Rheumatology Pearls in the Primary Care Office

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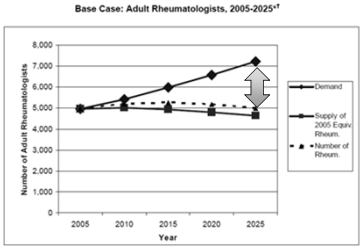
Learning objectives

- Learn when low back pain is not just low back pain and warrants further investigation
- Gain familiarity with the new classification for systemic vasculitides
- Understand the role of the general medicine doctor in treating patients with systemic lupus erythematous, rheumatoid arthritis and systemic sclerosis

Rheumatologist shortage

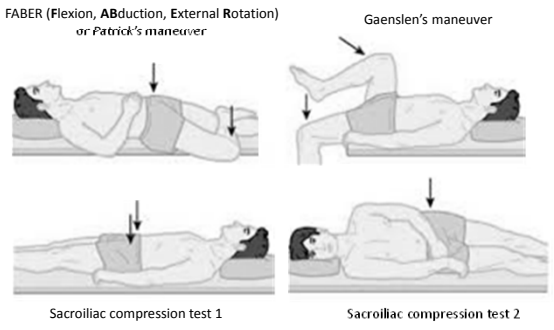


* The 2005-6 workforce study included an assumption that current supply equaled current demand.
† Similar work is being conducted for pediatric rheumatology through other organizations.

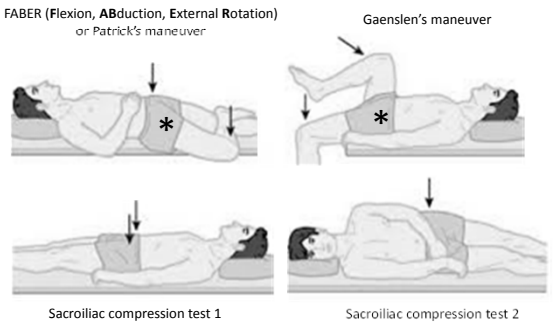
Case 1

- 35yo white man presents to your office with low back pain
- Denies back injury but left heel hurts
- Avid runner
- Alleviating factors: running, soaking in hot tub
- Aggravating factor: lying in bed
- Physical exam:
  - BMI 19

Examination of the sacroiliac joints

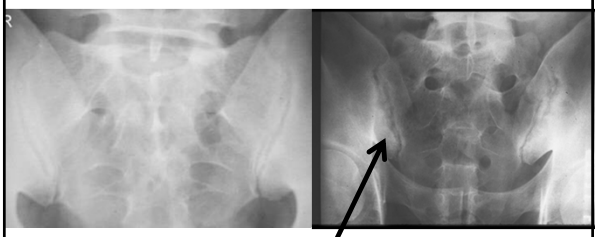


Which side hurts?



Order dedicated sacroiliac joint pain radiographs

normal Sacroiliitis



Sacroiliitis: inflammation at the sacroiliac joints

Ankylosing spondylitis

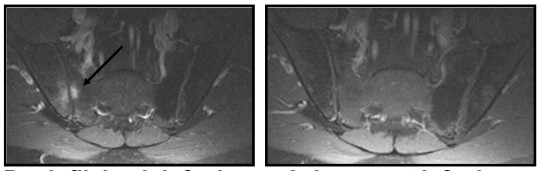
- Treatment
  - **NSAIDs**
  - **Exercise / Physical Therapy**
  - Oral corticosteroids
  - Sulfasalazine
  - Methotrexate
  - TNF-α antagonists
- Often a late diagnosis, although symptoms typically begin in 20's
  - Children may present with peripheral rather than axial disease

Seronegative Spondyloarthropathies

- Group of disorders
  - Ankylosing spondylitis (AS)
  - Psoriatic arthritis (PsA)
  - Reactive arthritis (ReA)
  - Spondylitis associated with inflammatory bowel disease
- Seronegative=absence of rheumatoid factor
- Familial clustering (HLA-B27 positivity)
- Common clinical features

