Differential Diagnosis of Hip Pain

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Disclosures

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Hip: History

• Important to Listen

• Have patient tell you why they are there and let them expand on their symptoms
  – Sit down
  – Ask Open ended questions
“Hip” Pain

• Patients may present with chief complaint of “hip” pain, but it may not actually be coming from their hip
  – Intrarticular hip
  – Extrarticular hip
  – Lumbar spine
  – Sacroiliac joint
  – Other
    • Intra-abdominal, hernia, GI, GU
History

• Common symptoms
  – Groin Pain
  – Thigh Pain
  – Some lateral pain
  – “C-sign”
  – Buttock Pain: More likely lumbar in origin
History

• Knee pain
  – Can be the initial complaint of hip pathology
  – Not uncommon for a patient with hip arthritis to present with knee pain
    • Differentiate with exam, X-rays, injections
Physical Exam

• Stinchfield
  – Pain with resisted hip flexion
Physical Exam

- Trendelenburg Sign
Physical Examination

• Gait description
  – Antalgic – shortened stance phase
  – Trendelenburg – trunk shift to involved side
  – Short leg
  – Combination
Physical Exam

- Trendelenburg Gait
Imaging

• Standard Imaging
  – AP Pelvis
  – AP of involved hip
  – Frog Lateral
  – Shoot thru Lateral
Unsure if pain is coming from hip?

- Diagnostic/therapeutic injection
  - Perform under imaging
  - Carefully instruct patient and provider to document the response to injection
  - Have patient write it down
  - Specify you are interested in the HOURS after the injection
Differential Diagnosis

- Osteoarthritis
- Rheumatoid arthritis
- Avascular necrosis
- Trochanteric pain syndrome
- Femoral-acetabular impingement
  - Labral tear
Osteoarthritis

• Hip OA accounts for 75-80% THA’s
• Hip OA is primary or secondary
  – Secondary
    • FAI, AVN, Post traumatic, DDH
  – Primary
    • No obvious cause-dx of exclusion
• Caucasians 3-6%
  – Males more common
  – 1% or less for Blacks, Chinese, Native Americans
OA- Radiographic Findings

- Joint space narrowing - often asymmetric
OA- Radiographic Findings

• Osteophytes
OA- Radiographic Findings

• Subchondral cysts
Radiological Assessment of Osteo-Arthrosis
Kellegren and Lawrence
Ann. Rheum Dis. 1957

G1-Doubtful narrowing, possible osteophytes

G2-Narrowing and osteophytes

G3-Multiple osteophytes, narrowing, sclerosis, possible deformity

G4-Large osteophytes, marked narrowing, severe sclerosis, definite deformity
Inflammatory Arthritis

• Less common source of hip pathology
• Any age - usually begins after age 40
• More common in women
• Can affect multiple joints
• Systemic symptoms
  – Skin, eyes, lungs, blood vessels
Inflammatory Arthritis

• Early stage, suspected diagnosis
  – Refer to rheumatologist for workup
  – Learn tests to order to work up for yourself
    • Sed rate, Rheum Factor, anti-CCP antibodies, ANA
Inflammatory Arthritis

- Tender, warm, swollen joints
- Morning stiffness that lasts for hours
- Firm bumps of tissue on arms (rheumatoid nodules)
- Fatigue, fever, weight loss
- Hands- RA affects PIP and MCP joints, DIP is OA
Rheumatoid Arthritis- Xray Findings

- Concentric loss of joint space
- Periarticular osteoporosis
- Erosions
- Fewer osteophytes than OA
Avascular Necrosis

• Loss of blood supply to the femoral head
• Age 30-60
• Men>Women
Avascular Necrosis - causes

- Trauma - hip fracture or dislocation
- Steroid use
- Alcoholism
- Systemic diseases
  - Gaucher’s, Lupus, Sickle cell, HIV, Caisson’s
- Idiopathic
Avascular necrosis- Xray findings

• Early stages normal
• Look carefully at femoral head
  – AP and especially LATERAL view
• Lesion in superolateral femoral head
• Collapse of head with progression
Avascular necrosis- Xray findings

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MRI
Femoral-acetabular Impingement (FAI)

- Pinching of abnormal anatomy of the femoral head and acetabulum during hip range of motion
  - Cam- males
  - Pincer- females
  - Combination- 70%
Femoral-acetabular Impingement (FAI)

- Can lead to tear of acetabular labrum
- MRI or MR arthrogram can help visualize tear
Trochanteric Pain Syndrome

• Lateral hip pain
• Pain with laying on side
• Tender to palpation
• Lack of groin pain/pain with hip ROM
Trochanteric Pain Syndrome

- Trochanteric bursitis
- Gluteus medius/minimus tendinopathy

- Treatment for both conditions similar:
  - PT- stretching/strengthening
  - NSAID
  - Corticosteroid injection
Trochanteric pain syndrome

- Advanced imaging:
  - Failed non-op mgmt
- MRI or Ultrasound
  - Distinguish bursitis from tendinopathy or tear
Trochanteric pain syndrome

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When should I order an MRI

- Infrequently
- Rarely on initial visit
  - Initiate non-op treatment for presumptive dx
- Never when the X-ray shows OA
When should I order an MRI

• Concern for AVN
  – Normal Xray
  – Early stage, no collapse
  – Size lesion or examine contralateral hip
When should I order an MRI

- Concern for occult fracture
- Normal Xray-
  - Labral tear
Do I order MRI?

• NO!
• Diagnosis is made
• MRI provides no treatment guidance
Do I order MRI?

NO!
Do I order an MRI?

74 yr old female
Twisted hip 3 days ago
Difficulty bearing weight
++Stinchfield and internal rotation
Do I order an MRI?

Yes!

Occult hip fracture
Summary

• Take a good history
  – Is it the hip?

• Exam
  – Confirm it’s the hip
  – R/O other source

• Imaging
  – X-rays are the workhorse
  – MRI for specific indications only
Thank You