Stump the Experts

SBI 2024

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Disclosures

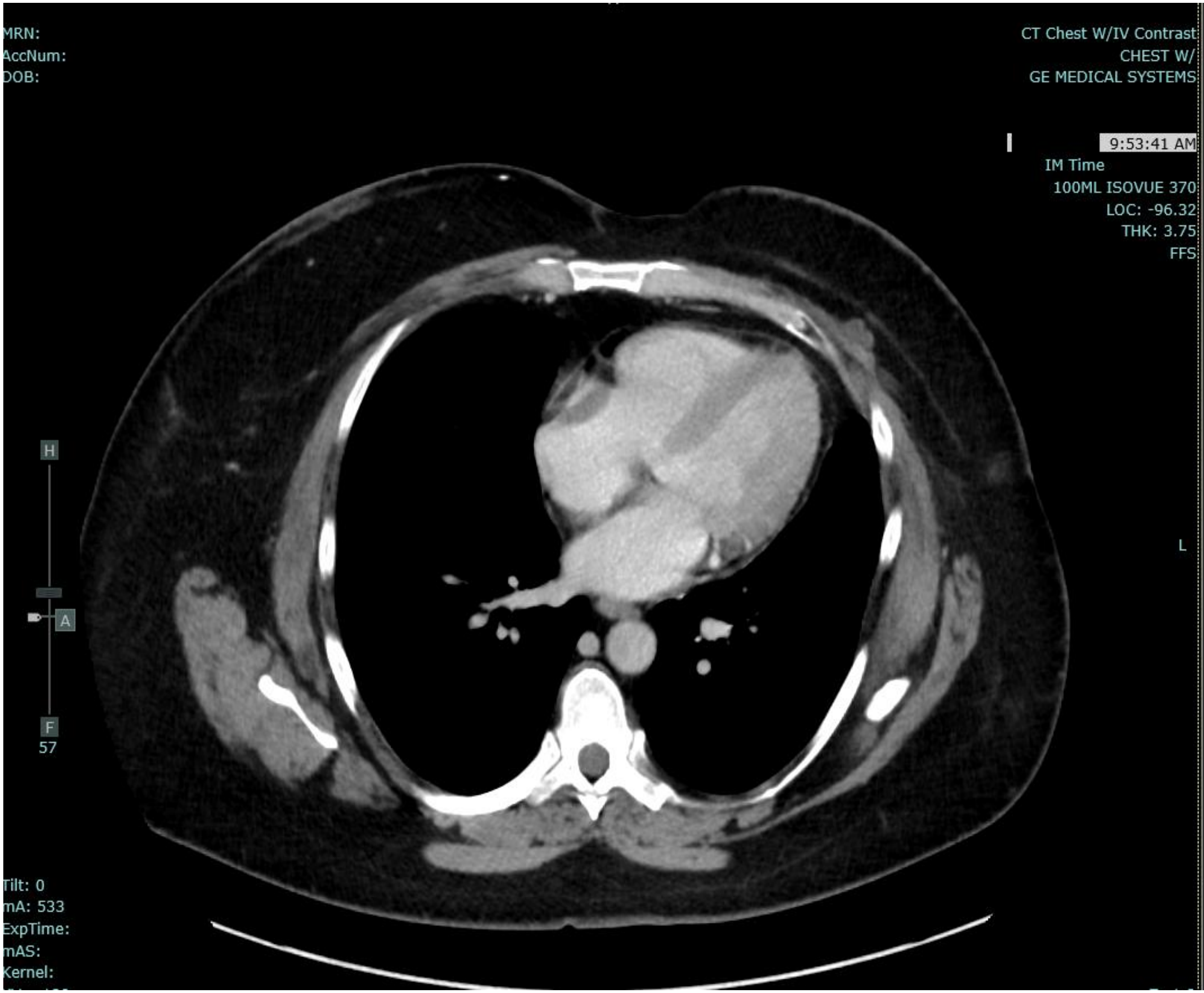
- **None**

Patient History

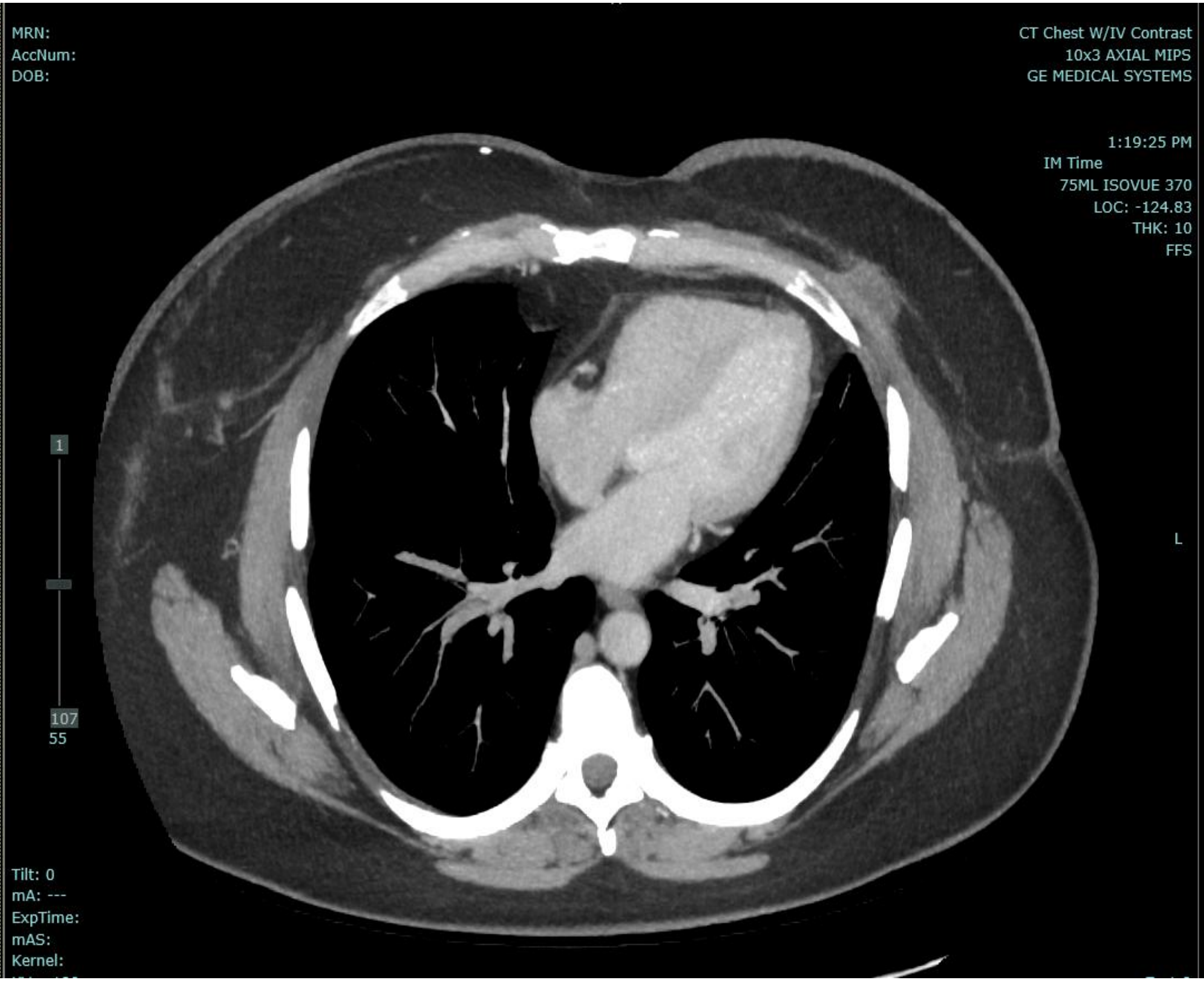
A 48-year-old female with a history of triple-negative breast cancer. She presented with left breast dimpling 03/2017 and a palpable mass and was diagnosed with triple negative invasive ductal carcinoma grade 2 at age 41. She underwent left mastectomy and left axillary dissection initially, then in 2018 underwent DIEP reconstruction. She presented for routine re-staging chest CT on 07/25/2022

