High Impact Rheumatology

Diffuse Arthralgias and Myalgias

Case 1: History

- A 48-year-old woman presents with diffuse muscle pain, weakness, and significant fatigue. She reports
  - Symptoms for over 3 years that have become slightly worse in past 6 months
  - Generalized pain and fatigue that limit her ability to work
  - Increasing sleep difficulty due to the pain

Case 1: Objective Findings

- General physical examination is unremarkable
- Diffuse muscle tenderness is noted
- Some tenderness around the joints, but no synovitis
- No objective muscle weakness
- Normal neurologic examination
- CBC, ESR, and chemistry profile are normal

How Should You Approach This Patient With Diffuse Musculoskeletal Complaints?

- Ask yourself the following questions:
  - Is this a systemic inflammatory rheumatic syndrome?
  - Does this represent rheumatic symptoms of an endocrinopathy?
  - Is this a toxic/drug reaction?
  - Is this a generalized soft-tissue pain syndrome?

NOTE: Do not overlook regional rheumatic pain syndromes (physical examination is critical)

Characteristics of Inflammatory Disease

- History
  - Associated with significant morning stiffness (>45 min)
  - Pain often better with movement
  - Insidious onset of the pain
- Physical exam
  - Objective findings of inflammation
    - Swelling, erythema, warmth, detectable joint fluid
  - Muscle weakness
  - Focal neurologic abnormalities

Characteristics of Inflammatory Disease (cont'd)

- Laboratory studies
  - ESR and C-reactive protein are indicators of generalized inflammation
  - Autoantibodies can be helpful in selected cases
  - Organ specific tests can suggest internal organ involvement
    - Liver function tests
    - Renal function tests
    - Muscle-specific enzymes

Inflammatory Causes of Musculoskeletal Pain: Specific Diagnoses

- Rheumatoid arthritis
- Systemic lupus erythematosus
- Polymyositis
- Scleroderma/eosinophilic fasciitis
- Polymyalgia rheumatica
- Duration of symptoms is important for diagnosis
  - <6 months = may be early rheumatic disease
  - 1 year = diagnostic clinical signs and lab abnormalities usually present
  - >2 years = abnormalities almost always present

Musculoskeletal Pain in Older Patients

- Think polymyalgia rheumatica when
  - Age >60
  - Proximal muscle myalgias and stiffness without specific muscle weakness
  - High ESR
  - Anemia

Think About the Musculoskeletal Pain of Endocrine Diseases

- Must consider
  - Thyroid disease
  - Parathyroid disease
  - Adrenal disease
  - Diabetes mellitus
  - Acromegaly
- Diagnosis suggested by history and appropriate screening lab studies
  - TSH, calcium, phosphorous, glucose, sodium/potassium

Don't Forget

- Patients with hypothyroidism can present with diffuse and nonspecific arthralgias and myalgias. CKs may be elevated

Think About Toxic Drug Reactions That Can Cause Musculoskeletal Pain

- Hydroxymethylglutaryl coenzyme A (HMG-CoA) reductase inhibitor
- Zidovudine (AZT)
- Ethanol
- Clofibrate
- Cyclosporin A
- Penicillamine

Don't Forget

- Hydroxymethylglutaryl coenzyme A (HMG-CoA) reductase inhibitors can cause severe myalgias with or without evidence of objective myositis

Hsu I, et al. *Ann Pharmacother*. 1995;29:743–759.

