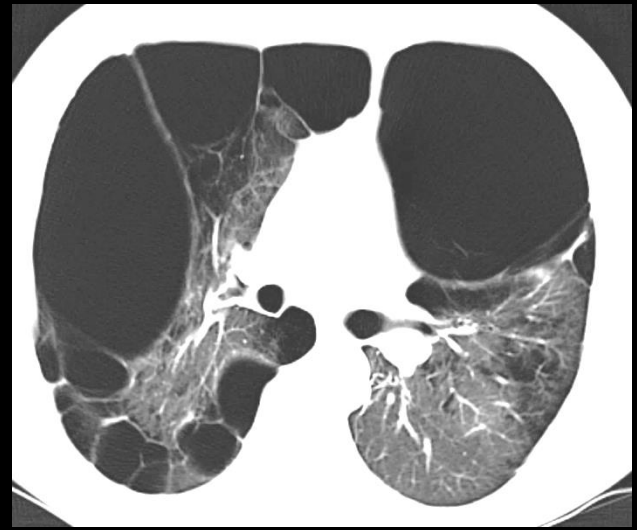
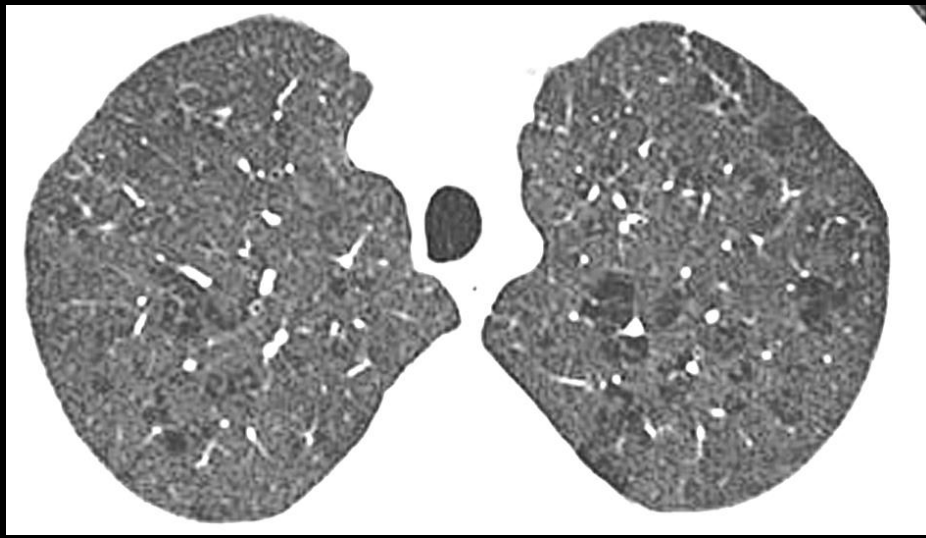


l'emphysémateux (pink puffer)



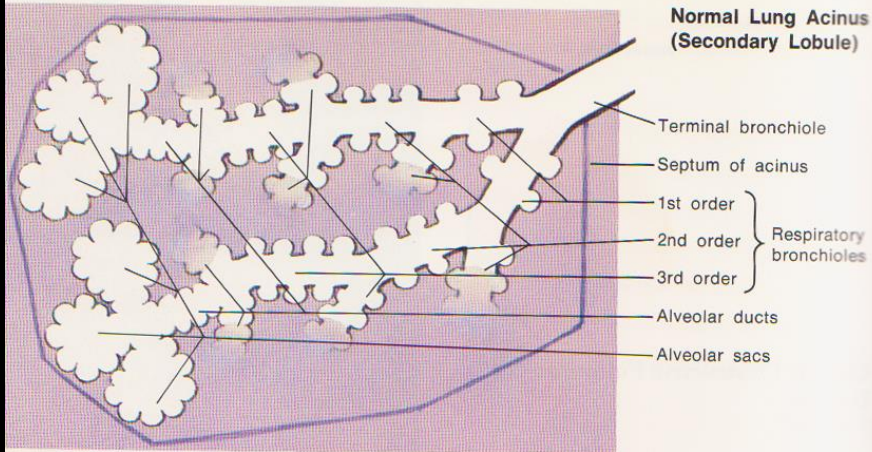
le bronchiteux chronique \* (blue blotter)



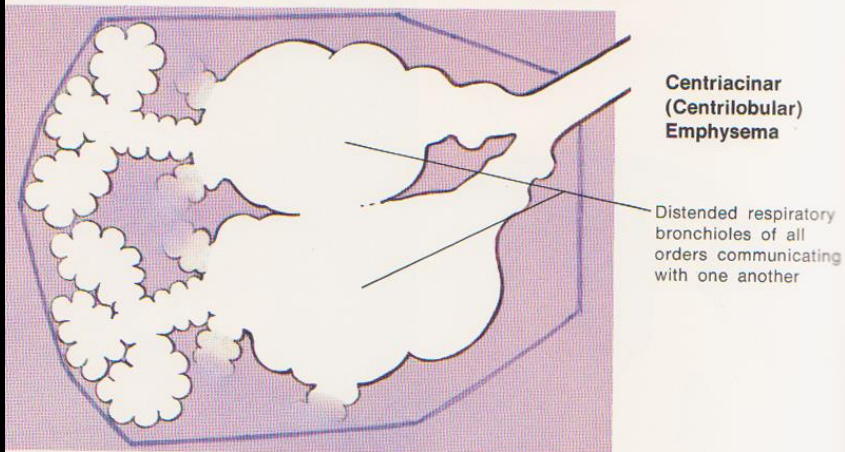




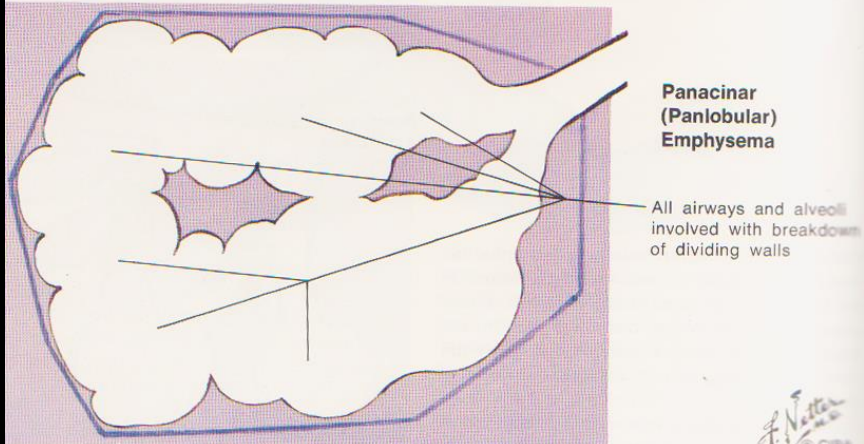
**Normal Lung Acinus (Secondary Lobule)**



**Centriacinar (Centrilobular) Emphysema**



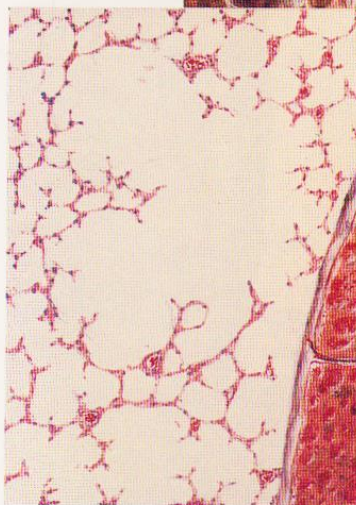
**Panacinar (Panlobular) Emphysema**



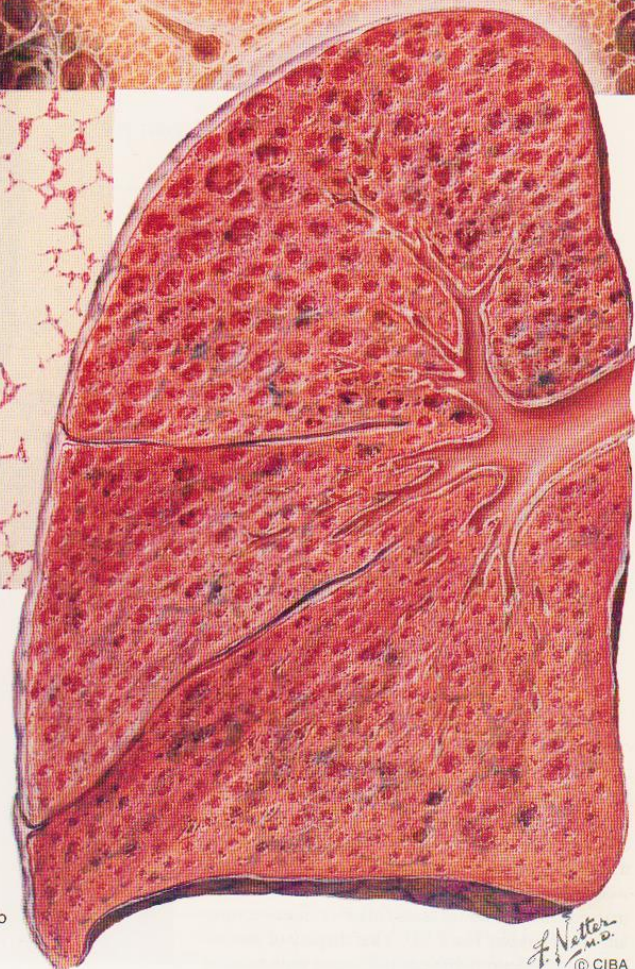
**Centriacinar (Centrilobular) Emphysema**



Magnified section. Distended, intercommunicating, saclike spaces in central area of acini



Microscopic section. Distention of airspaces with rupture of alveolar walls



Gross specimen. Involvement tends to be most marked in upper part of lung

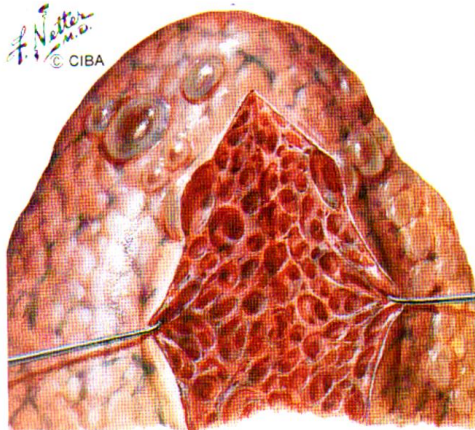
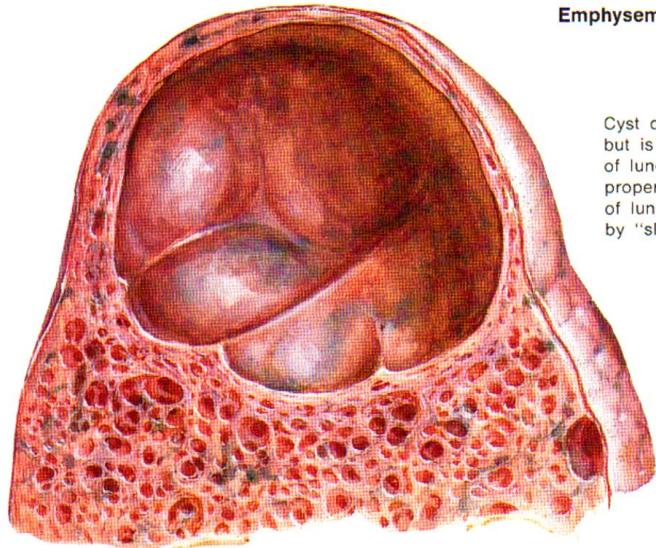
*F. Netter M.D.*

*F. Netter M.D.*  
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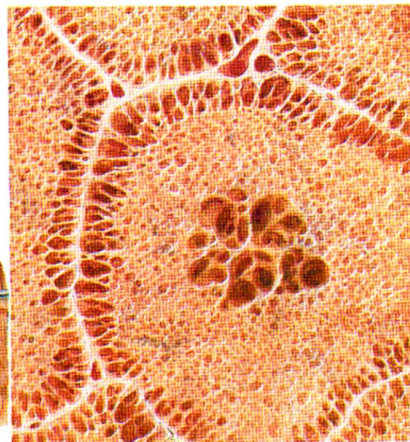


### Emphysematous Cyst

Cyst does not compress lung but is expanded by weight of lung and more intact recoil properties of dependent portions of lung. (Principle demonstrated by "slinky" below)