Re-Staging CT

12/03/2021



07/25/2022



Report Findings: Re-Staging CT 7/25/2022

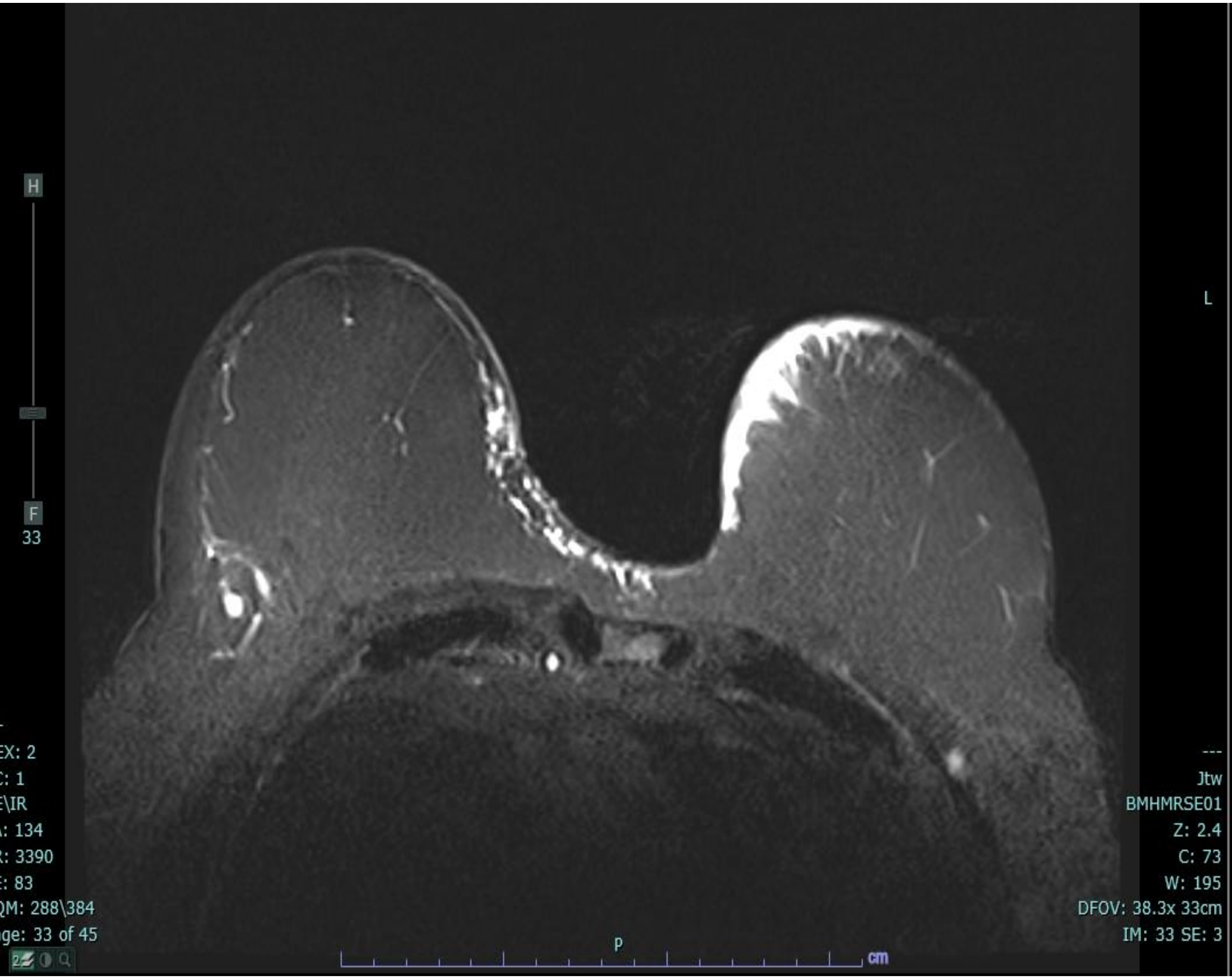
EXAM: CT Chest W/IV Contrast
DATE: 07/25/2022 13:42 hours
INDICATION: breast cancer; breast cancer follow up, no current
COMPARISON: 12/3/2021
60 ml of Isovue-370 (iopamidol) was administered

FINDINGS: There is a right upper lobe pulmonary nodule on image 35 measuring 0.24 cm and the left lower lobe nodule on image 63 measuring 0.45 cm both are without interval change. The previously described 4 mm nodule in left lower lobe on image 67 has resolved. There are no new parenchymal or pleural-based nodules and there are no infiltrates and no effusions. The central airways are patent without tracheal or proximal bronchial lesion. There is a right subclavian catheter with tip terminating at the cavo-atrial junction. There is no axillary adenopathy. There are no mediastinal masses or lymphadenopathy. The ascending aorta and the main pulmonary artery are normal in caliber. There is no pericardial effusion. The incidentally imaged abdominal viscera demonstrate moderate fatty infiltration of the liver and evidence of prior cholecystectomy. There are no suspicious osseous lesions.