Common Features of Seronegative Spondyloarthropathies

Sacroiliitis: sacroiliac joint inflammation



Pre-infliximab infusion **2 days post-infusion**

Stone et al. *J Rheum* 2001

Common Features of Seronegative Spondyloarthropathies

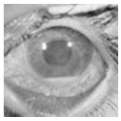
Conjunctivitis: mild, transient, easily overlooked

- Erythema and exudate on the bulbar and palpebral/tarsal conjunctivae
- Minimal pain
- Minimal photophobia
- Normal vision

Common Features of Seronegative Spondyloarthropathies

Anterior uveitis/iritis:

- Usually unilateral
- Painful
- Redness
- Photophobia



Hypopyon: WBC is the anterior chamber of the eye

Distinguishing features of seronegative spondyloarthropathies

Feature	ReA	AS	PsA	IBD
Characteristic feastures	Can't see, can't pee, can't climb a tree	Inflammatory back pain	Arthritis and skin disease	Arthritis and diarrhea
Sacroiliitis	+++	+++	++	+
HLA-B27 positivity	+	+	+	+
Enthesopathy/itis	+++	+	+	+
Conjunctivitis	+++	+	+	+
Anterior uveitis/iritis	+++	+	+	+
Urethritis	+++			
Skin/muco-cutaneous disease	+	+	+++	+
Peripheral inflammatory arthritis	+	+	+++	+
GI involvement	+	+	+	+++

ReA=reactive arthritis, AS+ankylosing spondylitis, PsA=psoriatic arthritis, IBD=inflammatory bowel disease

Case 2

26yo man with SOB, chest heaviness and bilateral leg swelling

PMH:

- Asthma/cough with poor response to inhaled steroids and beta agonist inhalers
- Pleurisy 2/2 viral myocarditis diagnosed 6mo prior, given tapering dose of oral steroids for a month with good response

ROS:

- Fatigue, weight loss, malaise, nasal congestion, chest heaviness, SOB, LE and scrotal edema

PE: P130, RR 30, BP 108/52

- JVD to 12 cm, +HJR
- Bilateral crackles
- Scrotal and LE edema

Case 2

EKG showed transient ST elevations

Echocardiogram: LVEF 25%

Laboratory studies:

E 3.83 $X10^9$/L

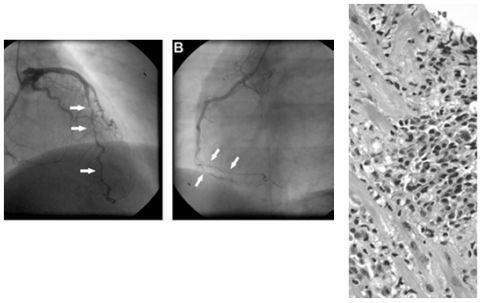
ANCA negative

ESR 43 mm/h

Troponin I 155.6ng/ml

Infectious work-up negative including cardiotopic viruses, Aspergillus, Toxoplamosis, Chlamydia psittaci and Mycoplasma pneumonia

Coronary artery angiogram and biopsy



Correia et al. Revista Portuguesa de Cardiologia. Oct 12, 2012

Update in Vasculitides since 1994

2012 Chapel Hill Conference

Large vessel vasculitis (LVV)
- Takayasu arteritis: women, Asians, large artery stenoses and aneurysms
- Giant cell arteritis:

Medium vessel vasculitis (MVV)
- Polyarteritis nodosa (PAN)
- Kawasaki disease: children<5y, coronary artery aneurysms and thromboses, IVIg

Small vessel vasculitis: pauci-immune and immune complex
- *Antineutrophil cytoplasmic antibody (ANCA)-associated vasculitis (AAV)*
  - Microscopic polyangiitis (MPA)**
  - Granulomatosis with polyangiitis (GPA) aka Wegener's granulomatosis**
  - Eosinophilic granulomatosis with polyangiitis (EGPA) aka Churg-Strauss*
- *Immune complex*
  - Anti-glomerular basement membrane (anti-GBM) aka Goodpasture's disease
  - Cryoglobulinemic vasculitis (CV): Hepatitis B and C
  - IgA vasculitis (IgAV) aka Henoch-Schönlein vasculitis
  - Hypocomplementemic urticarial vasculitis (HUV) aka anti-C1q vasculitis

** +ANCA more common, *+ANCA less common

Jennette et al. Arthritis and Rheum. 2013;65(1):1–11

Update in Vasculitides since 1994

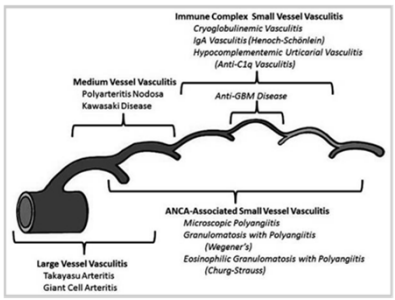
2012 Chapel Hill Conference (continued)

Variable vessel vasculitis
- Behcet's disease (BD): oral and genital aphthosis, uveitis, E nodosum, ↓pathergy, all sized arteries and veins, but more commonly venules
- Cogan's syndrome (CS): audiovestibular and ocular symptoms, medium/large arteries

Single organ vasculitis
- Cutaneous leukocytoclastic vasculitis
- Cutaneous arteritis
- Primary central nervous system vasculitis

Vasculitis associated with systemic disease
- Lupus vasculitis
- Rheumatoid arthritis vasculitis
- Sarcoid vasculitis

Vasculitis associated with probable etiology
- Hepatitis B virus-associated cryoglobulinemic vasculitis
- Hepatitis C virus-associated cryoglobulinemic vasculitis
- Syphilis-associated vasculitis
- Drug-associated immune complex vasculitis (hydralazine, PTU, levamisole, D-penicillamine, cocaine, RA drugs
- Cancer-associated vasculitis



Jennette et al. Arthritis and Rheum. 2013;65(1):1–11

Eosinophilic granulomatosis with polyangiitis

- Mild AAV: oral steroids, methotexate[1]
  General practitioner:
  - Monitor LFT and ensure compliance with daily folate
  - Assist in management of steroid-induced complications
    - Initiate oral bisphosphonate etc.
    - Ensure PJP prophylaxis in GPA patients[2]
- Severe AAV: Solumedrol 500 mg IV/day x 3 doses and Cyclophosphamide/CTX 1g IV
- Rituximab/RIT (B-cell depletion)
  - Two studies established RIT as non-inferior to CTX for induction therapy for severe AAV and cryoglobulinemic vasculitis
  - RIX superior to azathioprine for maintenance
  - B-cell reconstitution associated with flare

1. Lally et al. Curr Opin Rheumatol. 2016 Jan;28(1):15-20
2. Grewal et al. J Cutan Med Surg. 2009 Nov-Dec;13(6):308-12

Atypical presentation

- Limited expression of EGPA: upper or lower respiratory tract can occur
- Negative ANCA is common in patients lacking renal involvement
- Extravascular granulomatous and non-granulomatous eosinophil-rich inflammation (upper airway, lungs, heart, GI tract) is common
- Cardiac involvement is poor prognosticator

Jennette et al. Arthritis and Rheum. 2013;65(1):1–11

Case 3

- 45yo white woman presents to your office with joint pain in bilateral hands and knees for 3mo
- Consumes 6 beers per day and smokes 1ppd
- Physical exam:
  - BP 140/85 BMI 32
  - Swollen MCP joints that are tender to palpation

Differential Diagnosis

- Rheumatoid arthritis
- Systemic lupus erythematosus
- If ankles versus hands and knees, think sarcoidosis

Rheumatoid Arthritis (RA)

- Common
  - Prevalence= 1% general US population
- Smoking is a risk factor
- Methotrexate therapy is backbone of RA management
- Treat to target