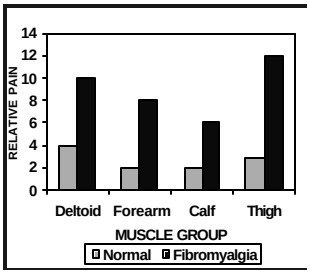
Think About Generalized Soft-Tissue Pain Syndromes

- Fibromyalgia syndrome
- Major depression associated with musculoskeletal pain
- Somatoform pain disorders

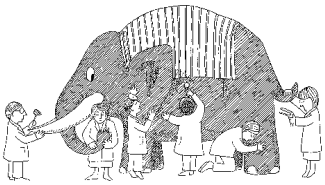
Soft-Tissue Pain Syndromes: Fibromyalgia

- Widespread musculoskeletal pain
- Decreased pain threshold and tolerance
- May have tenderness in specific regions (tender points)
- Associated fatigue, sleep, somatic complaints
- No objective inflammation seen on physical examination
- Normal laboratory findings

Pain Response in Fibromyalgia



Syndromes That Overlap With Fibromyalgia



The neurologist sees chronic headache, the gastroenterologist sees IBS, the otolaryngologist sees TMJ syndrome, the cardiologist sees costochondritis, the rheumatologist sees fibromyalgia, and the gynecologist sees PMS.

Soft-Tissue Pain Syndromes: Major Depression With Musculoskeletal Pain

- Significant depression is seen in
  - 49% of patients with chronic soft-tissue pain
  - 37% of patients with rheumatoid arthritis
  - 33% of patients with osteoarthritis
- Depression is associated with increased pain levels in arthritis
- Depression is more prevalent with loss of valued activities

Bradley LA. *Primer on Rheum Dis*. 11th edition. 1997:413–415.
Huyser BA, Parker JC. *Rheum Dis Clin North Am.* 1999;25:105–121.

Soft-Tissue Pain Syndromes: Somatoform Pain Disorders

- Chronic pain that cannot be explained by a known general medical condition
- These nonintentional symptoms cause significant distress and impairment of social, occupational, and functional activities
- Psychological factors play a role in the onset, severity, or maintenance of the pain
- Somatoform disorders are commonly seen (15%) and nonrecognized (71%) in the primary-care setting
- Outpatient screening diagnostic tools are available (PRIME-MD)

Kroenke K, et al. *Psychosomatics.* 1998;39:263–272.
DSM-IV. 1994:458–462.

Don't Ignore It

- A patient probably has a generalized soft-tissue pain syndrome when there is
  - Primarily nonarticular pain
  - Marked fatigue and/or functional impairment
  - No objective signs of inflammation or a general medical disorder on examination or laboratory studies
  - Lack of specific neurologic abnormalities
- Specific diagnostic testing and therapy exist for many psychological causes of chronic pain

Case 1: Follow-up

- The laboratory studies were all normal
- The patient's symptoms were present for 3 years
- Signs of focal, inflammatory, or organic disease were not found on physical exam
- PRIME-MD screening did not reveal evidence of significant depression or somatization
- Thus, the diagnosis of fibromyalgia was made
  - Remember: Systemic rheumatic syndromes have objective abnormalities

Case 2: History

- A 48-year-old woman presents with complaints of diffuse muscle pain, weakness, and fatigue. She reports
  - Gradual onset over past 6 months
  - Morning stiffness lasting 2 to 3 hours
  - Difficulty with getting up out of a chair and combing her hair
  - No problems with holding a brush or standing on her toes

Case 2: Objective Findings

- Minimal muscle tenderness
- No joint tenderness or swelling
- Significant proximal muscle weakness in both upper and lower extremities
- No focal neurologic abnormalities

Case 2: Question

- Based on these findings, which of the following diagnoses should be initially considered?

