

AMSER Case of the Month

October 2026

74 y.o. female with hx of IDC of the R breast s/p breast conservation therapy presenting with L breast pain

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Patient Presentation

HPI: 74 y.o. woman with history of IDC (ER+, PR+, Her2-) of the R breast s/p lumpectomy diagnosed in 2025 and adjuvant radiation therapy (completed 2 months ago) presents with occasional pain of the L breast, especially centrally. History of surgical excisional biopsy of the left breast for radial scar in 2007.

She denies any masses or nipple discharge.

Her R breast is asymptomatic.

Additional history

PMHx: HTN, CAD

Medications: letrozole. 20-year history of hormone replacement therapy, discontinued.

PSHx: Hysterectomy. Bilateral oophorectomy in 60s. Excisional biopsy of radial scar in L breast 15-20 years ago.

FHx: Maternal grandmother: breast cancer in 70s. Father: colon cancer in 40s.

Physical exam

Right breast: well-healed lumpectomy incision in the upper outer quadrant. No masses.

Left breast: **mild tenderness to palpation centrally.** Fibrocystic changes in the central breast. Well-healed incision in the upper outer quadrant with associated volume loss. No masses.

Lymph nodes: No axillary lymphadenopathy bilaterally.

Pertinent Labs

- No pertinent labs

What imaging should we order?

Select the applicable ACR Appropriateness Criteria

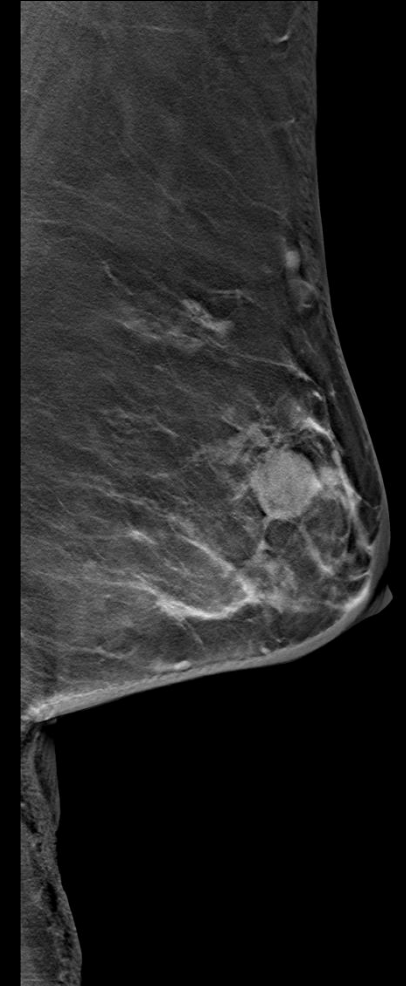
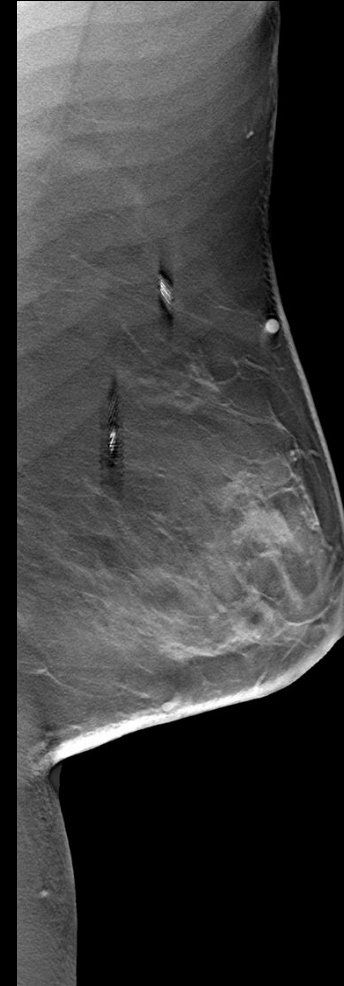
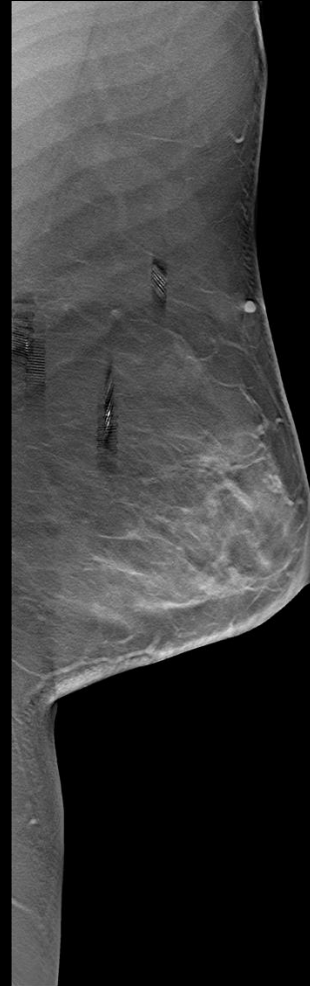
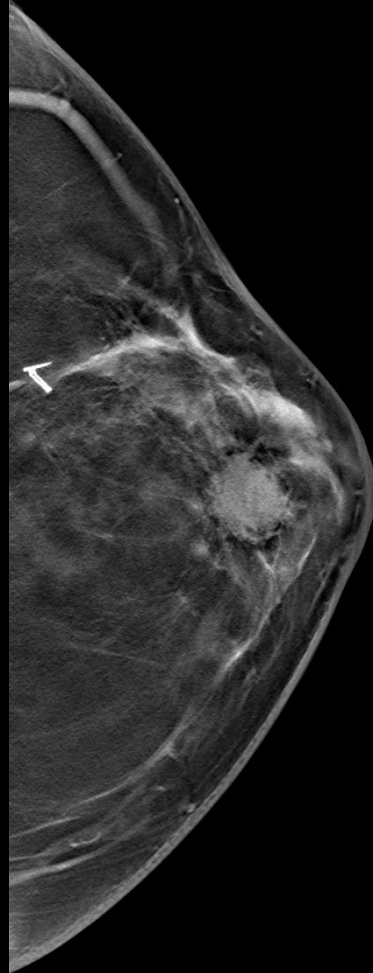
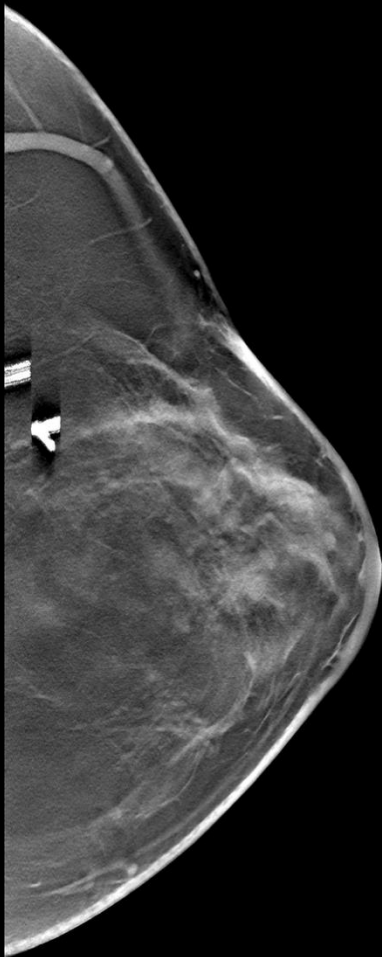
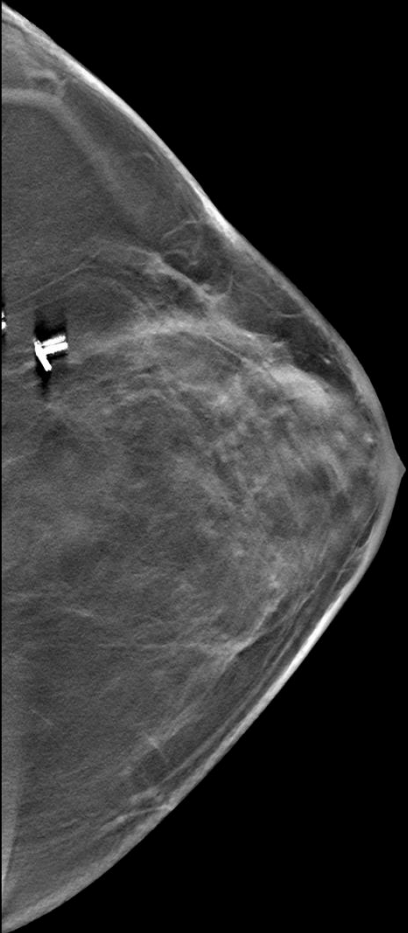
Scenario	Scenario ID	Procedure	Adult RRL	Peds RRL	Appropriateness Category
Breast pain, noncyclical, focal	3148150	● US breast	0 mSv O	0 mSv [ped] O	Usually appropriate
		● Digital breast tomosynthesis diagnostic	0.1-1mSv ☢☢		Usually appropriate
		● Mammography diagnostic	0.1-1mSv ☢☢		Usually appropriate
		● MRI breast without and with IV contrast	0 mSv O	0 mSv [ped] O	Usually not appropriate
		● MRI breast without IV contrast	0 mSv O	0 mSv [ped] O	Usually not appropriate
		● Sestamibi MBI	1-10 mSv ☢☢☢		Usually not appropriate

Diagnostic mammography with tomosynthesis was ordered

Findings (unlabeled)

L CC (tomo)

L MLO (tomo)



18 months ago

5 months ago

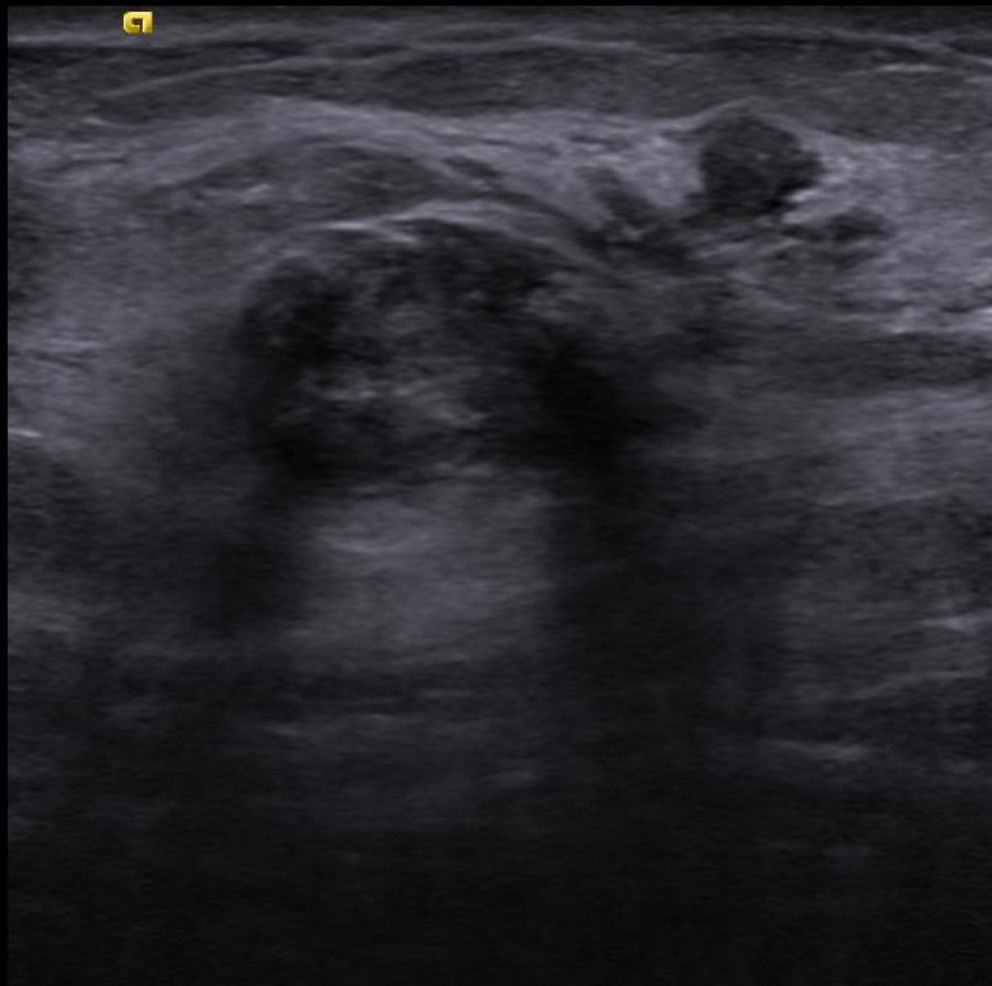
Current

18 months ago

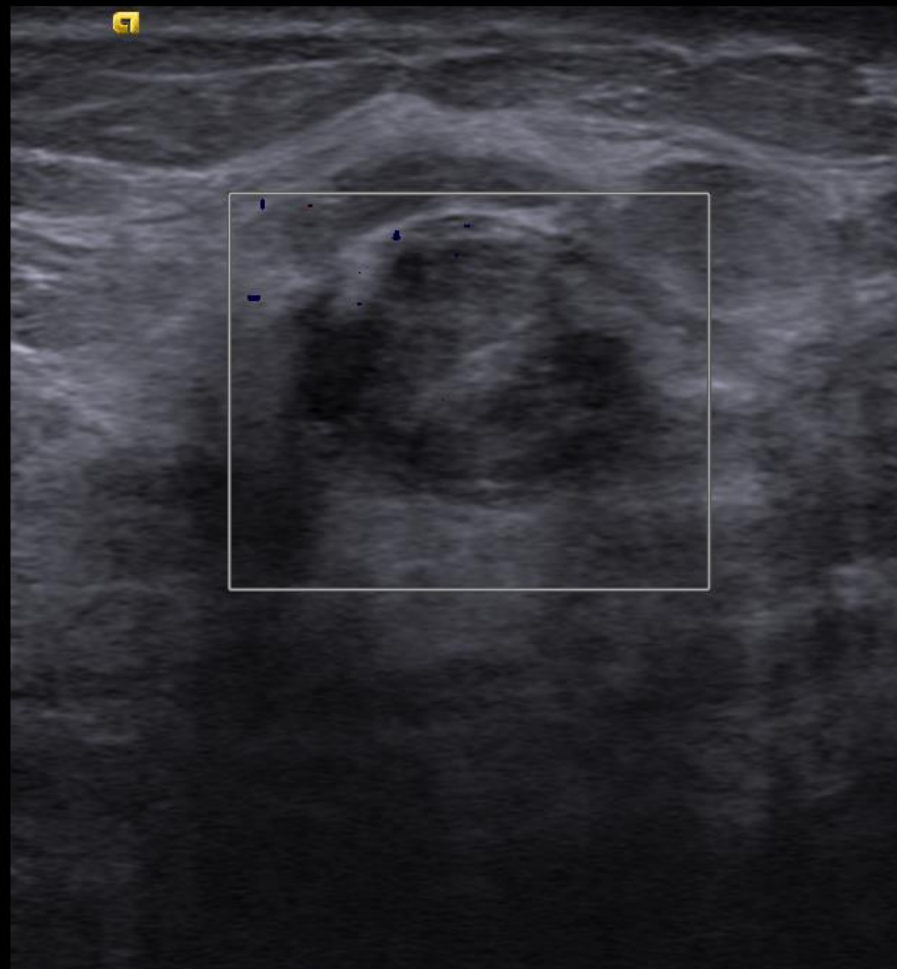
5 months ago

Current

Findings (unlabeled)



LT BREAST ANTI-RADIAL_12:00 1 CMFN



4cm LT BREAST RADIAL 12:00 1 CMFN _

4cm

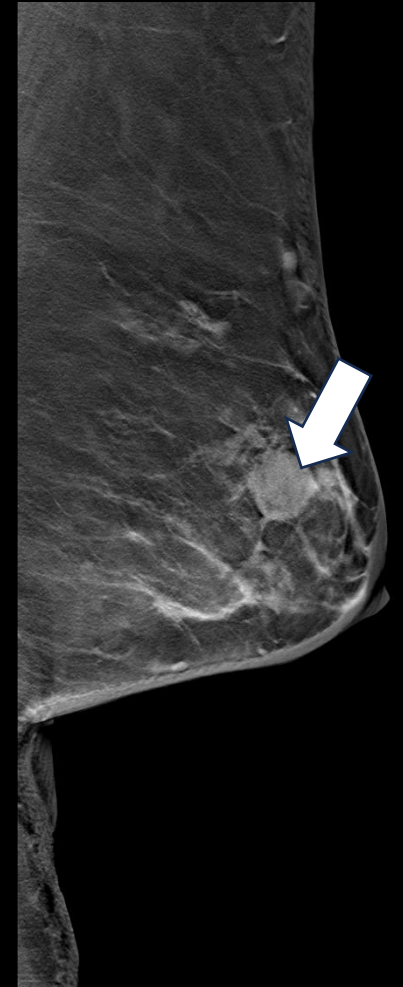
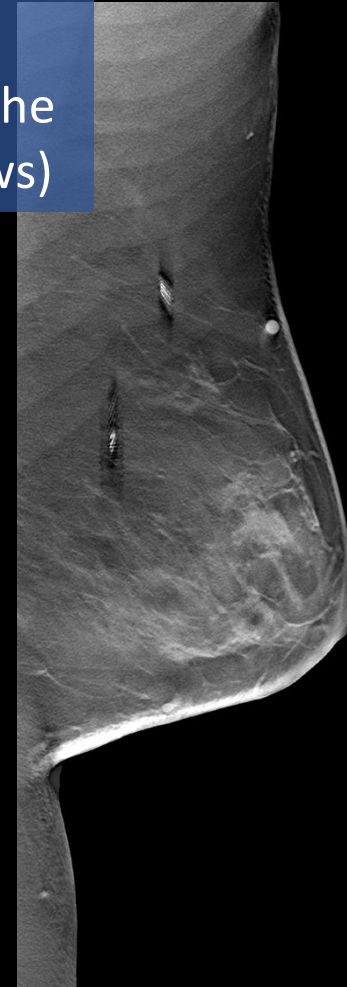
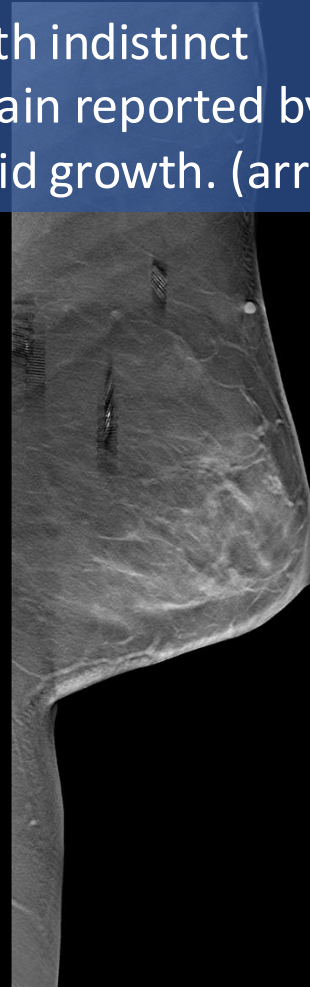
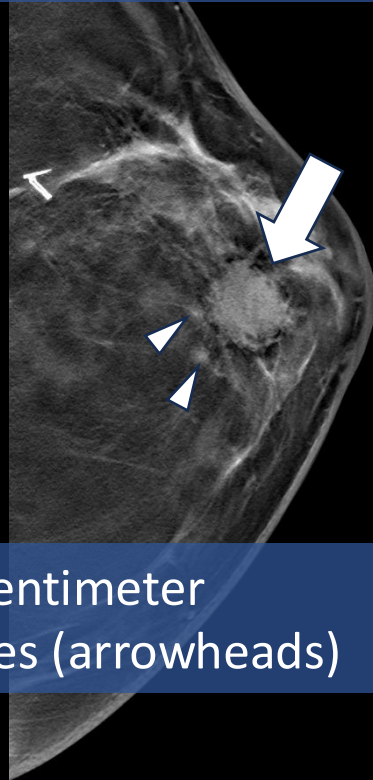
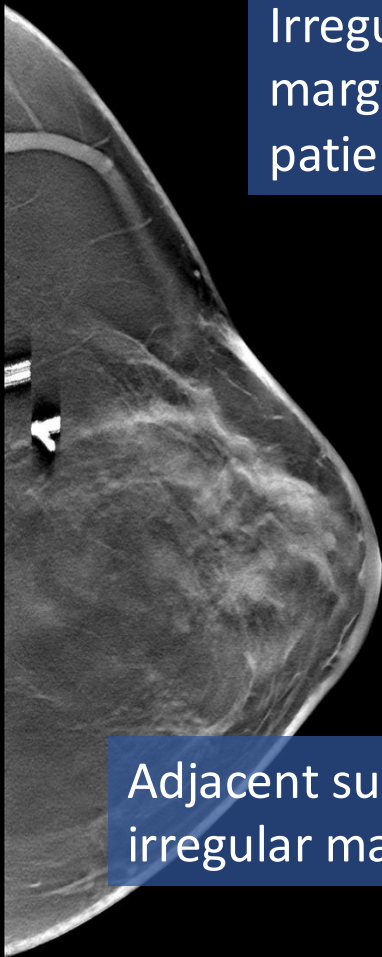
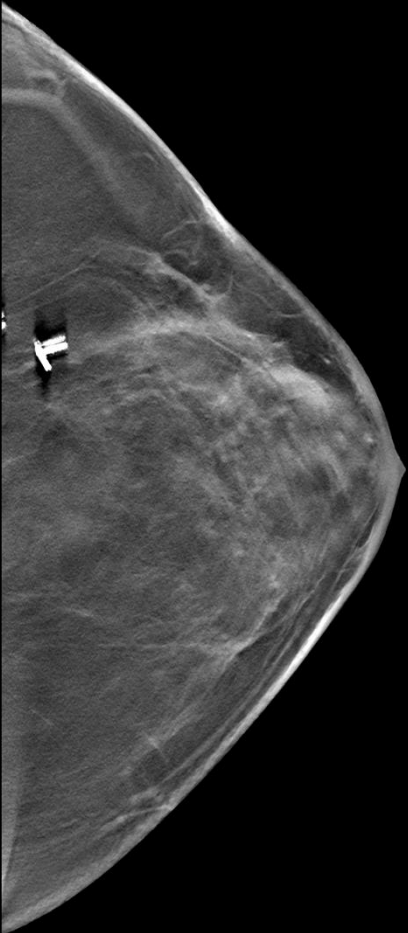
Findings (labeled)

L CC (tomo)

L MLO (tomo)

Irregularly shaped mass with indistinct margins, correlating with pain reported by the patient, demonstrating rapid growth. (arrows)

Adjacent subcentimeter irregular masses (arrowheads)



18 months ago

5 months ago

Current

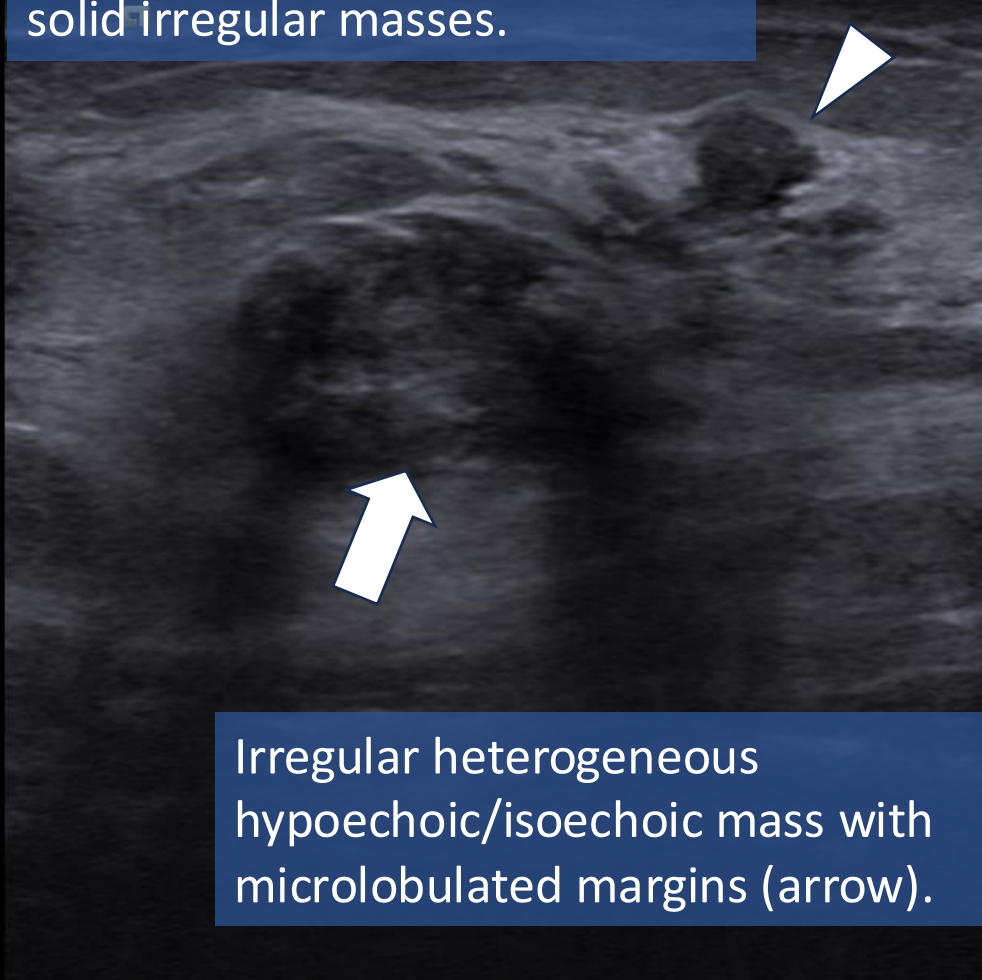
18 months ago

5 months ago

Current

Findings (labeled)

Adjacent hypoechoic/isoechoic solid irregular masses.

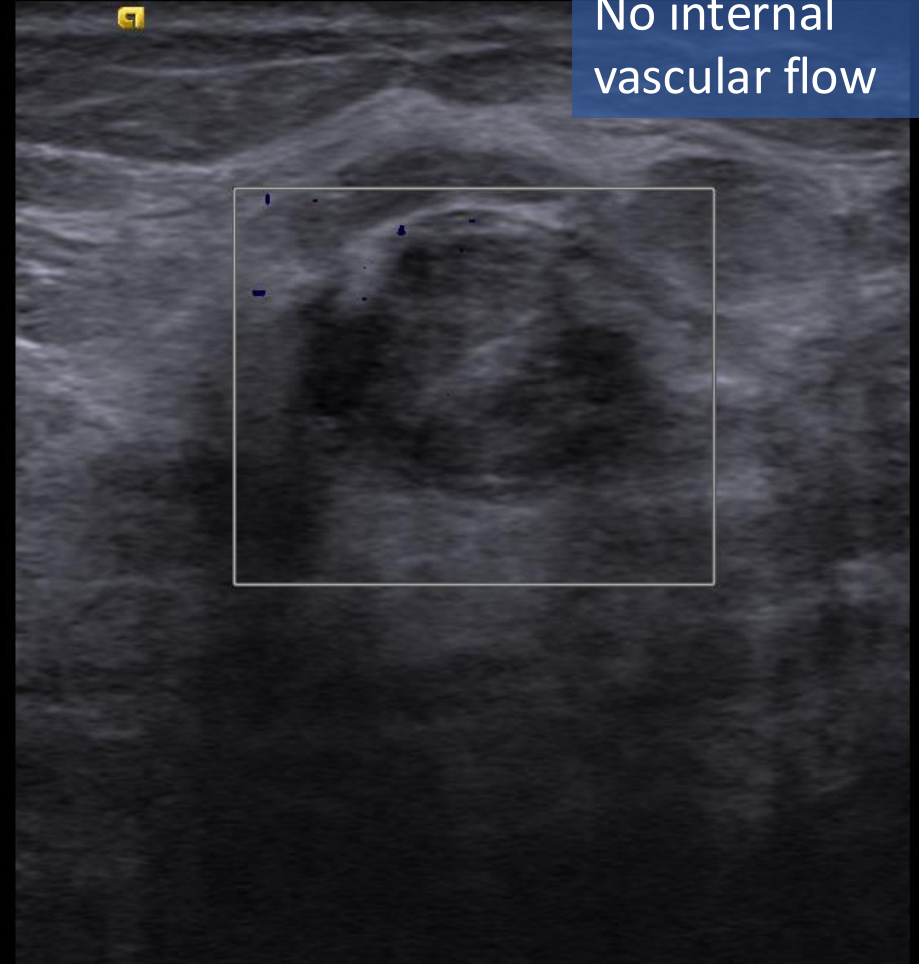


Irregular heterogeneous hypoechoic/isoechoic mass with microlobulated margins (arrow).

LT BREAST ANTI-RADIAL_12:00 1 CMFN

4cm

No internal vascular flow



LT BREAST RADIAL 12:00 1 CMFN _

4cm

What is the next step in management?

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The finding in the L breast was categorized as BI-RADS 5, prompting biopsy.

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This benign finding was deemed **discordant** with the imaging findings. Excisional biopsy was recommended.

Surgical pathology results:

- **Fibromatosis involving anterior and superior specimen margins**
- Multiple sclerosing intraductal papillomas with florid duct hyperplasia (radial scars).
 - Proliferative fibrocystic changes including sclerosing adenosis.

After discussion at multidisciplinary conference, consensus was to recommend re-excision to clear margins, then follow.

Re-excision pathology results:

- Benign fibrofatty breast tissue with fibromatosis and procedural site changes.
Fibromatosis focally involves new margin.

Final Dx:

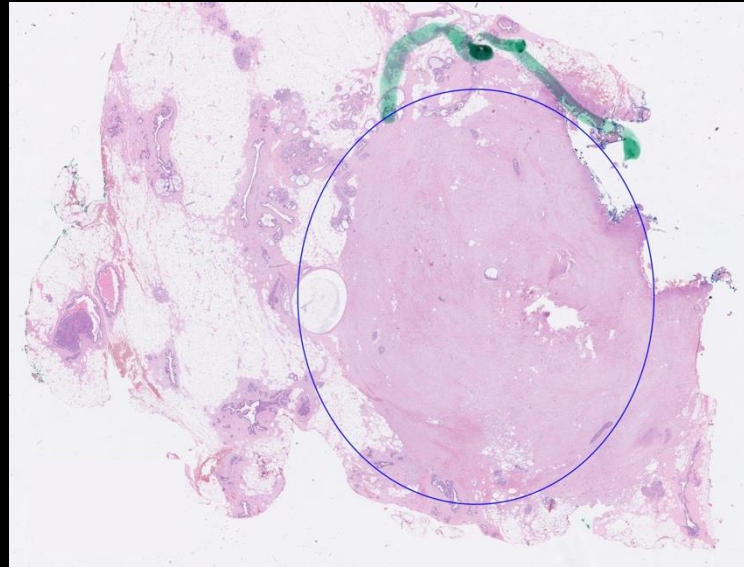
Desmoid fibromatosis of the breast

Pathology slides from surgical excisional biopsy

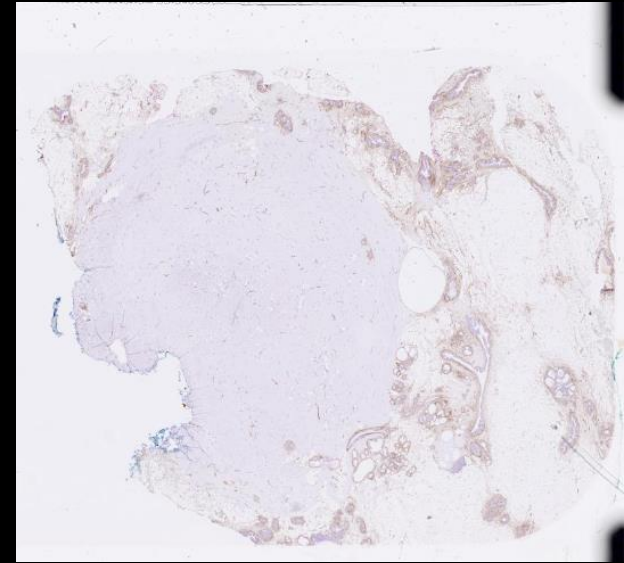
A. Breast, left, excisional biopsy:

- **Fibromatosis (circle)**, measuring 1.6 cm in greatest dimension, involving anterior and superior specimen margins.
- Multiple sclerosing intraductal papillomas with florid duct hyperplasia (radial scars).
- Proliferative fibrocystic changes including sclerosing adenosis.

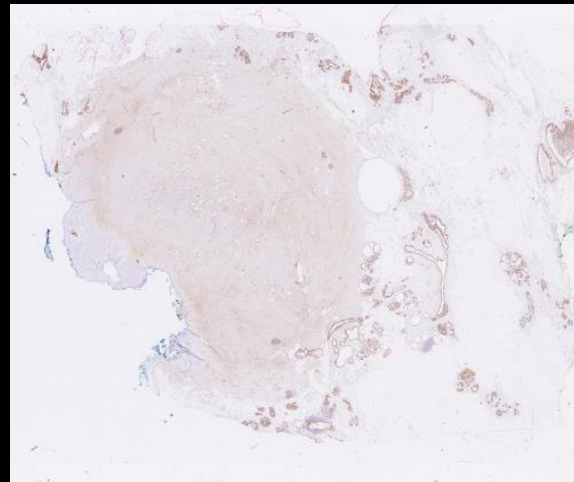
Immunohistochemical stains were performed on section A12 with adequate controls (see disclaimer in microscopic description). The lesional cells show nuclear positivity for Beta-catenin and are focally positive for SMA. The lesional cells are negative for S-100, desmin, CD34, p63, CK903, CK 5/6, and panCK. The morphologic appearance, together with this immunohistochemical profile, supports the diagnosis.



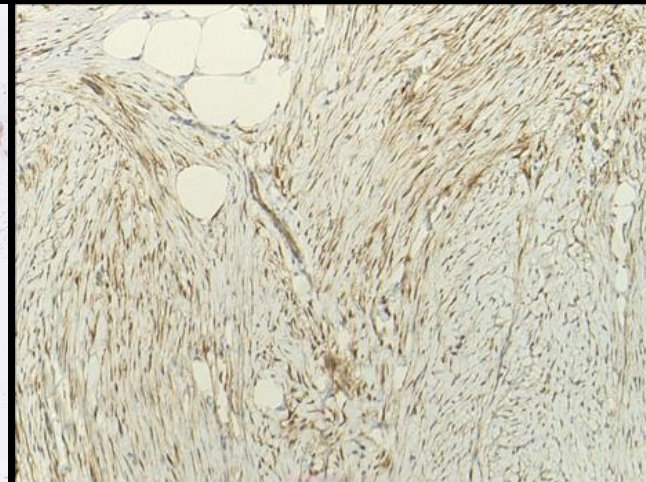
H&E



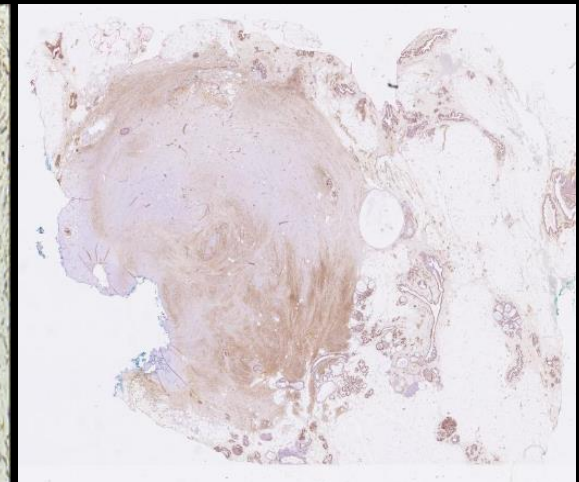
CD34



B-catenin



B-catenin (high power)



SMA



Penn Medicine

Pathology slides provided by Dr. Kimberly Dumoff, Department of Pathology and Laboratory Medicine, University of Pennsylvania.

Case Discussion: Breast fibromatosis

- **Desmoid fibromatosis** of the breast is a rare, locally aggressive but non-metastasizing neoplasm that represents ~0.2% of all breast tumors. Associations with prior breast surgery/trauma, prior breast cancer, breast implants, and familial adenomatous polyposis (FAP) have been observed.^{1,2}
- Pathologically, fibromatosis of the breast is a subset of desmoid tumors that occur throughout the body (esp. extremities, trunk, and intestinal mesentery). They arise from fibroblasts and myofibroblasts and are often associated with mutations activating the WNT/beta-catenin pathway.³

Breast fibromatosis: diagnosis and imaging

- Clinical exam: mass may be palpable, painful, or cause discharge or skin retraction
- Histopathology:
 - Beta-catenin positivity
 - Other markers to exclude fibromatosis-like metaplastic carcinoma, a rare but key differential
- Involvement of fascia (superficial or deep) is a distinguishing feature

Imaging characteristics⁴:

Modality	Relative sensitivity	Imaging features
Mammography	Low	• Spiculated mass • Indistinguishable from carcinoma
Ultrasound	High	• Irregular hypoechoic mass • Acoustic shadowing
MRI	Highest	• Ill-defined • T1 hypo-to-isointense • T2 heterogeneously hyperintense • Gradual enhancement

Breast fibromatosis: management

- NCCN guidelines for desmoid tumors⁵
 - No specific recommendations for breast
 - Observation first preferred over surgery given high rates of spontaneous regression (20-35%)^{6,7}
 - e.g., monitor with ultrasound and/or MRI every 3-6 months¹
- If rapid progression or symptomatic, consider:
 - Chemotherapy
 - Targeted therapy
 - Nirogacestat, phase 3 trial (2023): event-free (no disease progression or death) at 2 years was 76% with nirogacestat vs. 44% with placebo; 71% lower risk of disease progression or death (HR 0.29, $p < 0.001$)⁸
 - Radiotherapy (evidence largely extrapolated)
 - Surgery is less preferred

References:

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