EVALUATION OF PATIENTS WITH POLYARTHRITIS

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GENERAL PRINCIPLES

• History & Physical Exam are Critical
  • Identify urgent situations
    • Monarticular arthritis with a fever
    • Severe Systemic Illness (weight loss, respiratory failure)
  • Identify Inflammatory Conditions
    • AM stiffness > 60 minutes (beware fibromyalgia)
    • Stiffness better with activity, worse with rest
    • Observed joint swelling

LABORATORY TESTS:
SUPPORT A CLINICAL IMPRESSION

• General lab evaluation:
  • CBC with differential
  • Chemistry panels (renal, hepatic, electrolytes, LD, ALT, ALP, Creatinine)
  • Urinalysis
• Identify occult organ system involvement
LABORATORY TESTS: SUPPORT A CLINICAL IMPRESSION

- ESR
  - Nonspecific
  - e.g. UTI, sinusitis can elevate
  - Can be affected by obesity, diabetes, hypergamma globulinemia, pregnancy
  - Increases with age
    - Upper Limit Normal
      - Men: Age/2
      - Women: (Age + 10)/2
- CRP
  - Nonspecific
  - Not as affected by age; can be affected by obesity and Diabetes

LABORATORY TESTS: SUPPORT A CLINICAL IMPLICATION

- Beware the Arthritis Panel (e.g., RF, CCP, ESR, CRP, Anti-CCP)
  - Most often used as a “screen” for autoimmune diseases
  - Order that many tests, one is likely to be positive by chance alone
  - Generates anxiety in the patient
    - “Do I have lupus?”
    - “Is my disease going?”
  - Generates referral
  - Study*: Patients referred to Rheumatology with ANA+; 2007-2009, 232 patients
    - Most common reason for ordering ANA was diffuse musculoskeletal pain
    - 80% of those referred with positive ANA did not have an ANA disease
  - Cost
    - Panel: $500-$1000
    - Consult: $1000-$1500

LYME DISEASE

- Timeline
  - Early – within one month
    - Enthema migrans (EM), with/without constitutional (myalgia, migratory arthralgia)
  - Early Disseminated – weeks to months after infection
    - Multiple EM lesions
    - Neurologic manifestations
    - Cardiac manifestations
  - Late – Months to years after infection
    - Arthritis
    - Neurologic (meningitis, polyneuropathy)
LYME ARTHRITIS

- Inflammatory Arthritis
  - Monoarthritis, Oligoarthritis
  - Typically one or both knees
  - Swelling, warmth, pain
- Aspiration: Inflammatory joint fluid
- Old study (now can't find) – injecting Lyme arthritis knee makes it harder to treat
- Diagnosis (two-tiered testing): EIA and if positive, WB
- EIA very sensitive: Monoartritis of knee with negative EIA makes Lyme very unlikely
- Therapy: Doxycycline (amoxicillin) x 1 month; persistent => another oral course or IV

Patient with inflammatory polyarticular arthritis of the hands – unlikely to be Lyme

CASE

- 25 yo woman has painful, swollen hands x 3 weeks; Difficulty opening jars, fine hand movts; AM stiffness x 45 min; Ibuprofen 600 mg TID helps some;
- ROS: (-) Oral ulcers, chest pain, shortness of breath, rash, GERD, photosensitivity, dry eyes/mouth;
- FSHx: 5th Grade Teacher; ETOH (-); Tob (-)
- PE: Vitals NL; 2+ swelling/pain all MCP/PIP
- Labs: CBC w NC/NC anemia; Chemistries NL; UA NL; ESR 35
- Diagnosis (list 4 possibilities)? Check ANA? …RF? …CCP?
- Therapy?

CASE

- Prednisone 10 mg/day – 95% better
- RF 17 IU (negative < 14); CCP (-); ANA (-)
- Parvovirus IgM (+)
- Diagnosis?

But...Are you 100% certain, I don’t have Rheumatoid arthritis? I have the blood test?

Differential Diagnosis & Prevalence
- Viral – Very Common
- RA – 1%
- PsA – 0.25%
- SLC – 0.01%
CASE

• 73 yo woman has shoulder pain x 3 months & getting worse; no precipitating event; can't sleep; difficult to dress; AM stiffness x 1 hour
• ROS: (-) fever, chest pain, shortness of breath, headache, jaw pain, scalp tenderness, changes in vision, swollen joints
• FSHx: Family Hx (-); ETOH (-); Tob (-)
• Meds: ASA
• PE: Vitals NL; Uncomfortable in chair; Limited bilateral shoulder ROM; rest (-);
• Labs: CBC w NC/NC anemia; Chemistry NL; ESR 17
• What is her Dx? What next…?

CASE

• Presumed PMR (no GCA)
  • < 5% have NL ESR
  • Prednisone 15 mg/day; 100% resolution in 12 hours
  • Oh yeah, her CRP returned 2.3 mg/dl (negative < 0.5)

CASE

• 40 yo man w low back pain; 10 minutes of morning stiffness; pain gets better with rest; pain present for 3-4 years, but is getting worse.
• ROS: He notes occasional oral ulcers and irritated eyes (wears contacts), but denies dysuria
• FSHx: PE Teacher; ETOH (-); Tob (-)
• PE: Vitals NL; limited back flexion
• Labs: CBC w NC/NC anemia; Chemistry NL; UA NL; ESR NL
• Check HLA-B27? X-rays of back? Diagnosis? Therapy?
CASE

- HLA-B27 positive
- X-rays back/SI: "spondylosis"
- Diagnosis...

