Cutaneous Manifestations of Rheumatologic Diseases

Mary S. Stone MD

April 1, 2014
Lupus Erythematosus

- Autoimmune multisystem disease, affects women>>men
- Skin disease present at some time in the course of disease in 70%
- Systemic features include: arthritis, serositis, renal disease, CNS disease, etc
Acute Cutaneous Lupus Erythematosus

- Malar rash
- Erythema and photosensitivity
- Non-scarring
- Associated with SLE
Subacute Cutaneous Lupus Erythematosus

- Very photosensitive
- Annular or papulosquamous
- Often Anti-Ro antibodies
- Often mild systemic disease
Chronic Cutaneous Lupus Erythematosus

- Scaly plaques with follicular plugging
- Scarring
- If no evidence of SLE at presentation only 5% risk in adults developing SLE (risk higher in children)
Lupus Profundus (Lupus panniculitis)

- Indurated plaques +/- surface features of LE
- May be seen in SLE or DLE
Cutaneous Lupus Treatment

- Sunscreens
- Topical steroids
- Topical calcineurin inhibitors
- Oral antimalarials (hydroxychloroquine 200mg QD-BID, also chloroquine, quinacrine)
- Prednisone
- Other systemic immunosuppressants
Cutaneous features of Dermatomyositis

• Heliotrope erythema, particularly of eyelids
• Gottren’s papules
• Nail fold capillary changes
• Shawl-like rash
Dermatomyositis

• Characteristic skin findings typically associated with an inflammatory myopathy. “Amyopathic” disease occurs rarely. Bimodal age distribution. F>>M

• Systemic findings:
  – muscle weakness
  – Pulmonary interstitial fibrosis in 15-30%
  – Calcinosis in children
  – Associated malignancy in 30% of adults
Dermatomyositis Treatment

- For skin: sunscreens, topical steroids, topical calcineurin inhibitors
- Prednisone
- Methotrexate, other systemic immunosuppressants
- IVIG
Scleroderma (Systemic Sclerosis)

- Systemic autoimmune disease; F>M
- Symmetric induration of fingers, hands and face
- Raynaud’s phenomenon
- Pulmonary fibrosis and hypertension
- Esophageal dysmotility
- Renal Disease
Scleroderma – CREST Syndrome

Calcinosis
Raynaud’s
Esophageal involvement
Sclerodactyly
Telangiectasia

*Associated with anti-centromeric antibodies
Raynaud’s Treatment

• Keep warm
• Stop smoking
• Calcium channel blockers (nifedipine)+/- angiotensin II receptor blockers (losartan)
Morphea therapy

• For localized disease: Topical steroids, Calcipotriene (Dovonex), calcineurin inhibitors
• Widespread or linear morphea: Prednisone, methotrexate, antimalarials (hydroxychloroquine), Phototherapy: PUVA, UVA1, Physical therapy
Skin disorders in RA

- Rheumatoid nodules
- Rheumatoid vasculitis
- Felty Syndrome
- Pyoderma gangrenosum
- Rheumatoid neutrophilic dermatosis
- Interstitial granulomatous dermatitis / palisaded neutrophilic and granulomatous dermatitis
- Rash of JRA / adult onset Still disease
Rheumatoid Arthritis

• 1% of population in US and UK
• F:M = 2.5:1
• 15-30% concordance in monozygotic twins
• Risk factors
  – Smoking
  – HLA-DRB1*04, HLA-C*03
Classic Rheumatoid Nodules

- 25% of all RA patients, 40% of seropositive patients, 75% of Felty syndrome patients,
- Whites>Blacks
- M>F
- May be dermal, subcutaneous or even visceral
- Involve areas prone to mild chronic irritation
- Pathogenesis ? trauma leads to immune complex deposition with resultant vasculitis with ischemia, and palisaded granulomatous inflammatory reaction
Rheumatoid Nodules

• Complications: infection, ulceration, creation of a synovial fistula

• Treatment: usually none required
  – Can excise, but recurrences are frequent
  – IL steroids can help shrink lesions, but carry some risk of persistent drainage or infection
  – Nodules may improve with therapy, but not always, and may actually worsen
Rheumatoid Vasculitis

• 30 year incidence in RA of 3.6%
• Typically occurs in long standing disease (may be “burnt out”) in individuals with rheumatoid nodules

• Associated factors
  – High titer RF positivity
  – Joint erosions
  – Other extra-articular manifestations
  – Male gender (males also have more severe disease) 1/9 men, 1/38 women
  – Smoking
Rheumatoid Vasculitis

