INTEGRATED RHEUMATOLOGY

Auto-Antibodies

ANA → most sn SLE → entry criteria (>1:80)

Anti-C1q > Anti-dsDNA : correlate ↑ disease activity

Anti-histone DRUG induced lupus → SHIP

Anti-Sm -most specific

Antineuronal Ab/ Antiglutamate receptor 2 : CNS Lupus

Anti-ribosomal P : psychiatric manif SLE

Anti-U1 RNP : MCTD

Anti-Ro/SS-A → Cong ♡ blocks risk ↑

Anti-La/SS-B] Sjogren's D

Anti-Jo1 (Anti-synthetase) → Anti synthetase Sx

Anti-Mi2 : Dermatomyositis → good prognosis

Anti-topoisomerase 1 / Anti-scl-70/anti-RNA polymerase III : Diffuse sclerodema

Anti-centromere : Limited SSc = CREST

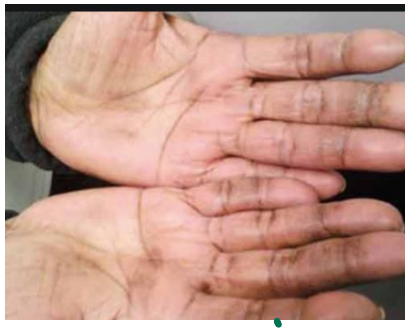
p-ANCA : MPA microscopic polyangiitis, Churg Strauss, UC

