

AMSER Case of the Month

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79 y.o. male presents with a mass in right breast

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Patient Presentation

- HPI: 79-year-old man presents to Department of Surgery for a right breast mass noted on a CT scan performed at an outside institution for an unrelated indication.
- PMHx: The patient has intellectual disability, otherwise no pertinent past medical history
- Physical Exam: A mobile non-tender rubbery 2cm oval mass palpated in the 11:00 position of the right breast. There is no associated skin thickening or skin retraction and no nipple discharge was elicited on exam.

Pertinent Labs

- No Pertinent Labs

What Imaging Should We Order?

Select the applicable ACR Appropriateness Criteria

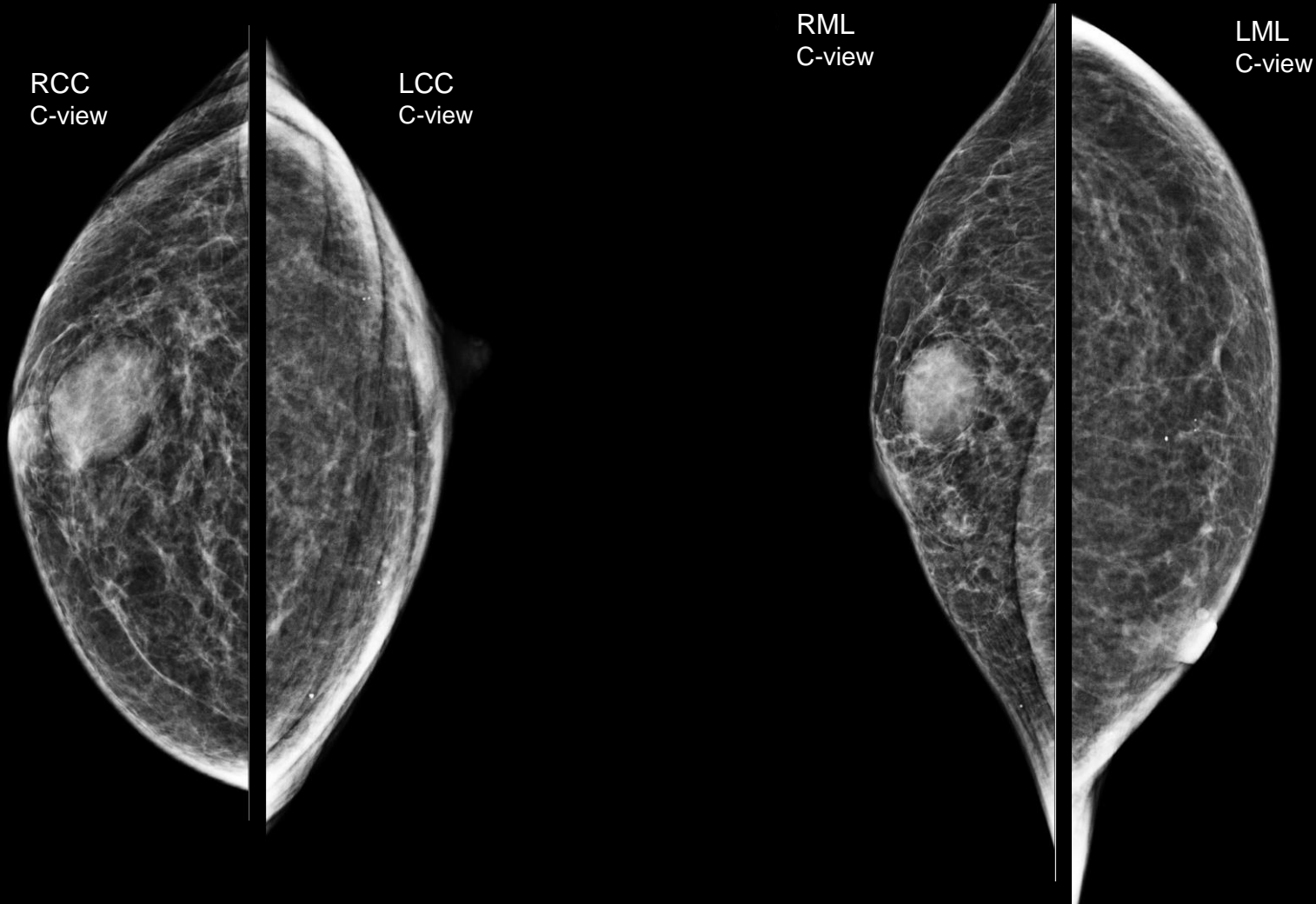
Variant 3:

Male 25 years of age or older with indeterminate palpable breast mass. Initial imaging.

Procedure	Appropriateness Category	Relative Radiation Level
Mammography diagnostic	Usually Appropriate	☼☼
Digital breast tomosynthesis diagnostic	Usually Appropriate	☼☼
US breast	May Be Appropriate	○
MRI breast without and with IV contrast	Usually Not Appropriate	○
MRI breast without IV contrast	Usually Not Appropriate	○

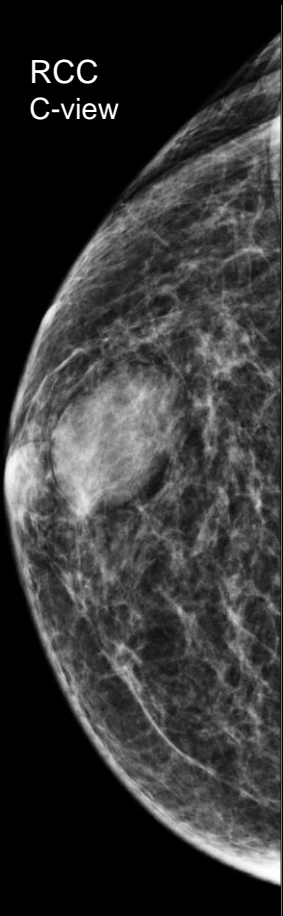
This imaging modality was ordered by the general surgery physician

Findings – Bilateral Diagnostic Mammogram

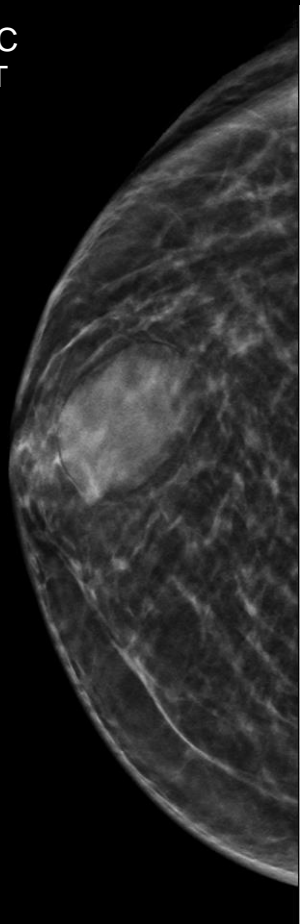


Findings cont.

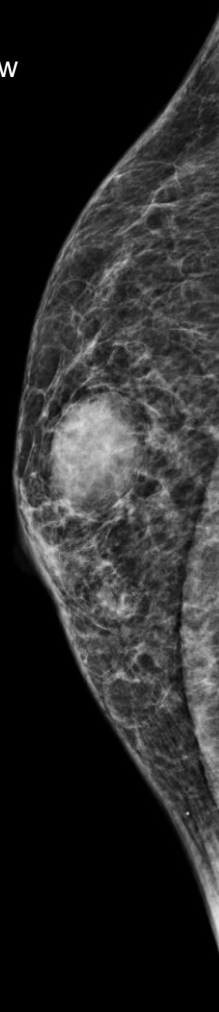
RCC
C-view



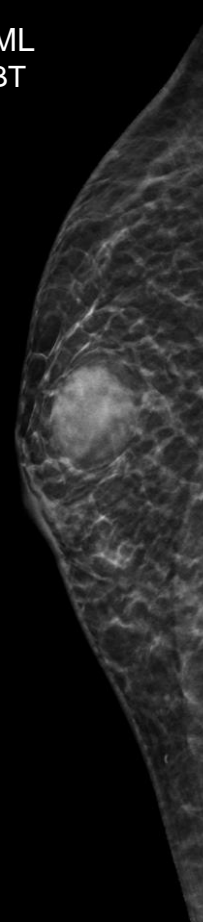
RCC
DBT



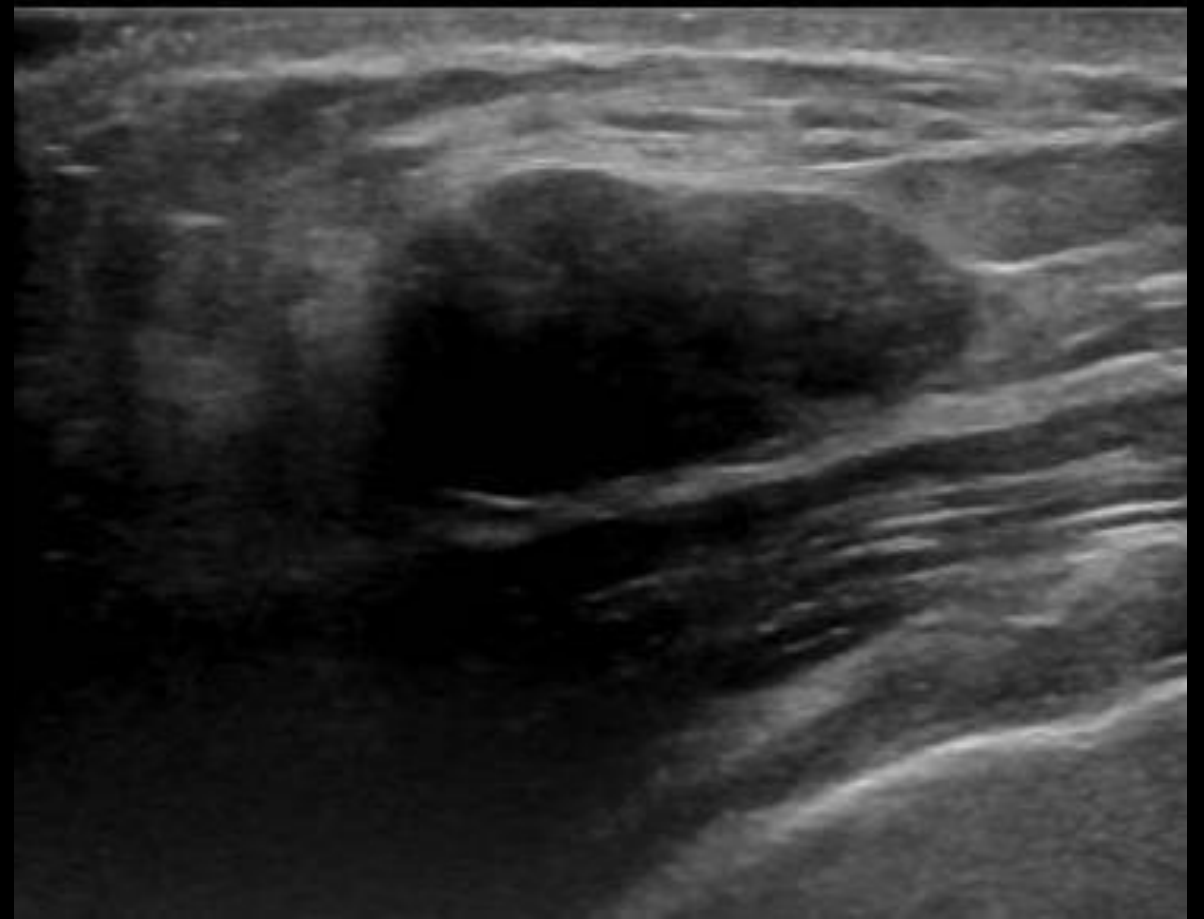
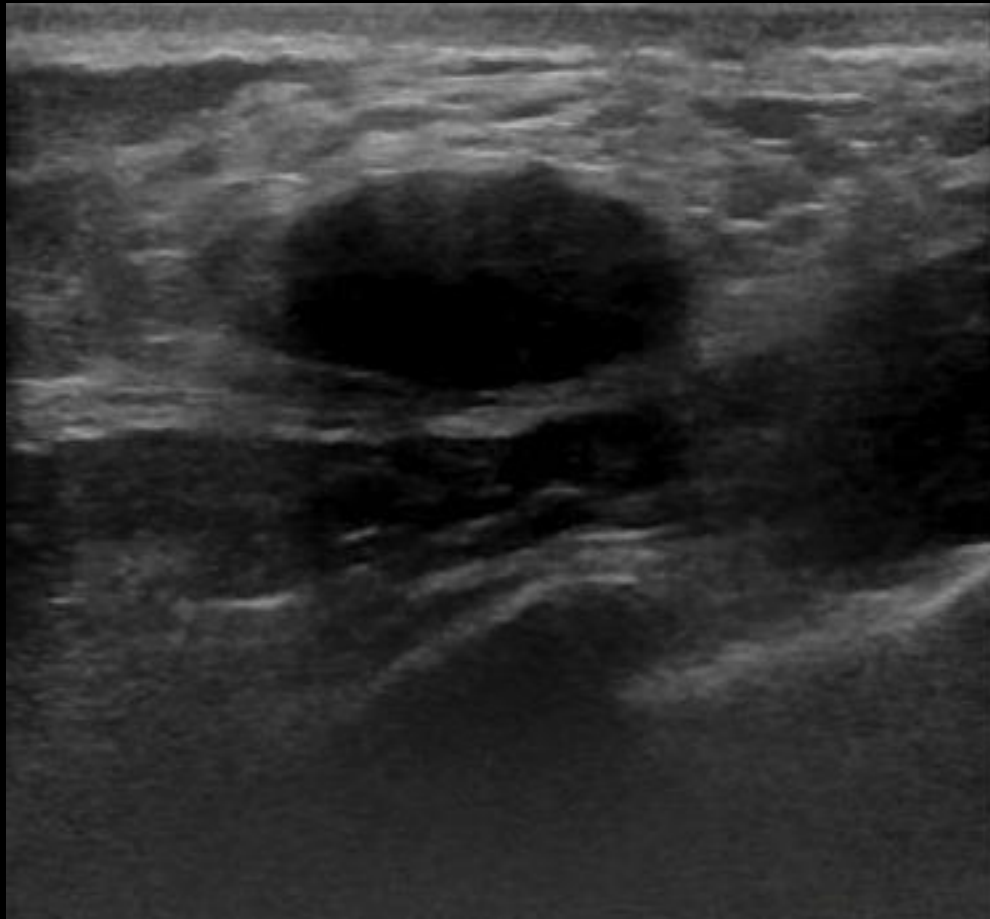
RML
C-view



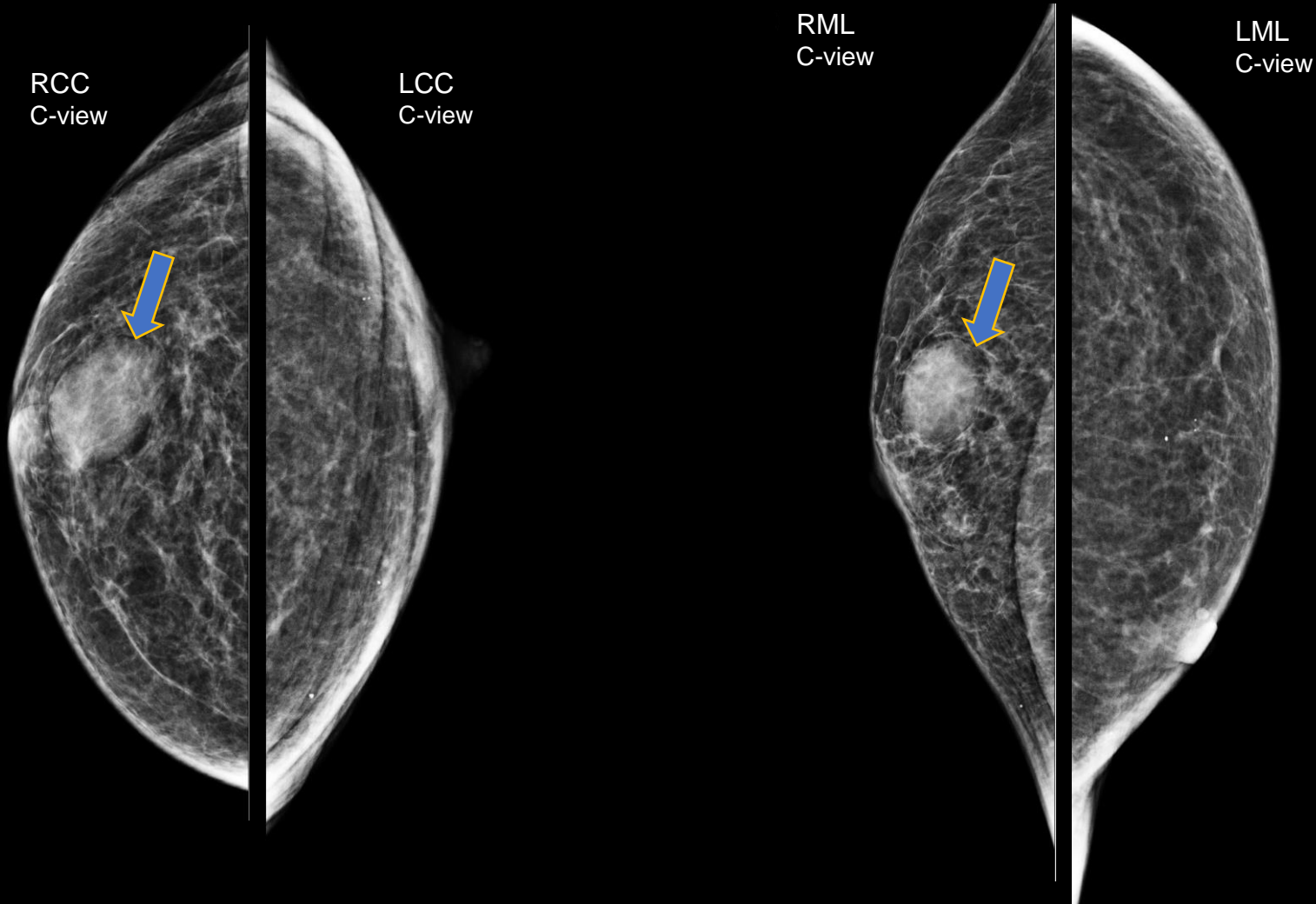
RML
DBT



Findings – Ultrasound (Right breast)

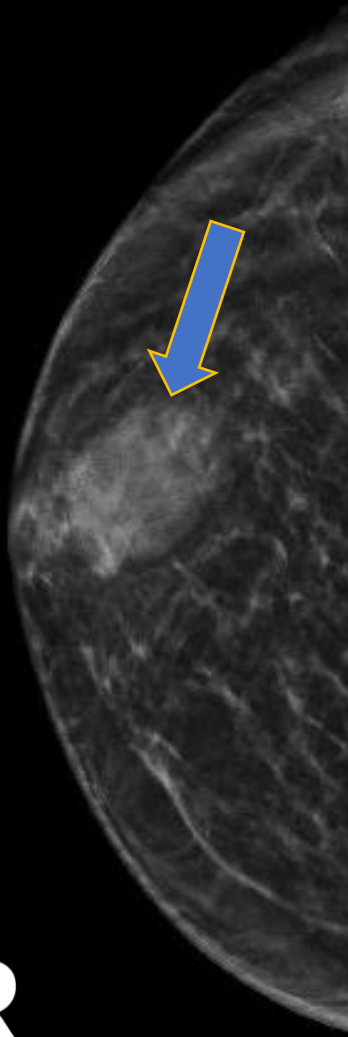


Findings – Labeled

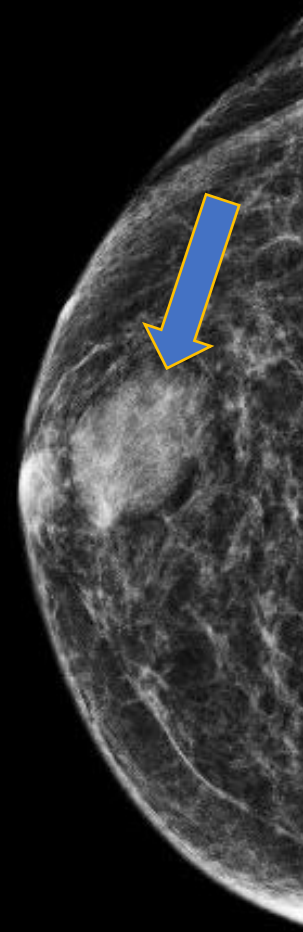


Findings – Labeled

RCC DBT

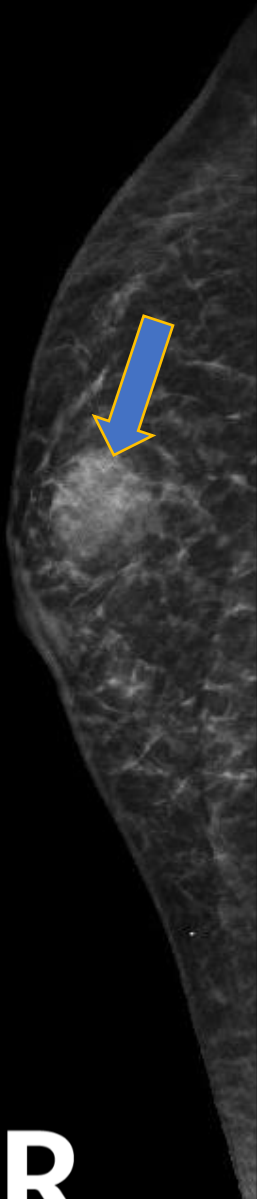


RCC
C-view

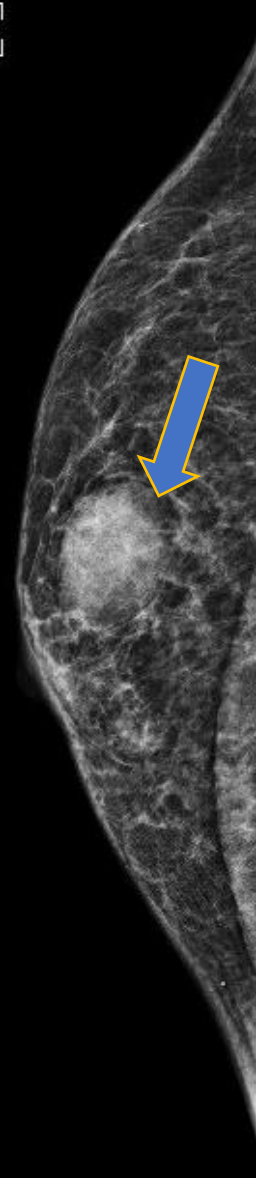


Findings – Labeled

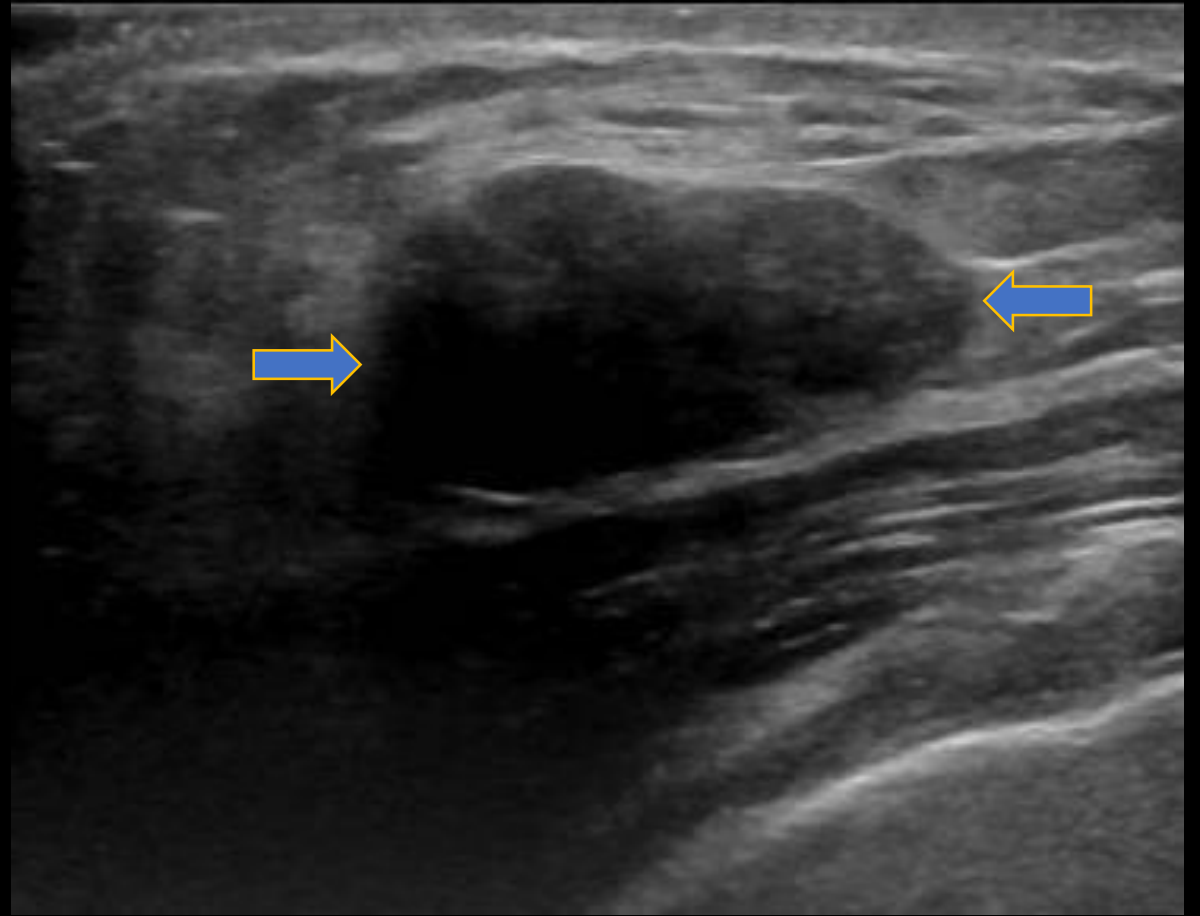
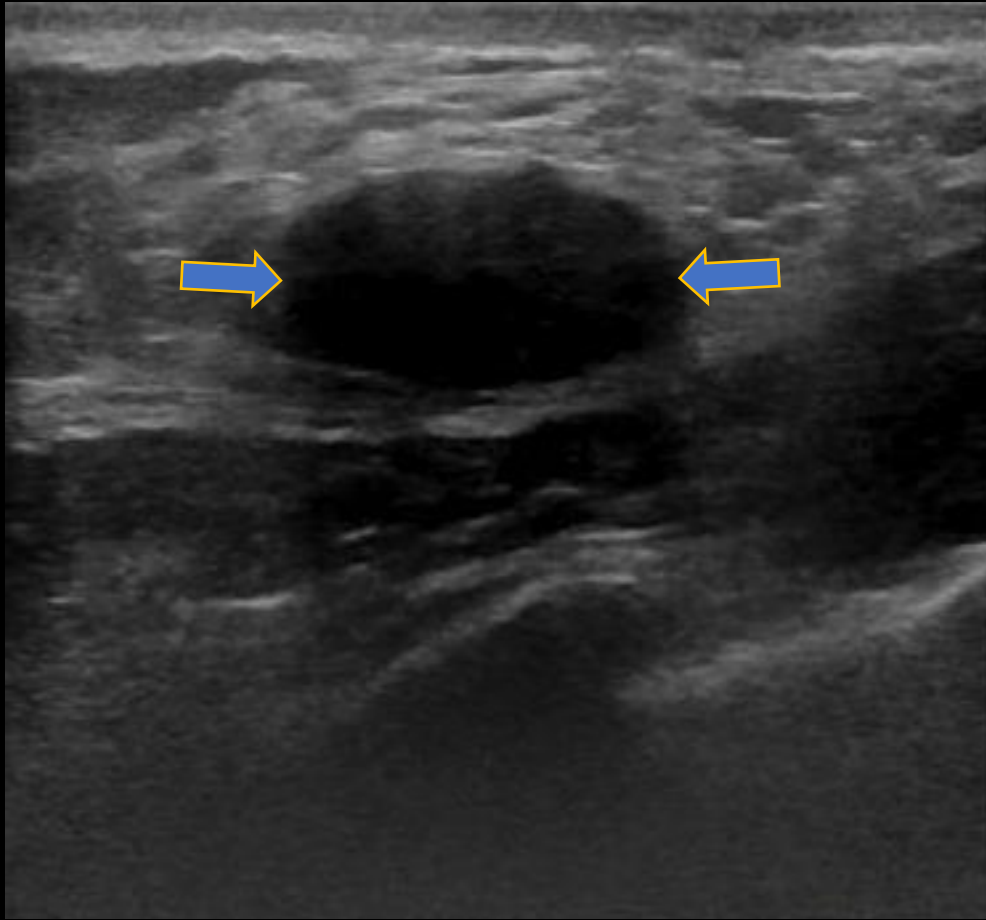
RML DBT



RML
C-view



Ultrasound Findings Labeled



Impression of findings

- Bilateral Diagnostic mammogram with Tomography
 - Left breast is unremarkable in appearance
 - In the right breast, there is circumscribed oval mass, in the 11 o'clock position, measuring 2cm.
- Ultrasound
 - US demonstrates an oval, circumscribed, hypoechoic 2cm solid mass.
- Impression of imaging
 - Imaging revealed a 2cm solid mass which has the physical examination and sonographic features suggestive of a fibroadenoma.
 - However, the solid mass is within a male patient and biopsy confirmation of its suspected benign etiology is needed.
 - This patient is special needs, and a percutaneous needle biopsy could not be performed, therefore, the patient was sent directly to surgical excision.

Final Dx:

Myofibroblastoma

Diseases of the Male Breast

- Breast disease in males should be approached with caution as seemingly benign masses have many overlapping features with their malignant counter parts. For example, invasive ductal carcinoma can present as a circumscribed mass w/o calcification. (2)
- Differential diagnosis of a breast mass in males on mammography (2)
 - Circumscribed margins:
 - Lipoma
 - Fibroadenoma
 - Myofibroblastoma
 - Schwannoma
 - Hemangioma
 - Metastasis
 - Pseudoangiomatous stromal hyperplasia
 - Invasive ductal carcinoma
 - Indistinct/Spiculated margins:
 - Granular cell tumor
 - Fibromatosis
 - Invasive ductal carcinoma
 - Pseudoangiomatous stromal hyperplasia
 - Metastasis

Dx Pathology and Discussion

- Myofibroblastomas are benign spindle-cell breast tumors, with a slight male predisposition. (3)
- In males, these masses are typically discovered incidentally on chest CT performed for unrelated indications. (4)
- It is important to note that these tumors can vary greatly in composition and pose a diagnostic challenge for pathologists.
 - Thus, diagnosis is dependent on histological staining and immunohistochemistry for CD34, desmin, myosin, and estrogen receptor (ER) (4)

Case Discussion

- The solid mass underwent surgical excision as the patient was unable to undergo percutaneous needle biopsy without sedation.
- Biopsy of our patient revealed
 - A neoplasm with spindle cells arranged in short fascicles, admixed with collagen.
 - Tumor cells were positive for desmin, CD34, Bcl-2, ER and myosin
 - The overall morphology along with immunohistochemical features were consistent with a myofibroblastoma
- The patient had an unremarkable postoperative course.

References:

1. American College of Radiology. ACR Appropriateness Criteria®. Available at <https://acsearch.acr.org/list> . Accessed <6/5/2024>.
2. Lattin GE Jr, Jesinger RA, Mattu R, Glassman LM. From the radiologic pathology archives: diseases of the male breast: radiologic-pathologic correlation. Radiographics. 2013;33(2):461-489. doi:10.1148/rg.332125208
3. Mukkamalla SKR, Lotfollahzadeh S. Breast Myofibroblastoma. In: StatPearls. Treasure Island (FL): StatPearls Publishing; June 3, 2023.
4. Wickre M, Valencia E, Solanki M, Glazebrook K. Mammary and extramammary myofibroblastoma: multimodality imaging features with clinicopathologic correlation, management and outcomes in a series of 23 patients. Br J Radiol. 2021;94(1120):20201019. doi:10.1259/bjr.20201019