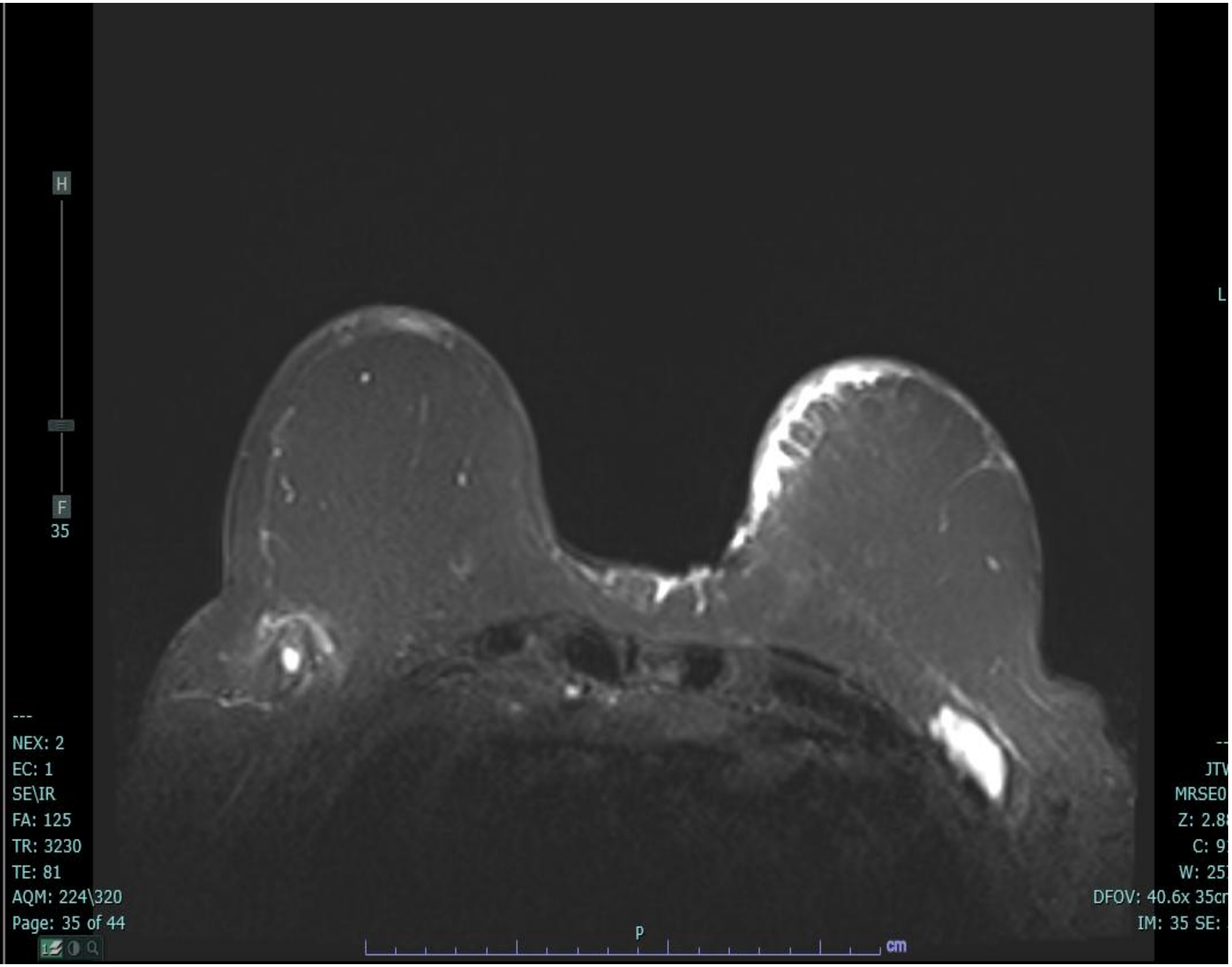
IMPRESSION:
1. Stability or resolution of previously noted pulmonary nodules as described above without new lesion.
2. Diffuse moderate fatty infiltration of the liver.

MRI Comparisons

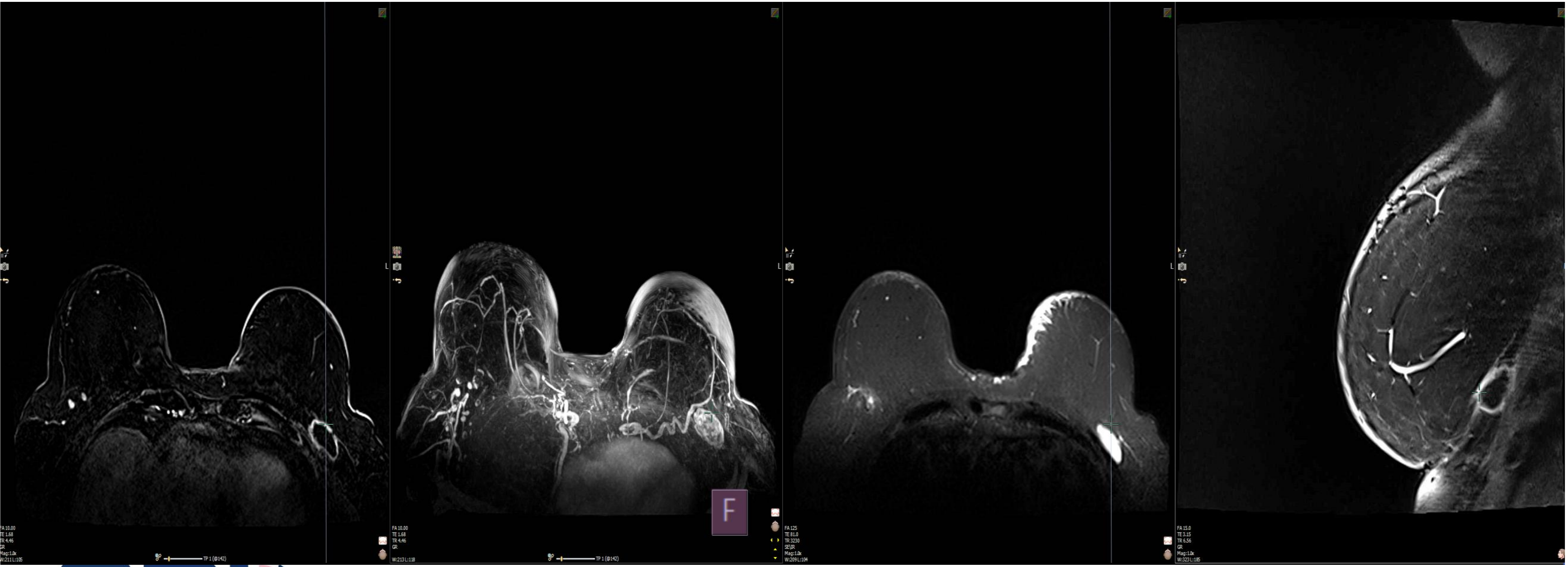
8/4/2021



11/2/2022



Breast MRI 11/02/2022



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Report Findings: Breast MRI 11/02/2022

MRI Breast WO/W IV Contrast Bilat - Bilateral: November 02, 2022 -Prior Study Comparison: Breast MRI 08/04//2021.

Tissue Density: Fibroglandular Tissue (FGT) - almost entirely fat, with minimal background parenchymal enhancement.