c-ANCA : Wegener's granulomatosis (GPA) → EGPA

RF : IgM against Fc-IgG (MAF) RA: most sp — anti-CCP

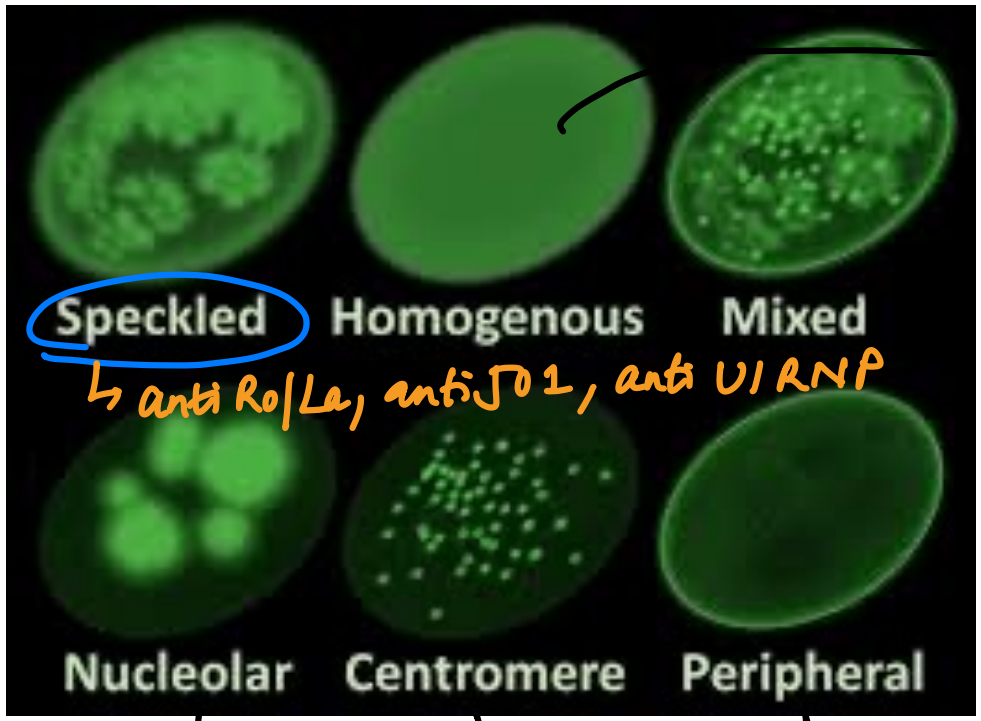
Anti-endothelial cell Ab → Kawasaki

Anti-alpha-enolase Ab → Behcet's



mechanic hands

Auto-Antibodies-Fluorescence pattern



↳ anti Ro/La, anti J01, anti U1 RNP

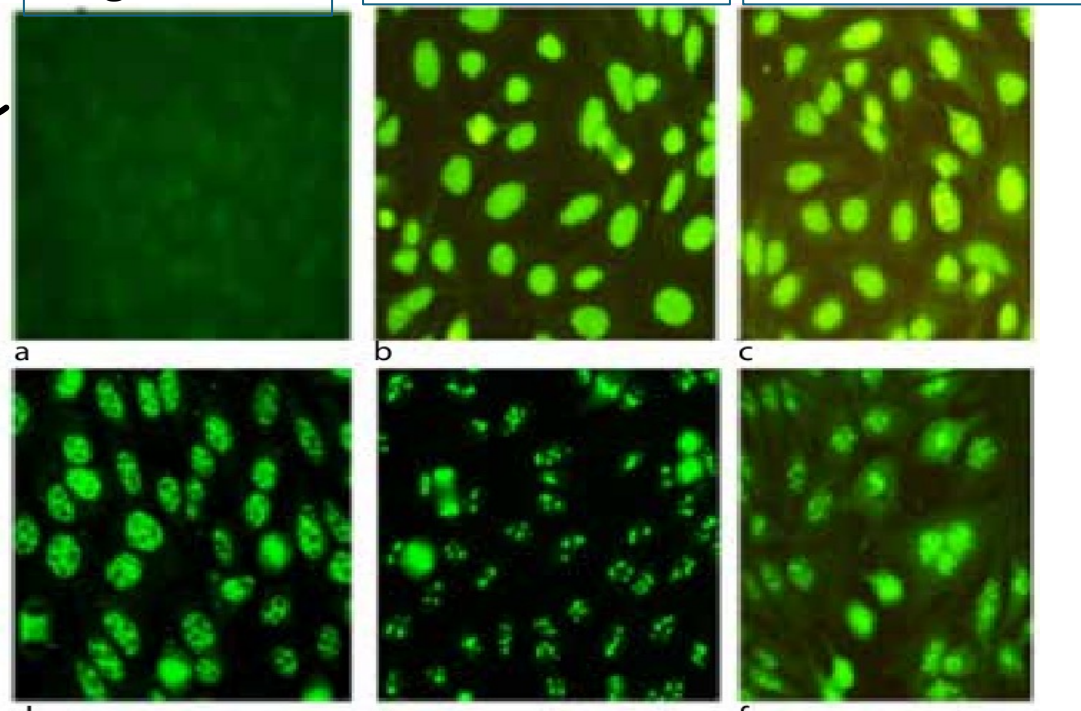
Anti-dsDNA

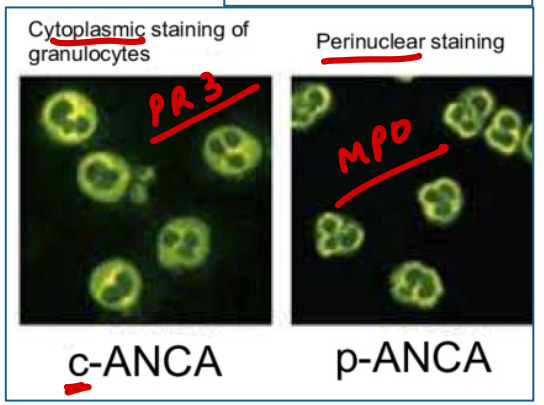
Anti-histone

Anti-topo / Scl-70 scleroderma

CREST

anti-Sm





New EULAR/ACR criteria for the classification of SLE

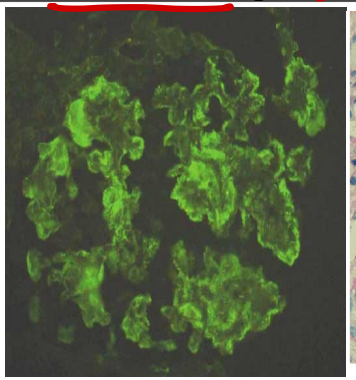
>10

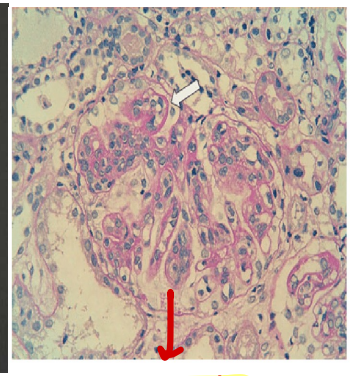
ANA +

Clinical domains	Points	Immunologic domains	Points
Constitutional domain		*Antiphospholipid antibody domain*	
Fever	2	Anticardiolipin IgG > 40GPL or anti-B2GP1 IgG > 40 units or lupus anticoagulant	2
Cutaneous domain		*Complement proteins domain*	
Non-scarring alopecia	2	Low C3 or Low c4	3
Oral ulcer	2	Low C3 and Low c4	4
Subacute cutaneous or discoid lupus	4		
Acute cutaneous lupus	6		
Arthritis domain "Jaccoud"		*Highly specific antibodies domain*	
Synovitis tenderness in a at least 2 joints non-erosive	6	Anti- dsDNA antibody ✓ Anti- Sm antibody ✓	6 6
Neurologic domain			
Delirium	2		
Psychosis	3		
Seizure	5		
Serositis domain			
Pleural or pericardial effusion	5		
Acute pericarditis	6		
Hematologic domain			
Leukopenia	3		
Thrombocytopenia	4		
Autoimmune hemolysis	4		
IgG "warm" DCT ⊕			
Renal domain			
Proteinuria >0.5g/24hr	4		
Class II or V lupus nephritis	8		
Class III or IV lupusn nephritis	10		

- False- positive VDRL/RPR anti-cardiolipin
- Prolonged PTT that is not corrected by the addition of normal platelet-free plasma → Lupus anticoagulant

Steroids + MMF/Cyclophosphade



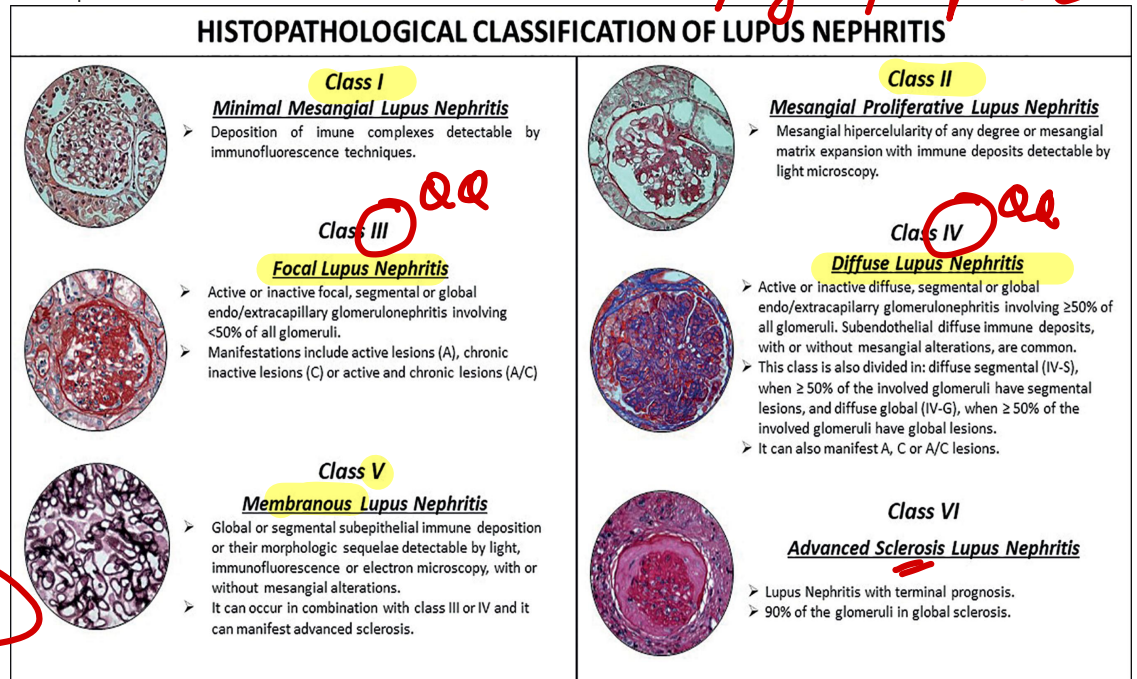


wire loop lesions

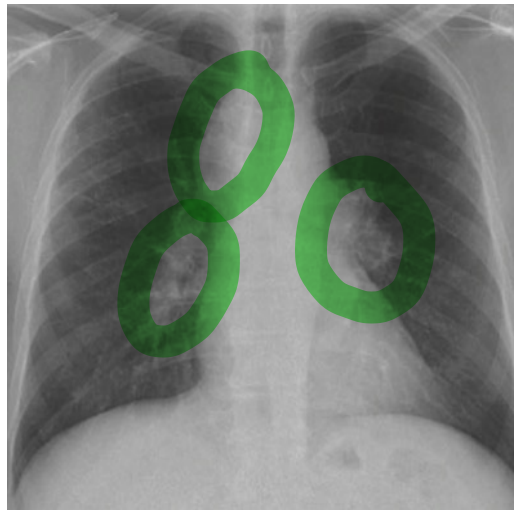
IgG, IgM, IgA, C3, C1q

FULL HOUSE effect

SLE Nephritis



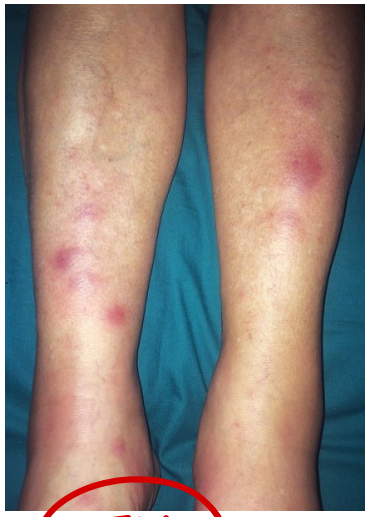
Sarcoidosis



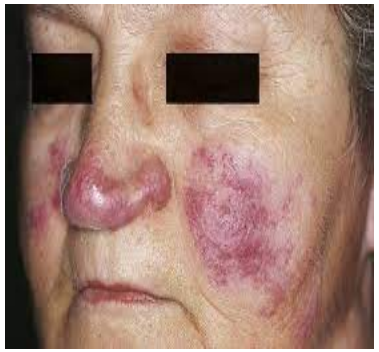
1-2-3 / Garland sign / Lambda sign (Ga)