If you suspect rheumatoid arthritis

- Ask about morning stiffness
  - Non-inflammatory joint pain <30 min stiffness
  - Inflammatory joint pain >1 h stiffness
- Perform joint exam
- Check rheumatoid factor and anti-cyclic citrullinated peptides (anti-CCP/ACPA)
- Check CBC, CMP and hepatitis serologies
- Initiate methotrexate therapy
  - etanercept, tocilizumab and tofacitinib can be given without concurrent methotrexate
  - Interacts with

If you suspect SLE

- Ask about fatigue, rashes, photosensitivity, oral ulcers, hair loss
- Check CBC, CMP, UA, ANA (ds-DNA, Smith), antiphospholipid antibodies
- Check G6PD (Gluose-6-phosphate dehydrogenase deficiency) to prevent hemolytic anemia from hydroxychlorquine
- Start hydroxychlorquine 100 mg PO QD-BID
- Interacts with leflunamide, vigabatrin

Seronegative spondyloarthropathies

- **Presenting symptoms**
  - **Inflammatory back pain and stiffness**
  - **Sacroiliitis**
  - **Oligoarthritis**
  - **Enthesitis**
  - **Systemic symptoms (fatigue, impaired sleep)**

Proper joint exam

GIM physicians' domain

- CAD risk in RA similar to that seen in DM2 patients[1]
  - Excess CVD risk only partly explained by traditional RF[1]
  - Inflammation is driver
- CAD risk in SLE and AS increased[1]
- Patients with SSc have increase risk RR 1.82 (95% CI 1.40-2.36)[2]
  - Patient needs to stop smoking
  - Patient needs to attain ideal body weight
  - Blood pressure control
  - Lipid management

1. Onat et al. Curr Pharm Des. 2012;18(11):1465-77.
2. 3. Ungpraser at al. Clin Rheumatol. 2014 Aug;33(8):1099-104.

Vaccinations in rheumatic diseases

- Patients should receive:
  - Pneumococcal 23 and 13
    - In pneumococcal vaccine naïve patient, give 13-valent first and 23-valent ≥8 weeks later
    - If patient received 23-valent, give 13-valent 8w later
  - Administer zoster (live) vaccine unless on immune suppression:
    - Prednisone >20 mg per day
    - Biologic
    - Tofacitinib (JAK inhibitor) once daily oral therapy
    - Methotrexate and leflunamide-treated patients may receive
  - Yearly influenza vaccine
  - Test quantiferon gold annually while on biologic therapy

Case 4

- 35yo black woman presents to your office with joint pain in bilateral hands and knees. Physical exam:
  - BP 140/85, BMI 25
  - Hands appear puffy
  - Fingertips are bluish
- What questions would you ask this patient?

Systemic sclerosis (SSc)

Question	Implication	Action
What is your normal blood pressure?	If high, consider scleroderma renal crisis	Check UA (blood, protein) Creatinine
Is your skin itchy and/or are you tanned?	Skin inflammation preceding fibrosis	Refer for skin biopsy
Do your rings fit you/rings resized?	Puffy hands is very sensitive and specific for SSc diagnosis	Refer to rheumatologist
Do your fingers change color when exposed to cold?	Raynaud phenomenon	Counsel about cold avoidance
Air hunger?	Pulmonary arterial hypertension and/or interstitial lung disease	Check PFT including DLCO Check CBC so DLCO can be adjusted
Do you have heartburn, troubles with constipation and diarrhea?	GERD	Elevate head of bed Avoid late meals Start PPI
Do you hear your joints moving?	Tendon friction rubs	Diffuse cutaneous SSc

SSc pearls

- Avoid prednisone >15mg per day: associated with increased risk for renal crisis
- Avoid oral bisphosphonates
- Head of bed and attainment of ideal body weight critical for GERD treatment
- Maintain high index of suspicion for pulmonary arterial hypertension and interstitial lung disease
  - Obtain yearly echo and PFT
  - Watch for abnormal/decline in FVC and DLCO % predicted

NORTHWESTERN SCLERODERMA PROGRAM

http://scleroderma.northwestern.edu