Rebalance MD

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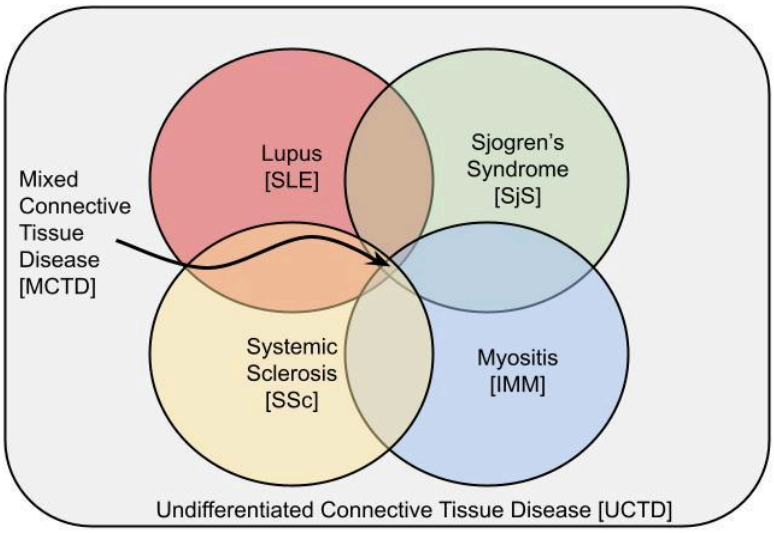
Inflammatory Connective Tissue Diseases



Unifying Aspects:

- Clinical Features - Generally **not subtle**
  - Raynaud's Phenomenon [New onset, unilateral, ulcerating]
  - Inflammatory Arthritis [Typically non-erosive]
  - Sicca symptoms [Severe - Corneal ulcers; tooth loss, caries]
  - Serositis [++ CRP elevation]
  - Rashes [Vary with disease entity, often photosensitive]
  - There is no spinal involvement
- Lab Features
  - Positive ANA [with specific ENA antibodies]
  - Inflammatory markers [CRP often normal]

Antinuclear Antibody [ANA]:

- Presence of antibody binding to nuclear antigen but doesn't tell us which one
- Two assays
  - Indirect Immunofluorescence [Lifelabs]- Reported with Titre and Pattern
    - Patterns is rarely useful*
  - Multiplex bead assay - No patten
  - Values range from 1-8: No clear consensus on how this equates to titres
    - 1≈1:80, 4 ≈ 1:320, 8 ≈ 1:640
- **High false positive rate - 10-20% of healthy population** will have at low titre
- Multiple other causes of a positive ANA: Liver disease [Esp AI liver disease], Thyroid disease, IBD, Chronic infection, TB, Malignancy, Medications* [Hydralazine, minocycline, Antifungal agents, TNFi]

When/When not to Order an ANA

- **Should have a high pretest probability of CTD**
  - Avoid ordering as part of an 'Autoimmune screen'
  - Do not order for isolated fatigue, chronic pain, raynaud's *
- Should have **≥2 features** consistent with CTD before ordering

Extractable Nuclear Antigen [ENA]:

- Looks for specific antibodies to [mostly] nuclear antigens that have disease associations
- Should not be positive unless positive ANA - rare exceptions
- Reflexively done if ANA ≥ 1:320
  - Unless specific reason provided will not be done if ANA titre lower
- Includes: Sm, SSA, SSB, RNP, Jo-1, SCL70, +/- Chromatin [we don't really care about this one]
- Notable exceptions: Centromere, Histone, DsDNA
- Please note: Low titre RNP +/- pos ANA is a common quirk with the lifelabs assay and should be ignored. If concerned about MCTD please request through hospital lab

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Individual Disease Entities - Classification Criteria exist for all [NOT diagnostic criteria]

Undifferentiated Connective Tissue Disease

- Pts who may have some antibodies, abnormal labs and some clinical features but don't fit neatly into a specific disease entity

Lupus [SLE] - Distinct from isolated cutaneous lupus, or neonatal lupus

- Antibody associations: Smith [Sm, most specific], SSA/Ro, SSB/La, DsDNA [Lupus Nephritis], Histone, Antiphospholipid Antibodies [Lupus Anticoagulant, Beta 2 glycoprotein 1 IgG and IgM, Anti Cardiolipin IgG and IgM]
- Other Labs: CBC [Cytopenias - esp lymphopenia], low C3 & C4, DAT+/-hemolytic labs,, Urine micro/UACR, DsDNA
- ROS: Fever, Photosensitive rash, Scarring hair loss in patches/discoid lesions, Sicca symptoms, oral ulcers, raynaud's, inflammatory arthritis, serositis symptoms
- Pearls: Photosensitive rashes are delayed [5-10 days post exposure]; Malar rash spares nasolabial fold, is photosensitive, indurated and does not have pustules; Oral ulcers - hard palate and painless; Sicca severe - Corneal ulcers, +++ caries/tooth loss; Raynaud's is triphasic - White→ Blue→ Red; CRP is often normal unless serositis; Arthritis responsive to very low dose prednisone; ♀>♂, but ♂ have worse disease

Sjogren's Syndrome

- Antibody Associations: SSA, SSB, Rheumatoid Factor
- Other labs: SPEP, Cryos
- Monitoring: SPEP and screen for cervical LN/Parotid enlargement q6mo to 12mo
- ROS: Constitutional symptoms, Sicca, Rashes, lymphadenopathy, parotid enlargement
- Pearls: SSA can be positive but ANA neg - have to ask for ENA with specific reason on Req; Rarely can be seronegative; RF usually high titre; Dry eye severe → corneal ulcers, meibomian gland dysfxn can mimic; Dry mouth - caries, tooth loss, swallowing difficulty; MALT lymphoma high risk esp if parotid enlargement; Can be severe - CNS [Sz, mononeuritis], Renal, Cryo vasculitis, SSA/SSB pos preg risks

Myositis - Complex topic, multiple subtypes

- Antibody Associations: SSA, Jo-1. MANY other antibodies - Mitogen Calgary
- Other labs and Investigations: CK, BNP Troponin, HRCT Chest
- ROS: Proximal muscle weakness, Rashes, inflammatory arthritis, constitutional symptoms/malig screen, ILD-
- SOB/Cough, inflammatory arthritis
- Pearls: Generally myositis is painless; distal muscle weakness is atypical; Associated with malignancy*- age appropriate malig screen; Severe scalp pruritus; Ragged cuticles; ILD can be rapidly progressive

Scleroderma

- Main subtypes: Diffuse cutaneous - thickening above elbows and knees; Limited cutaneous - below elbows and knees
- Antibody associations: SCL70 - Diffuse cutaneous [DcSSc]; Centromere - Limited cutaneous [LcSSc, AKA CREST]
- Other labs/Investigations: BNP, Tn, CK, ANCAs, Renal labs, HRCT Chest, Blood pressure, PFTs
- ROS: Calcinosis, Raynaud's, New/Sever GERD, Sclerodactyly - Prox to MCPs, Telangiectasias, Sclerodactyly, puffy hands, Inflammatory Arthritis
- Pearls: **Avoid use of prednisone** - CAN TRIGGER SCLERODERMA RENAL CRISIS [DcSSc]; DcSSc - ILD associated, LcSSc - pulmonary hypertensions associated; Calcinosis in areas of trauma; Raynaud's can be severe/ulcerating

Mixed Connective Tissue Disease

- Antibody Associations: RNP
- ROS: Raynaud's, Inflammatory arthritis, ILD- SOB/Cough, Sicca
- Pearls: Can have features of all the other CTDs. Lifelabs RNP often falsely positive low titre