  - Ankylosing Spondylitis – 0.5%
  - HLA-B27 3-10%
  - Most with HLA-B27 do not have spondyloarthropathy
  - In this case, if there were clinical suspicion, an MRI of the SI joints would help

CASE

- 56 yo woman presents with right knee pain: started 2 months ago – no clear precipitating event; associated with swelling and warmth; no fever, chills or sweats; naproxen 440 mg twice daily helps somewhat but not completely; she now has difficulty walking and sleeping because of the pain; Other review of systems negative in detail.
- PMH: Hypertension, Hyperlipidemia
- Medications: Metoprolol 100 mg BID, Atorvastatin 10 mg daily; aspirin 81 mg daily
- Tobacco: none  Alcohol: 3-5/week  Homemaker
- Exam: 37.6 C  74  118/72  comfortable sitting in the chair; Right knee with small-moderate effusion and warmth. Ligaments are stable. MacMurray negative.
- WBC 11.4  Hgb 12.2, MCV 86, PLTs 320;  Total Protein 6.5, Albumin 3.5, ALP 89, ALT 17, Creatinine 0.8; ESR 34, CRP 1.5

CASE (CONTINUED)

- Differential Diagnosis?
- Next steps?
  - Diagnostically
  - Therapy
CASE

- 27 yo woman complains of pain/stiffness in joints and muscles for 6 months; Morning stiffness lasts 2 hours; Swelling of her hands; ibuprofen 800 TID without benefit; She has been reading on the internet and believes she has lupus. She shared her concern with the doctor at her office who ordered an ANA which returned positive at 1:80 speckled
- ROS: (+) oral ulcers, joint pain, fatigue, chest pain that worsens with coughing or deep breathing, photophobia, rest (-)
- FSH: Family history (-); ETOH (-); Tob (-); Works as a secretary in a dermatologist's office
- Meds: OCP
- PE: Vitals normal. Anxious-appearing; no joint swelling with full ROM; rest (-)
- Labs: CBC, Chemistry Panel, UA NL

Does she have SLE?

DIAGNOSIS

- Not SLE
- Oh yeah, I forgot to mention... she had tender points
- Diagnosis is ... ?
- Canker sores are common
- Musculoskeletal chest pain is common

Are you SURE I don't have lupus (or won't develop it later?)

Kimmo et al.: 1% developed SLE (w +ANA & no findings)
Wijeyesinghe et al.: < 10% developed SLE (with high titer ANA only)

CASE

- 30 yo woman with rash on her cheeks and joint pain. Found to have positive ANA. On exam, erythema on face, particularly around eyebrows, on cheeks and in nasolabial crease. No joint swelling (ROM nl). CBC, Creatinine and UA nl.

Does she have SLE?
CASE

• No, she doesn’t meet criteria...
• What are her clinical manifestations that need intervention?
  • Rash:
  • Joint Pain (arthralgia NOT arthritis):
  • Positive ANA:
• When would you see her back again?

FOLLOW UP

• She does well for 1 year with NSAIDs
• At follow up visit, she complains of more joint pain. On exam, she has joint swelling in her PIPs. CBC significant for WBC 2.9 (had been 6.0 – 8.0 at past visits). Creatinine and UA nl.
  • Does she have SLE?
  • What requires intervention?

FOLLOW UP

• Prednisone 10 mg/day resolves swelling. A moderate taper is initiated (2.5 mg every 1-2 weeks) but her joints swell when dose drops below 5 mg/day.
  • Hydroxychloroquine started.
FOLLOW UP

- Other labs:
  - C3 40 (80-150)
  - C4 15-45
  - DsDNA strongly positive
  - Sm/RNP/SSA/SSB negative
- Does she have SLE?
- Any consequences of delay in diagnosis or therapy?
  - Use (trust) your clinical skills
  - Follow up is important

OTHER CONDITIONS NEEDED TO BE QUICKLY BY RHEUMATOLOGY

- Rheumatoid Arthritis
- Psoriatic Arthritis
- SLE with major organ involvement
  - CNS
  - Renal
  - Bad skin disease
- Systemic Vasculitis with major organ involvement
  - Pulmonary
  - Renal
  - Mononeuritis
  - Bad Skin Disease

TAKE HOME POINTS

- Labs
  - Support Clinical Impression
  - Occult organ involvement
- Urgent
  - Monarthritis with fever
  - Systemically ill
- Polyarthralgia
  - Look for joint inflammation
- PMR
  - > 50 yrs, proximal pain w/ ↑ ESR
- Don’t order the arthritis panel!
- Lyme arthritis –
  - Late finding (months – years)
  - Mono/Oligo arthritis – knees
- Conditions needing quick referral
  - Rheumatoid arthritis
  - Psoriatic Arthritis
  - SLE with major organ involvement
  - Vasculitis with major organ involvement