Polyarthritis

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Disclosure

• EMD Serono, Inc
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Objectives

• Present several common cases of “polyarthritis”
• Discuss features of polyarthritis and their work up:
  • Epidemiologic factors
  • History
  • Physical exam
    • Joint distribution
    • Mono, oligo, polyarticular
  • Diagnostic tests

• Briefly discuss treatment options
Case 1

• ID: 47 year old white male with pain/stiffness in hands and fingers, worsening for past 2 months. Spontaneous. Constant though worse in mornings. Ankle ‘tendonitis’ dx'd in past
• PMH: hypertension, obesity
• FH: brother with Crohn’s disease
• Meds: sulindac, norco with mild improvement
• SH: no tob, mod etoh, no drugs
EXAM

• PE: swelling of DIPs and R fifth digit
• Swollen L ankle and achilles tendon
• Fingernail changes
What test is most appropriate:

A. Rheumatoid factor (RF)
B. Anti-nuclear antibody (ANA)
C. Anti-cyclic citrullinated peptide (CCP)
D. Uric acid
E. HLA-B27
Psoriatic Arthritis

- Psoriasis in 3% of population
  - ~20% develop PsA
- M = F (RA is F>M)
- Age of onset is 30-50 yrs
- Unknown etiology of polygenic origin
  - HLA-B27
  - Role of trauma
  - FH: spondyloarthritis
    - Ankylosing spondylitis
    - IBD (crohn’s, ulcerative colitis)
    - Reactive arthritis
Psoriasis $\rightarrow$ PsA

- >70% develop rash prior to arthritis
- ~15% develop arthritis concomitantly
- Rare cases of PsA without rash (future?)

- gout
PsA domains

• Peripheral arthritis
• Dactylitis/Enthesitis
• Axial disease
• Arthritis mutilans
• Nail disease
• Skin domain
Treatments for Nail Psoriasis: A Systematic Review by the GRAPPA Nail Psoriasis Work Group

April W. Armstrong, William Tuong, Thorvardur J. Love, Sueli Carneiro, Rachel Grynszpan, Steve S. Lee, and Arthur Kavanaugh

ABSTRACT. Nail involvement in psoriatic diseases causes significant physical and functional disabilities. Evaluating, measuring, and treating nail involvement is important in improving the health outcomes and quality of life among patients with psoriasis and psoriatic arthritis (PsA). We performed a systematic analysis of the literature on nail psoriasis to help inform an update of treatment recommendations by the Group for Research and Assessment of Psoriasis and Psoriatic Arthritis (GRAPPA). (J Rheumatol 2014;41:2306–14; doi:10.3899/jrheum.140881)

Key Indexing Terms:
NAIL PSORIASIS  TREATMENT THERAPY PSORIASIS EFFICACY EFFECTIVENESS
Psoriatic Arthritis Treatment

• NSAIDs
• Steroids (topical, IA)
• DMARDs
  • Leflunomide
  • Sulfasalazine
  • Methotrexate

• Others:
  • Ustekinumab/Stelara (IL12,23)
  • Apremilast/Otezla (PDE4)
  • Secukinumab/Cosentyx (IL17)
  • Ixekizumab/Taltz (IL17)

• Tumor necrosis factor inhibitors (TNFα)
  • Etanercept/Enbrel
  • Infliximab/Remicade
  • Adalimumab/Humira
  • Certolizumab/Cimzia
  • Golimumab/Simponi
Polyarthritis diagnostic key clue: ROS

• PsA:
  • Nail changes
  • Scalp, navel, gluteal fold, ears

• Dry eyes and mouth
  • Sjogren's syndrome (SSA/SSB, RF, high titre ANA)

• Raynaud’s and dilated capillary nailfold loops
  • Dermatomyositis
  • Scleroderma
  • Lupus
Pearl: Raynauds

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Figure 3. Schematic Summary of the Proper Evaluation of a Patient with New Onset Raynaud Symptoms

Complete History (Table 1), Physical Examination (Table 2) and Selected Laboratory Tests (Table 3)

- ANA Positive
- Nailfold Capillaries Abnormal

- Diagnosis
- Followup/Additional Testing

Raynaud Disease
Suspicion of CTD in Future
Suspicion of CTD Now or Soon

- 0
- +
- 0
- +

- 0
- 0
- +
- +

± Annual
Every 3-6 Months Initially

http://www.upmcphysicianresources.
Case 2

• ID: 69 F with aching hands. 10 min AM stiffness and intermittent swelling. Better in AM, worse by PM with use
  • PMH: hypercholesterolemia, anemia, cataracts
  • FH: mother with “lupus”
  • Meds: celebrex, tramadol

• PE: Pt is 5’1”, 165 pounds.
  • Bony nodular swelling at DIP and PIP
  • Valgus knees with mild effusions and crepitus.
  • Thin musculature in thighs
What is the most appropriate lab?

A. Uric acid
B. ESR
C. CRP
D. ANA
E. No further lab testing
Osteoarthritis

- Most common joint condition
- Onset 40-50 years
- Joint space narrowing, osteophytosis
- Joints involved:
  - DIPs, PIPs, CMCs
  - Cervical, lumbar spine
  - 1st MTPs, knees, hips
  - NOT shoulders, wrists or mcps
OA contributing factors

• Obesity
• Prior trauma and injury
• Menopause: estrogen?
• Family history
OA

• Pathophysiology
  • Periosteal bone remodeling (bone morphogenetic proteins) - subchondral microfractures
  • Cartilage degradation (matrix metalloproteinases)

• Exam: bony enlargement, decreased ROM, peri-articular muscle weakness, crepitus
OA treatment

- Non-pharmacologic:
  - wt loss, PT, muscle strengthening, aerobic exercise
  - Education

- Pharmacologic:
  - NSAIDs
  - Analgesia (tylenol, tramadol, opiates)
  - Anti-depressants (nortriptyline, duloxetine)

- Injections of steroids or hyaluronic acid

- Future?
  - Anti-nerve growth factor
  - Anti-MMP, anti-BMP
Osteoarthritis vs. Rheumatoid Arthritis

Slide courtesy of Jack Cush at Rheumnow.com
Polyarthritis Key Clues:
- joint distribution

- **Distal interphalangeal:**
  - OA
  - Elderly onset gout

- **Knees:**
  - ReA, OA, CPPD

- **Elbow:**
  - Tophaceous gout, olecranon bursitis
  - RA nodule
Case 3

• HPI: 48 yo AA female with 2 months of worsening swelling in bilateral wrists and scaly rash on nose. no recent travel
  • PMH: asthma
  • Meds: fluticasone, montelukast
  • SH: mod tob use x 20 yrs
  • FH: adopted
• Physical exam:
  • Mild bibasilar wheezes
  • Mod wrist synovitis but no MCP swelling
  • Skin:
What is the best next test?

A. ANA
B. Serum amyloid
C. ANCA
D. Cocci titre
E. ACE
Sarcoidosis

• General:
  • Heterogeneous, Idiopathic – genes? env’t?
  • Non-caseasting granulomas

• Epidemiology
  • Northern European, African

• Clinically
  • 90% with lung domain
  • Eyes, liver, skin, CNS
  • Ca, ACE often ↑; nonspecific
Sarcoidosis Cases

• LÖFGREN’S SYND
  • Hilar Lymphadenopathy
  • Erythema Nodosum
  • Arthritis

• LUPUS PERNIO
  • Misnomer

• Sarcoid arthritis
  • RA mimic
  • Erosive granulomas

• Treatments
  • Corticosteroids
  • Methotrexate
  • TNFα inhibitors
    • infliximab

Conclusions

- History, PE, pattern recognition
  - Joint involvement
    - Distribution
    - Timing
  - Epidemiology
    - Age, sex, race
- Associated ROS
  - Rashes, raynauds, nailfolds
  - Multi-system processes
- Imaging findings
Thank you!
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