Scadding

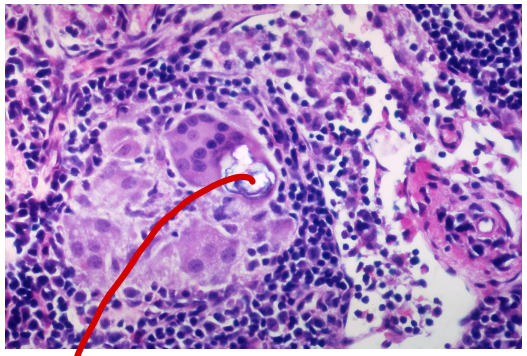
Stage 0	Normal
Stage 1	Bilateral hilar adenopathy, normal lung parenchyma
Stage 2	Hilar adenopathy with pulmonary infiltration
Stage 3	Pulmonary infiltration without hilar adenopathy
Stage 4	Pulmonary fibrosis



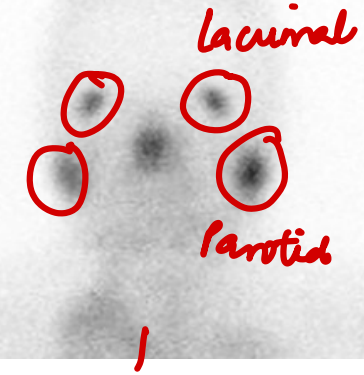
EN



Lupus pernio



NC granulomas → Schaumann bodies / Asteroid bodies



Ga scan PANDA

Id OK+

Lab:
- ACE- ↑ → granulomatous
- Calcium- ↑ / hypercalciuria
- Lymphopenia
- BAL: CD4 : CD8 → 3.5-5:1 (N: 2:1)
- Kweim test

Sialosis → alcoholics

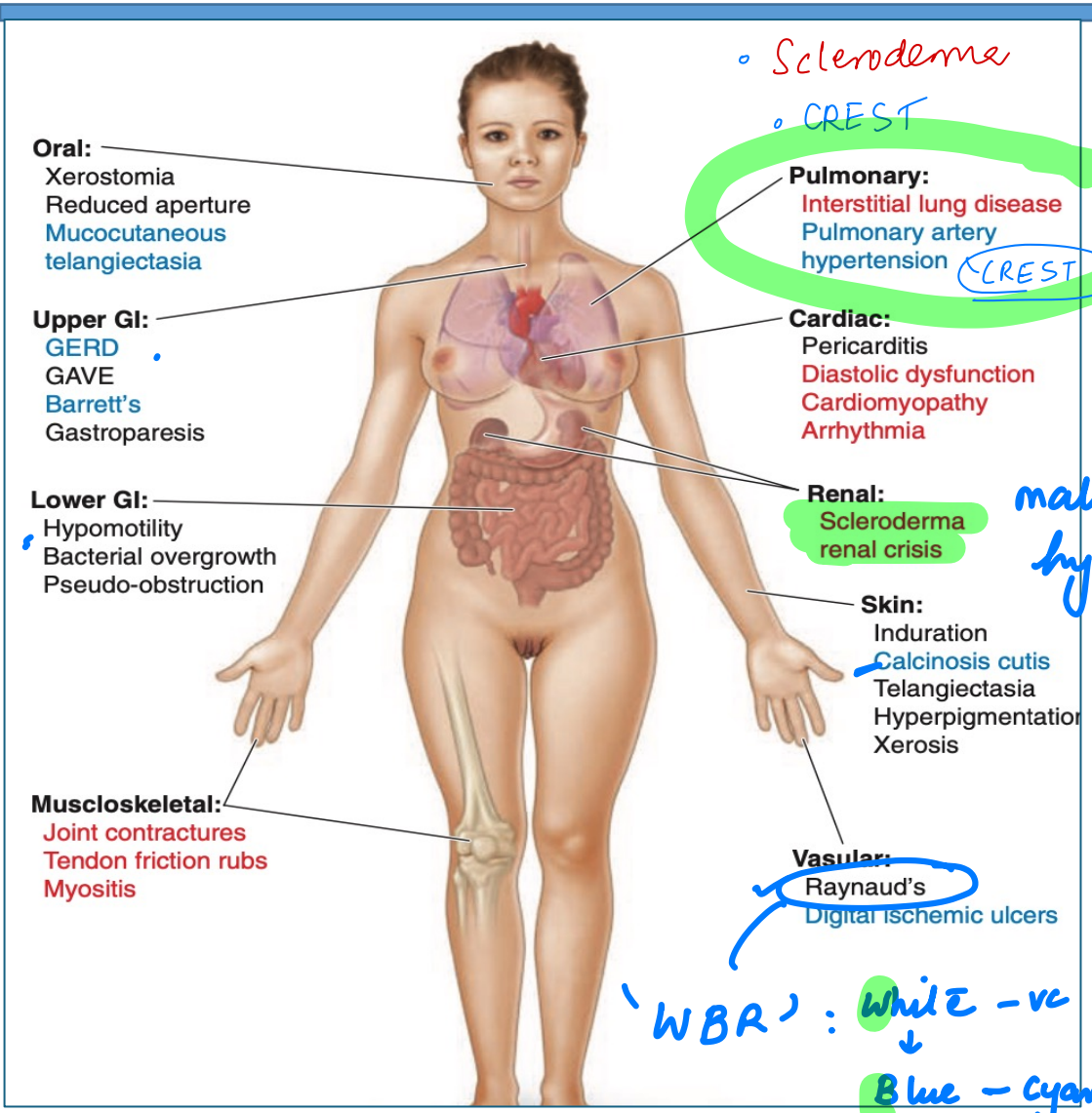
HIV INFECTION (BLEL: Benign Lymphoepithelial Lesion)	SJOGREN'S SYNDROME	SARCOIDOSIS
Lack of antibodies	Presence of autoantibodies	Lack of autoantibodies
Lymphoid infiltrate of salivary glands by CD8+ T lymphocytes	Lymphoid infiltrate of salivary glands by CD4+ T lymphocytes	Granulomas in salivary glands
Association with HLA-DR5	Association with HLA-DR3 and DRw52	Unknown
Positive serologic test	Negative serologic test for HIV	Negative serologic test for HIV