• Leukocytoclastic vasculitis- immune complex mediated

• Subclinical vasculitis very common

• Vascular immune complexes found in 20-65% of normal skin in RA patients.
  – Rates correlate with disease activity and extra-articular manifestations

• Involves small and medium sized vessels and presentation varies accordingly from palpable purpura to ulceration.
Rheumatoid Vasculitis Presentations

• Leg ulceration: most often as painful punched out ulcers on the pretibia or lateral malleolus. The differential is often pyoderma gangrenosum.
• Sensory or motor neuropathy: relatively frequent, presenting as mononeuritis multiplex.
• Weight loss, fever seen with systemic vasculitis
• Bywaters lesions: small nail fold or digital pulp infarctions caused by small vessel vasculitis and are usually not associated with systemic vasculitis. Digital gangrene is associated with systemic disease.
• Treatment: Steroids, Rituximab, cyclophosphamide
Felty Syndrome

• Triad of arthritis, leukopenia and splenomegaly described in 1924 by Felty.
• 1% of RA patients
• Whites>>blacks, F:M 1.6:1
• Typically in patients with long-standing, seropositive, destructive arthritis
• 75% have rheumatoid nodules
• 22% have leg ulcers
Felty Syndrome

- Ulcers located over shins and ankles, often deep and chronic
- Mortality of 25% with death due to sepsis
- Increased risk of rheumatoid vasculitis
Felty Syndrome Treatment

- Current drugs of choice: Methotrexate and gold
- Role of biologics not clear
- G-CSF for reversal of granulocytopenia with severe infection
- Splenectomy reserved for severe granulocytopenia (<1000/mm3) and recurrent infections despite aggressive medical therapy
Pyoderma Gangrenosum

• Arthritis is associated with approximately 25% of cases of PG (references vary, but about half of the arthritis cases are RA).
• Other systemic associations include inflammatory bowel disease and hematologic malignancies
• 50% of cases are idiopathic
Pyoderma Gangrenosum: Differential Diagnosis

- Infection
- Vasculitis
- Tumor
- Coagulopathies
- Cutaneous Crohn disease
- Brown recluse spider bites
- Factitial ulceration
Pyoderma Gangrenosum: Biopsy

• Major purpose of biopsy is to exclude other diseases in the differential
• Dense neutrophilic inflammation centrally, usually with ulceration. Laterally inflammation may be more lymphocytic.
• Stains and cultures needed to exclude infection.
Pyoderma Gangrenosum

• Treatment:
  • Local wound care: moist dressings. Avoid aggressive debridement
  • Topical corticosteroids or calcineurin inhibitors: Helpful in some cases. Intralesional corticosteroids may be useful, but concerns for pathergy.
  • Systemic treatment usually required
Pyoderma Gangrenosum: Systemic Therapy

- Prednisone 0.5-1.0 mg/kg. Due to long term side effects, steroid sparing agents usually added if treatment needed for more than 2-4 weeks. Acts quickly.
- Cyclosporine 4-5mg/kg/day. Acts fairly quickly
- Infliximab 5mg/kg weeks 0,2,6, then q6-8. Fast acting, useful in the setting of RA or inflammatory bowel disease. Contraindicated in CHF, TB, MS.
- Azathioprine, MTX, mycophenolate mofetil, dapsone, minocycline used as steroid sparing agents. None act quickly
Palisaded neutrophilic and granulomatous dermatitis

• Associated diseases all associated with immune complex formation
• Many authors suggest that immune complex-mediated damage to dermal vessels results in complement activation, recruitment of neutrophils and resultant damage to dermal collagen. A granulomatous response to the damaged collagen then ensues.
• Palisaded neutrophilic and granulomatous dermatitis, interstitial granulomatous dermatitis, rheumatoid papules, granuloma annulare-like drug eruption - all refer to this basic histologic reaction pattern.

• This reaction pattern is not specific and may be associated with connective tissue disease, systemic vasculitis, lymphoproliferative disorders, drugs and inflammatory bowel disease.
Adult Still disease

- Fever > 39° C spiking in late afternoon or evening
- Arthritis or arthralgia
- RF<1:80, ANA<1:100
- 2 of:
  - Leukocytosis of >15,000
  - Pleuritis or pericarditis
  - Hepatosplenomegaly or adenopathy
  - Still rash (90% of patients)
    - Salmon colored macular or papular on trunk or limbs, often appears during fever spikes