Findings:

The examination was performed in accordance with the standard MR protocol. Bilateral axial T1 on-fat saturation, T2 fat saturation and multipledynamic 3D fat saturation sequences were acquired through the breasts. Data were transferred to a separate workstation for multiplanar reformatting and digital subtraction analysis.

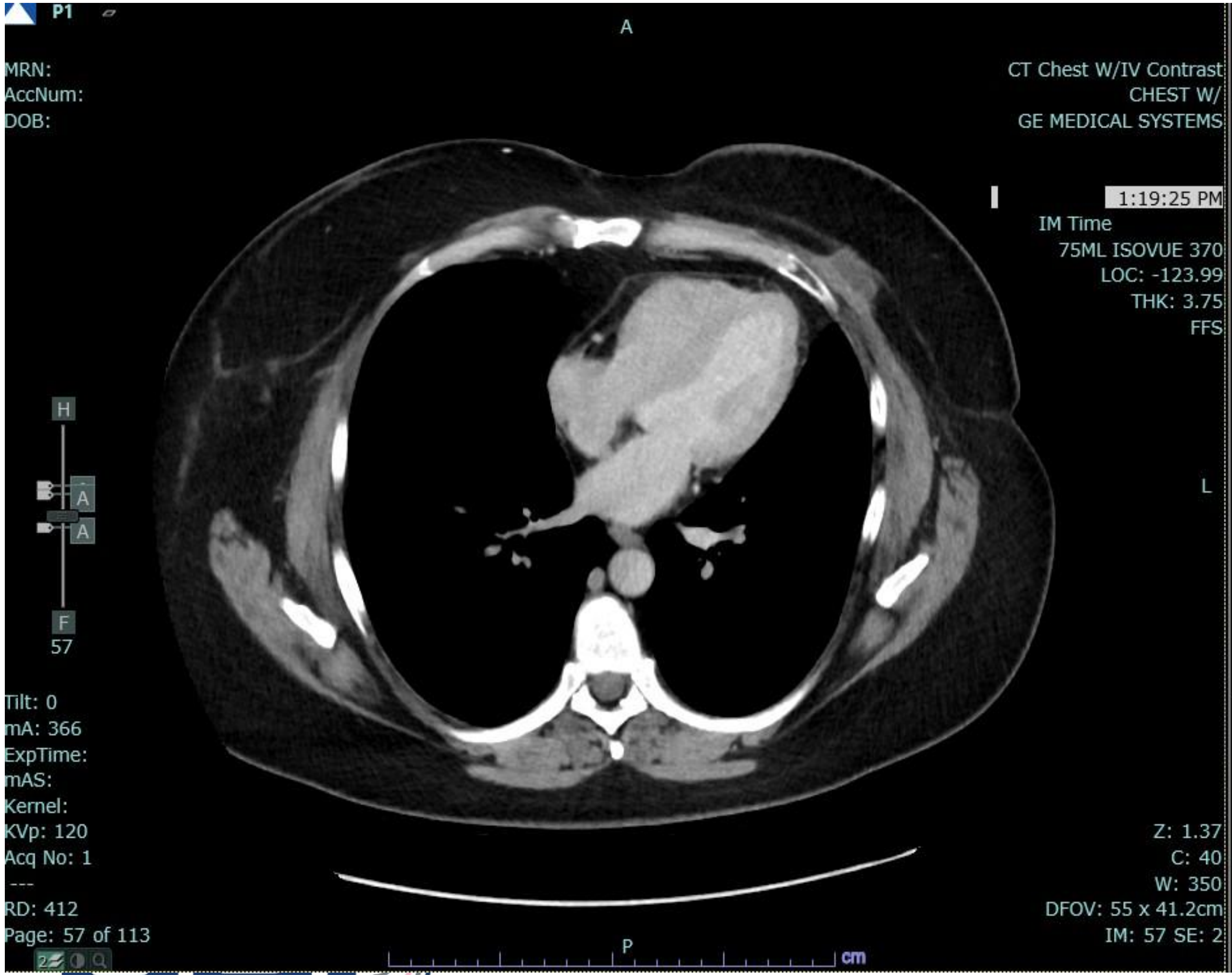
- 10 mL Gadavist were administered IV.
- LEFT BREAST: There is a 3.0 x 1.3 cm postoperative fluid collection in the posterior third lower outer quadrant along the chest wall. There are no abnormal enhancing masses or areas of non-mass enhancement.
- RIGHT BREAST: There are no abnormal enhancing masses or areas of non-mass enhancement.
- AXILLAE: No morphologically abnormal lymph nodes.
- EXTRAMAMMARY STRUCTURES: Normal.

IMPRESSION:

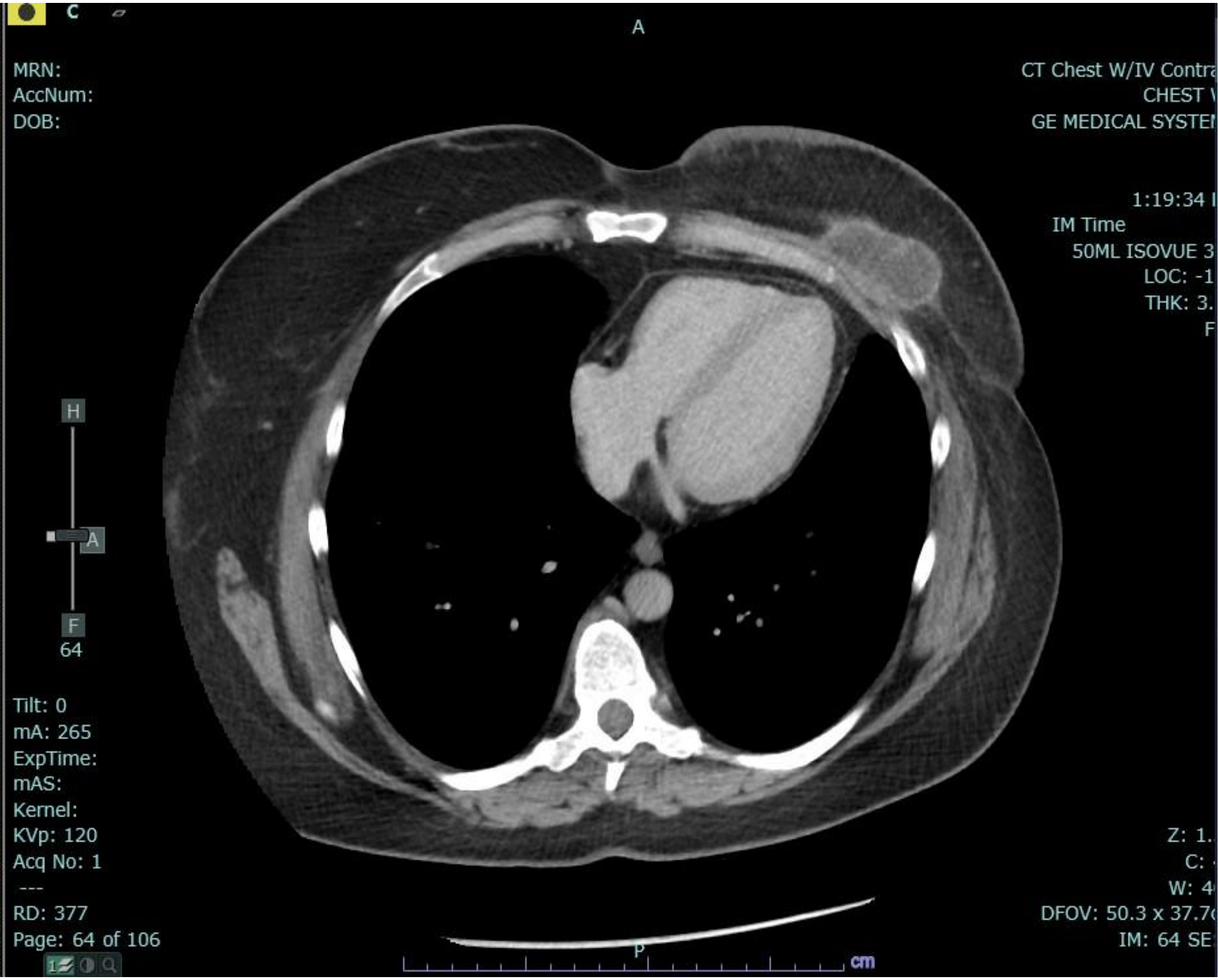
- No MR evidence of malignancy.
- Overall Assessment: BI-RADS Category 2: Benign

