“My Arthritis is Acting Up -- What Can I Do? ”

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What is “Arthritis”?

- “…A disease that causes the joints in the body to become painful and swollen”

- >100 types of arthritis

- Arthritis does not discriminate

- 2 main categories
  - Osteoarthritis – Degenerative Joint Disease (DJD)
  - Inflammatory Arthritis – ie. Rheumatoid Arthritis
Degenerative vs Inflammatory

Inflammation – Rubor (redness), Calor (heat), Tumor (swelling), Dolor (pain)
What is Arthritis?

Non-inflammatory (ie. Osteoarthritis)
- Worse pain with joint usage, better with rest
- Minor am stiffness
- Worse throughout the day
- Joint space narrowing on xray

Inflammatory (ie. Rheumatoid Arthritis)
- Worse pain with joint rest, better with usage
- Prolonged am stiffness >1 hour
- Improves throughout the day
- Erosions on xray
- Swelling, warmth, erythema, stiffness
Osteoarthritis Demographics

- Most common form of joint disease
- Affects > 16 million Americans
- Age onset > 40yo
- ~80% of individuals show x-ray evidence of OA by age 55
- Peak incidence over age 65
- Women affected about twice as often as men
- 2nd to ischemic heart disease as a cause of disability in men > 50 years of age
And the Oscar goes to...
OA Clinical Characteristics

- Pain worse with use
- Weight-bearing joints
- More commonly Knees, Hands, Spine, Hips
- Less commonly Shoulder, Elbow, Wrist, Ankle
- Few joints affected

- Crepitus
- Minimal inflammatory signs
- Bony Enlargement
- Sclerosis on x-ray
- No serological abnormalities
- No constitutional symptoms
Knee Osteoarthritis
Knee Osteoarthritis

- Usually bilateral, but one knee can be worse
- Pain in compartments
- Joint space narrowing
- Osteophytes
- Soft tissue swelling
- Sometimes effusion
Knee Osteoarthritis

- Effusion
Lab Findings in Osteoarthritis

**Laboratory**

Normal

**SYNOVIAL FLUID**

Color – Clear

Viscosity – Good

Leukocyte count – 3,000 or less

Gram stain – negative

Culture – negative

No crystals
Knee Osteoarthritis

Initial Treatment

- Physical Therapy
- Aquatic exercise
- Weight loss
- Acetaminophen
- NSAIDs
  - I.e. Naproxen, Diclofenac, Meloxicam, Celecoxib
- Topical creams
  - Diclofenac gel, capsaicin cream

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Knee Osteoarthritis

Treatment – Cortisone injection

– Intraarticular glucocorticoid injection

– Depomedrol 40mg (1cc) or Kenalog 40mg (1cc), with Lidocaine (2cc)
Knee Osteoarthritis

Treatment - Viscosupplementation

– Intraarticular Hyaluronic acid injection

- Biologic polysaccharide
- Viscoelastic, functions as joint lubricant
- Ie. Synvisc, Supartz, Orthovisc, Hyalgan, Euflexxa
- Most made from rooster/chicken comb
- Indicated for patients who have failed to respond adequately to conservative therapy
- If no benefit from cortisone injection >1 month
- May take up to 2 months for optimal effect
Knee Osteoarthritis

Refractory Treatment

- Tramadol
  - Synthetic Opioid Receptor Antagonist
  - Comparable to ibuprofen (may be used in combo with NSAIDs)
  - Side effects: drowsiness, nausea, constipation, small potential for abuse (lower risk)

- Glucosamine Sulfate and Chondroitin

- Complementary – Acupuncture

- Platelet Rich Plasma (PRP), Stem cell therapy

- Referral for TKR, or opioid
Hand Osteoarthritis
What joints are most commonly affected in Hand Osteoarthritis?

A. Metacarpophalangeal (MCP) joints
B. Distal Interphalangeal (DIP) joints
C. Proximal Interphalangeal (PIP) joints
D. 1\textsuperscript{st} Carpometacarpal (CMC) thumb base joints
E. B, C, and D
Hand Pain

- RA – MCP joints
- OA – DIP, PIP, and 1st CMC joints
Hand Pain

- Osteoarthritis
- Rheumatoid Arthritis

Consider RF, CCP, ESR, CRP
Hand Osteoarthritis

- Bouchard nodes
- Heberden nodes
- Deformities greater than symptoms
Hand Osteoarthritis

1\textsuperscript{st} carpometacarpal joint space (1\textsuperscript{st} CMC)
Hand Osteoarthritis

- Treatment
  - Acetaminophen
  - NSAIDs – Oral or Topical
  - Topical Capsaicin
  - 1\textsuperscript{st} CMC splint
  - Occupational Therapy
  - Cortisone injections
  - Reassurance
  - Referral for surgery

"We don't call it torture anymore - it's occupational therapy!"

