60 year female with pain and palpable mass at the antecubital fossa.

Vince Paul, MD
Initial workup with ultrasound

LT ANTECUBITAL FOSA
AREA OF CONCERN  TRV SUP-INF
Initial workup with ultrasound
• MRI of the elbow
• MRI of the elbow
• MRI of the elbow
• MRI of the elbow
• MRI of the elbow
• MRI of the elbow
Findings

• Well circumscribed fluid collection deep to and running along the course of the biceps tendon

• Interposed between the distal biceps tendon and radial tuberosity

• Internal debris and synovial thickening and irregularity
Diagnosis

- Bicipitoradial bursitis
Contralateral Elbow
Bicipitoradial Bursitis: MR Imaging Findings in Eight Patients and Anatomic Data from Contrast Material Opacification of Bursae Followed by Routine Radiography and MR Imaging in Cadavers

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Robert D. Boutin, MD
Robert Weber M. Dantas, MD
Andrew W. Hooper, MD
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Radiology 1999; 212:111-116
Bursae

- Two bursae found in the cubital tunnel
  - Bicipitoradial
  - Interosseous

Bicipitoradial Bursa

- A subtendinous bursa (occurring between a tendon and bone) with a synovial lining

- Functions to reduce friction between the biceps and radius

Case courtesy of Dr Matt Skalski, Radiopaedia.org, rID: 37129
Bicipitoradial bursa

• In supination it surrounds the biceps tendon

• In pronation it is compressed between the radius and biceps tendon

• In the study, the cadaveric specimens evaluated showed no identifiable sheath of the distal tendon of the biceps brachii

• Also there were no cases where the bicipitoradial bursa communicated with either the interosseous bursa or elbow joint

Bicipitoradial bursitis

- Bicipitoradial bursa
  - May become inflamed due to:
    - Repetitive mechanical trauma is the most frequent cause – Supination/ Pronation
    - Often associated with partial tears of the biceps tendon
    - Inflammatory Arthropathy
      - Rheumatoid
      - Gout
    - Chemical synovitis
    - Synovial Chondromatosis
Presentation

• Typically presents with a mass
  – (+/-) Pain with supination
• May be acute or chronic
• May lead to compression of adjacent nerves
  – Superficial branch of the radial nerve
    • Sensory related symptoms
  – Deep branch of the radial nerve (posterior interosseous nerve)
    • Motor related, extensor weakness
• In the study there were no cases of median nerve involvement
Imaging

• MR Imaging allows assessment of the relationship between the bicipitoradial bursa and the adjacent structures

• To confirm enlargement of the bursa

• Should be recognized as distinct from tenosynovitis or a ganglion cyst.
Treatment

• Acute
  – Rest, NSAIDS, aspiration, steroid injection

• Chronic
  – Splinting / Rest are less helpful
  – Remove calcium if present
References