Lofgren syndrome: LN + EN

Heerfordt syndrome: uveoparotid fever + 7th CN palsy

Scleroderma-CREST

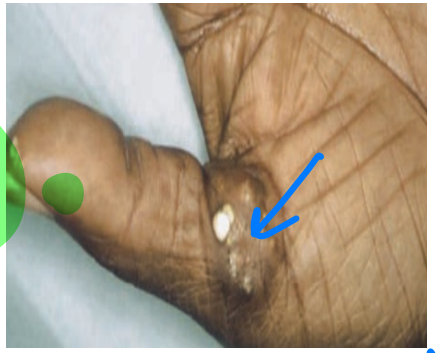
Raynaud's
CREST
Esophageal



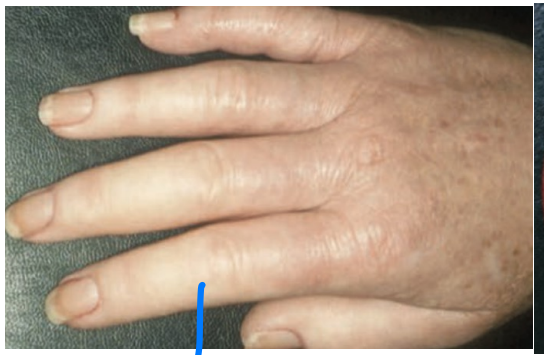
- Scleroderma
- CREST

malignant
hyln - flea bitten
R-ACE (-)

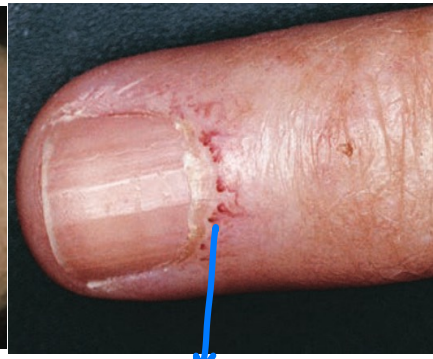
'WBR' : White - vc
↓
Blue - cyanosis
↓
Red - vd



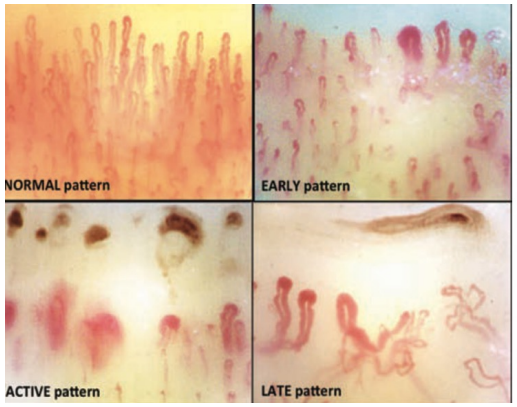
Calcinosis cutis



sclerodactyly

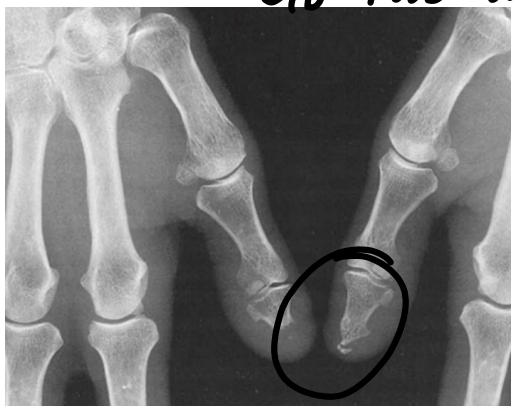


telengiectasis



nail fold capilloroscopy

D/D: Frost bite

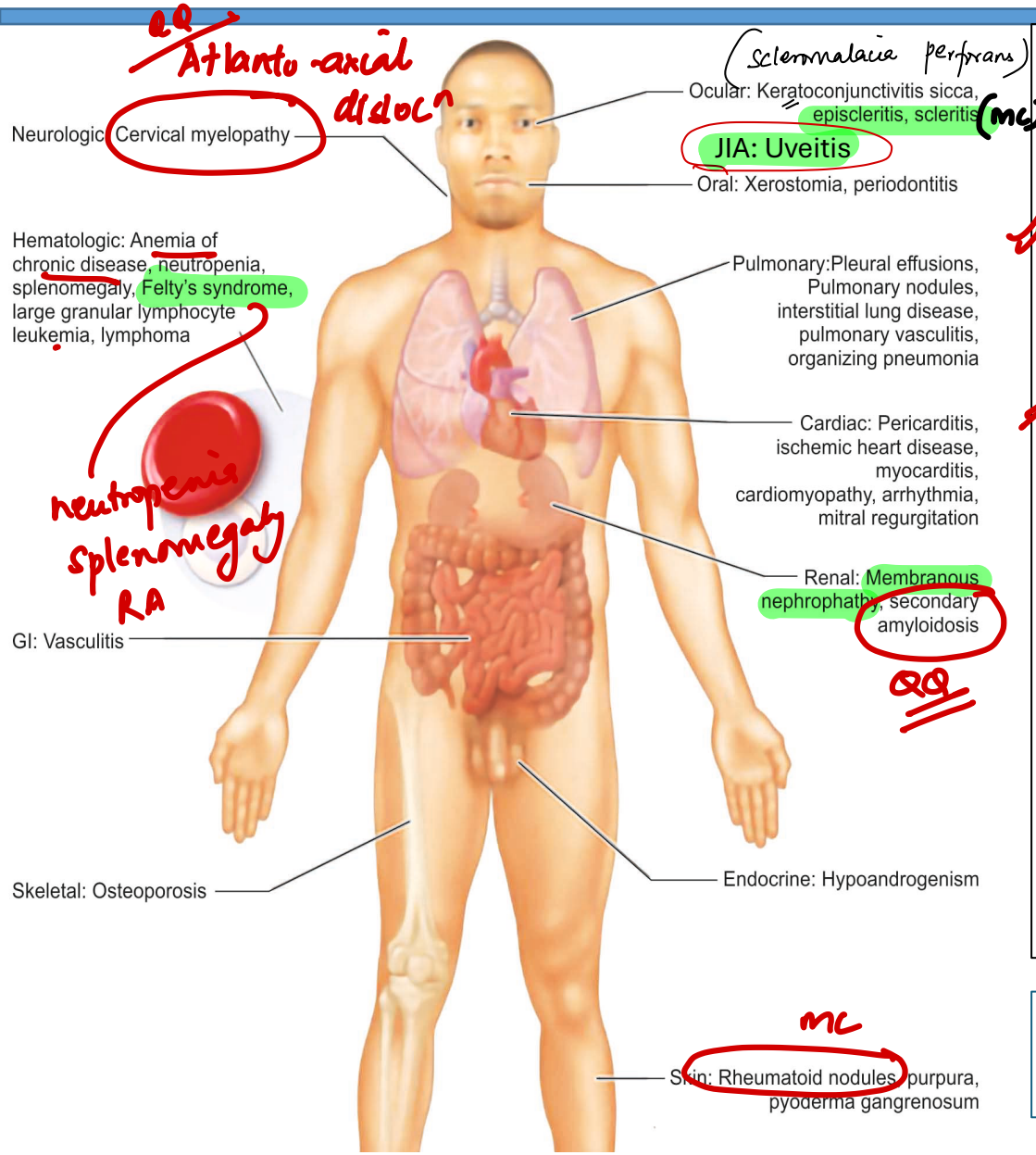


acro-osteolysis

Anti-fibrillarin / Anti-U3 RNP: prognostic → ↑RPGN / PAH/ILD

Rheumatoid Arthritis

JIA → <16yrs



RA: NSAIDs → C-DMARDs → Biologicals

DOC: Mtx + folinic acid

- Leflunomide

DOC in pregnancy:

HCQ: Irreversible retinal damage, cardiotoxicity

Sulfasalazine: Male infertility, CI in G6PD

BIOLOGICALS in RA

TNF-apha inhibitors:

- Adalimumab
- Certolizumab
- Etanercept
- Infliximab
- Golimumab

IL-1R Antagonist: Anakinra

IL-6 inhibitor: tocilizumab, sarilimumab

B-cell depletor/CD20-: Rituximab

Co-stimulation inhibitor/CTLA4-: Abatacept

JAK inhibitors: Tofacitinib, Baricitinib, Upadacitinib

Ank spondylitis:
NSAIDs -> Biologicals

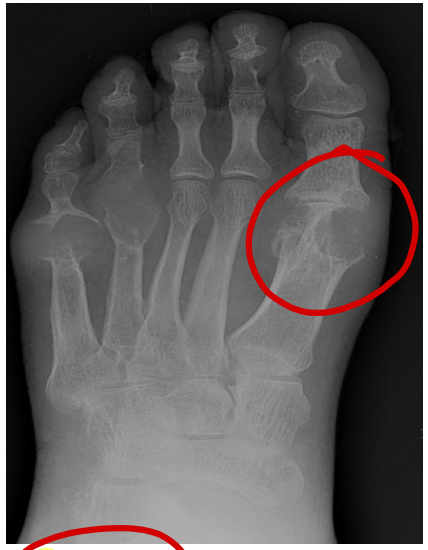
GOUT-PSEUDOGOUT

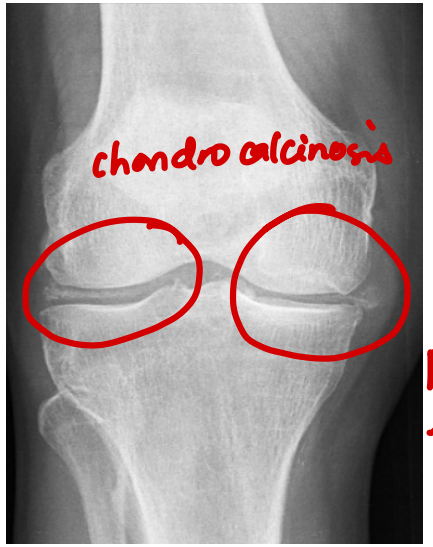
S.aureus

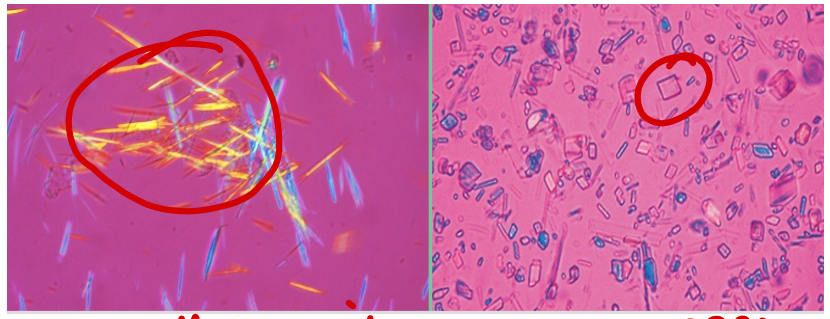
	Normal	OA	Inflammatory arthritis RA	Septic arthritis
Appearance	Clear	clear	turbid	turbid
Viscosity "stringing"	Normal	↓	↓	↓
WBCs	<200	200 - 5k	5k - 50k	>50k
PMNs	<25%	<25%	25-50%	>50%

Acute Gout
NSAIDS DOC except aspirin, PCM
Colchicine most effective (MTC) s/e: hepatotoxic, chemotaxis, diarrhea
Chronic gout DOC: ALLOPURINOL
HLA B5*801 hysr
AVOID WITH: 6MP, Azathioprine

Polyarthralgia + Tenosynovitis + Dermatitis (pustules) : Disseminated gonorrhea



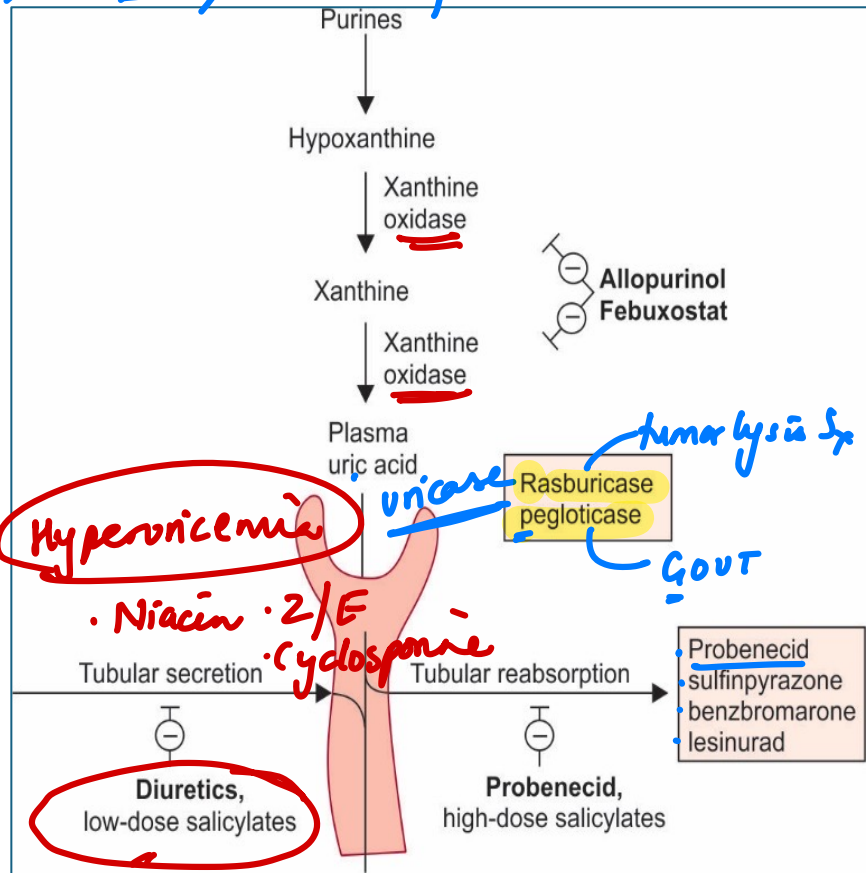




pol : Uric acid — negatively birefringent needle shaped
CPPD — +ve birefr Rhomboid

GOUT — MC: 1st MTP — Rat bite erosions — Martel's sign
Pseudogout — CPPD — MC knee

Hook shaped metacarpals: Hemochromatosis



Hyperuricemia

- Diuretics
- Low dose aspirin
- Niacin
- (Z) / E
- Cyclosporine

Chronic Arthritis

Inflammatory

Pain, swelling, improves with activity, Morning stiffness >1hr

Rheumatoid arthritis

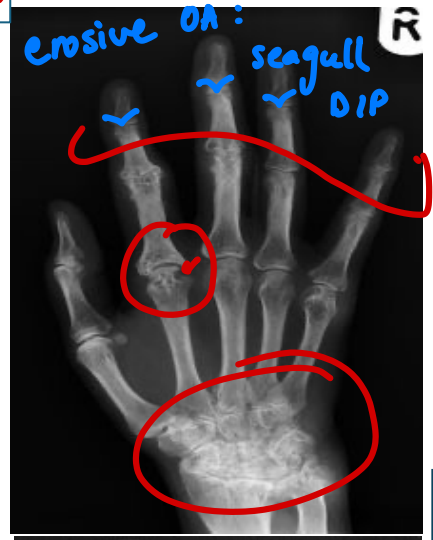
- HLA DR4
- MC- MCP
- Sparing- DIP, 1st CMC
- Symmetrical joint space reduction
- Osteopenia, Erosions — aR — PANNUS
- Sea-gull sign: Erosive OA

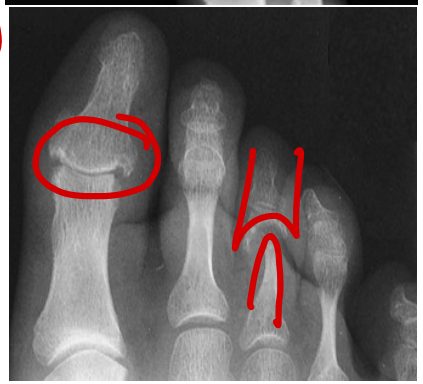
- DIP, PIP — MC
- Pencil-in-cup, telescoping of digits, Arthritis mutilans
- Skin and Nail — Bone density (N)

OligoA (mc) — PSORIATIC A

- No erosions
- Deformity +

SLE = Jaccod



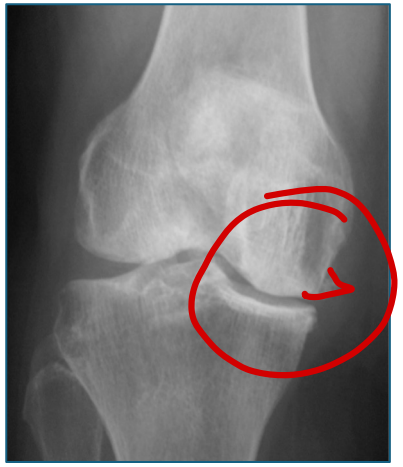


Non-inflammatory

Pain after weight bearing, improve with rest

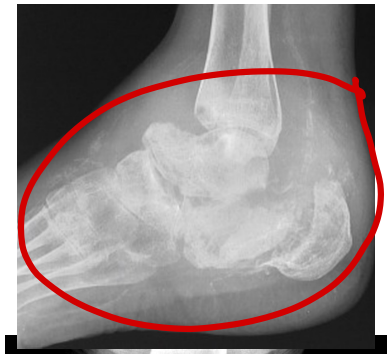
Osteoarthritis

- Hip, Knee, DIP, PIP, 1st CMC
- MCP sparing
- Asymmetric joint space reduction
- Osteophytes, Subchondral sclerosis, cyst



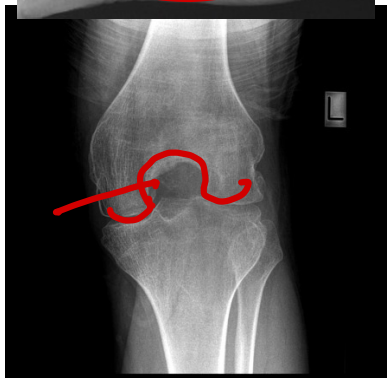
Neuropathic jt = CHARLOT's

- 5Ds-Disorganisation, Density, Destruction, Debris, Distension
- Diabetes/ neuropathy
- Looks bad, doesn't feel bad



Hemophilia

- Child
- Knee-Squared patella, Intercondylar notch widening
- Pseudotumor



Vasculitis

CHAPEL-HILL

QQ

Granulomas

- GCA
- Takayasu
- WG = GPA
- Churg Strauss = EGPA

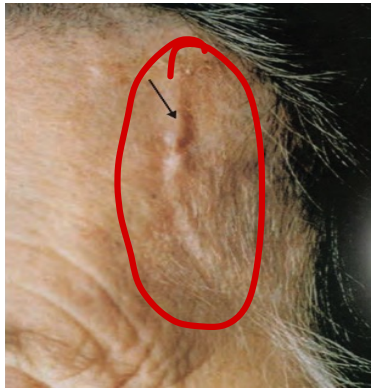
IMMUNE COMPLEX = type III hyper

HSP-C

- HSP
- SLE
- PAN → Hep B
- cryoglobulinemia → Hep C, "leukoclastic" → HSP

ANCA

- cANCA → WG
- pANCA → MPA, CSS

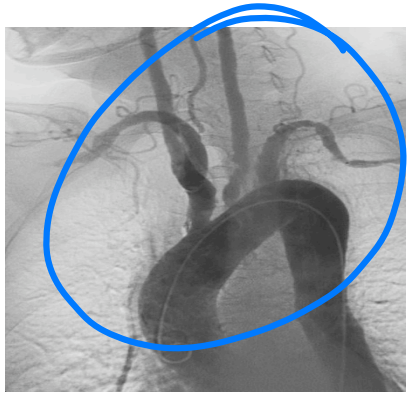


>50yr, Jaw claudication, PMR

MC artery: STA
Next step: steroids
Gold standard: Biopsy: >1cm

∴ skip

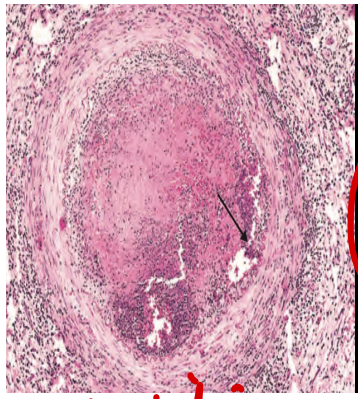
Giant cell / prevent vision loss temporal arteritis



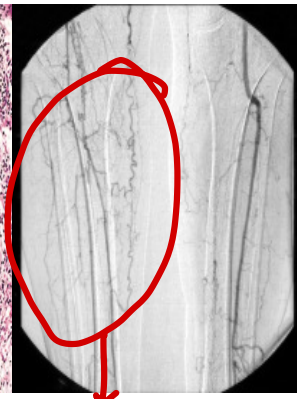
<40yr, BP difference between UL, RAS / MI