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Lumbar Degenerative Disease
Lumbar Spine

- Lumbar Degenerative Disease = Lumbar Spondylosis = Lumbar Osteoarthritis
- 84 percent of adults have low back pain at some time in their lives
- Most presentations are nonspecific, usually improve in few to several weeks

History
- Location, duration, severity of the pain
- Details of any prior back pain, prior injury
- Any evidence of radicular pain
Lumbar Spine

Indications for imaging:

- Neurologic deficits
- Significant trauma, presence of contusion, abrasion
- Unexplained weight loss, history of malignancy
- History of Osteoporosis
- Prolonged Glucocorticoid use
- Risk factors for Ankylosing Spondylitis (morning stiffness, alternating buttock pain, awakening bc of pain)
- Persistent symptoms 4-6 weeks despite conservative therapy and concern for radiculopathy, risk of cancer, or autoimmune
- Older age >65yo for men, >75yo for women
- If no particular concern → 12 weeks

Lumbar Degenerative Disease
Lumbar Degenerative Disease

Figure #4: Side view of vertebral (spinal) column.

- Normal disc
- Degenerated disc
- Bulging disc
- Herniated disc
- Thinning disc
- Disc degeneration with osteophyte formation
- Foramen
- Spinal Nerve Root
- Cauda Equina
- Normal Intervertebral Disc
- Spinous Process

Sciatic nerve

Pain from sciatica radiates from the buttock down the leg and can travel as far as the feet and toes.
Lumbar Degenerative Disease

- Dermatomes
  - L4-5 disc →
    - Paresthesias in
    - Medial ankle
    - Knee, great toe
  - L5-S1 disc →
    - Buttocks
    - Posterior thigh
    - Pinky toe
Lumbar Degenerative Disease

Treatment

- Physical Therapy
- Posture, Ergonomics
- NSAIDS
- Acetaminophen
- Spinal manipulation
- Cold – for acute back pain
- Heat – reduce muscle spasm
- Combination muscle relaxants
  - cyclobenzaprine, methocarbamol, carisoprodol, baclofen, chlorzoxazone, metaxalone, orphenadrine, tizanidine.
- Tramadol
Lumbar Degenerative Disease

Treatment – continued

- Systemic glucocorticoids – ie. Medrol pak, or Prednisone taper over 7-14 days (for radiculopathy)
- Epidural injection
- Antidepressants – Duloxetine
- Massage, Yoga
- Acupuncture
- Opioids

- Referral to Neurosurgeon or Orthopedic spine surgeon
Hip Osteoarthritis
Hip Pain

- Hip Osteoarthritis
- Trochanteric Bursitis
- Tendon strain
- Femoral acetabular impingement (FAI)
- Occult Hip Fracture
- Referred from Lumbar Spine (Sciatica)
Hip Exam

- Flexion with knee flexed: 120 degrees
- Extension: 0 degrees

- External rotation: 45 degrees
- Internal rotation: 40 degrees
Hip Osteoarthritis

Figure 1: Normal joint space

Figure 2: Narrowed joint space from loss of cartilage

Bone spurs
Hip Osteoarthritis

Treatment
- Physical Therapy
- Weight loss
- NSAIDs
- Tramadol
- Cortisone injection
- Hyaluronic acid injection
- Acupuncture
- Referral for THR
Summary

What kind of Arthritis?
- Degenerative (ie. Osteoarthritis) vs Inflammatory

Initial management (For General Osteoarthritis)
- Patient Education
- Individualize therapeutic regimens
- Physical modalities – heat or cold
- PT/Exercises – isometric muscle contractions, aerobic, endurance, non-weight bearing
- Weight Loss
- Acetaminophen
- Topical creams – OTC or capsaicin
Summary

- Persistent
  - NSAIDs – Oral/Topical
  - Injection therapy – Steroid/hyaluronans
  - Pure analgesics – Tramadol
  - Muscle relaxants
  - Anti-depressant drugs – Duloxetine
  - Glucosamine Sulfate/Chondroitin?
  - Acupuncture?
Summary

- Severe/Nocturnal pain
  - Epidural injections (spine)
  - Opioid analgesics
  - ?PRP or Stem Cell
  - Surgical Intervention
    - Osteotomy
    - Arthroscopy
    - Arthroplasty
Thank You