



Elbow OCD Lesions w/ Dr. Shea Notes

Intro

- Osteochondritis dissecans
 - Localized lesion involving the separation of a segment of articular cartilage containing both articular cartilage and subchondral bone
 - Osteochondritis- inflammation of bone and cartilage
 - Dissecans - “dissec”- separate in Latin

OCD lesions in elbow

- Primarily refers to lesions of the capitellum
- Lesions of trochlea, radial head, olecranon + olecranon fossa have been called many terms- OCD, Panner’s disease, little leaguers elbow, osteochondrosis, osteonecrosis, osteochondral fracture of fragment, hereditary epiphyseal dysplasia, accessory centers of ossification
- In throwers- anterior part of capitellum affected

Etiology

- Uncertain, possibly repetitive microtrauma
- Histopathology: consistent w/ subchondral bone osteonecrosis
- Early changes: hyperemia + edema , cartilage remains intact
- Reparative changes- absorption of necrotic bone + ingrowth vascular granulation
 - From here:
 - 1. If articular cartilage still intact w/ necrotic segment> new bone forms
 - If articular cartilage violated or lacks enough mechanical support> necrotic segment can detach completely> loose body
- Prevalence
 - Males in throwing sports + females in gymnastics
 - Dominant upper extremity, history of repetitive overuse common

Clinical presentation

- History: pain w/ insidious onset
- Sometimes relieved by rest
- PE
 - TTP about radiocapitellar joint
 - Motion loss- extension
 - Crepits / clicking/ popping- loose body

- Baumgarten- active radiocapitellar compression test- active pronation and supination w/ elbow in full extension

Imaging

- X Rays - AP, lateral
 - Radiolucency and rarefaction of capitellum w/ flattening and irregularity of the articular surface
 - Oblique
- CT scan- defines extent of osseous lesion and can detect loose bodies
- MRI- useful in early detection
 - Earliest changes present on T1- low signal intensity in superficial aspect of capitellum
- Panner's disease (kids 3-8) - self limiting

Classification/staging:

Treatment

- No universally accepted guideline for treatment
- Factors: patient symptoms, radiographic appearance, articular cartilage status, whether involved segment is intact or detached

Nonoperative treatment

- Articular cartilage intact- conservative
 - Hinged elbow brace 3-6 weeks
 - As sx's decrease- gradual PT program
 - 3 months- return to activity
 - Monitor w/ radiographs
- if physes open- 95% get better non op
- Closed 50% get better

Surgical tx:

- Surgical indications- persistent / worsening sx's despite conservative care, symptomatic loose bodies, evidence of fx at articular cartilage surface, displacement or detachment of capitellar lesion
- Assess size, stability and viability - excise or attempt to reattach
 - Most lesions not amenable to fixation > excision w/ local debridement
 - Abrasion chondroplasty then performed
 - Drilling or microfracture subchondral bone to promote healing
 - If amenable to fixation:
 - Open v arthroscopic techniques - k wire, cancellous screws, herbert screws
- Elbow arthroscopy
 - ACI
 - OATS
 - From LFC
 - Coastal osteochondral transplantation (COAT)
 - Good results- but doesn't reconstruct osteochondral transition
 - Bone peg grafting and refixation

Results

- ½ patients may develop degenerative changes
- ½ may have pain / impaired motion (23 years later - Bower et al)

Sources:

Stubbs, M. J., Field, L. D., & Savoie III, F. H. (2001). Osteochondritis dissecans of the elbow. *Clinics in sports medicine*, 20(1), 1-9.

Bruns, J., Werner, M., & Habermann, C. R. (2021). Osteochondritis dissecans of smaller joints: The elbow. *Cartilage*, 12(4), 407-417.