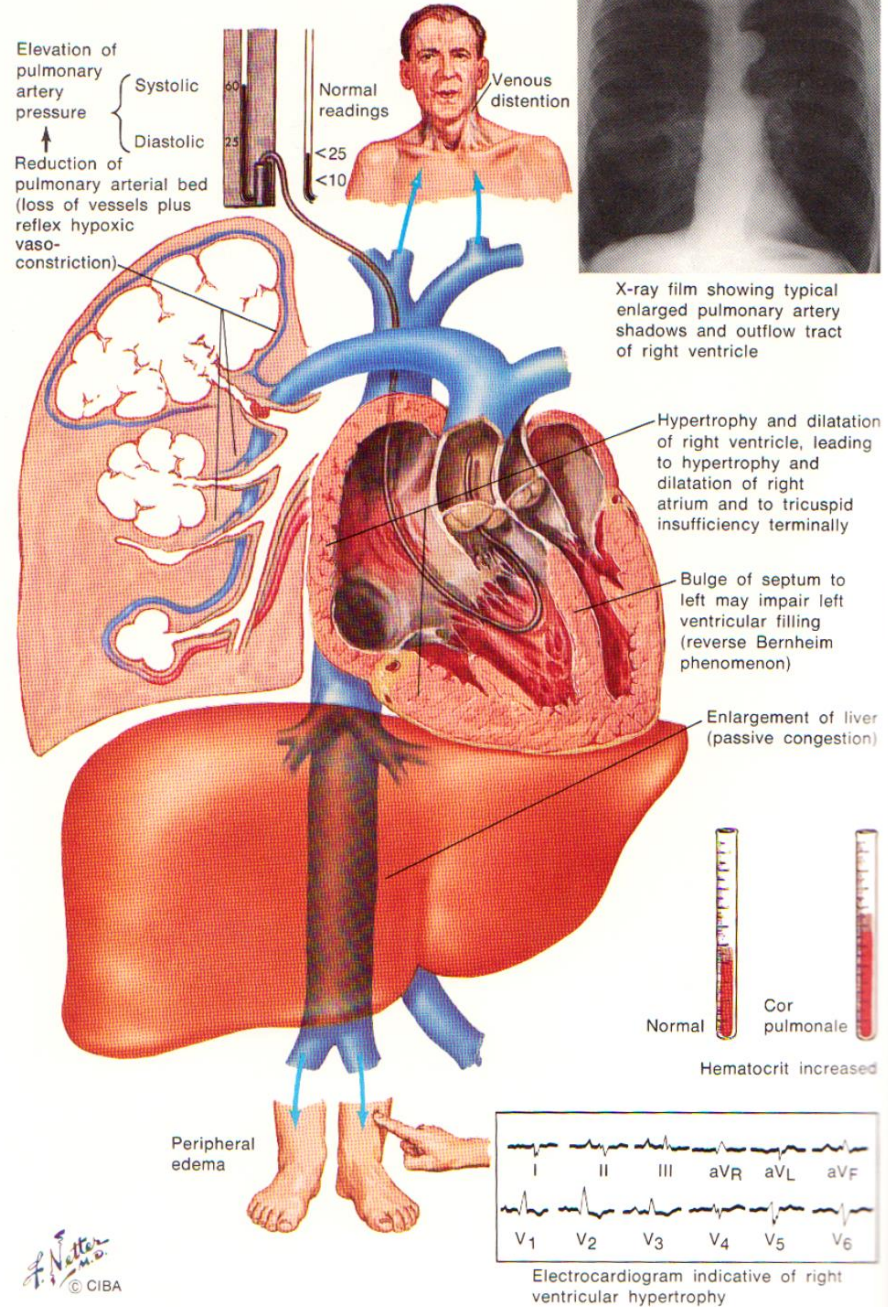


**Surface Bullae in Emphysema**  
Rupture may result in pneumothorax



**Paraseptal (plus centrilobular) Emphysema**

### Cor Pulmonale Due to COPD







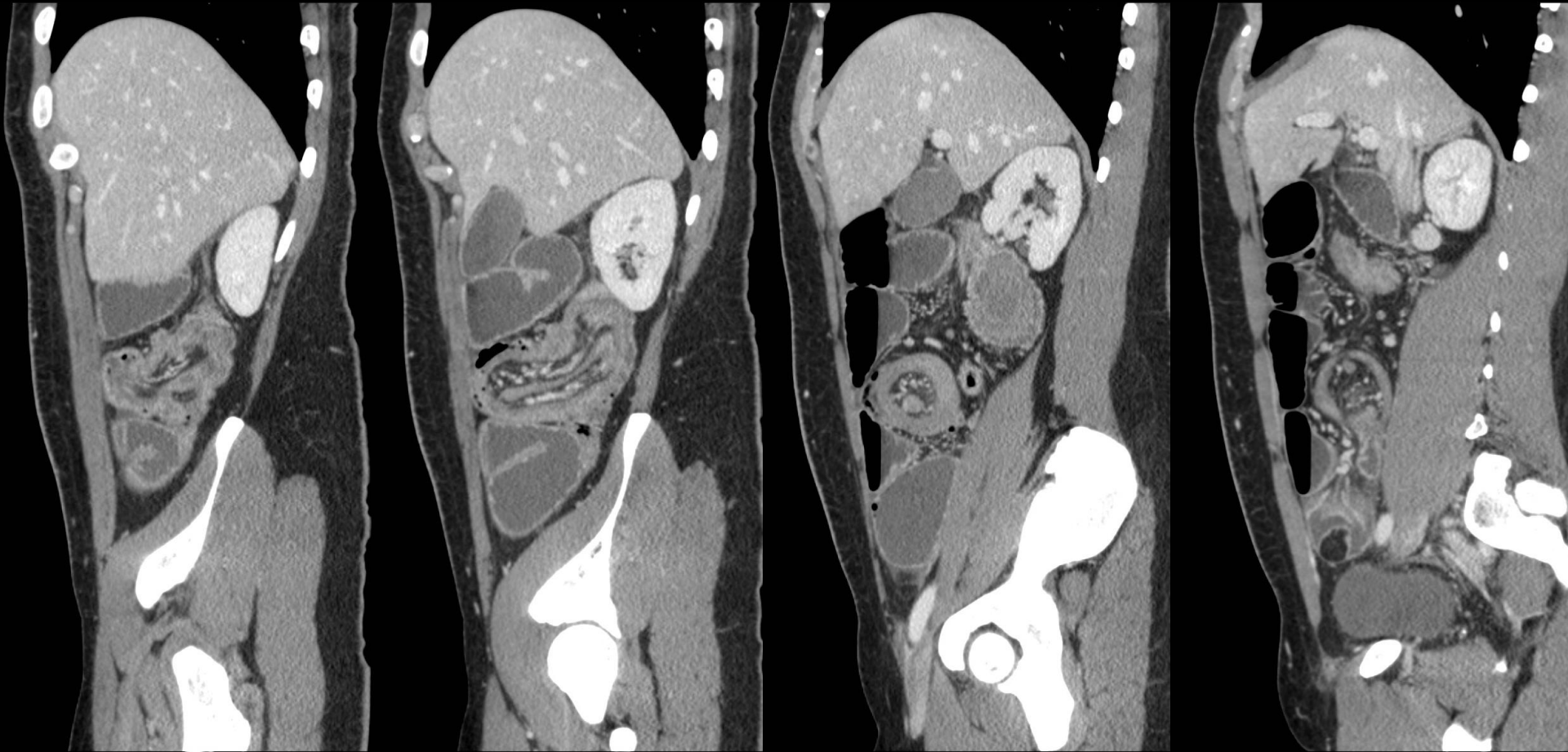
**Patient de 25 ans.  
Douleurs épigastriques évoluant  
depuis une semaine.  
Syndrome inflammatoire biologique.  
Bilan hépato-pancréatique normal.**

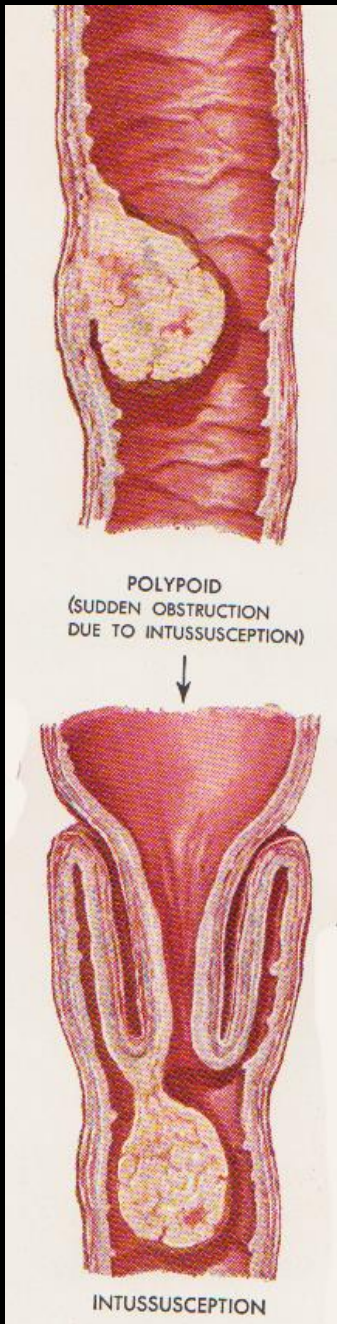


**Patient de 25 ans.  
Douleurs épigastriques évoluant  
depuis une semaine.  
Syndrome inflammatoire biologique.  
Bilan hépato-pancréatique normal.**



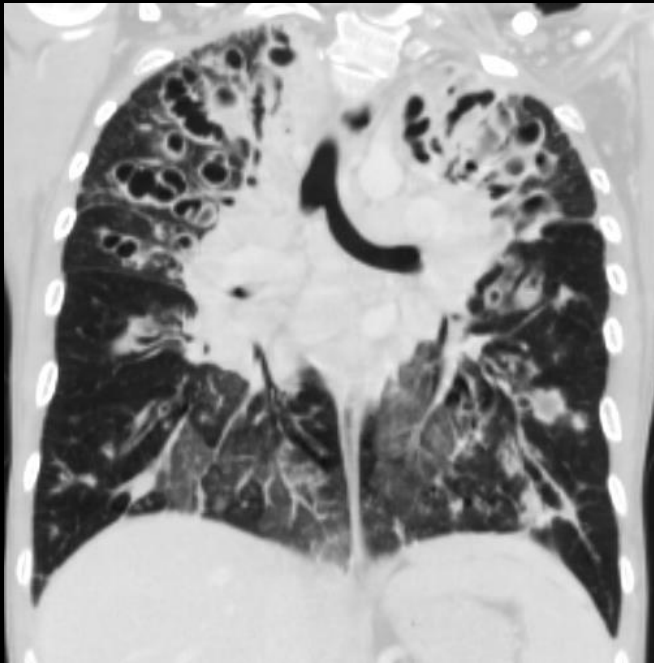
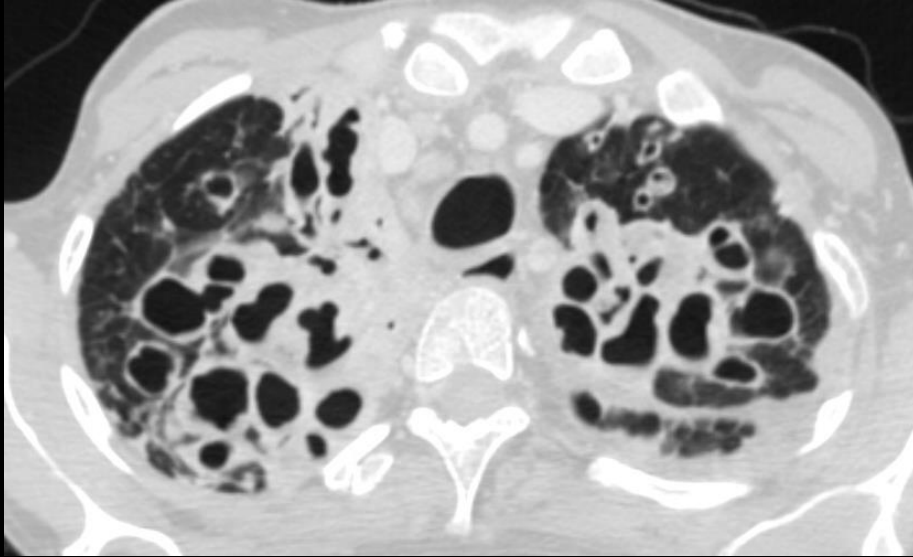
## Invagination iléo-colique