MC artery: Lt SCA

Takayasu = Aortic arch Sx



Neutrophilic abscess



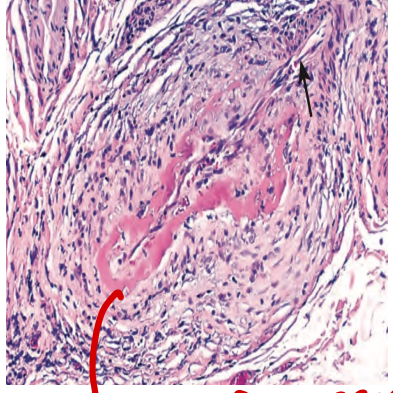
tibial/radial A

<35yr, smoker, severe limb pain : A/V/N

Corkscrew collaterals

BUERGER'S = TAO

Berger's - IgA nephritis



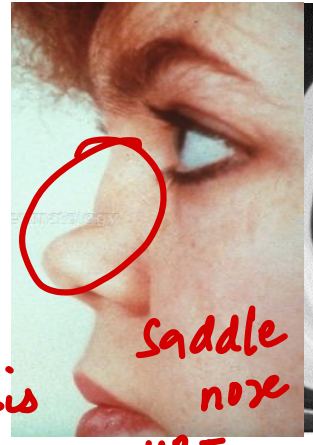
Fibrinoid necrosis

PAN

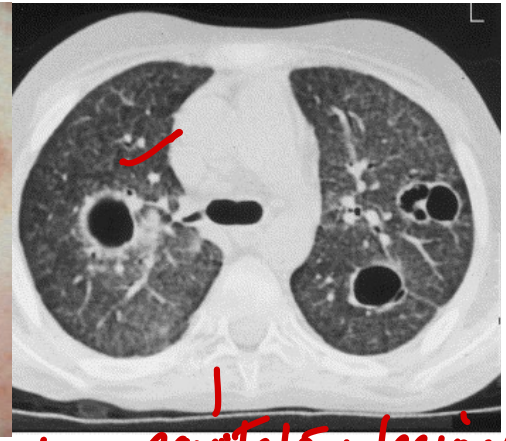
Hep B +

Hypertension

30%



saddle nose



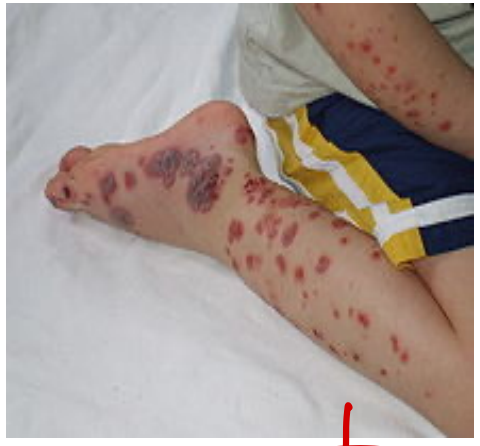
URT + cavitatory lesions

Hematuria-Crescenteric

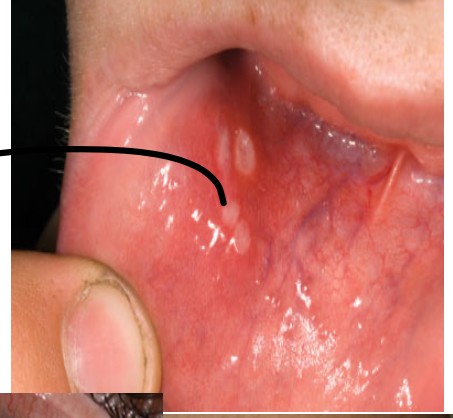
RPGN

WG = GPA

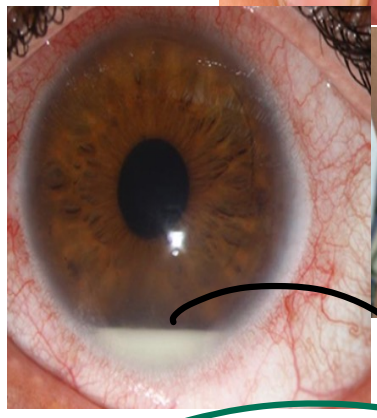
pauci-immune

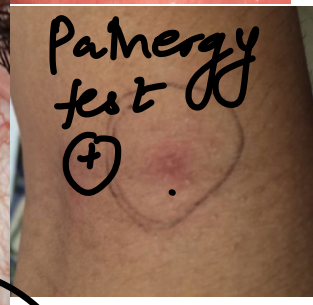


HSP



ORAL / genital ulcers





Patergy test +

uveitis

Behcet's

Not involved:

PA NO

Glomeruli NO

Triad:

URT / LRT / C

granulomas

(x)

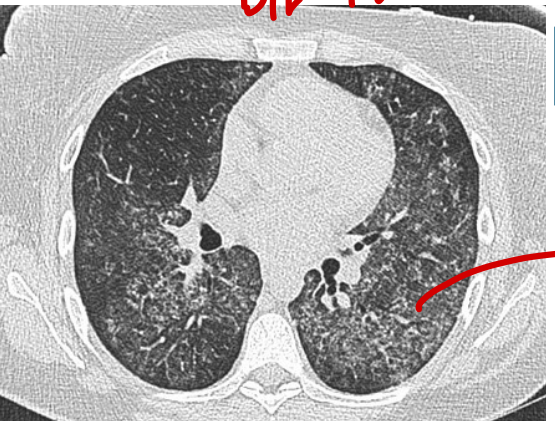
Description
Purpura or petechiae with lower limb predominance
1. Diffuse abdominal pain with acute onset. Submucosal hematoma ↳ intesso
2. Histopathology showing leukocytoclastic vasculitis or proliferative glomerulonephritis with predominant immunoglobulin A deposits.
3. Arthritis or arthralgia of acute onset.
4. Renal involvement in the form of proteinuria or haematuria.

HLA: B51

Ab: anti-α enolase

Biopsy: neutrophilic vasculitis

B/L GGO



Hemoptysis + Hematuria

pulm alveolar hge

MPA

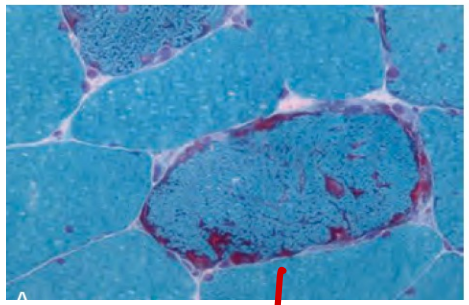
Goodpasture

· WG

DOC: steroids

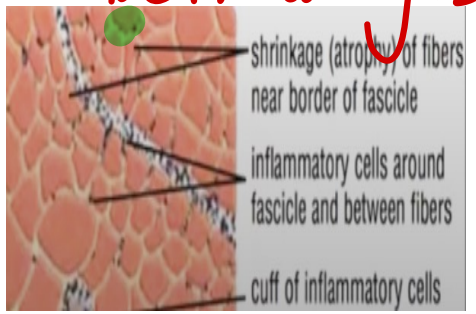
Approach to myopathies

	Polymyalgia Rheumatica	Inflammatory	Steroid	Statin	Hypothyroid
ESR	Raised	Raised	N	N	N
CK	N	Raised	N	Raised	Raised
	Shoulder, hip pain Morning Stiffness >50yrs GCO	• Proximal pain and weakness	• Proximal weakness • No pain	• Pain • No weakness	• Proximal Pain and weakness • Delayed reflexes



