Acquired Hip Disorders in Children and Adolescents

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“Don’t Miss” Acquired Hip Disorders

- SCFE
- Posterior Hip Dislocation
- Osteoid Osteoma
- Pelvic Osteomyelitis
- Misc.
14 yo male with anterior hip pain x 1 month
Slipped Capital Femoral Epiphysis

- **THE** “Don’t Miss” diagnosis!
- Most common adolescent hip disorder
- Salter I fracture
- Risk factors:
  - Obesity
  - Hypothyroidism
  - Growth spurt
Slipped Capital Femoral Epiphysis

- MRI helpful to evaluate for “pre-slip”
  - Physeal widening
  - Metaphyseal marrow edema
  - Joint effusion
  - Synovitis
Missed SCFE?

15 year old male with chronic hip pain
SCFE

Mild stable SCFE
In situ screw fixation

Unstable/moderate/severe SCFE
SCFE

In situ screw fixation  Modified Dunn osteotomy
SCFE

- 26% risk of AVN
- Technically challenging (compared to in situ pinning). Tertiary care centers
14 year old football player; left hip pain after tackle
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2 years later, persistent limp
Posterior Hip Dislocation
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Posterior Hip Dislocation with Labral Entrapment
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Posterior Hip Dislocation with Labral Entrapment

- Presence of entrapped labrum changes management
- Surgical dislocation may be necessary to repair labrum
- If posterior dislocation clinically suspected, MRI to evaluate for both osseous and soft tissue injury
Posterior Hip Dislocation with Labral Entrapment
Complications of Posterior Hip Dislocation

- **Arthrosis**
  - Most common complication (up to 24%)
  - Related to chondrocyte damage at time of injury

- **Avascular Necrosis**
  - Increased risk with >6 hours to reduction
  - Rare in children

- **Sciatic Nerve Injury**
Prior Dislocation?
Prior Dislocation?
Synovial Osteochondromasis

- Cartilaginous metaplasia of the synovium
- Cartilaginous nodules grow in the synovium and often break free and become loose.
- More rarely, the nodules adhere to the synovium and do not form loose bodies
- May be treated arthroscopically
Synovial Osteochondromatosis
Synovial Osteochondromatosis
13 year old female with right hip pain
13 year old female with right hip pain
Osteoid Osteoma

- Radiolucent nidus
- Central calcification

- Geographic marrow edema
- Thickened medial retinaculum
- Joint effusion
Osteoid Osteoma

Companion Case:
14 year old female with left hip pain
Osteoid Osteoma
Initial MR Diagnosis: Stress Fracture
Delayed Diagnosis - Example 2

Initial PE and radiographs c/w FAI
Initial w/u for knee pain (negative)

Hip MRI 9 months later c/w synovitis. Treated for inflammatory arthritis with no relief
Delayed Diagnosis- Example 3

Initial w/u for knee pain (negative)

Hip MRI 9 months later c/w synovitis. Treated for inflammatory arthritis with no relief
Metaphyseal Equivalents Pelvis
Pelvic Osteomyelitis

- Hip effusion often absent
- Older patients (early adolescent) M>F
- Antecedent trauma common
- Elusive diagnosis
  - Nonspecific history
  - Fever may be absent
- Consider the diagnosis in children with prolonged MSK complaints, gait abnormality, or nonlocalized pain/fever
Pelvic Osteomyelitis – Iliac Crest
Pelvic Osteomyelitis – Pubic symphysis
Pelvic Osteomyelitis
(Ischiopubic Synchondrosis)
Iliac Osteomyelitis?
Neuroblastoma Metastases
Pyogenic Sacro-iliitis

- History of antecedent trauma common
- Often misdiagnosed as muscle strain
- Osteomyelitis usually secondary
Misc.
Ganglion Cysts

17 year old female with right hip pain
Ganglion Cysts
Epiphyseal Osteomyelitis

4 year old female with left hip pain
LCH
• Thank you