

# AMSER Case of the Month

## April 2024

75 y/o female presents for annual screening mammogram

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# Patient Presentation

- HPI: 75-year-old female with a history of benign fibroadenoma on recent prior biopsy. Patient was being followed for the prior benign biopsy when incidental note of an enlarged left axillary lymph node was seen. The patient subsequently presented for short interval follow-up diagnostic mammogram and ultrasound of left axillary adenopathy.
- PMHx: There is no pertinent past medical history.
- Physical Exam: Palpable lymph node in left axilla

# Pertinent Labs

- None

What Imaging Should We Order?

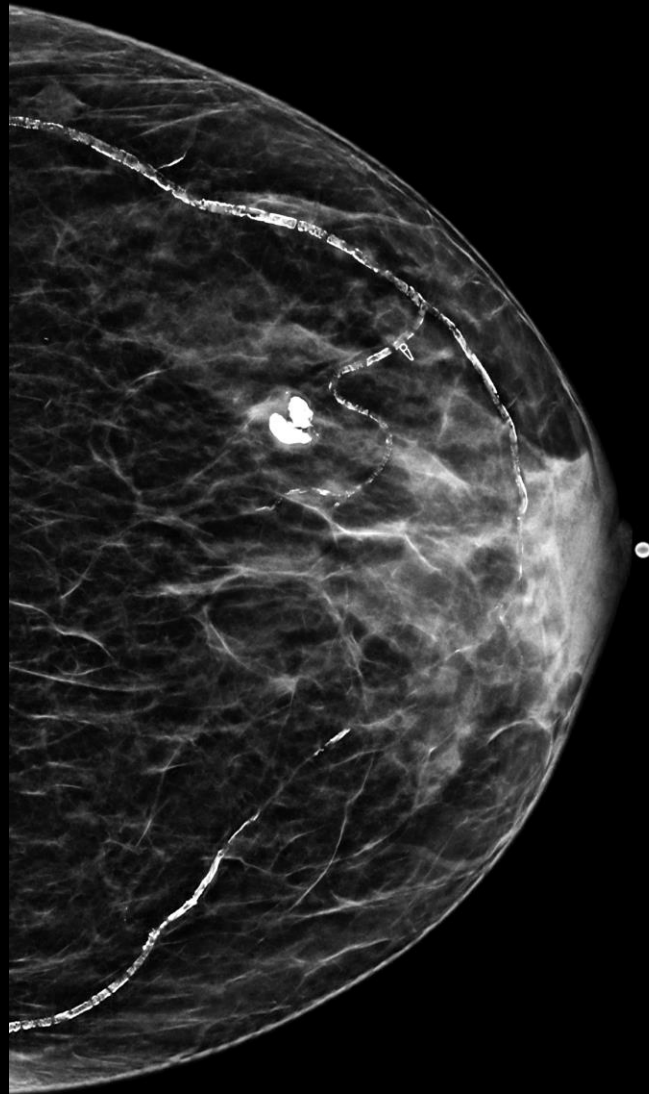
# Select the applicable ACR Appropriateness Criteria

**Variant 1:** Female. New palpable, unilateral, axillary lump. Initial imaging of the axilla.

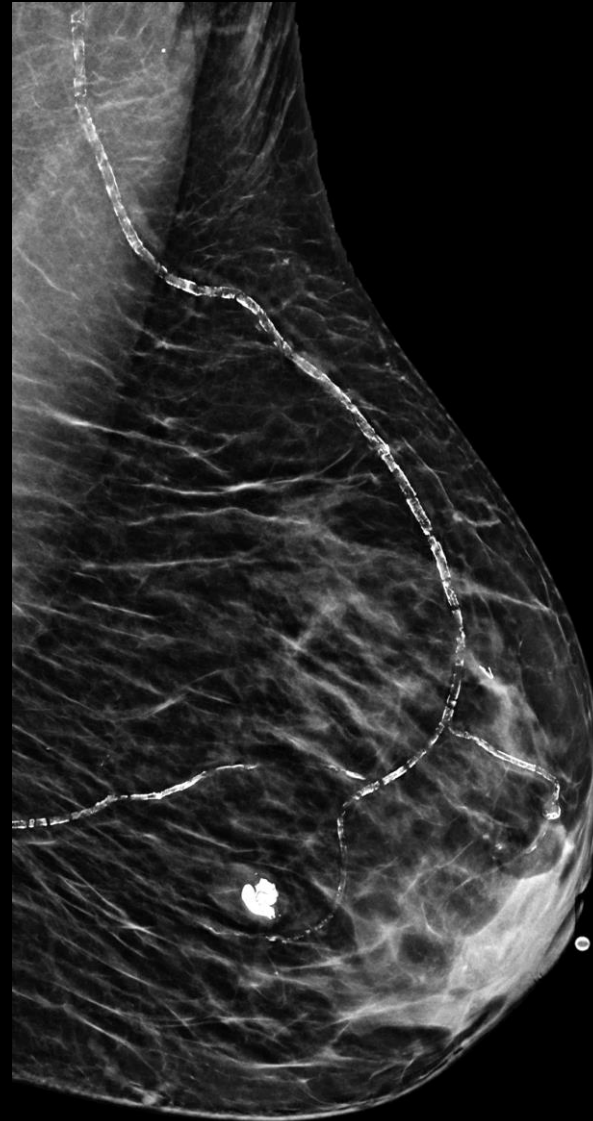
Procedure	Appropriateness Category	Relative Radiation Level
US axilla	Usually Appropriate	○
Digital breast tomosynthesis diagnostic	May Be Appropriate	⊕⊕
Mammography diagnostic	May Be Appropriate	⊕⊕
MRI breast without and with IV contrast	Usually Not Appropriate	○
MRI breast without IV contrast	Usually Not Appropriate	○
Sestamibi MBI	Usually Not Appropriate	⊕⊕⊕
CT chest abdomen pelvis with IV contrast	Usually Not Appropriate	⊕⊕⊕⊕
CT chest abdomen pelvis without and with IV contrast	Usually Not Appropriate	⊕⊕⊕⊕
CT chest abdomen pelvis without IV contrast	Usually Not Appropriate	⊕⊕⊕⊕
FDG-PET/CT skull base to mid-thigh	Usually Not Appropriate	⊕⊕⊕⊕

These imaging modalities were ordered

# Findings

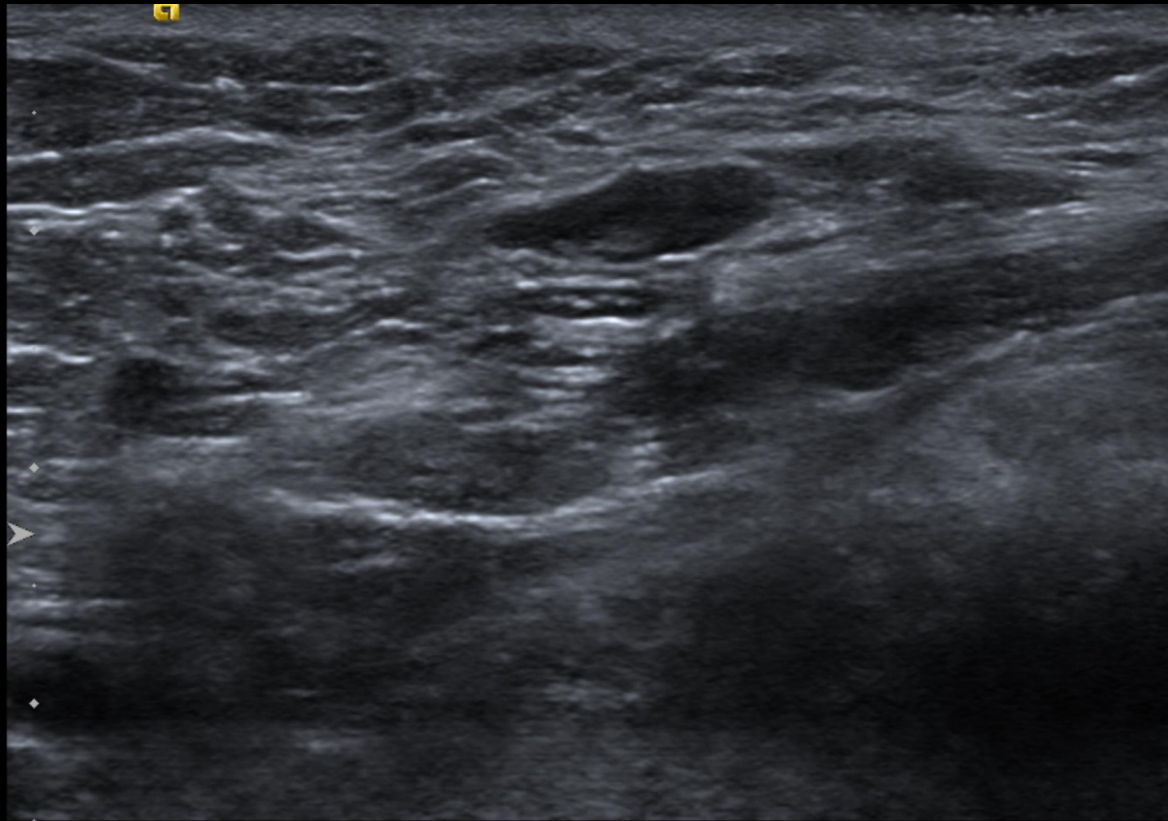


[LCC]



[LMLO]

# Findings

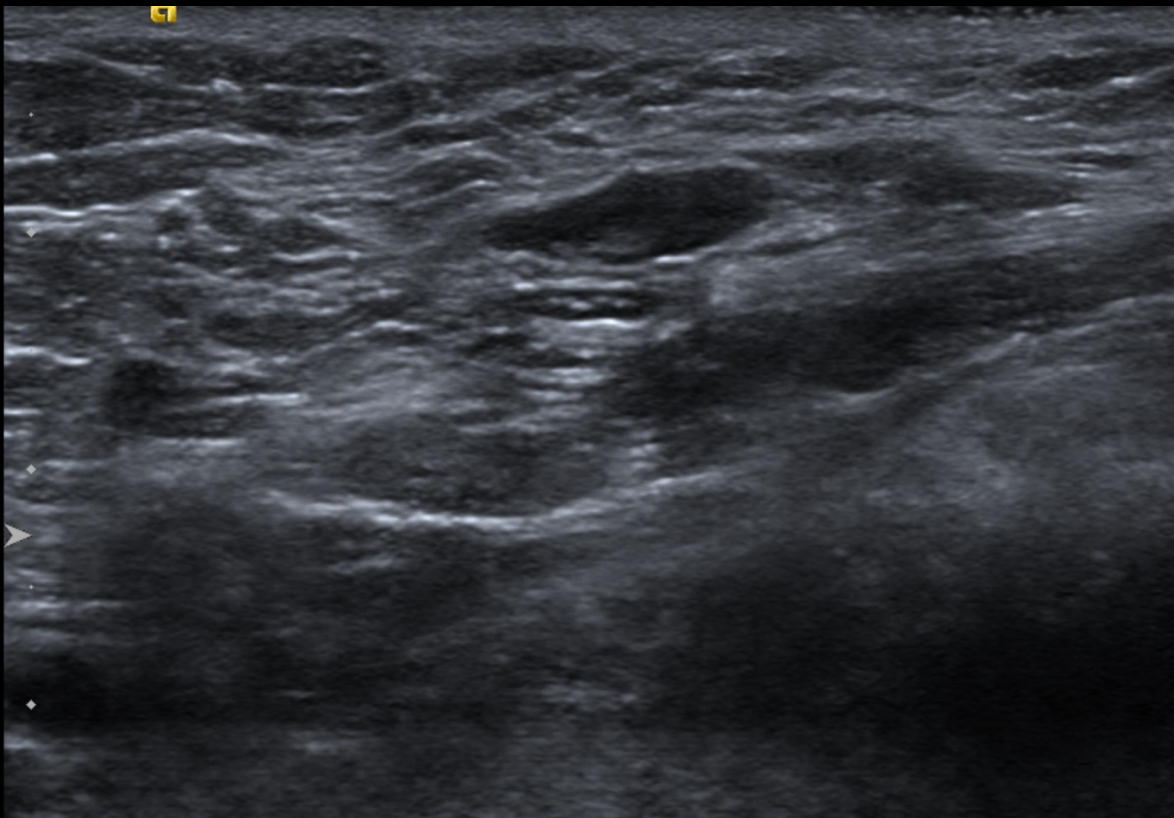


LEFT AXILLA RADIAL \_

3.5cm

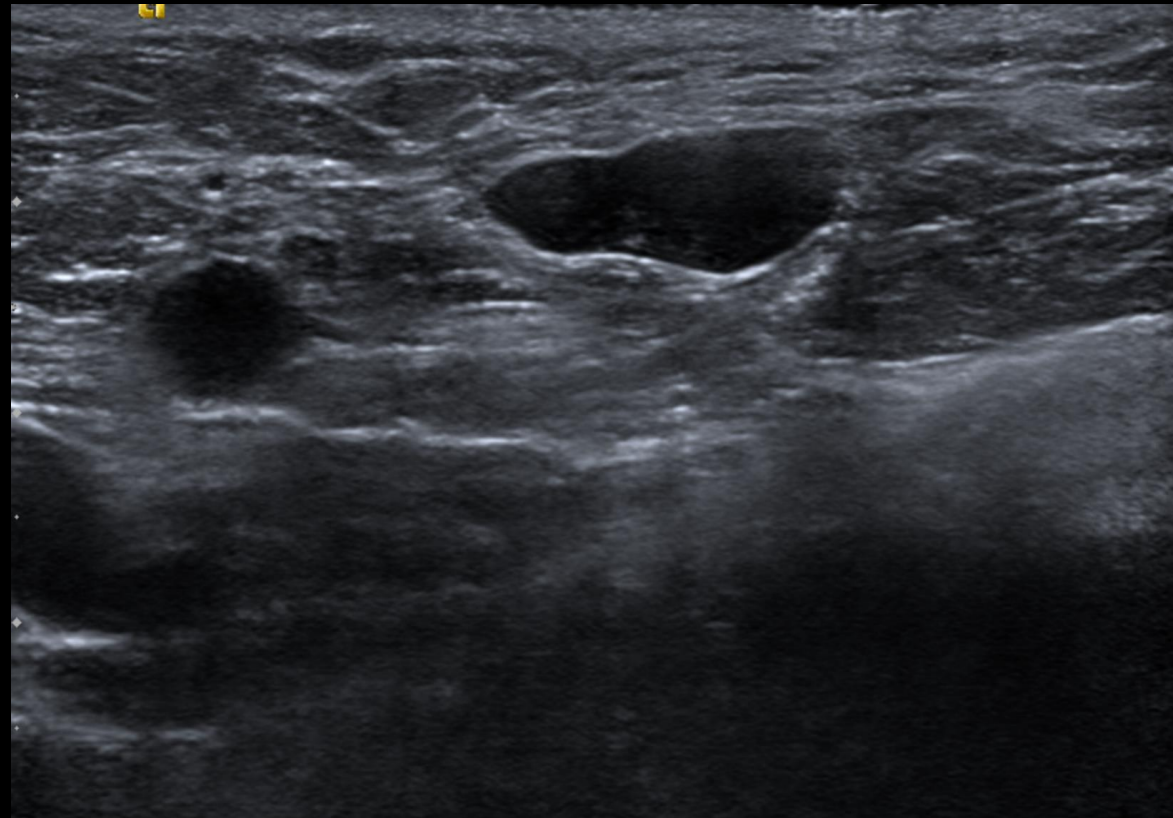


# Findings



LEFT AXILLA RADIAL \_

3.5cm



4 MTH F/U

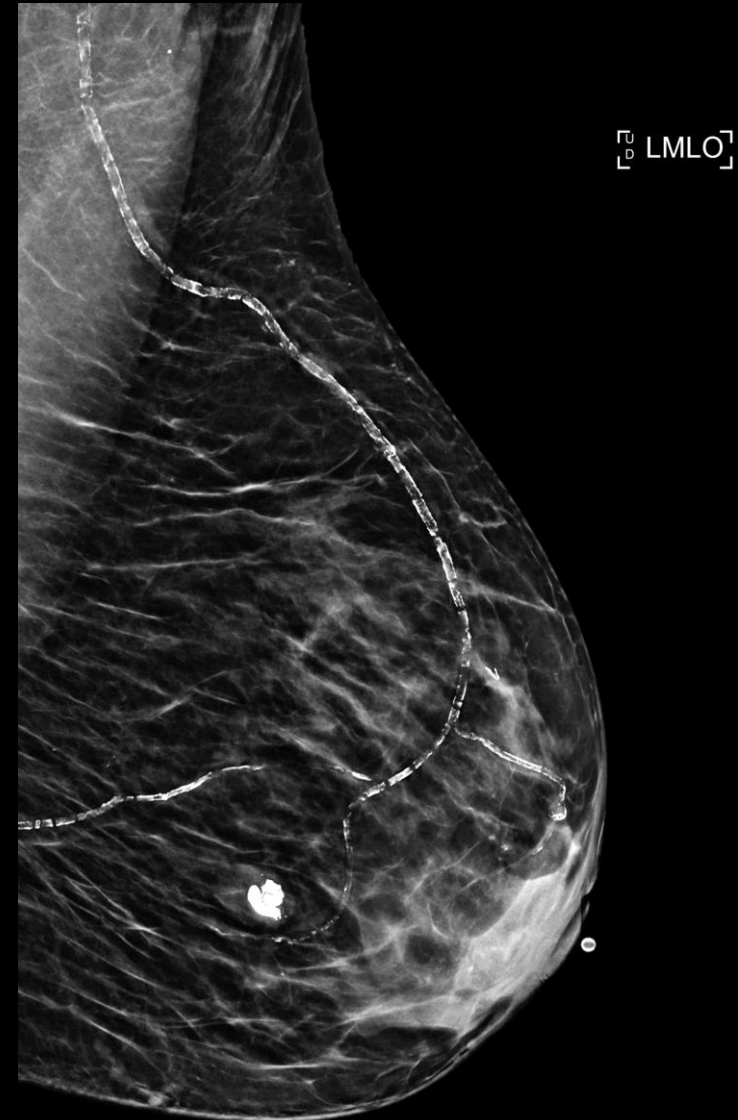
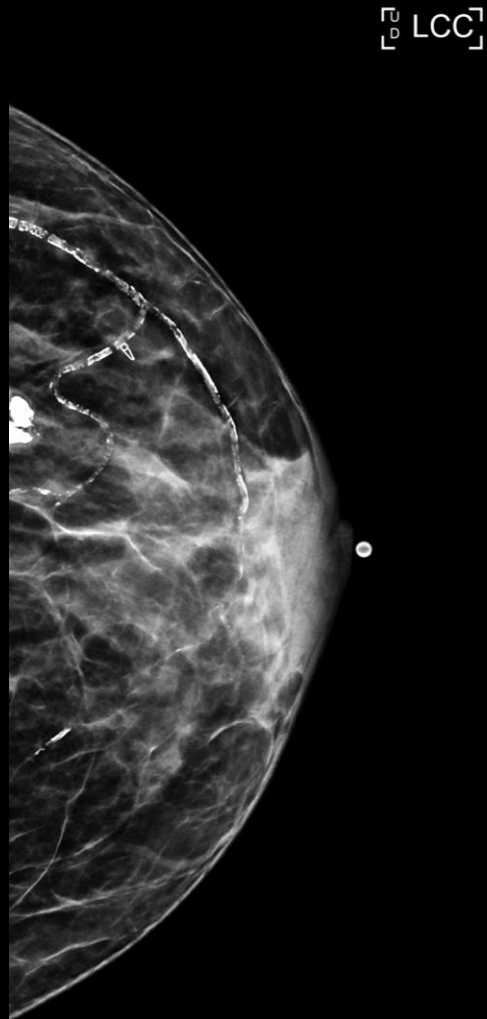
LEFT AXILLA RADIAL#2\_

4cm



# Findings (labeled)

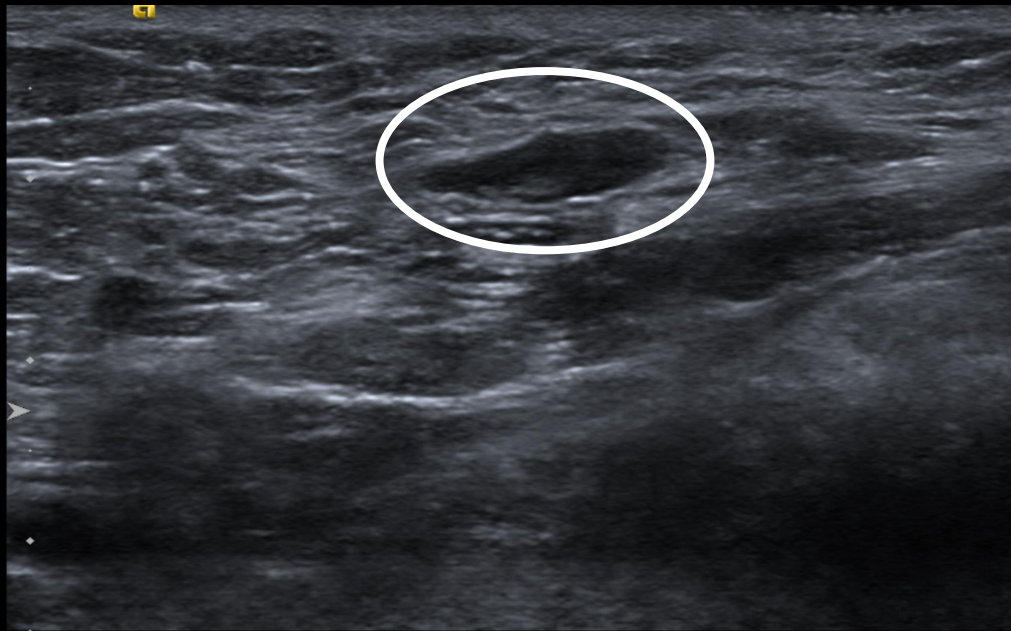
Benign findings on mammogram. Axillary lymph nodes not visible on mammogram



# Findings (labeled)

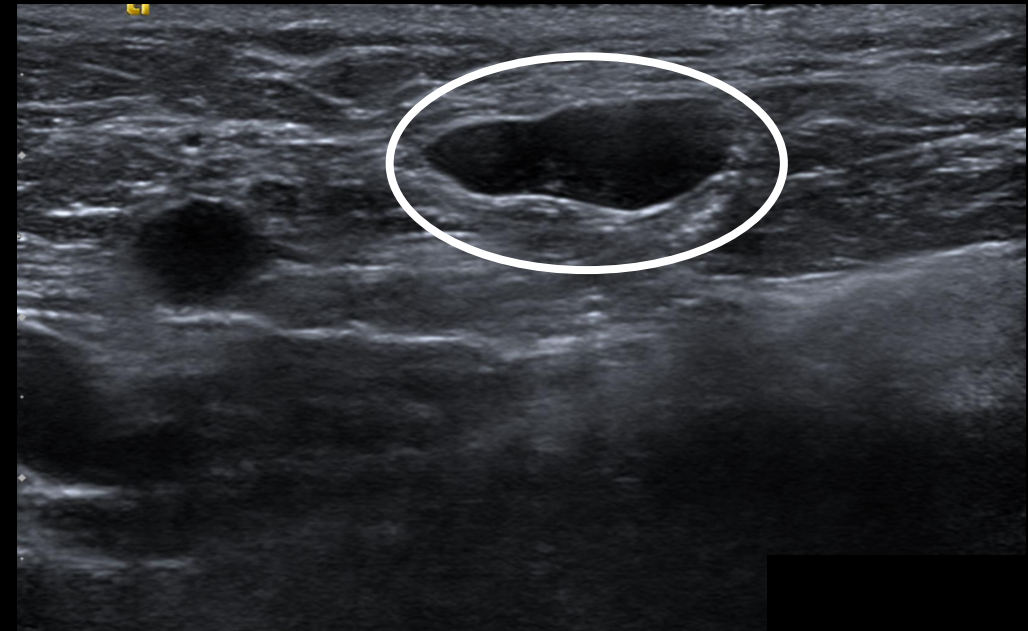
Prior: Left axillary lymph node with possible mild cortical thickening measuring at the top limits/mildly prominent, 0.3 – 0.4 cm, originally favored to be reactive. Note the preservation of preserved fatty hilum.

Follow-Up: Patient was recommended for short interval 3-month follow-up, however she returned in 4 months. Follow up was recommended to evaluate if the prominent lymph node would decrease in size given possibility of a reactive etiology, which may demonstrate resolution when followed vs persistent or worsening thickening which may have a malignant etiology (discussed under case discussion). Note rounded left axillary lymph node with cortical thickening of 0.7 cm and near complete obliteration of fatty hilum on follow-up.



LEFT AXILLA RADIAL \_

3.5cm



4 MTH F/U

LEFT AXILLA RADIAL#2\_

Final Dx:

Noncaseating granulomatous lymphadenitis

# Case Discussion- Characterization and Presentation

- Noncaseating granulomatous lymphadenitis (GLA) can be classified as an infectious or non-infectious etiology (1)
- **Presentation on Pathology**
  - Biopsy will show noncaseating granulomas with central pallor
  - Non-infectious etiologies will have a negative acid-fast bacilli (AFB) stain and will be negative for fungi on pathology (2)
- **Clinical Presentation**
  - Palpable lymphadenopathy
  - Enlarged, firm lymph nodes may mimic lymphoma or malignancy on imaging and physical exam (3)

# Case Discussion- Differential Diagnosis/Treatment

- DDX for infectious GLA includes tularemia, cat scratch disease, toxoplasmosis, tuberculosis, and BCG-histiocytosis (1)
- DDX for noninfectious GLA includes sarcoidosis, silicosis, hypersensitivity pneumonitis (1,2)
- DDX for axillary adenopathy: Malignancy (breast non-breast primary), infectious (bacterial, granulomatous, viral), autoimmune, iatrogenic (medication) (7)
- **Treatment**
  - The patient was referred to rheumatology for appropriate treatment and evaluation
  - The underlying infection should be treated in infectious GLA with antibiotics such as Azithromycin, Doxycycline, Streptomycin, or a TB RIPE regimen (4)
  - For noninfectious GLA, corticosteroids should be first-line therapy followed by immunosuppressive therapy (5)

# Our Case

- Biopsy revealed non-caseating granulomas and was negative for AFB and fungi
- Flow cytometry was negative for lymphoma
- Given clinical symptoms and patient presentation, we suspect a diagnosis of sarcoidosis (6)