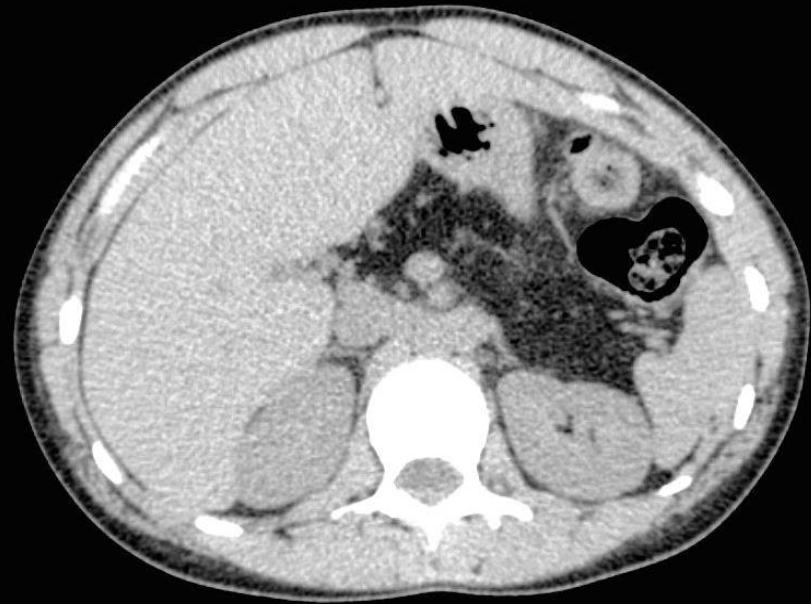
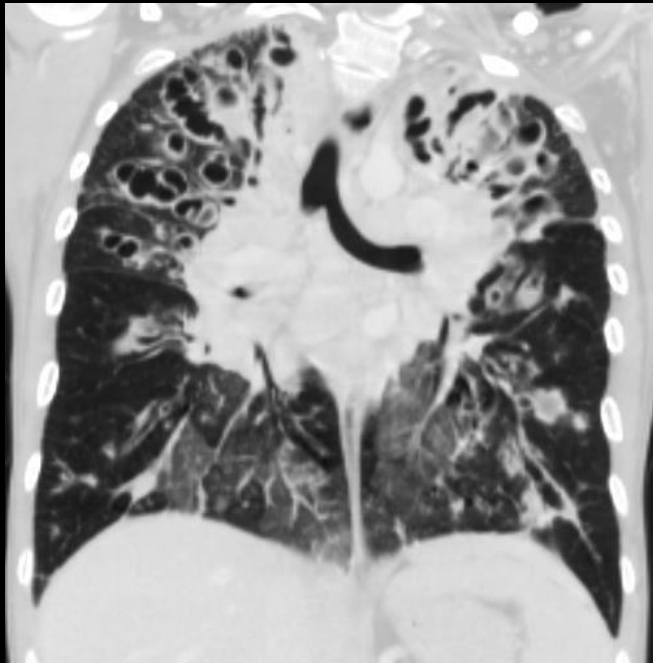
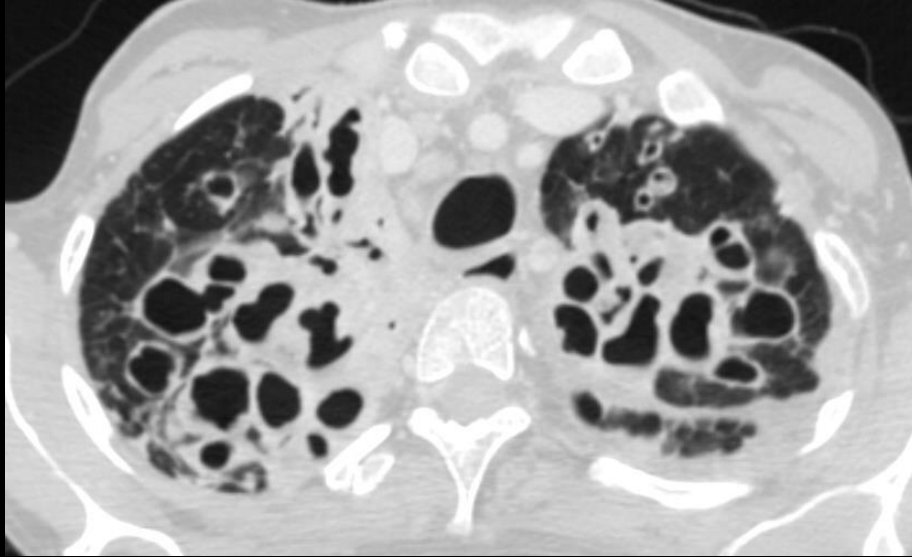




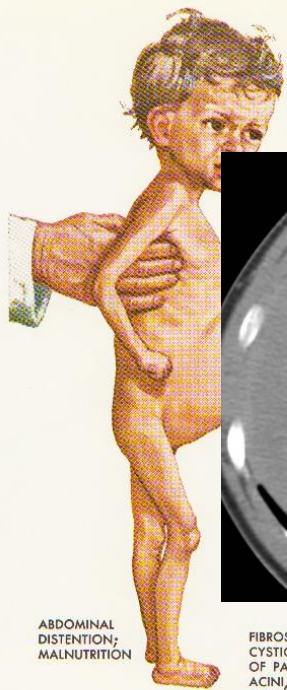
Invagination iléo-colique (ADK valvule de Bauhin, mucocèle appendiculaire, LMNH Burkitt)







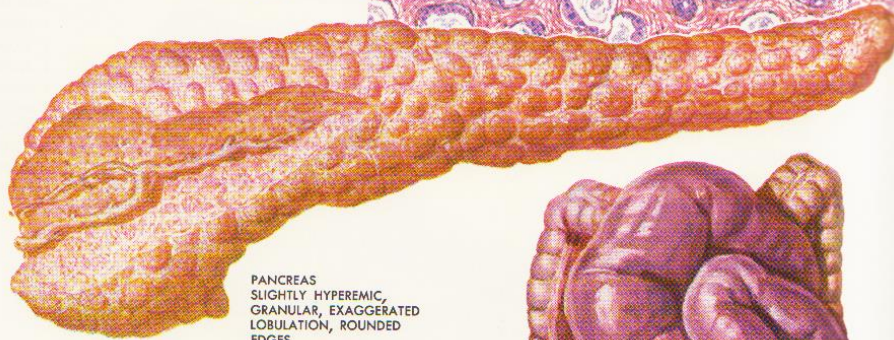
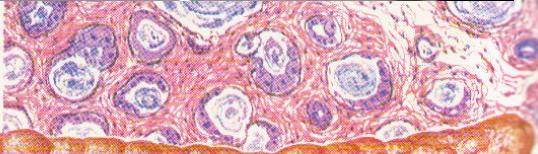




