AMSER Case of the Month
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42-year-old female with palpable masses on left arm

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Patient Presentation

- **HPI** - 42 year old female presented with a one month history of painless lumps to the left elbow and associated paresthesia of the left 4th and 5th digit.
- No fever or history of trauma
- No significant past medical or surgical history
- **PE** - There are two distinct roughly 1 cm soft tissue masses at the medial aspect of the left elbow.
What Imaging Should We Order?
Select the applicable ACR Appropriateness Criteria

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Appropriateness Category</th>
<th>Relative Radiation Level</th>
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</thead>
<tbody>
<tr>
<td>X-ray area of interest</td>
<td>Usually Appropriate</td>
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<tr>
<td>US area of interest</td>
<td>Usually Appropriate</td>
<td>0</td>
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<tr>
<td>MRI area of interest without IV contrast</td>
<td>May Be Appropriate (Disagreement)</td>
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This imaging modality was ordered first.
Ultrasound

US superior mass left medial elbow

US inferior mass left medial elbow
Ultrasound (labeled)

Superior echogenic focus at the medial aspect of the left elbow measuring 1.4 x 0.6 x 1.4 cm. That is homogeneously hyperechoic but does have some internal areas of decreased echogenicity.

Inferior echogenic focus at the medial aspect of the elbow measuring 1.7 x 0.7 x 1.4 cm with central hypoechogenicity with internal color Doppler flow.
Ultrasound findings are inconclusive and atypical for lipoma

What Imaging Should We Order Next?
Select the applicable ACR Appropriateness Criteria

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This imaging modality was ordered next.
Epitrochlear lymph nodes normal in appearance with thin cortex, reniform morphology and preserved fatty hila.
Final Dx:

Epitrochlear lymph nodes of normal morphology
Epitrochlear lymph node

• This case illustrates how normal anatomy can sometimes raise suspicion for pathology.

• Clinicians are occasionally unfamiliar with the distribution of epitrochlear lymph nodes.

• Normal epitrochlear lymph nodes
  • Typically located in the subcutaneous tissue on medial elbow a few cm above the humeral epitrochlea (medial epicondyle).
  • There are most commonly 2 epitrochlear nodes but anywhere from 1-4 may be present
  • Typically drain lymph from 4th and 5th digits and medial aspect of hand
DDx palpable mass medial elbow

• Consider nodal and extranodal causes

• Nodal causes
  • Lymphadenitis (skin infection, tuberculous, sarcoid)
  • Lymphoma
  • Metastatic lymphadenopathy (melanoma most common)

• Extranodal causes
  • Tumors (median nerve tumors, fibromas, hemangiomas, lipomas)
  • Sebaceous cyst
  • Abscess
Lymph node imaging characteristics

- Important distinguishing features:
  - Size (longitudinal and transverse diameters)
  - Shape
  - Borders (Sharp or ill defined)
  - Appearance of hilum
  - Thickness and structure of cortex

- On US lymph nodes have large central hyperechogenicity and a thin hypoechoic cortex with hilar type vascularization

- MRI can provide additional information on node morphology, intensity changes, and contrast enhancement.
References:


