14 year old male with elbow pain after playing sports

Ted Su
“traction apophysitis, medial epicondyle”
“avulsion, medial epicondyle apophysis”
Little Leaguer’s Elbow

• Classically refers to medial epicondyle apophysitis

• But used to describe many overuse injuries including osteochondritis dissecans (OCD) of the capitellum, OCD of the trochlea, and olecranon apophysitis

• Due to repetitive microtrauma from pitching

• Acceleration phase of overhead throwing athlete imparts valgus stress

• “whipping” action puts tension on the ulnar collateral ligament (UCL)
Little Leaguer’s Elbow

- In adults this will result in UCL tears
- In children the immature apophysis is the weaker link
Little Leaguer’s Elbow

Radsourced 2005
Little Leaguer’s Elbow—radiographic findings

• Initial radiograph can be normal in up to 85%

• Most common manifestation: displacement and fragmentation of medial epicondyle apophysis

• Epicondylar overgrowth from chronic traction

• Soft tissue swelling
Little Leaguer’s Elbow—MRI findings

• Marrow edema pattern, low T1, high T2

• Physis between medial epicondyle and distal humerus may be wide and hyperintense on T2

• Common flexor tendon can be thickened with increased signal on T1 and T2

• Edema may extend to proximal aspect of forearm flexor muscles
Little Leaguer’s Elbow—Panner disease

• Panner disease: AVN of the capitellum

• Lucency of capitellum with sclerosis and fragmentation

• Dominant elbow, age 5-12

• MRI—diffuse capitellar edema, morphology usu preserved

Iyer et al. AJR 2012
Little Leaguer’s Elbow—OCD

- OCD
- Starts as faint subchondral lucency
- Then lytic/sclerotic changes, flattening and fragmentation
- Older, age 11-15

Iyer et al. AJR 2012
Little Leaguer’s Elbow—OCD
Little Leaguer’s Elbow—OCD

- Don’t confuse this with the normal pseudodefect
References

• Iyer, et al. Elbow Trauma in Children. AJR. 2012; 198:1053-68