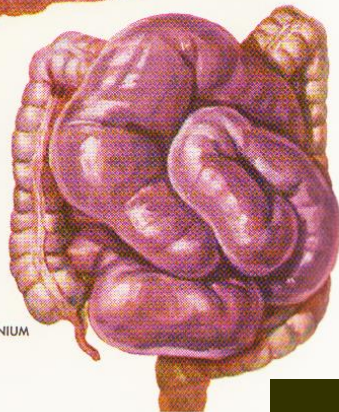
ABDOMINAL DISTENTION;  
MALNUTRITION



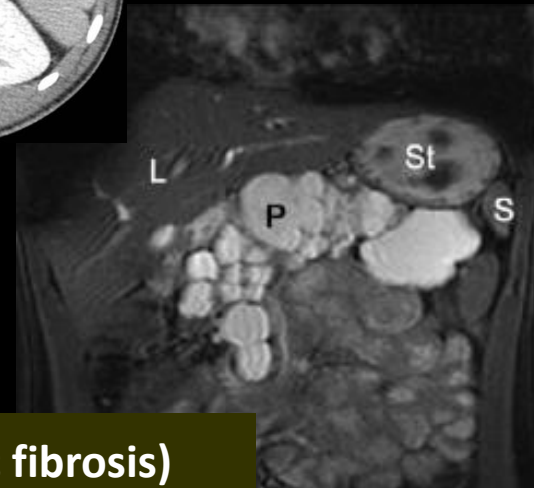
FIBROSIS,  
CYSTIC DILATATION  
OF PANCREATIC  
ACINI, LAMELLAR  
SECRETION

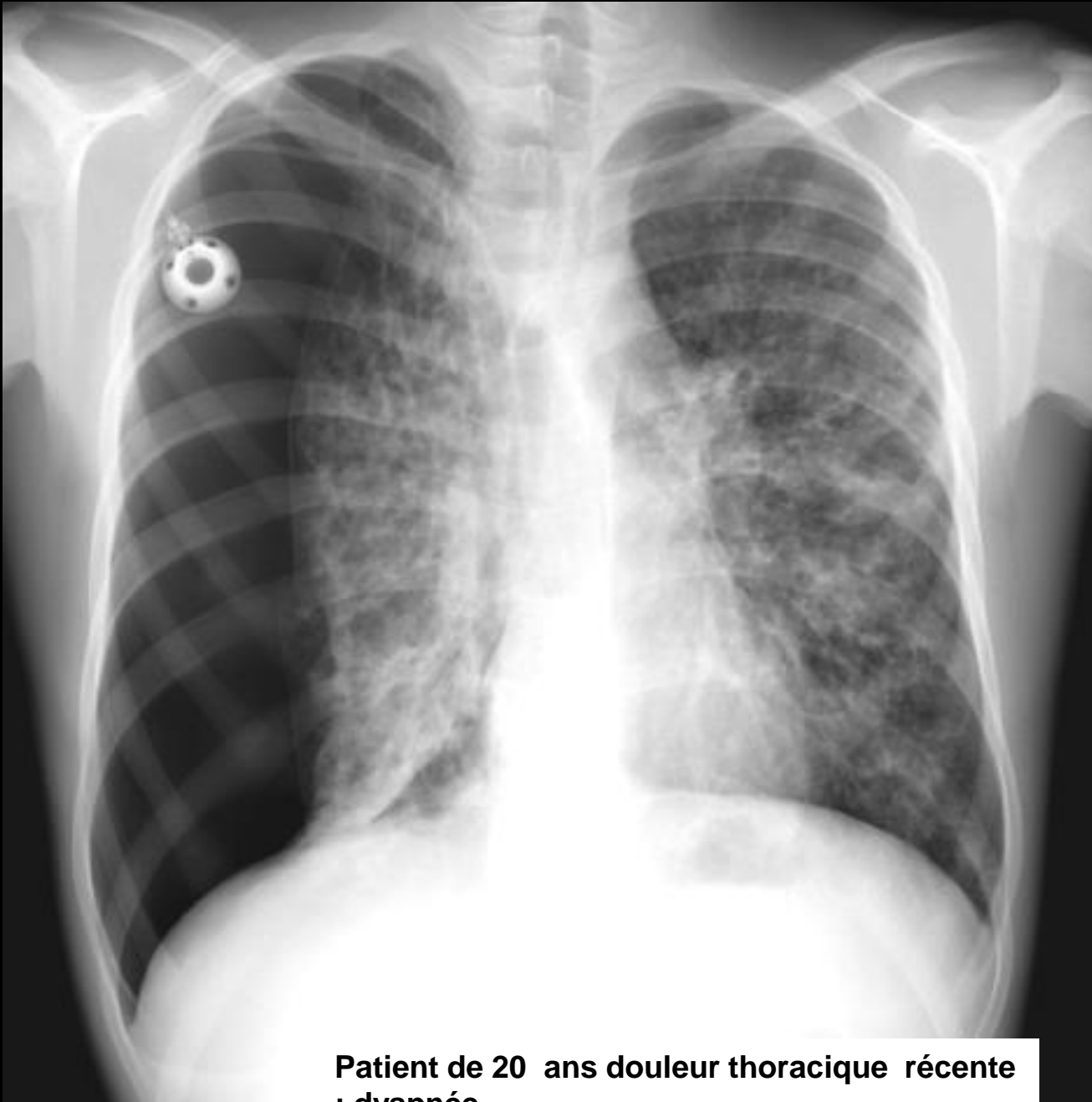


PANCREAS  
SLIGHTLY HYPEREMIC,  
GRANULAR, EXAGGERATED  
LOBULATION, ROUNDED  
EDGES



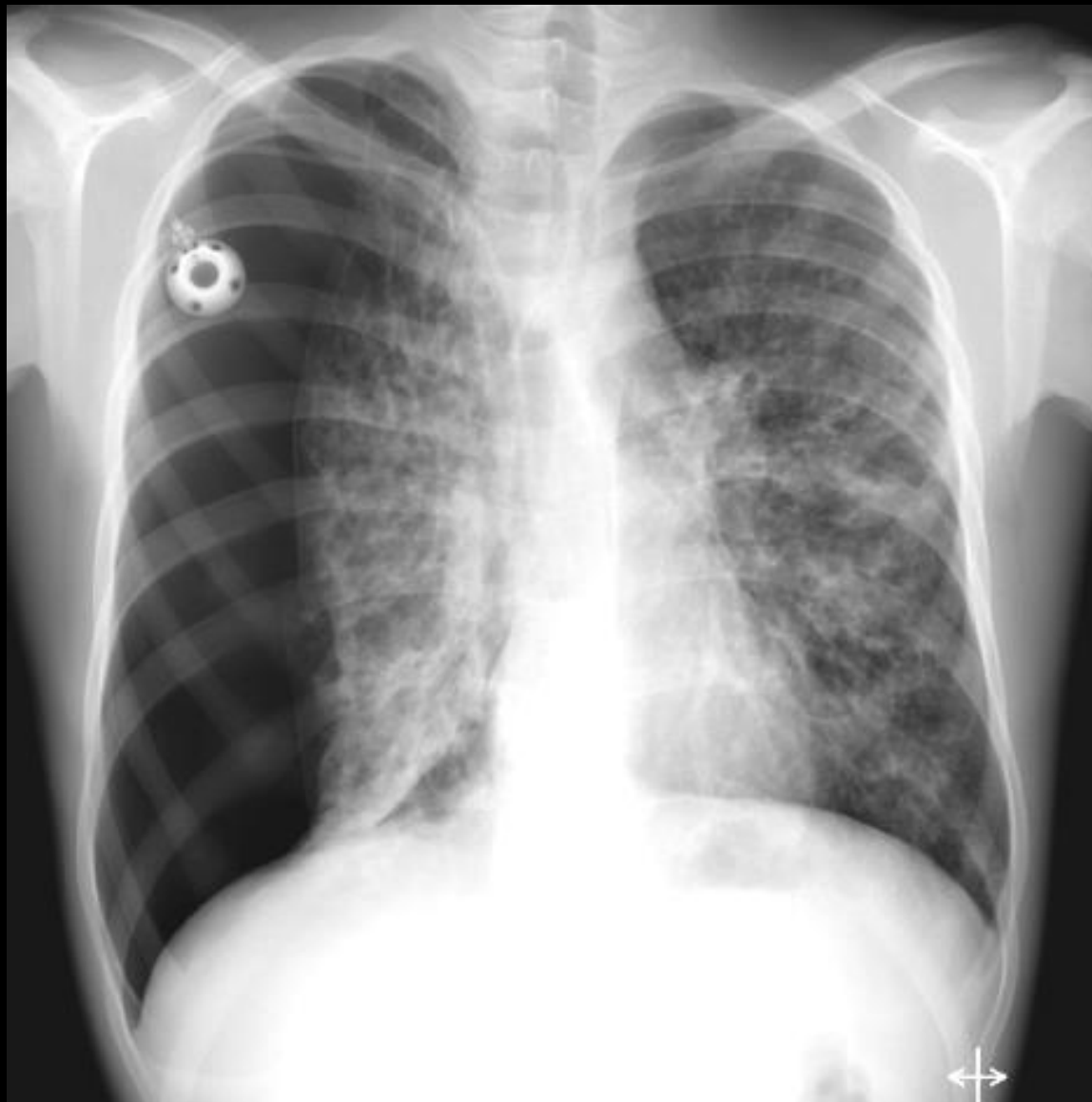
MECONIUM  
ILEUS



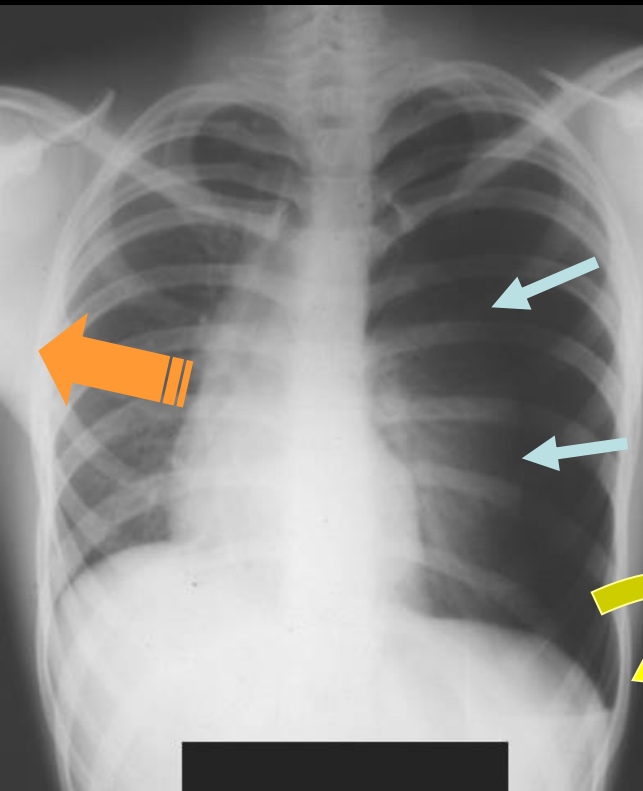


**Patient de 20 ans douleur thoracique récente ; dyspnée**

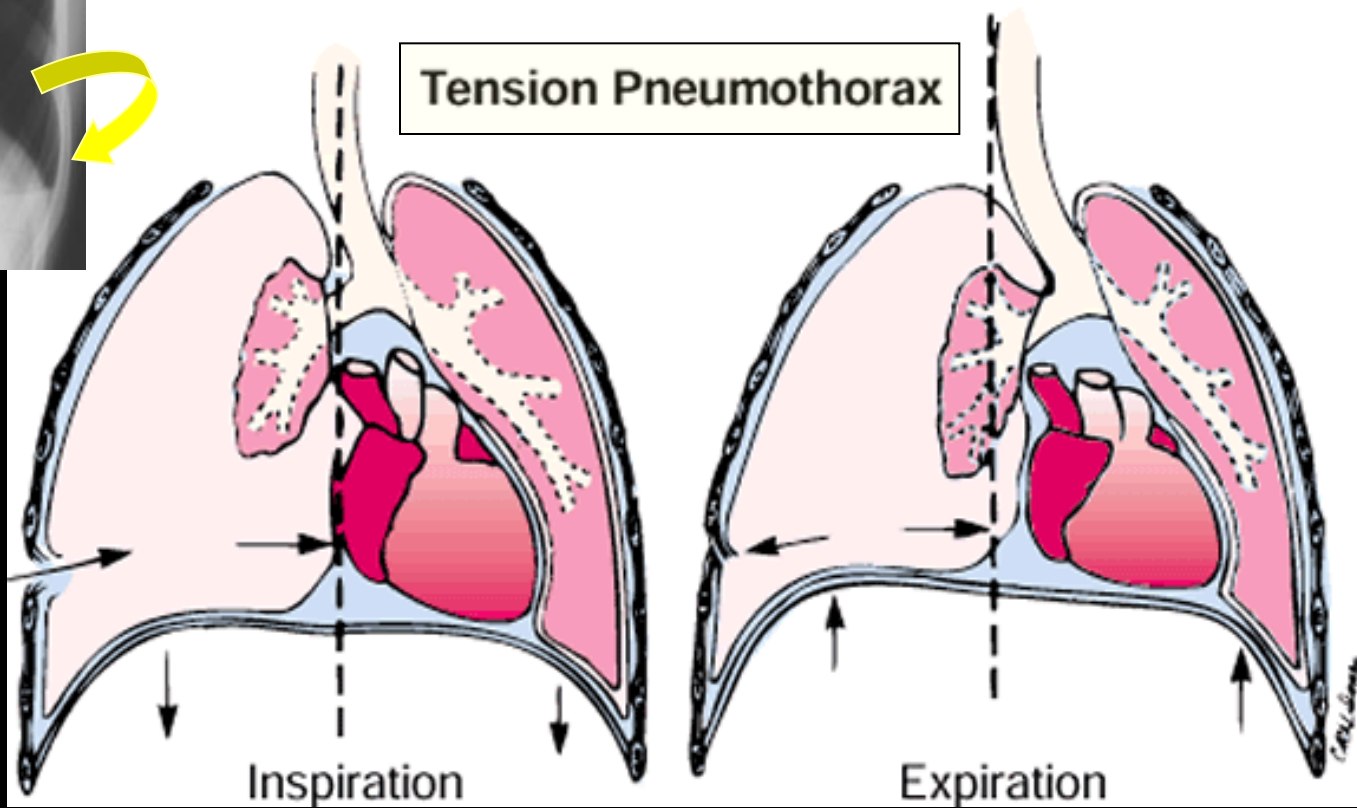




**pneumothorax**

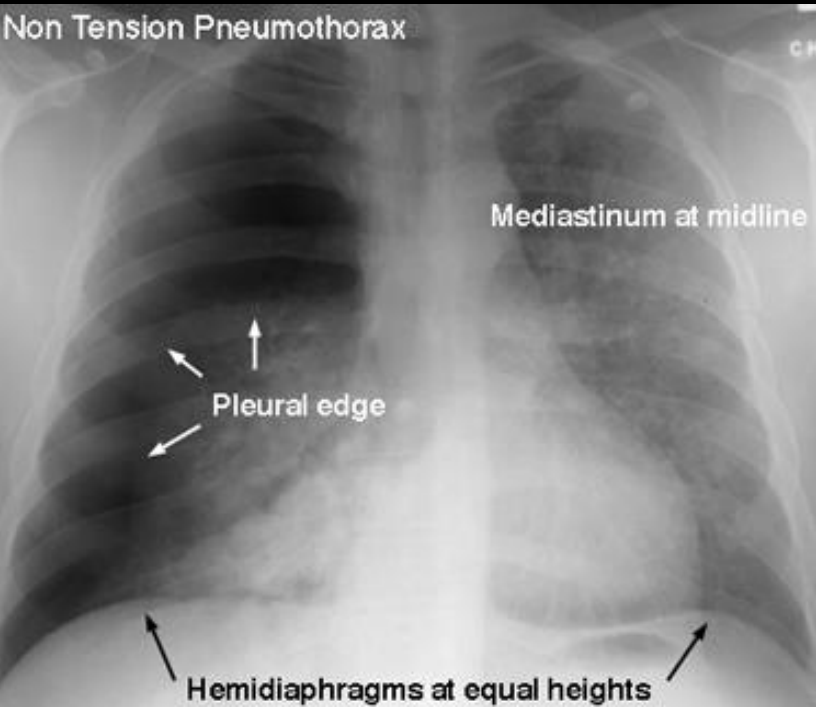


"deep sulcus sign"  
signe du sinus costo-phrénique latéral profond

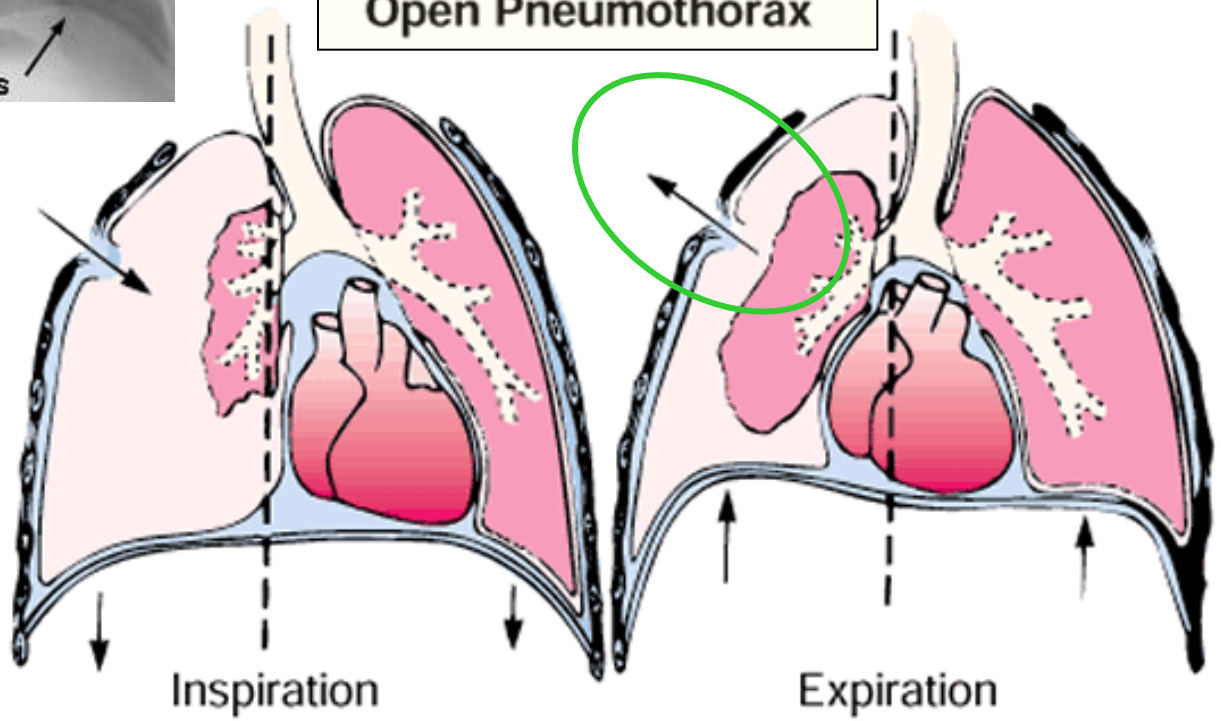




Non Tension Pneumothorax

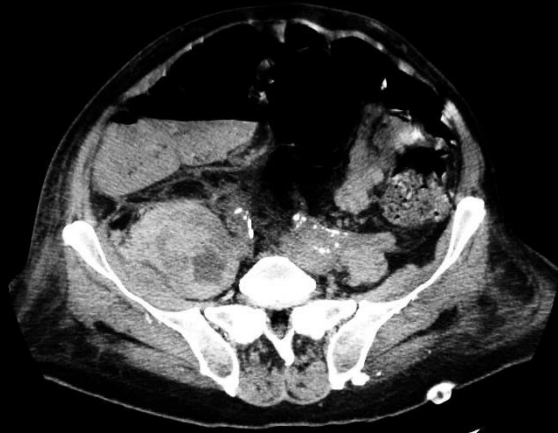
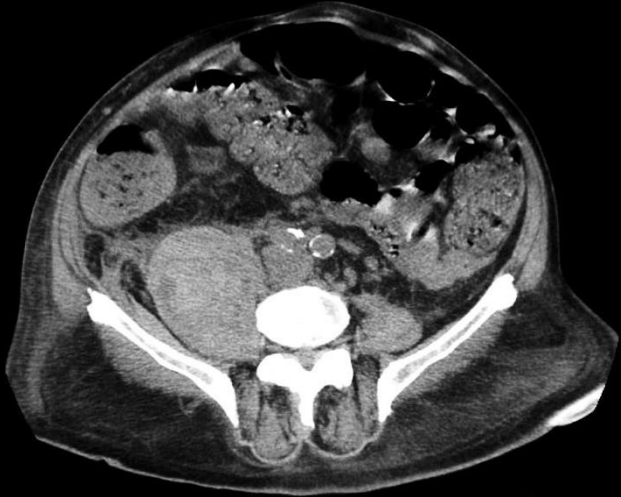


Open Pneumothorax

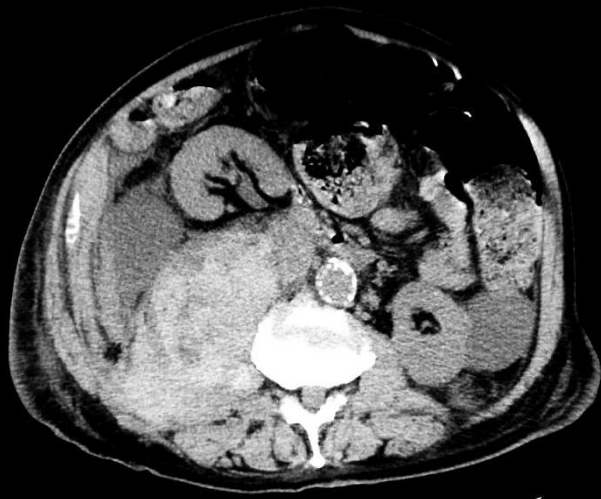




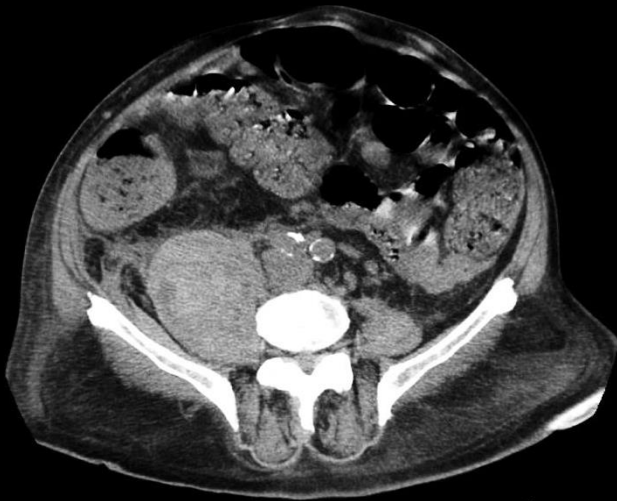
**lombalgies droites intenses chez un patient en TACFA**







**Hématome du psoas**



Scanner abdomino-pelvien sans injection:

Hématome spontanément dense au sein du muscle psoas droit





- Enfant de 10 ans
- Chute à vélo, douleur et impotence fonctionnelle de cheville gauche.







- Enfant de 10 ans
- Chute à vélo, douleur et impotence fonctionnelle de cheville gauche.
- Radiographie de cheville gauche de profil
- Fracture de l'extrémité inférieure du tibia G.
- Trait de refend métaphysaire
- **Salter et Harris II.**



Type I

Physis fracture



Type II

Metaphysis and  
physis fracture



Type III

Epiphysis and  
physis fracture



Type IV

Epiphysis to  
Metaphysis  
fracture



Type V

Crush fracture

## Salter-Harris Epiphyseal Fracture Classification

\*Physis (growth plate) is highlighted in blue. Fracture line is black or red.



Type II



Type III



Type IV



Cas 43

- Patiente de 35 ans, douleurs chroniques des mains et des poignets.



## Cas 43



**Polyarthrite rhumatoïde**

- Patiente de 35 ans, douleurs chroniques des mains et des poignets.

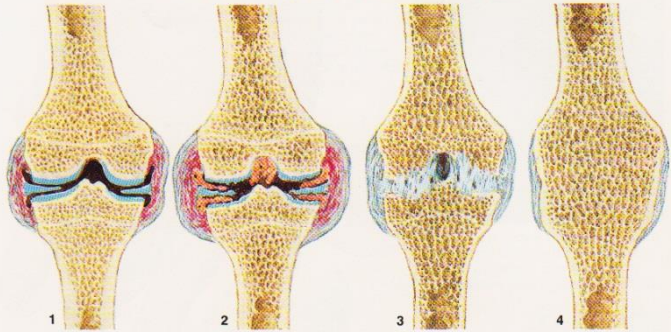
- Déminéralisation épiphysaire en bandes
- Pincement articulaire des IPP
- Erosions osseuses (2<sup>e</sup>, 3<sup>e</sup> et 4<sup>e</sup> phalanges)



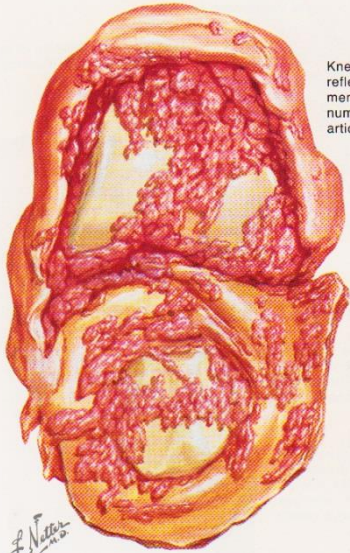




### Joint Pathology in Rheumatoid Arthritis



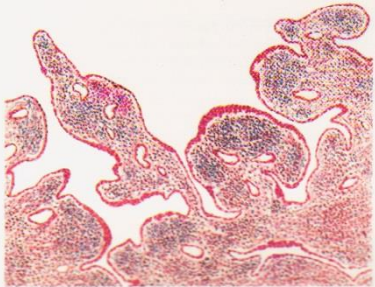
**Progressive stages in joint pathology.** 1. Acute inflammation of synovial membrane (synovitis) and beginning proliferative changes. 2. Progression of inflammation with pannus formation; beginning destruction of cartilage and mild osteoporosis. 3. Subsidence of inflammation; fibrous ankylosis. 4. Bony ankylosis; advanced osteoporosis



Knee joint opened anteriorly, patella reflected downward. Thickened synovial membrane inflamed; polyoid outgrowths and numerous villi (pannus) extend over rough articular cartilages of femur and patella

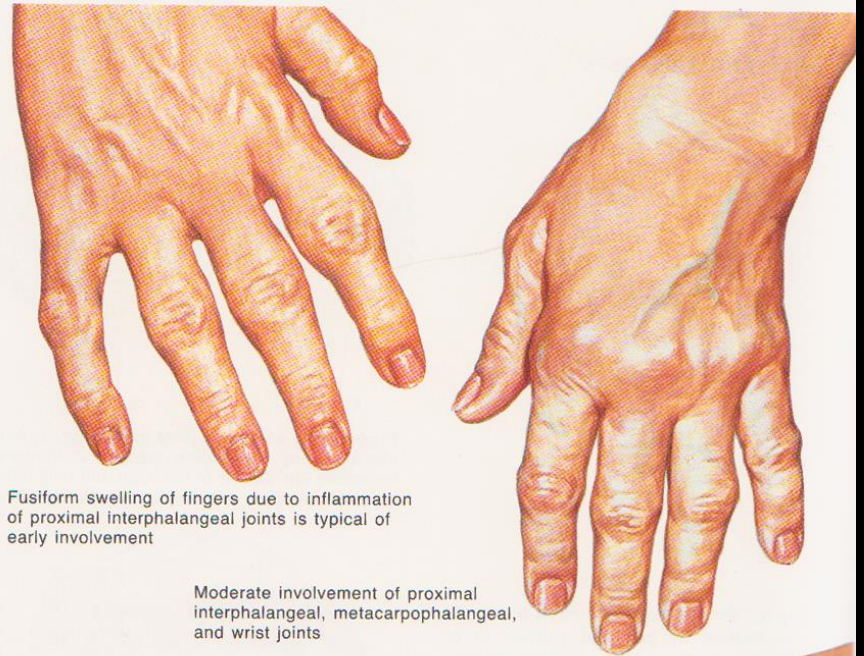


Section of proximal interphalangeal joint shows marked destruction of both articular cartilages and subchondral bone; replacement by fibrous and granulation tissue, which has obliterated most of joint space and invaded bone



Section of synovial membrane shows villous proliferation with extensive lymphocytic and plasma cell infiltration and numerous blood vessels. Synovial lining cells are elongated and arranged in palisade formation

### Early and Moderate Hand Involvement in Rheumatoid Arthritis



Fusiform swelling of fingers due to inflammation of proximal interphalangeal joints is typical of early involvement

Moderate involvement of proximal interphalangeal, metacarpophalangeal, and wrist joints

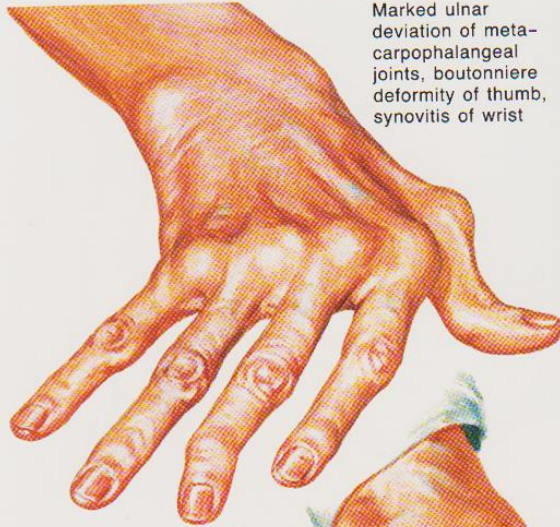


Advanced changes include subcutaneous nodules and beginning ulnar deviation of fingers



## Advanced Hand Involvement in Rheumatoid Arthritis

Marked ulnar deviation of metacarpophalangeal joints, boutonniere deformity of thumb, synovitis of wrist



Radiograph shows cartilage thinning at proximal interphalangeal joints, erosion of carpus and wrist joint, osteoporosis, and finger deformities

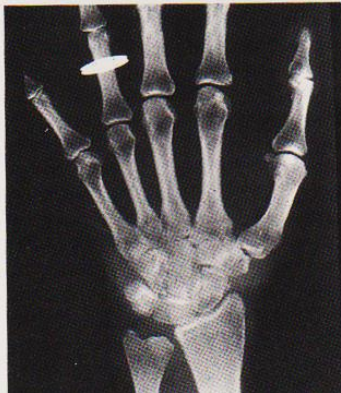
Crippling involvement of metacarpophalangeal and interphalangeal joints of both hands. Swan-neck deformity of many fingers, boutonniere deformity of thumbs, and numerous subcutaneous nodules



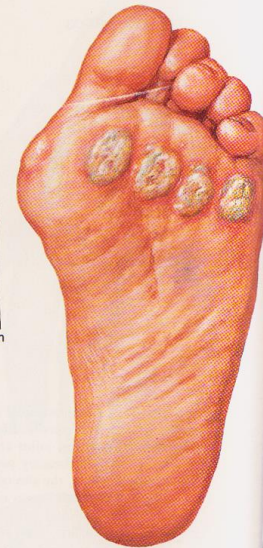
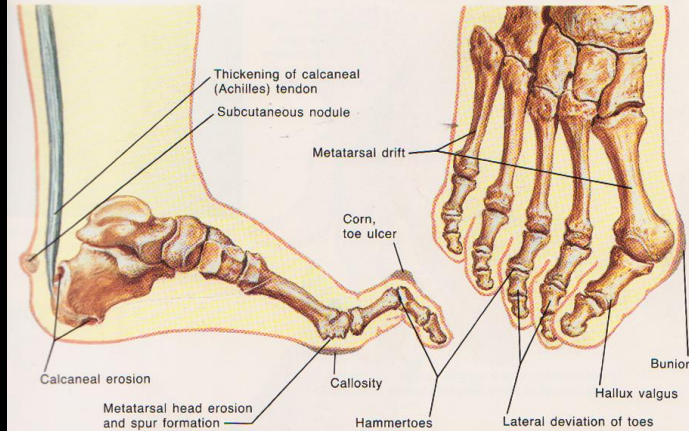
*F. Netter M.D.*  
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Radiograph (left) shows early loss of articular cartilage and osteopenia

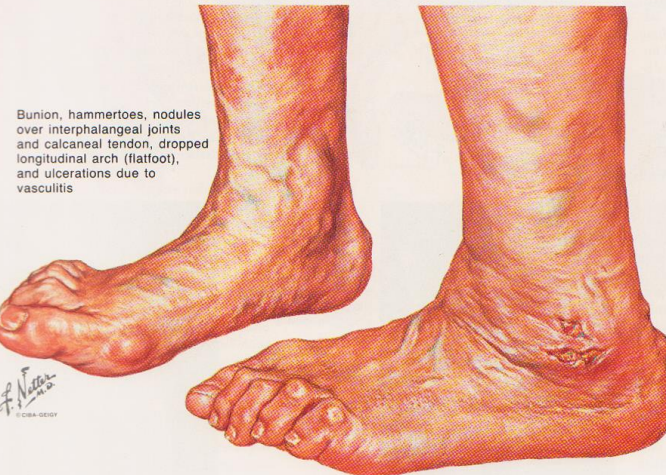
Same patient after 14 years (right). Carpus, wrist joint, and ulnar head completely eroded



## Foot Involvement in Rheumatoid Arthritis



Crippled foot with multiple nodules and callosities under metatarsal head, hallux valgus with metatarsus varus, bunion, splayfoot, and hammertoes



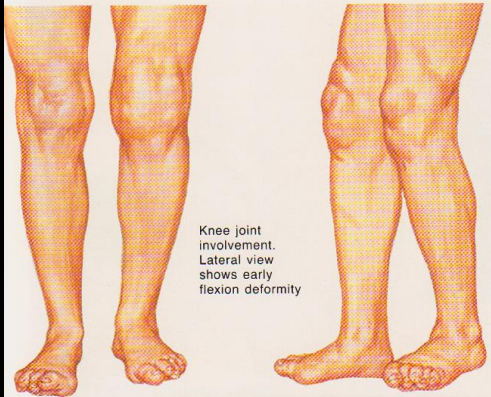
Bunion, hammertoes, nodules over interphalangeal joints and calcaneal tendon, dropped longitudinal arch (flatfoot), and ulcerations due to vasculitis



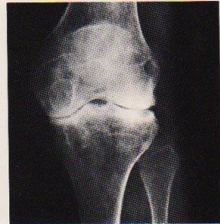
Radiograph shows severe erosion of metatarsal heads and bases of proximal phalanges, subluxation of metatarsophalangeal joints, marked osteoporosis, and severe hallux valgus



**Knee, Shoulder, and Hip Joint Involvement in Rheumatoid Arthritis**



Knee joint involvement. Lateral view shows early flexion deformity



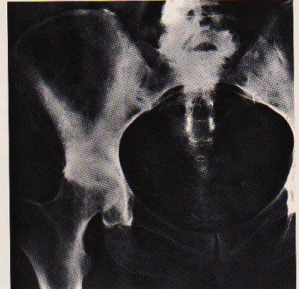
Radiograph shows thinning of cartilage in both compartments of knee joint



Same patient 4 years later. Progression of bone erosion and marked osteoporosis

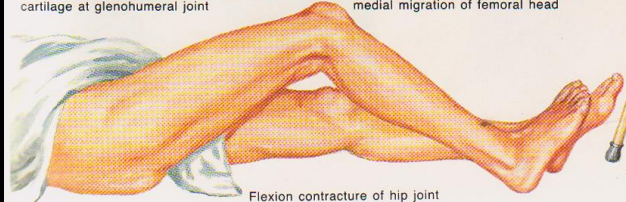
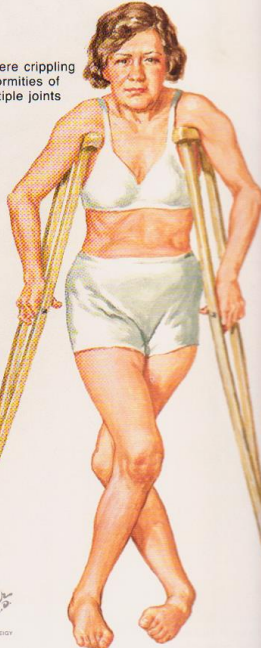


Shoulder joint involvement. Severe osteoporosis in head of humerus and thinning of cartilage at glenohumeral joint



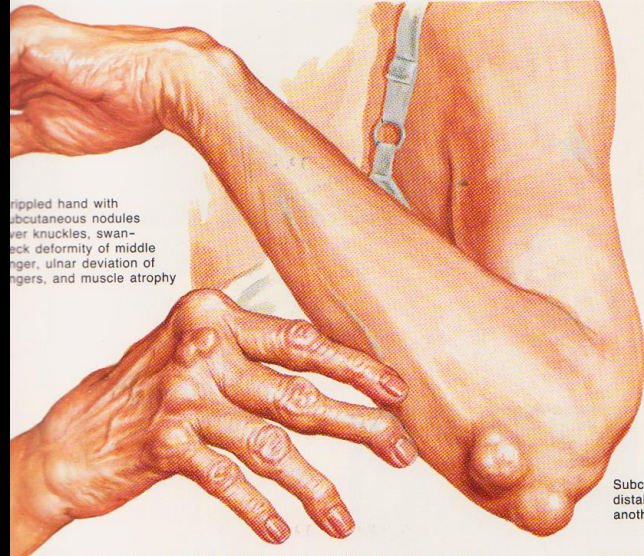
Hip joint involvement. Thinning of articular cartilages and flattening and medial migration of femoral head

Severe crippling deformities of multiple joints



Flexion contracture of hip joint

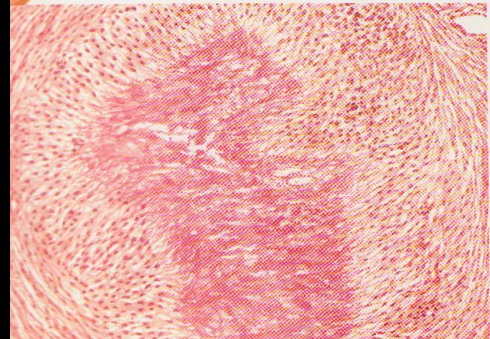
**Extra-articular manifestations in rheumatoid arthritis**



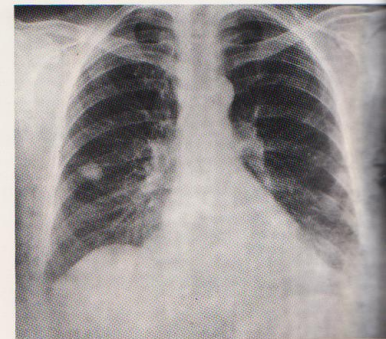
Ripped hand with subcutaneous nodules over knuckles, swan-neck deformity of middle finger, ulnar deviation of fingers, and muscle atrophy



Nodular episcleritis with scleromalacia



Section of rheumatoid nodule. Central area of fibrinoid necrosis surrounded by zone of palisading mesenchymal cells and peripheral fibrous tissue capsule containing chronic inflammatory cells



Radiograph shows rheumatoid nodule in right lung. Lesion may be misdiagnosed as carcinoma until identified by biopsy or postsurgical pathologic analysis

*F. Netter*  
M.D.

*F. Netter*  
M.D.



Extraarticular Manifestations in Rheumatoid Arthritis (continued)



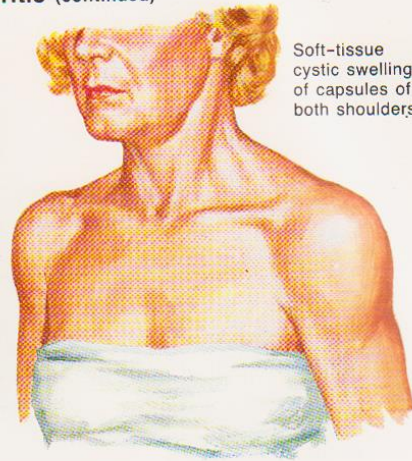
Baker's cyst (lateral view)



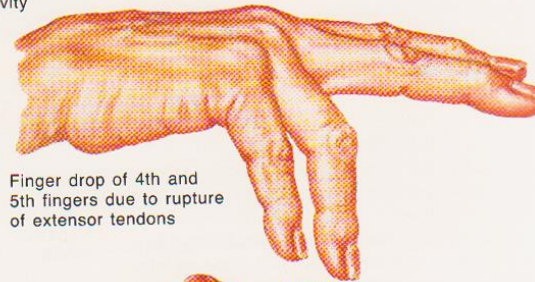
Extension of Baker's cyst over calf (posterior view)



Arthrogram demonstrates communication of Baker's cyst with synovial cavity of knee joint



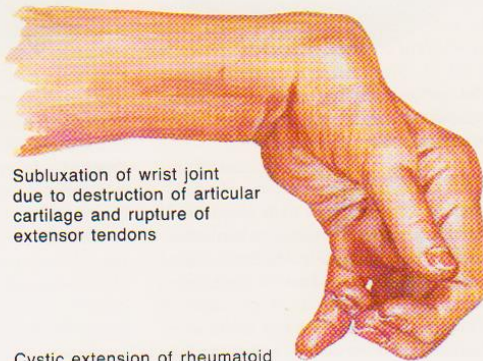
Soft-tissue cystic swelling of capsules of both shoulders



Finger drop of 4th and 5th fingers due to rupture of extensor tendons



Subluxation of wrist joint due to destruction of articular cartilage and rupture of extensor tendons

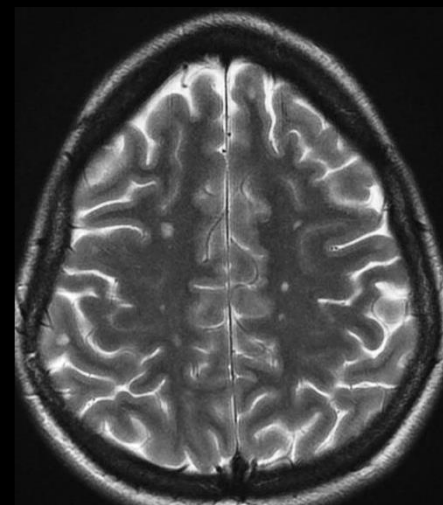
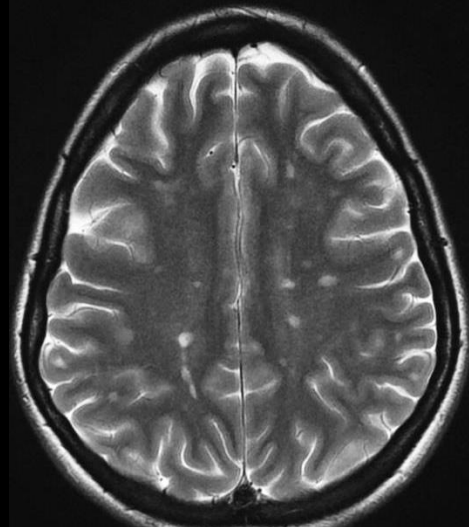
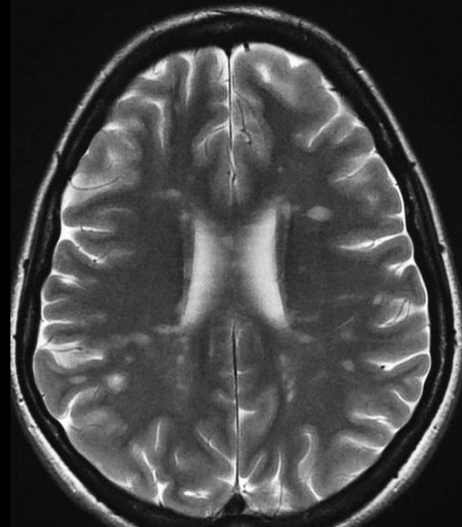
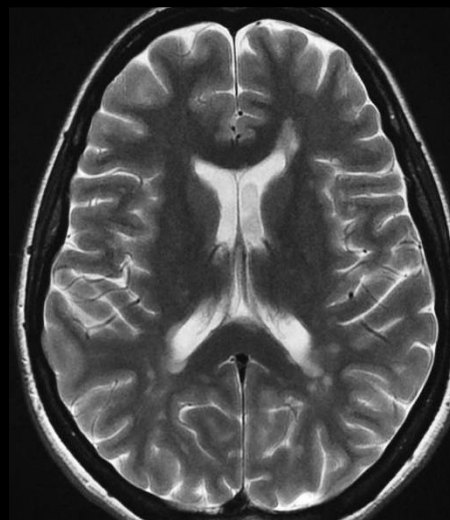
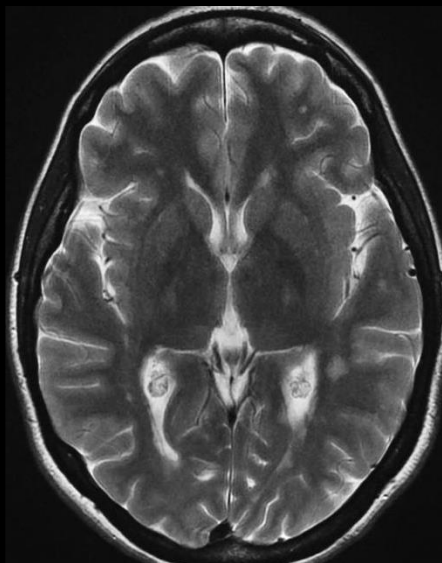
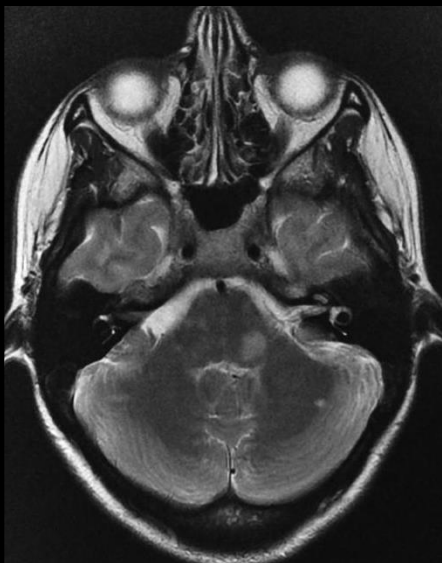


Cystic extension of rheumatoid synovitis at elbow



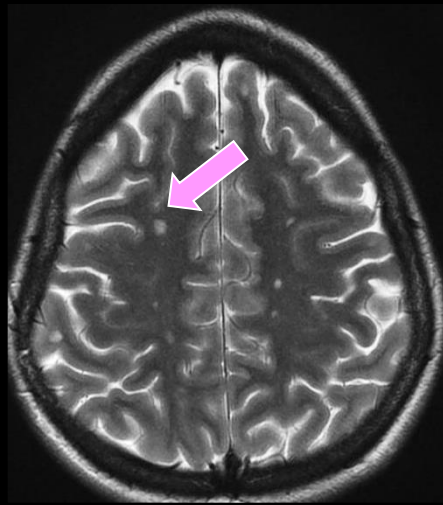
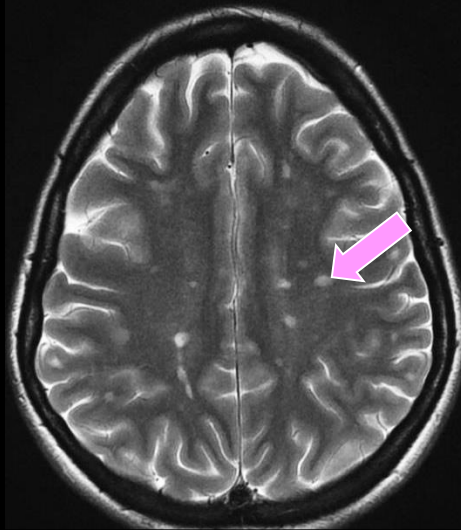
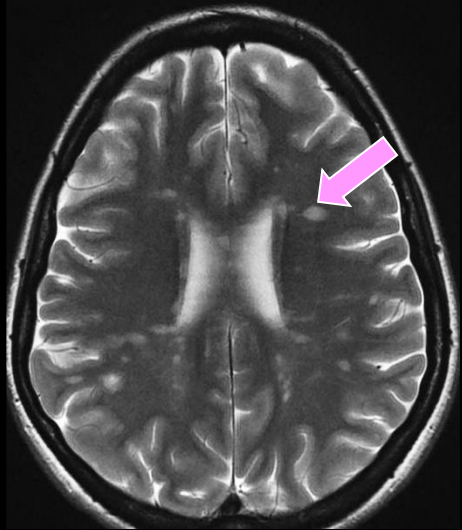
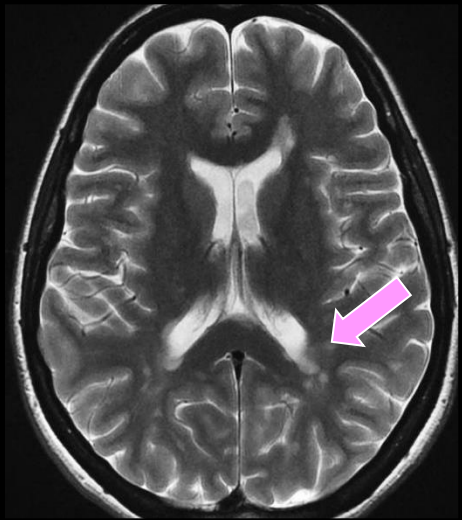
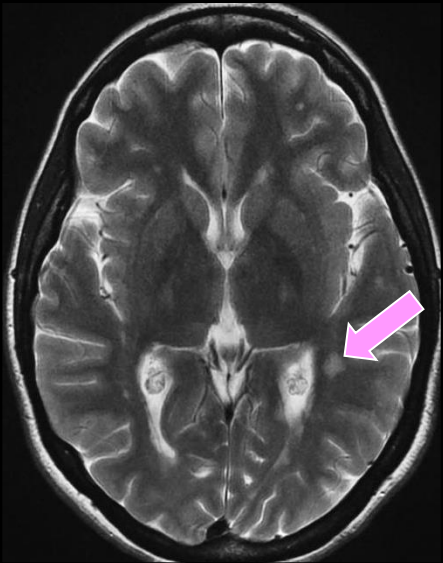
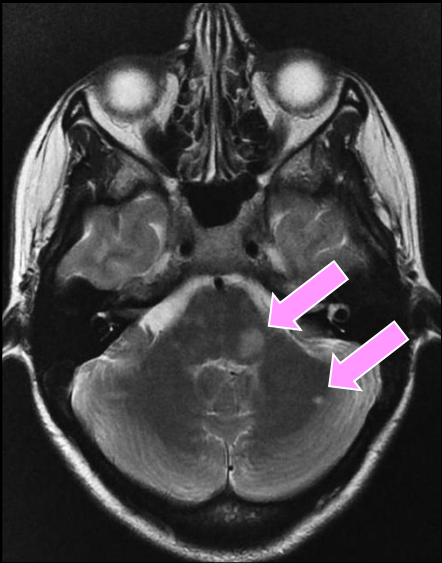
Ganglionic swelling on dorsum of hand due to tendon sheath synovitis. Flail terminal phalanx of 5th finger caused by rupture of long extensor tendon at insertion

F. Netter  
© 1984, G.D.C.



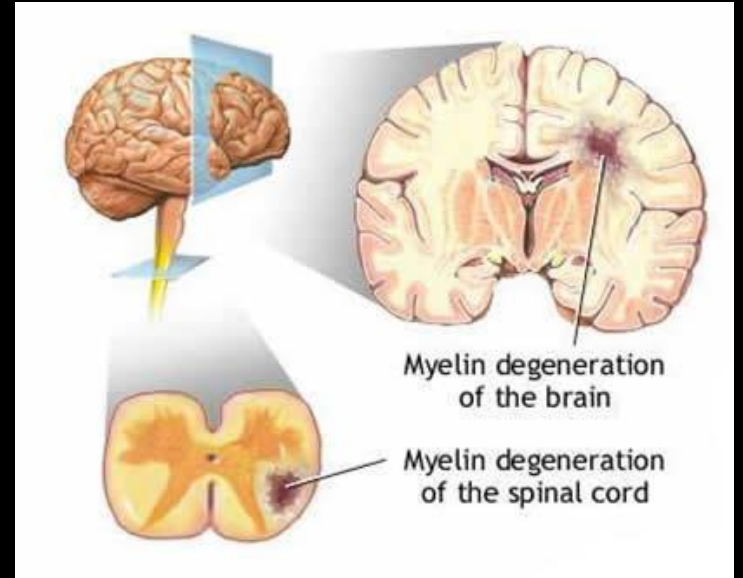
IRM coupes axiales pondérées T2



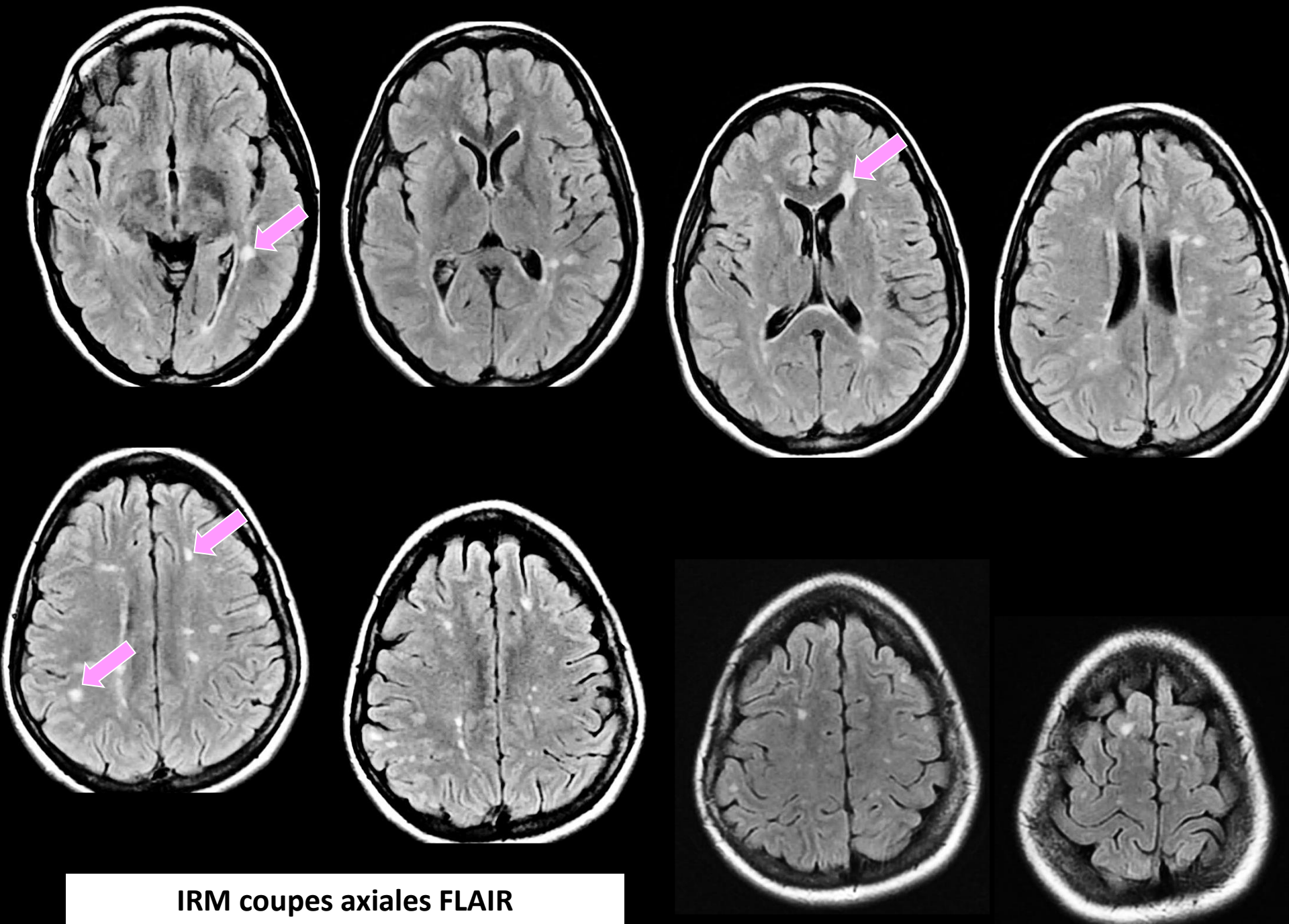


IRM coupes axiales pondérées T2

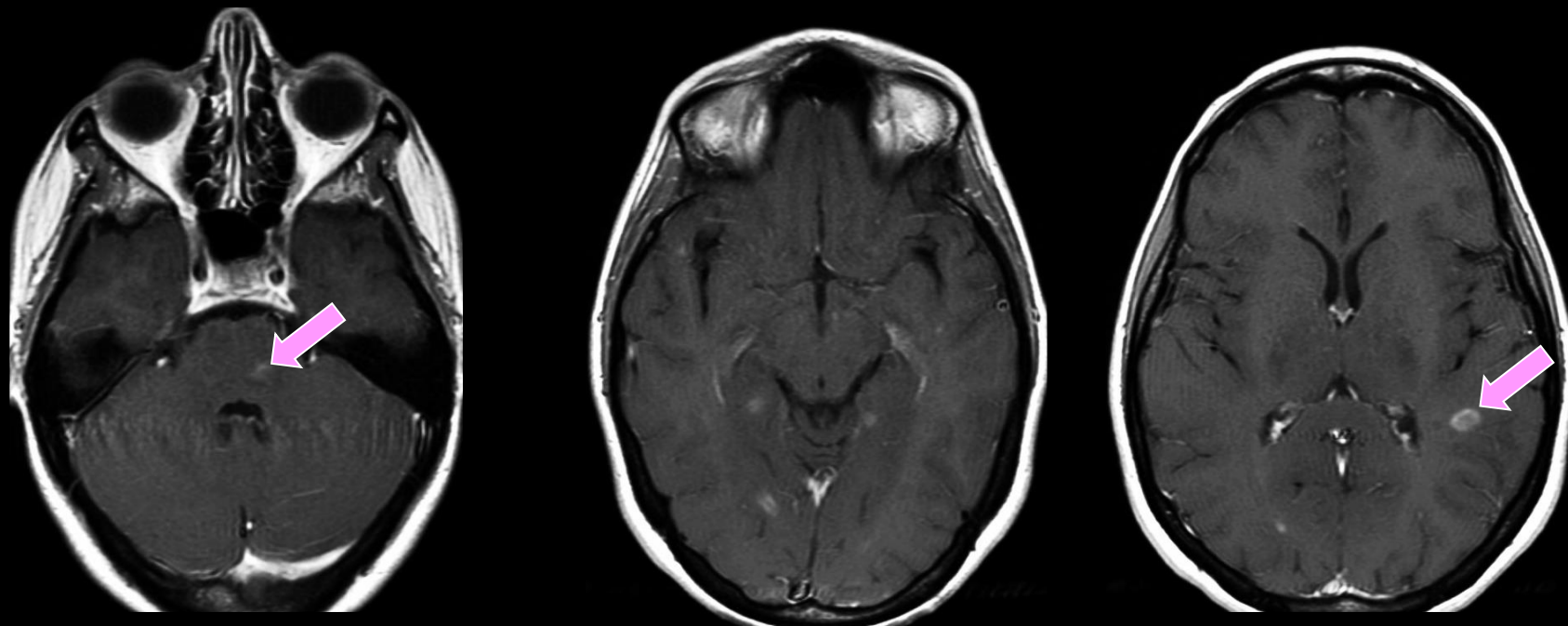
SEP



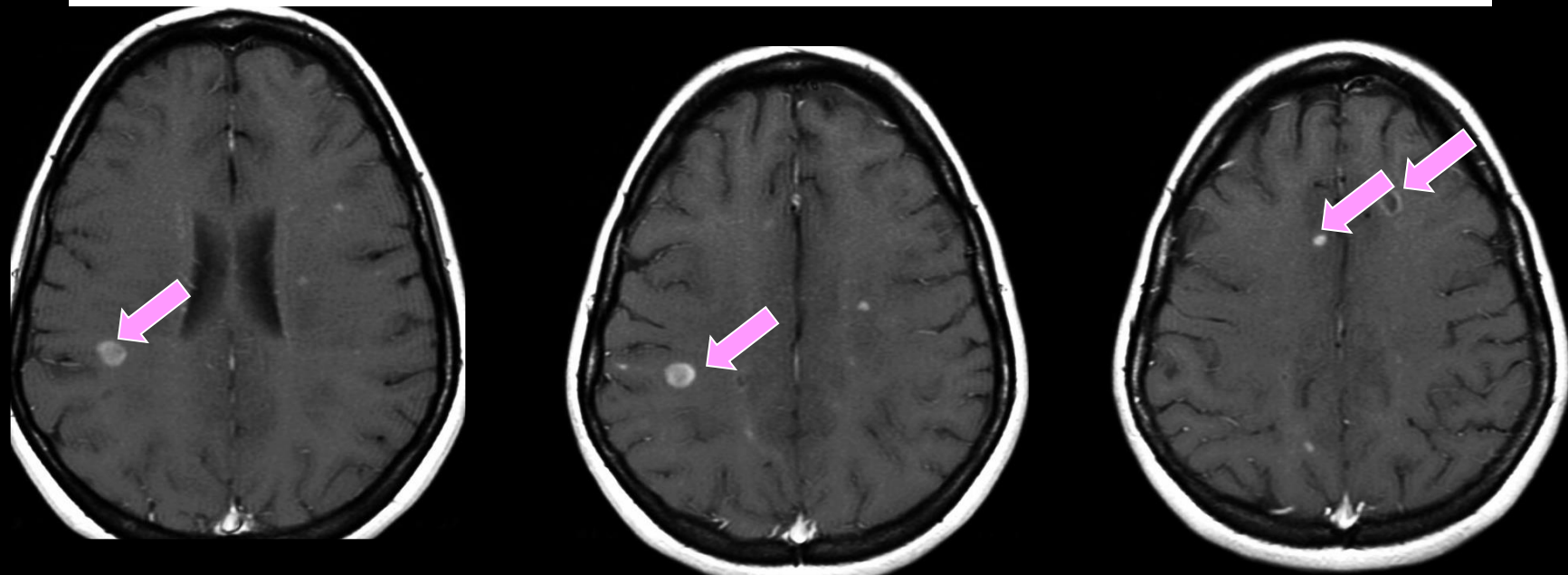




IRM coupes axiales FLAIR



IRM coupes axiales pondérées T1 avec injection de gadolinium



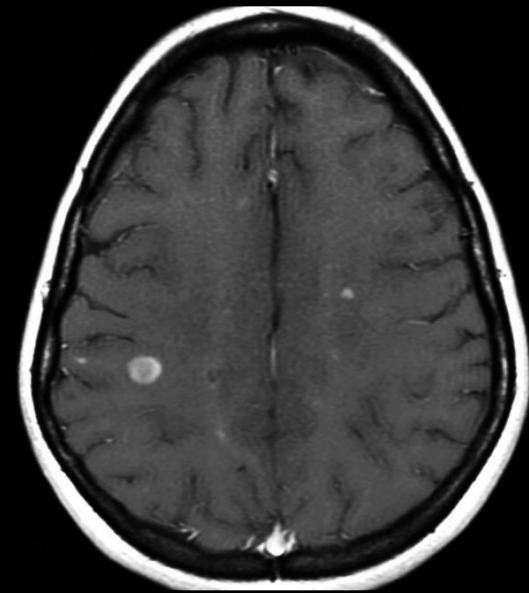


La sclérose en plaques se définit par la notion de **dissémination temporo-spatiale : deux épisodes neurologiques (et/ou IRM)** dans des régions différentes à plus d'un mois d'écart.

Les **nouveaux critères de McDonald** objectivent la dissémination temporelle sur une seule IRM s'il existe une **association d'images prenant et ne prenant pas le contraste.**

La ponction lombaire aide au diagnostic et au diagnostic différentiel.

Les traitements ont pour but de limiter la fréquence des poussés, la progression de la maladie et de prendre en charge les symptômes résiduels.



**Adulte jeune (20–40 ans), prédominance féminine (70 %).  
Prévalence : 70 000 à 80 000 patients en France.**

**Un gradient nord-sud est observé au niveau mondial (par exemple, deux fois plus de scléroses en plaques en Scandinavie qu'au Portugal).**

**Populations caucasoïdes : haplotype HLA DR2/1501 plus fréquent.**

**Facteurs d'environnement :**

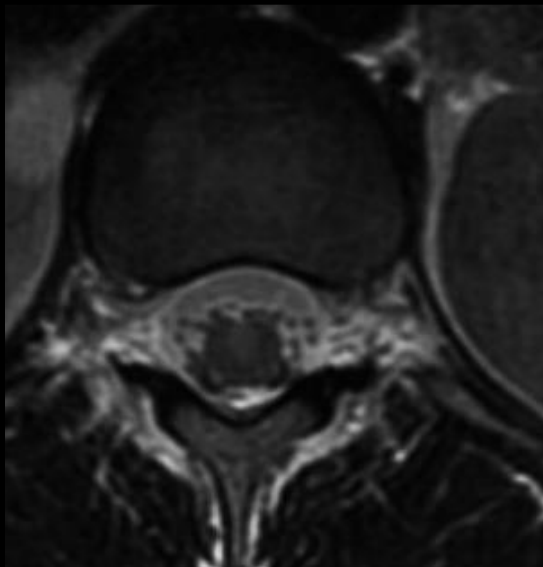
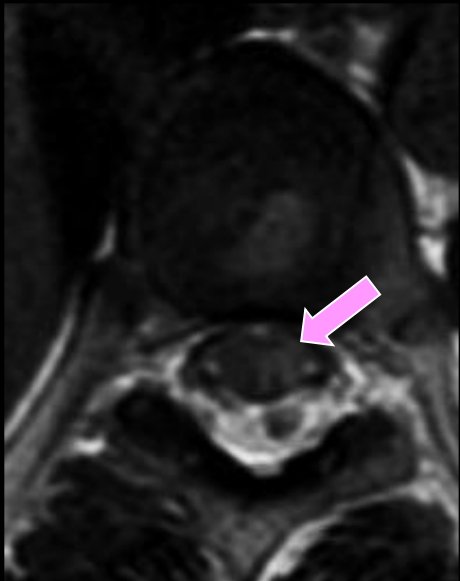
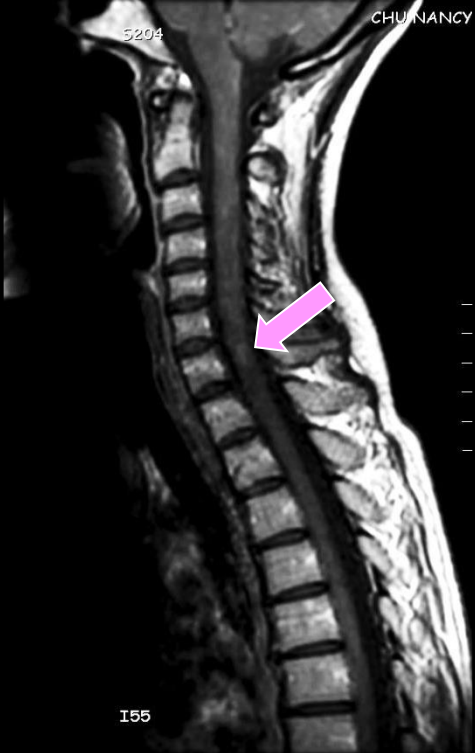
**-infections virales (EBV...),**

**- hygiène (une hygiène « excessive » semble augmenter le risque),**

**-parasitoses (qui protégeraient),**

**-tabac (qui augmente le risque et aggrave la maladie préexistante)...**





**IRM coupes sagittales et axiales pondérées T2**