A. Fibromyalgia
B. Polymyalgia rheumatica
C. Inflammatory myositis
D. Noninflammatory myopathy

Case 2: Answer

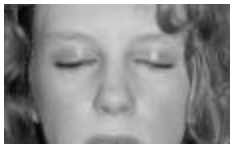
- *C and D. Inflammatory myositis or noninflammatory myopathy*
  - The recent onset of symptoms (6 months) makes consideration of an inflammatory process likely
  - Proximal muscle weakness suggests a myopathy
  - PMR is characterized by muscle pain and stiffness, not objective weakness

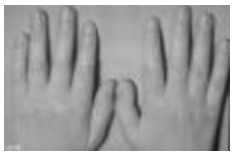
Common Causes of Proximal Muscle Weakness With Elevated CK

- Inflammatory myositis
- Noninflammatory myopathies
  - Hypothyroidism
  - Hypokalemia
  - Alcoholism
  - Drugs
    - AZT
    - HMG-CoA reductase inhibitors (the "statins")

Polymyositis/Dermatomyositis: Key Points

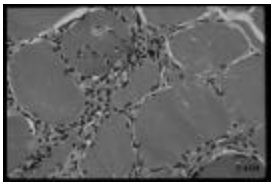
- Proximal muscle weakness
- May have characteristic skin involvement
  - Heliotrope eyelids
  - Gottron's sign





Polymyositis/Dermatomyositis

- Diagnosis confirmed by
  - CK levels
  - EMG findings
  - Muscle biopsy



Polymyositis/Dermatomyositis (cont'd)

- Therapy
  - Prednisone 1–2 mg/kg, as initial therapy
  - Methotrexate or azathioprine is often added
  - Intravenous immunoglobulin in rapidly progressive or refractory cases

Olsen NJ. *Primer on Rheum Dis*. 11th edition. 1997:276–282.

Don't Forget

- Symptoms of muscle weakness require a careful muscle strength and neurological examination

Don't Hesitate to Refer

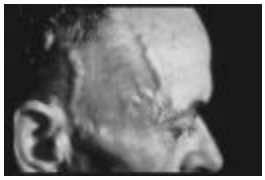
- The diagnosis of inflammatory muscle disease is difficult
- Prednisone therapy can cause a steroid myopathy with weakness
- Cytotoxic therapy is hazardous
- Failure to respond to therapy may suggest
  - Inclusion body myositis
  - Neoplasm-related myopathy

Case 3: History

- A 68-year-old man presents with complaints of diffuse muscle pain, weakness, and total body fatigue. He reports:
  - Gradual onset over past 6 months
  - Morning stiffness lasting 2 to 3 hours
  - Difficulty with getting out of a chair and combing his hair
  - Recent onset of right-sided headache
  - Recent onset of jaw pain when eating

Case 3: Objective Findings

- Proximal muscle tenderness without objective weakness
- Tender right temporal scalp region
- Normal visual acuity
- Hgb 9.8; ESR 85; CK 32



Case 3: Question

- Based on the clinical findings, what is the most important next step?
  - A. Treat now with prednisone 5 mg bid, and observe
  - B. Schedule a temporal artery biopsy for tomorrow morning and use the results to determine whether prednisone will be used
  - C. Start an NSAID at maximal dose
  - D. Treat now with prednisone at 40 to 60 mg per day and schedule temporal artery biopsy in the next few days

Case 3: Answer

- *D. Treat now with prednisone at 40 to 60 mg per day and schedule temporal artery biopsy for next week*
  - Patients with symptoms of PMR may have temporal arteritis
  - Sudden visual loss may occur in TA
  - The visual loss is usually not reversible

Nordberg E, et al. *Rheum Dis Clin North Am.* 1995;21:1013–1026.

Temporal Arteritis and Polymyalgia Rheumatica

- Patients with PMR should be evaluated for symptoms of TA
  - Headache
  - Scalp tenderness
  - Visual changes
  - Jaw claudication
- Treatment approaches
  - TA: prednisone 40 to 60 mg qd
  - PMR: prednisone 10 to 15 mg qd

~~Don't Hesitate~~

- For probable temporal arteritis:

  TREAT NOW! BIOPSY LATER!

- Biopsy as soon as possible

Hunder GC. *Primer on Rheum Dis*. 11th edition. 1997:294–300.

Case 4: History

- A 48-year-old woman presents with complaints of diffuse muscle pain, weakness, and fatigue. She reports:
  - Gradual onset over past 12 months
  - Recent separation from her husband
  - Difficulty sleeping
  - A 10-lb weight loss
- The physical exam and screening laboratory tests are normal

Case 4: Question

- Based on this clinical information, which of the following diagnostic studies are now indicated?

A. Abdominal CT to look for tumors
B. ACTH stimulation test
C. CPK, ANA, rheumatoid factor
D. PRIME-MD Patient Questionnaire

Case 4: Answer

- *D. PRIME-MD Patient Questionnaire*
  - A simple outpatient tool for the screening of mental disorders in the primary care setting
  - Presence of core symptoms of depression on this questionnaire correlates with DSM-IV diagnostic criteria
    - 97% sensitive
    - 94% specific

Brody, et al. *Arch Intern Med.* 1998;158:2469.

Screening for Depression in a Busy Clinic

- Screening question
  - "During the past month, have you often been bothered by the following?"
    - Little interest or pleasure in doing things (anhedonia)
    - Feeling down, depressed, or hopeless (depressed mood)
- If one answer is "yes," probe for core symptoms of depression

Brody, et al. *Arch Intern Med.* 1998;158:2469.

Screening for Depression in a Busy Clinic (cont'd)

- Core symptoms of depression = *SALSA*
  - "Have you experienced any of the following feelings nearly every day for the past 2 weeks?"
    - Sleep disturbance
    - Anhedonia
    - Low self-esteem
    - Appetite decrease
- The presence of 2 or more core symptoms correlates with a diagnosis for major depression

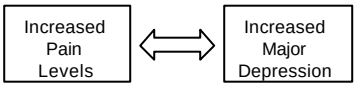
Common Presenting Complaints With Major Depression

- Excessive worry over physical health
- Complaints of pain
  - Joint pain
  - Headaches
  - Abdominal pain
- Tearfulness and irritability
- Brooding and anxiety

DSM-IV. 1994:323.

Don't Forget

Musculoskeletal pain and the presence of major depression may be interrelated



Huyser BA, Parker JC. *Rheum Dis North Am.* 1999;25:115.

Case 5: Question

- 40-year-old woman with diagnosis of fibromyalgia has quit her job because of pain and fatigue. Which of the following therapies is most important?

A. NSAIDs
B. Low -dose tricyclic agents at night (amitriptyline, cyclobenzaprine)
C. Instruction in general physical conditioning exercises
D. Encourage her to return to work

Case 5: Answer

- *C. Conditioning exercises*
  - NSAIDs a little better than placebo
  - Amitriptyline a little better than NSAIDs
  - NSAIDs plus amitriptyline a little better than amitriptyline alone
  - Duration of response to pharmacological agents is usually limited
  - But exercise is BEST of all - to increase function in spite of pain not to eliminate pain.

Therapy of Fibromyalgia Syndrome

- Goal of therapy
  - Keep patient functional in spite of pain
- Therapeutic techniques
  - Listen to the patient and reassure
  - Educate regarding the nondestructive nature of the disease
  - Aggressively treat coexisting depression
  - Emphasize appropriate sleep hygiene
  - Instruct in a regular conditioning exercise program
  - Encourage social interactions and employment

Don't Start It

- Use of corticosteroids or narcotic agents is not indicated in fibromyalgia

Things to Remember Tomorrow

- In patients with diffuse arthralgias and myalgias
  - Think about an inflammatory rheumatic syndrome
  - Think about an endocrine abnormality
  - Think about drug or toxic reactions
  - Think about a soft-tissue pain syndrome
    - Fibromyalgia
    - Depression
    - Somatoform pain disorder

Things to Remember Tomorrow (cont'd)

- Systemic rheumatic inflammatory syndromes have objective abnormalities on examination
- Symptoms of muscle pain and/or weakness require a careful examination of muscle strength and focal neurological abnormalities
- Screen for common, treatable mental disorders (PRIME-MD)