Re-Staging Chest CT

7/25/2022



7/17/2023



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Report Findings: Re-Staging CT 07/17/2023

EXAM: CT Chest W/IV Contrast

DATE: 07/17/2023 13:35 hours

INDICATION: breast cancer; breast cancer

COMPARISON: Chest CT 7/25/2022

IMPRESSION:

Hypoattenuating lesion in the left breast measuring 4.6 x 2.9 cm has increased in size from July 2022. There was a reported seroma in this region on the prior breast MRI dated November 2, 2022. Given the increase in size, dedicated breast ultrasound and potential aspiration is recommended to exclude an infected seroma/abscess versus recurrent disease.

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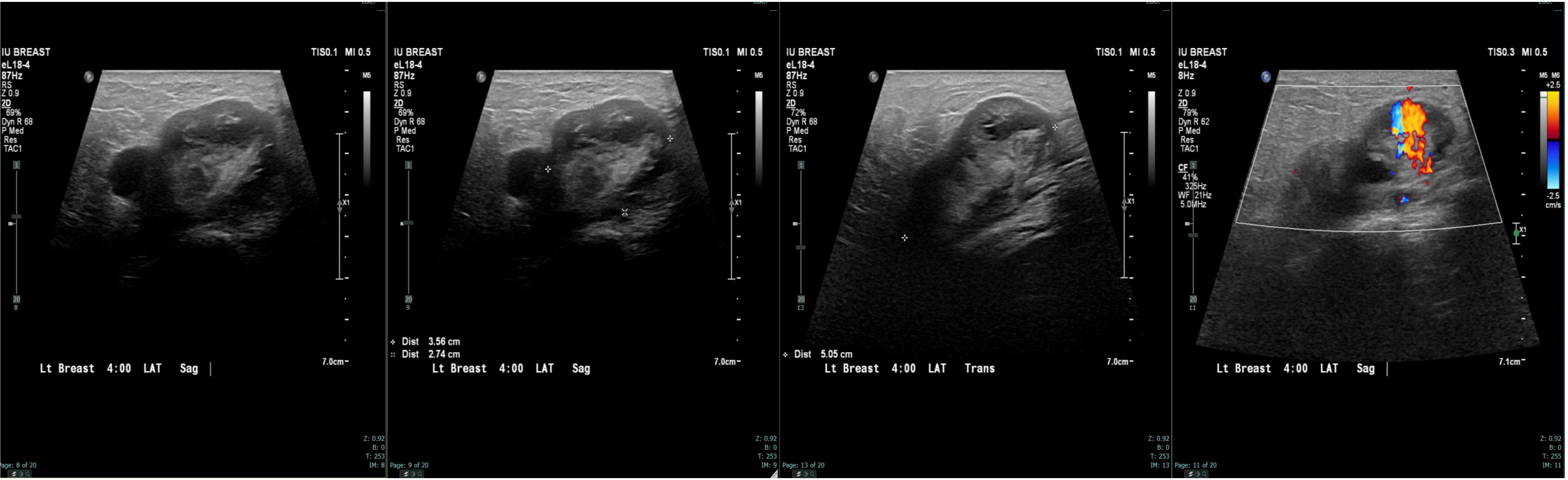
Left Breast Ultrasound Images 07/21/2023



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Report Findings: Left Breast U/S 07/21/2023

Prior Study Comparison:

CT chest 7/17/2023, MRI breast 11/2/2022, left breast ultrasound 9/10/2020.

Findings:

Sonographer performed real time limited breast ultrasound images obtained with image documentation. Targeted physical exam demonstrates a palpable, hard palpable breast mass with no suspicious overlying skin changes. Targeted sonographic imaging of the left breast demonstrates an oval, parallel, heterogeneous echogenicity mass with microlobulated margins, with internal vascularity measuring and no posterior acoustic features measuring up to 3.6 x 2.7 x 5 cm located in the 4:00 position. This corresponds to the area of concern on recent chest CT.

IMPRESSION:

Left breast/chest wall mass measuring up to 5 cm located in the 4:00 position. Although findings may represent underlying fat necrosis, malignancy recurrence cannot be excluded. Ultrasound findings appear less fluid-filled/cystic compared to originally thought based on CT appearance. Overall Assessment: BI-RADS Category 4: Suspicious

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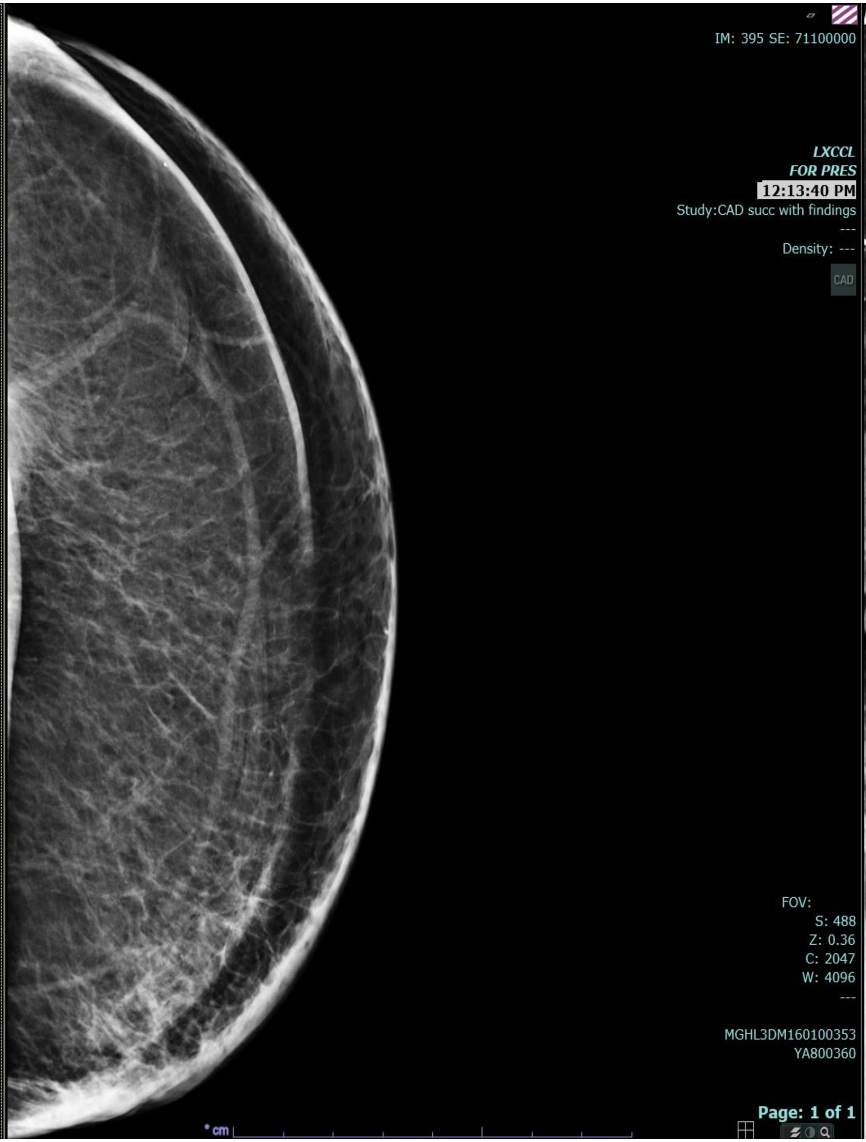
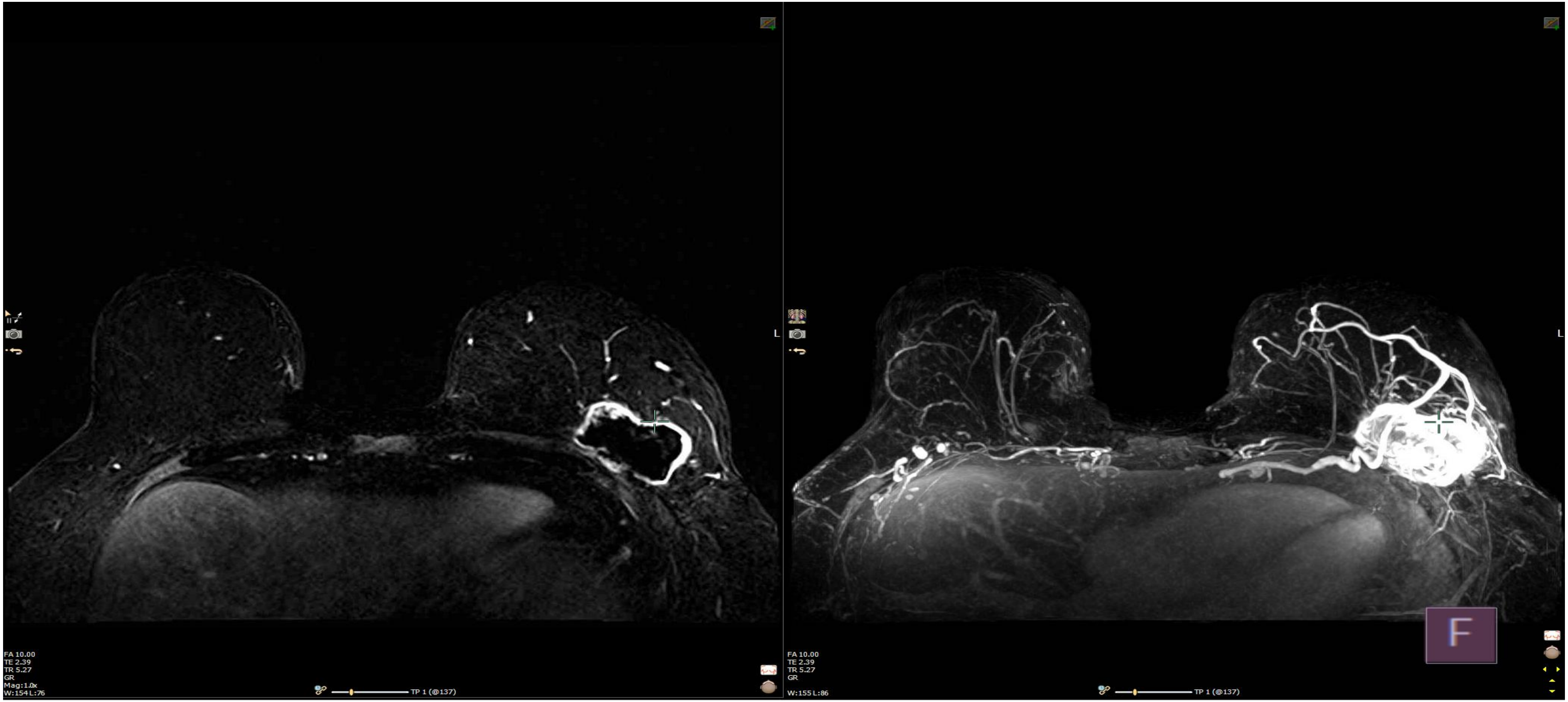
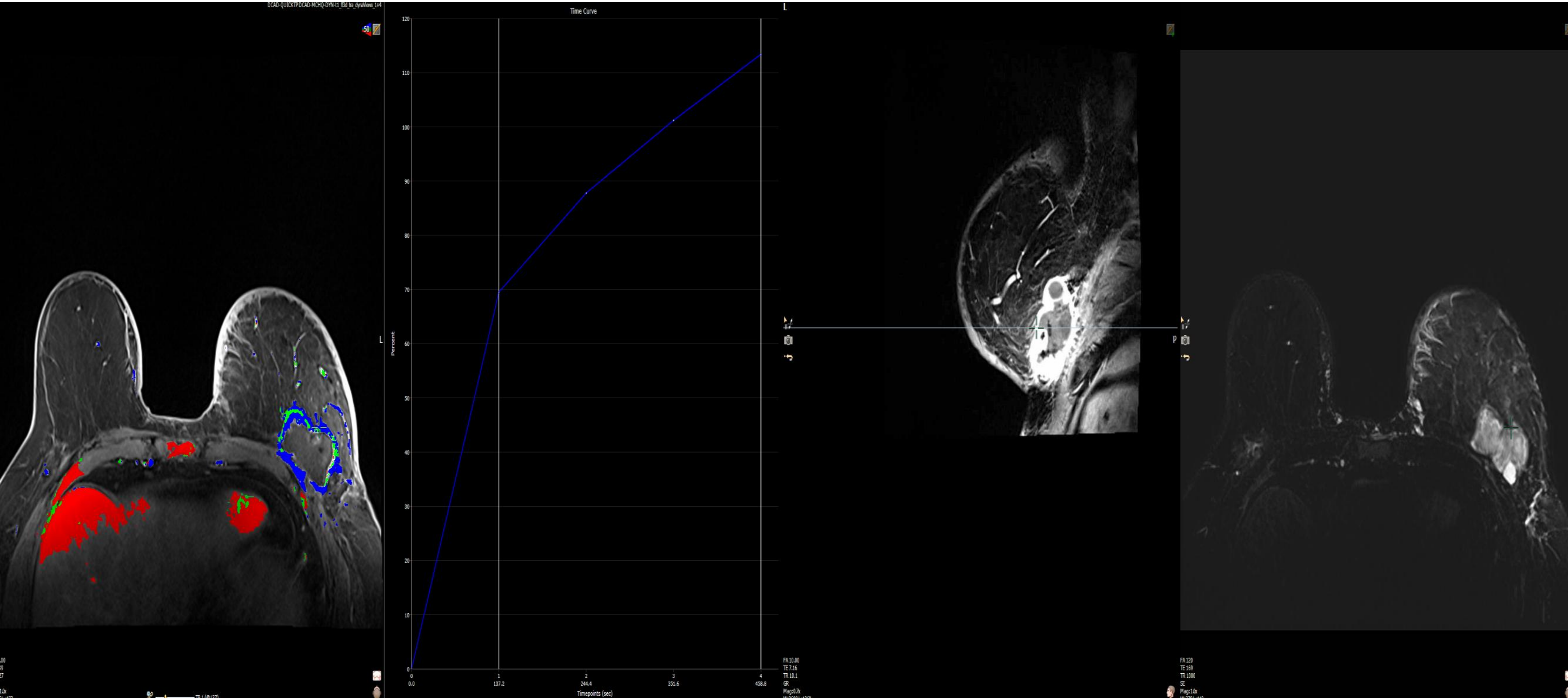
Ultrasound Biopsy & Post Images 07/21/2023