·Red ragged fibres
· mitochondrial accum
MERRF

Dermatomyositis

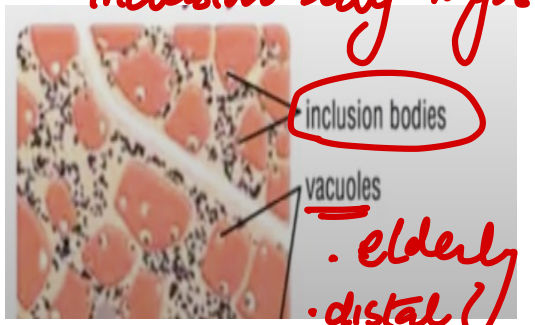


Perimysial, perivascular Inflammation(CD4) + Perifasicular atrophy

Polymyositis

Endomysial, Perivascular inflammation (CD8)

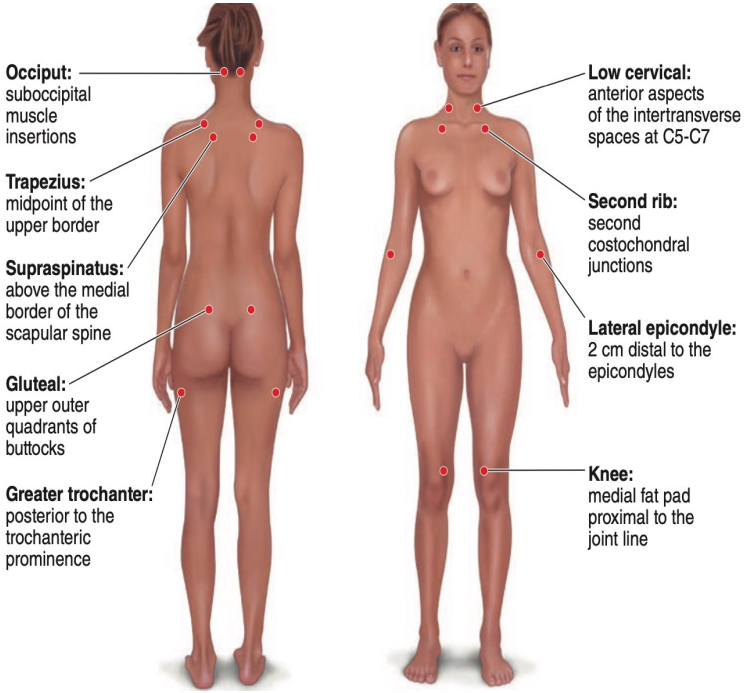
Inclusion body myositis



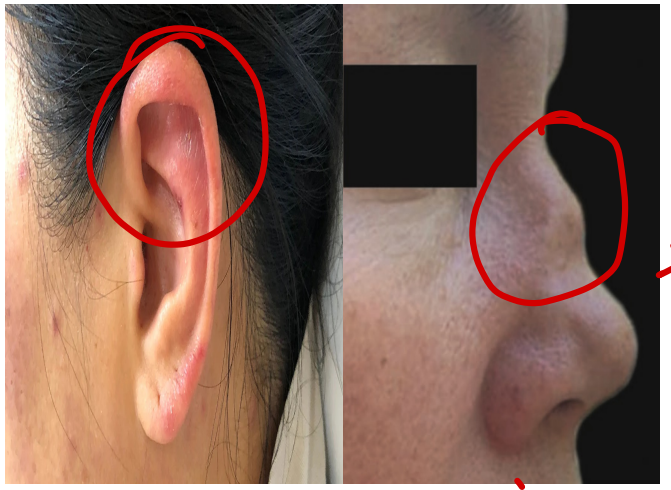
· elderly
· distal

Endomysial, perivascular inflammation (CD8)
+Rimmed vaculoes

Miscellaneous

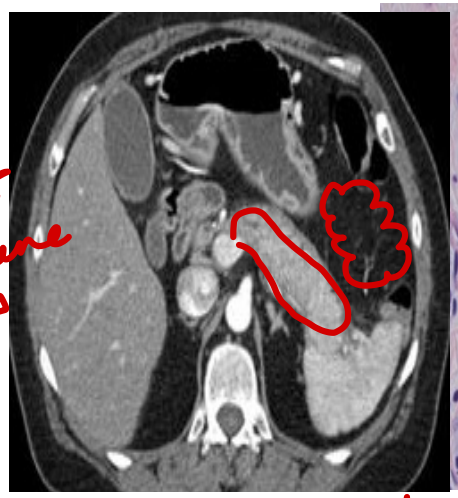


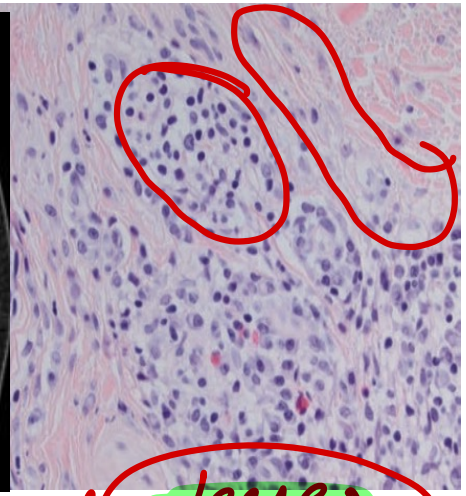
Fatigue Fibromyalgia
Sleep dysfunction
Tension headache
ESR: N
>11/18 tender points
TOC: Behavioral therapy
SSRI



Hyaline / elastic
Relapsing polychondritis

AIP
autoimmune pancreatitis





sausage shaped
IgG4RD

Criterion H-Histology (at least one of the following)	1. Pericductal lymphoplasmacytic infiltrate, obliterative phlebitis, storiform fibrosis 2. Lymphoplasmacytic infiltrate, storiform fibrosis, abundant IgG4+ cells (≥10 HPF)
Criterion I-Imaging of pancreas	1. Typical-diffusely enlarged gland with delayed (rim) enhancement; diffusely irregular, attenuated main pancreatic duct 2. Others-Focal pancreatic mass/enlargement; focal pancreatic duct stricture; pancreatic atrophy; pancreatic calcification; pancreatitis
Criterion S-Serology	Elevated serum IgG4 (normal: 8-140 mg/dL)
Criterion O-Other organ involvement (can be confirmed by biopsy or resolution/ improvement with steroid therapy)	Hilar/intrahepatic biliary strictures; persistent distal biliary stricture; parotid/lacrimal gland involvement; mediastinal lymphadenopathy; retroperitoneal fibrosis
Criterion R-Response to steroid therapy	Resolution or marked improvement of pancreatic/extrapancreatic manifestation with steroid therapy

Mayo Clinic