Acetabular Fractures in Older Patients
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Disclosures
• Consultant and Royalties from Stryker, AAOS Hip Program Committee, Journal of Arthroplasty Editorial Board, AAHKS Scientific Program Committee

Disclosures
• There will be a strong bias towards ORIF alone
• At STC THA used sparingly in specific patients
  – Part of a randomized trial ORIF vs ORIF + THA
  – Dome Impaction or
  – Posterior wall or
  – Femoral head impaction
• Percutaneous fixation also works well
  – Less used at our center, but use growing
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- Dome Impaction
- Quadrilateral Surface comminution

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- Dome Impaction
- Quadrilateral Surface comminution
- Anterior Fracture patterns predominate

Treatment Options - Displaced Fractures

- Non-operative
- Percutaneous
- Limited ORIF
- Standard ORIF
- ORIF + THA

Increasing Invasiveness
Non-Operative Treatment of Displaced Fractures

• Acceptable option for:
  – Patients who are not community ambulators
  – Patients with dementia
  – Patients with severe medical co-morbidities

• Caveats:
  – Usually requires 2-3 months of non-weight bearing
  – Difficult to manage unstable posterior wall fractures non-operatively
Problems with Non-operative Treatment

- Patient is non-weight bearing for several months
- They probably have more pain
- This lack of mobility causes the standard problems with stasis
  - UTI
  - Pressure Sores
  - Deconditioning

What if they develop arthritis?

- They have been immobile and deconditioned for months
- Now they need a THA and the whole process starts over again
- Ends up being a long convalescence
Open Reduction and Internal Fixation
ORIF

- Good reduction shows the best chance of avoiding a later THA
- Can be sometimes accomplished with percutaneous fixation or less invasive approaches
- Long history of ORIF for acetabular fracture

Challenges in this Population

- Femoral Head medialization
  - Quadrilateral surface comminution
- Dome Impaction
- Increased EBL can be a problem
Surgeons positioned on patient’s left to repair right acetabular fracture

Malleable protecting bladder

Rectus fascia
Fascia over obturator internus
Pelvic brim
Pelvic Brim
Quadrilateral Surface
Cobb elevating iliopsoas fascia
Malleable retracting obturator internus

Quadrilateral Surface
Pelvic Brim
Malleable retracting obturator internus
Problems with ORIF

- Failure rate fairly high for ORIF of geriatric fractures—25-30%
  - Helfet
  - O’Toole
  - Matta
- And this 25-30% failure rate was just the patients who actually came to THA
  - Did not include patients doing poorly who did not get further surgery

Posterior Wall Component

Dome Impaction
Dome Impaction

Femoral Head Fracture
Femoral Head Fracture

Geriatric Acetabulum

- In active elderly patients with fracture patterns at high risk for failure
  - What about acute ORIF + THA in the same surgery
  - Is this a reasonable strategy?

Combined ORIF + THA

Posterior (Kocher) Approach
Restore Posterior Column and Wall

Restore Posterior Column and Wall
THA Alone in Posterior Wall Fractures

- Isolated posterior wall fracture
- AIIS and Ischium Intact
- No transverse fracture line present
- Wedge cup between AIIS and Ischium
Wedge cup between AIIS and Ischium

THA Alone in Posterior Wall Fractures

- Ignore and impaction graft Anterior and posterior wall defect
- Less surgical time
- Can be done through a Hardinge or Direct Anterior approach
  - Exploit the stability present with these approaches

Hoppenfeld, Surgical Exposures in Orthopaedics
Anterior Fracture Patterns

Combined ORIF + THA

Levine (Extended Smith-Petersen) Approach

Beaule, Matta et al, JOT 2004
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