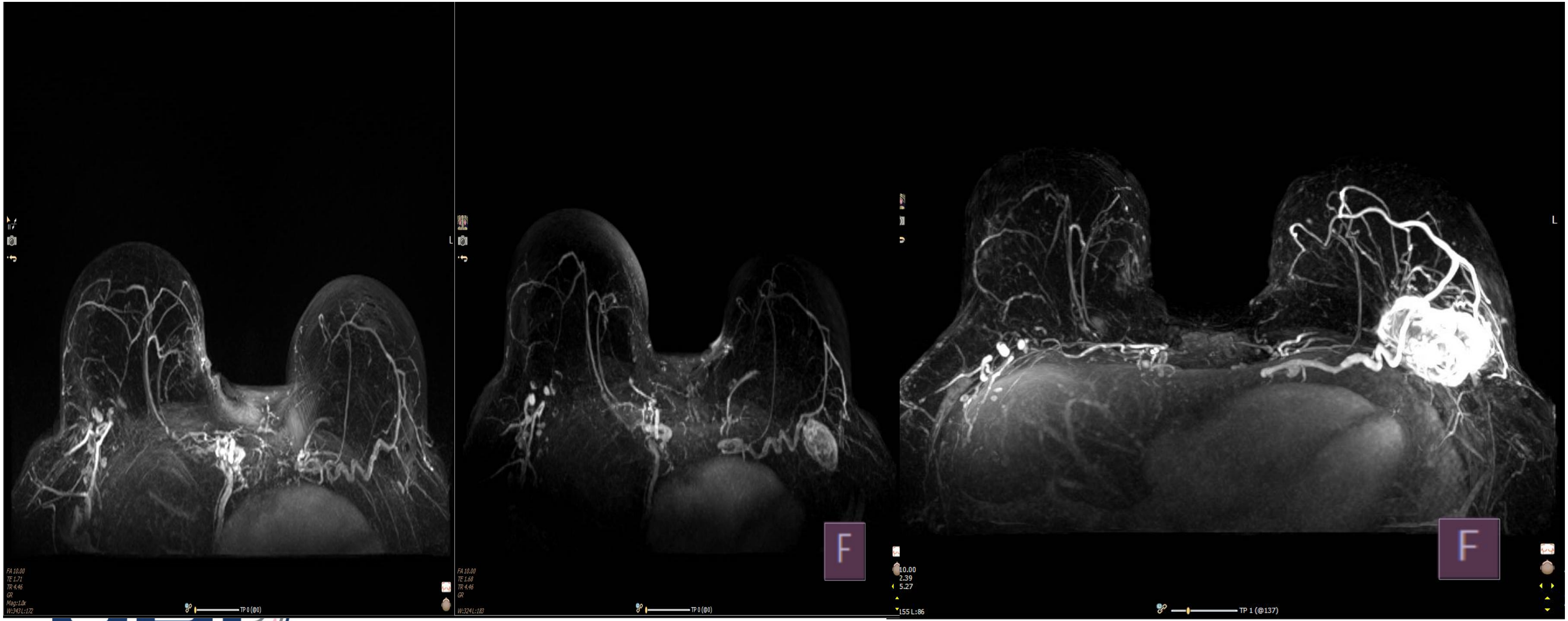
Breast MRI 08/08/2023



Breast MRI 08/08/2023



MRI Comparisons: 2021, 2022, and 2023



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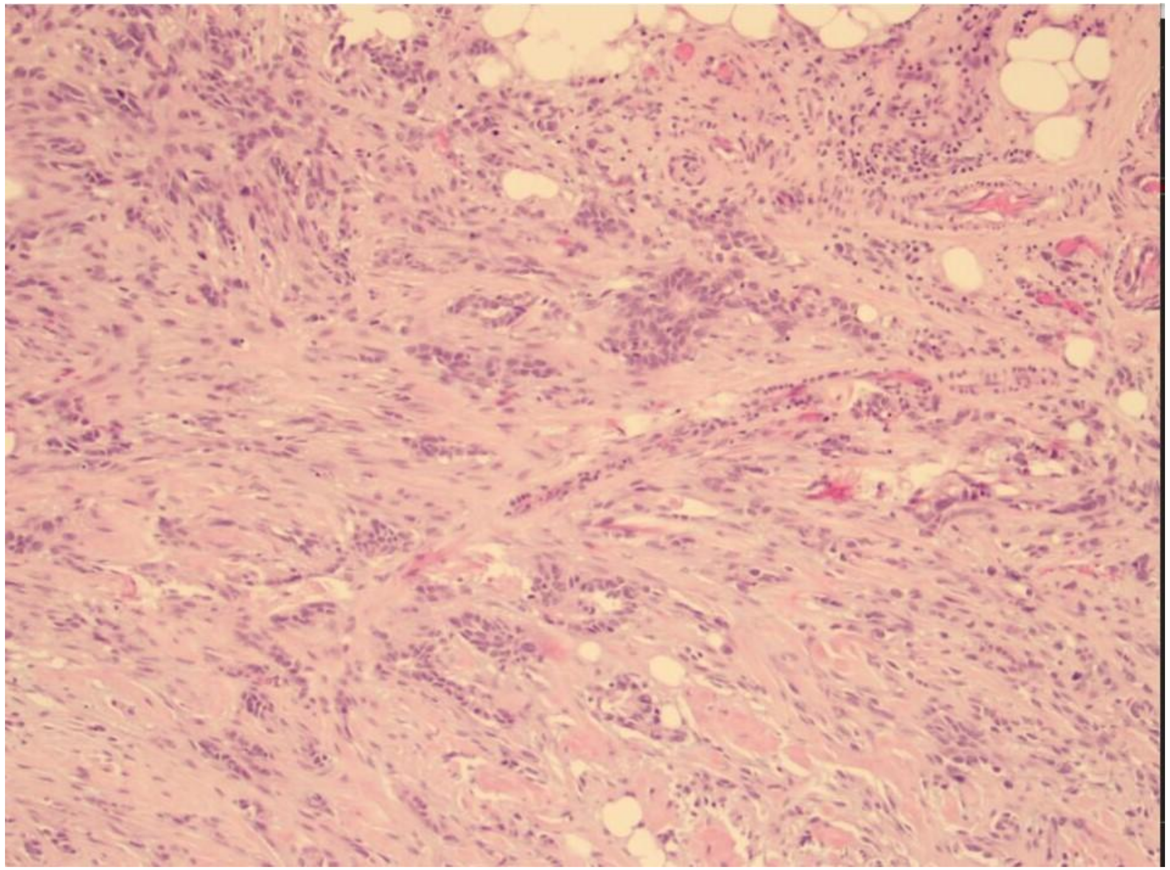
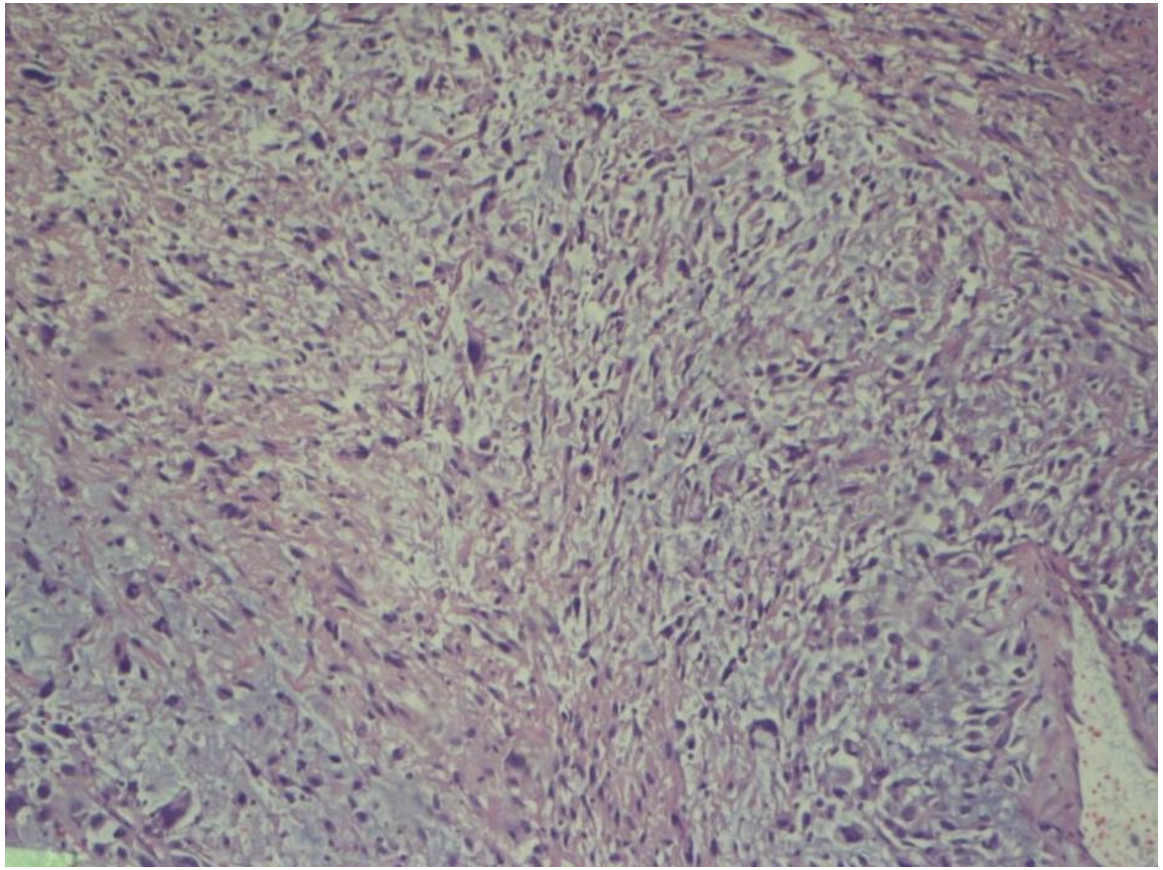
Pathology





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Pathology Results

Clinical Information:
Left breast mass IMF. Formalin added at 11:57 a.m. Birads 4
Triple negative breast cancer with positive lymph node in 2017.
Pre-Operative Diagnosis: Left breast mass
Post-Operative Diagnosis: History of bilateral mastectomy. Triple negative breast cancer, left breast.
Specimen Received: Left breast

Final Pathologic Diagnosis:
* * * * MALIGNANT * * * *
Left breast, biopsy:
Metaplastic carcinoma, Nottingham grade 3.
Immunohistochemical study:
Estrogen receptor: Negative, 0%.
Progesterone receptor: Negative, 0%.
Her-2: Negative, 1+.

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Case Answer

- Metaplastic Breast Cancer

This is a rare form but aggressive type of breast cancer accounting for less than 1% of all breast cancers. It is "heterogeneous group of invasive breast carcinomas with differentiation of the neoplastic epithelium towards squamous cells and/or mesenchymal-like elements, such as spindle, chondroid, and osseous cells." [1]

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[1] Chen B, Erickson LA. Metaplastic Breast Cancer. *Mayo Clin Proc*. 2021. Doi: 10.1016.mayocp.2021.07.007