Flow Cytometry Report																																																																				
<b>Interpretation</b> <i>Features of a lymphoproliferative disorder are not seen. See comments</i>	<b>Specimen Type</b> FNA																																																																			
<b>Findings</b> Flow cytometric analysis revealed approximately 48% of CD2+, CD3+, CD5+, CD7+ T cells with a normal CD4/CD8 ratio and 47% of CD19+, CD20+, CD22+ polyclonal B cells.	<b>Body Site:</b> Left Axilla																																																																			
<b>Comments</b> Flow cytometry may not detect some large cell lymphomas and may not be useful for detecting Hodgkin lymphoma.  See concurrent report (B23NY1-0197463) for morphologic correlation.	<b>Viability</b> 90%																																																																			
<table border="1"> <thead> <tr> <th colspan="3">T-Cell Related</th> <th colspan="3">B-Cell Related</th> </tr> <tr> <th>CD Marker</th> <th>%</th> <th>Intensity</th> <th>CD Marker</th> <th>%</th> <th>Intensity</th> </tr> </thead> <tbody> <tr> <td>CD5</td> <td>45</td> <td>Dim</td> <td>CD5/CD19</td> <td>0</td> <td>Negative</td> </tr> <tr> <td>CD8</td> <td>11</td> <td>Moderate</td> <td>CD10/CD19</td> <td>0</td> <td>Negative</td> </tr> <tr> <td>CD2</td> <td>48</td> <td>Dim</td> <td>CD20</td> <td>47</td> <td>Dim</td> </tr> <tr> <td>CD4</td> <td>37</td> <td>Dim</td> <td>Kappa</td> <td>29</td> <td>Dim</td> </tr> <tr> <td>CD3</td> <td>48</td> <td>Dim</td> <td>CD22</td> <td>46</td> <td>Dim</td> </tr> <tr> <td>CD7</td> <td>43</td> <td>Dim</td> <td>CD19</td> <td>47</td> <td>Dim</td> </tr> <tr> <td></td> <td></td> <td></td> <td>Lambda</td> <td>18</td> <td>Dim</td> </tr> <tr> <td></td> <td></td> <td></td> <td>FMC7</td> <td>20</td> <td>Dim</td> </tr> <tr> <td></td> <td></td> <td></td> <td>CD23</td> <td>0</td> <td>Negative</td> </tr> </tbody> </table>			T-Cell Related			B-Cell Related			CD Marker	%	Intensity	CD Marker	%	Intensity	CD5	45	Dim	CD5/CD19	0	Negative	CD8	11	Moderate	CD10/CD19	0	Negative	CD2	48	Dim	CD20	47	Dim	CD4	37	Dim	Kappa	29	Dim	CD3	48	Dim	CD22	46	Dim	CD7	43	Dim	CD19	47	Dim				Lambda	18	Dim				FMC7	20	Dim				CD23	0	Negative
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Breast Pathology Report	
<b>RESULTS</b>	
<b>1: Diagnosis</b> Left Axilla: <i>Noncaseating granulomatous lymphadenitis, see comments.</i>	
<b>Gross Description:</b> Received in formalin labeled with the patient's name and "Left Axilla" are four cores of light tan yellow soft tissue fragments measuring from 0.3 to 1.5 cm in length. The entire specimen is submitted in 1 cassette labeled "1A". Ischemic time: 0 hrs: 24 min; fixation time: 35 hrs: 35 min. blue/ JP	
<b>2: Diagnosis</b> Left Axilla: <i>See separate flow cytometry report (H23NY1-0197464)</i>	
<b>Gross Description:</b> Received in RPMI labeled with the patient's name and the site as "Left Axilla". The specimen is forwarded to the flow cytometry lab by the accessioner for processing.	
	Specimen 1: Left Axilla



# References:

1. Asano S. Granulomatous Lymphadenitis. *Journal of Clinical and Experimental Hematopathology*. 2012;52(1):1-16. doi:<https://doi.org/10.3960/jslrt.52.1>
2. Müge Erbay, Savaş Özsu, Emine Sevil Ayaydin Mürtezaoğlu, et al. Mediastinal/hiler granülomatöz lenfadenit etyolojisi. *Tüberküloz ve toraks*. 2018;66(3):212-216. doi:<https://doi.org/10.5578/tt.67018>
3. Axillary node, Cat disease, Lymphadenitis Lymphadenitis, Lymphoma Lymphoma. Cat-Scratch Lymphadenitis Presenting with Right Upper Arm and Axillary Masses: a Case Report Mimicking Lymphoma and Potential Diagnostic Pitfall. *Medicinski arhiv*. 2022;76(6):480-480. doi:<https://doi.org/10.5455/medarh.2022.76.480-483>
4. Choi JH, Thomas PM, Gray JM, Miller-Handley H, Eileen Murtagh Kurowski, Vukovic AA. Hepatic Lesions in an Immunocompetent Child Previously Treated for Cat Scratch Disease With Azithromycin. *Clinical Pediatrics*. 2022;62(3):191-194. doi:<https://doi.org/10.1177/00099228221118602>
5. Brito-Zerón P, Pérez-Álvarez R, Ramos-Casals M. Sarcoidosis. *Medicina Clínica*. 2022;159(4):195-204. doi:<https://doi.org/10.1016/j.medcli.2022.03.009>
6. Bowe C, Jenssen F, Espinoza A. Case Report of Sarcoidosis as a Great Mimicker in Various Populations. *J La State Med Soc*. 2017;169(2):52.
7. Gaddey HL, Riegel AM. Unexplained Lymphadenopathy: Evaluation and Differential Diagnosis. *Am Fam Physician*. 2016;94(11):896-903.