“Role of Femoral Head Surgery in Perthes”

POSNA 2012 Premeeting Course
Adolescent Hip Conditions

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- Surgical Dislocation of the Hip: Ganz et al JBJS-B 2001
  - 213 adult hips primarily treated for anterior impingement
    - Causes:
      - Residual Perthes, Idiopathic
      - PVNS, synovial chondromatosis
  - Average age 33 years
  - 19 simultaneous IT osteotomies
    - Blood supply of the femoral head verified at surgery
    - No avascular necrosis at follow-up
- Two Basic Methods to Contour the Head
  - Outside-in:
    - The standard osteochondroplasty
      - Trim the area that causes impingement- usually the anterior head (medial to lateral)
    - Advantages
      - More conventional method
      - Technically easy
    - Disadvantages
      - Resecting the best articular cartilage
      - Rarely results in a nice round head- usually with mushroom shape
  - Inside-Out:
    - Removes the central aspect of the femoral head
      - Area of the worst articular cartilage
    - Advantages
      - Removes the worst area of the femoral head
      - ‘Restores a nice round femoral head
      - Maintains the best articular cartilage to the head
    - Disadvantages

Notes:
- Highly technical
- New procedure with very short followup
- Indications still be determined
- ? Creating avascular necrosis

### Indications
- Preop- Painless arc of motion with pain near the extremes of abduction/internal rotation
- Intraop- Saddle shaped femoral head with good articular cartilage on the periphery
- Area of central deficiency allows for good resection margins

### Procedure
- Surgical dislocation
- Mobilize the retinacular soft tissue sleeve with arterial supply to head intact
  - Maintain the proximal insertion into the epiphysis
- Monitor blood flow to epiphysis
- Define the borders of resection
- Lateral cut made first parallel with the femoral neck axis and exits at the base of the neck perpendicular to the lateral cut
- Medial cut made parallel to the first
- The lateral column has soft tissue attached and is brought to the medial neck/head
- 3.5 diameter screws x2 to rigidly fix the medial and lateral neck
- Stabilizing screw occasionally used for the medial femoral neck column

#### Results
- Leunig, Ganz et al Bulletin of the NYU Hospital for Joint Diseases, 2011
  - 14 patients 3 year followup
  - No complications (AVN, ON, Troch failures)
  - All patient with marked improvement in pain, hip mobility and gait
- Paley OCNA, 2011
  - 20 patients
  - 14 of 20 with good or excellent, 3 fair, 3 poor

#### Personal series
- 6 patients
- 3 Good/ excellent, 2 fair, 1 poor

#### Femoral Head Osteochondral Grafting
- Allograft
  - Exacting technique with few series – all small with short followup
- Autografting
Easy to secure bone resected during osteochondroplasty
Mosaicplasty

References

Notes: