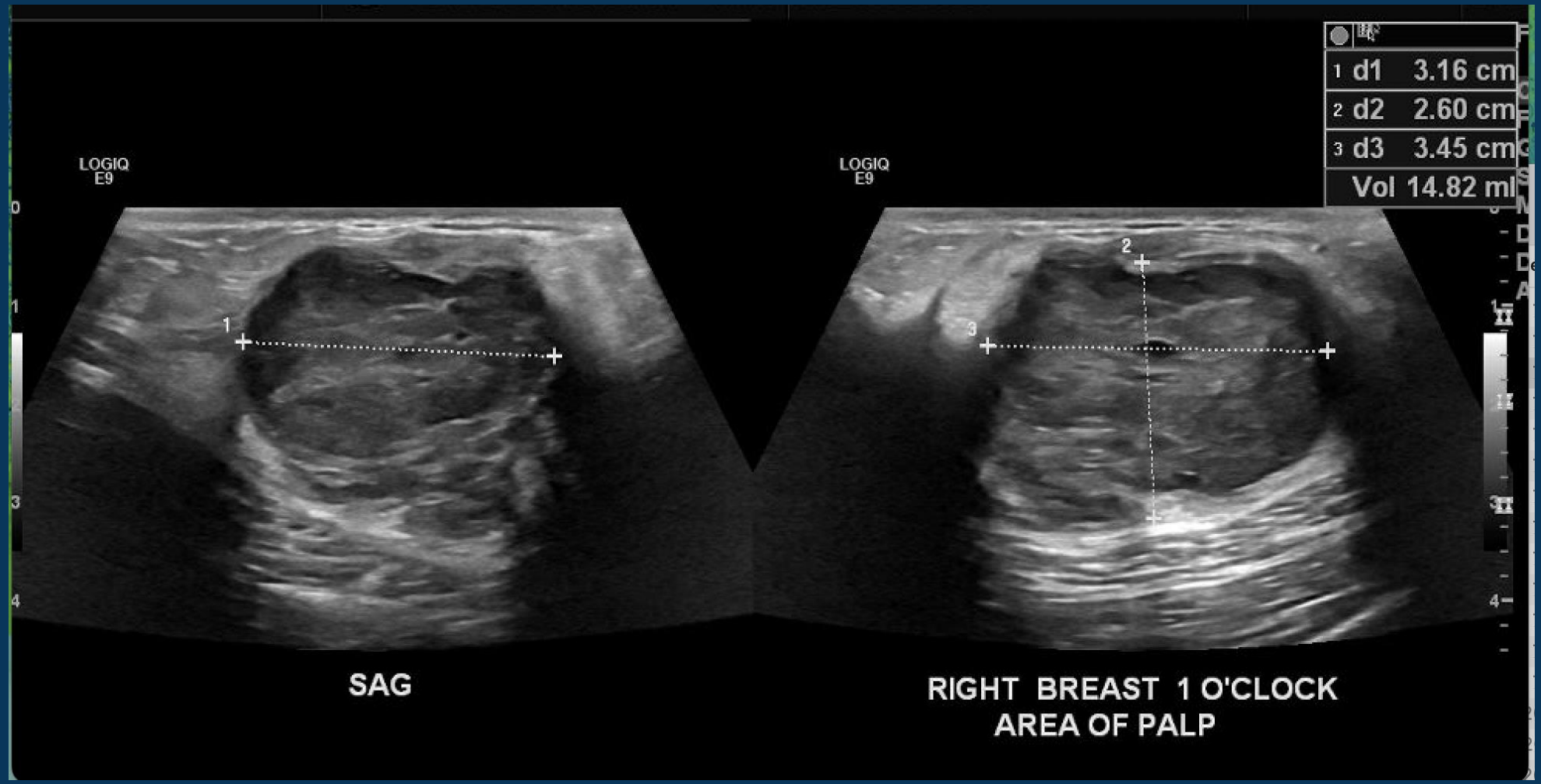
Multiple Bilateral Masses

20-year-old female with multiple bilateral palpable areas – noticed one mass in right breast was getting larger



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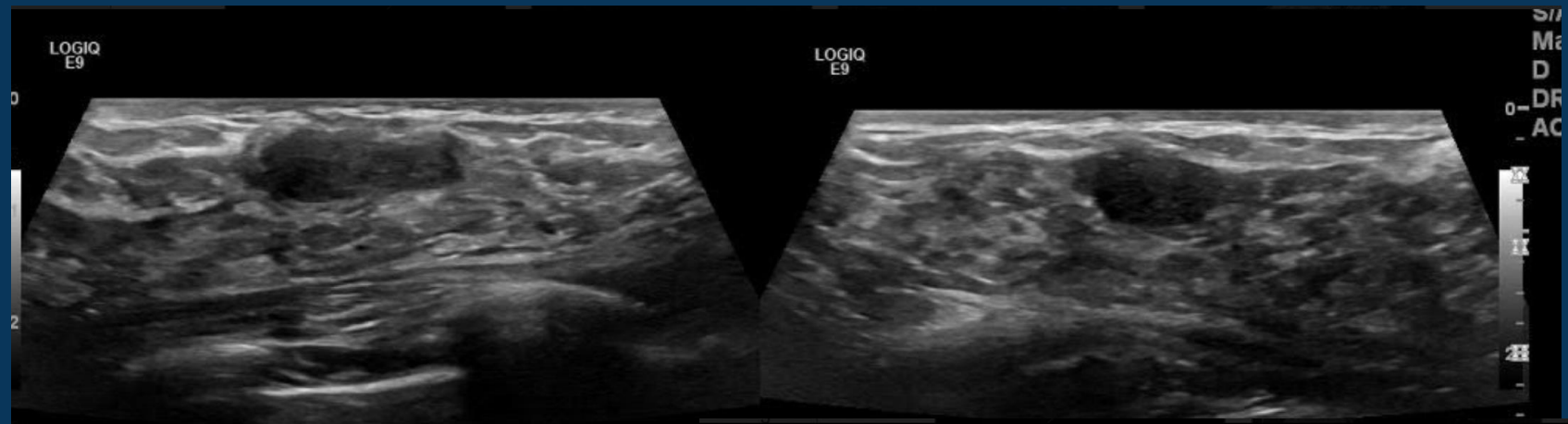
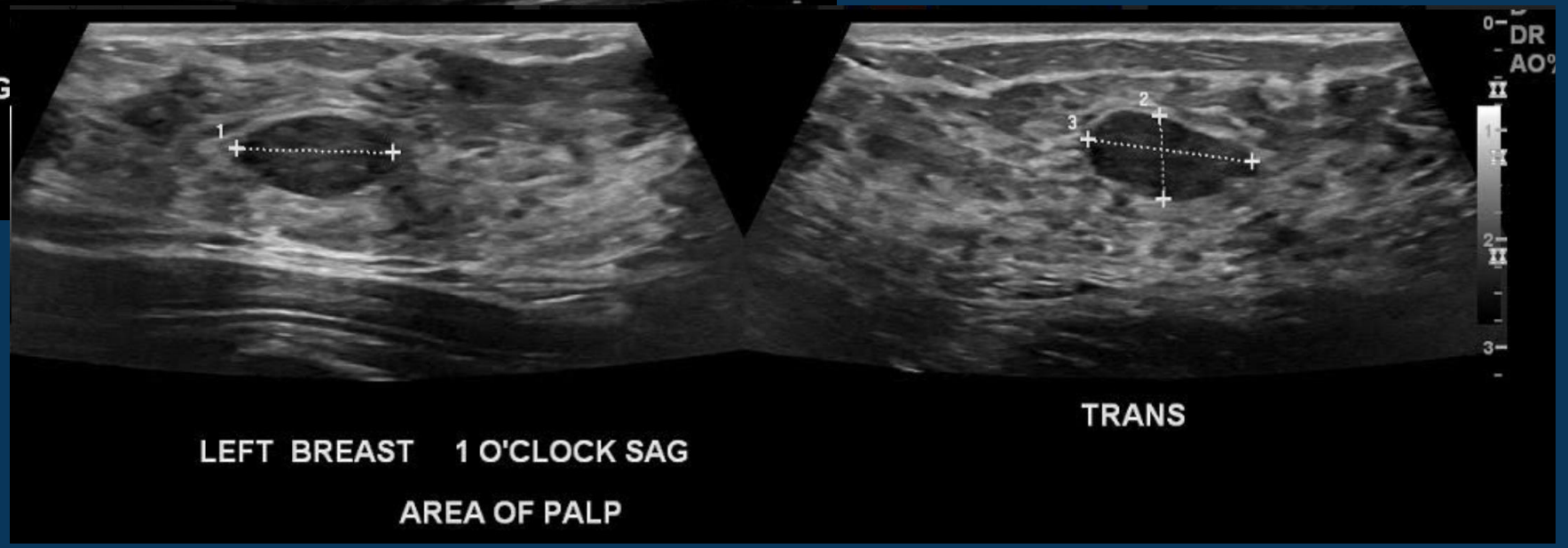
Ultrasound images of both breasts demonstrate bilateral hypoechoic circumscribed masses, oval in shape and parallel in orientation





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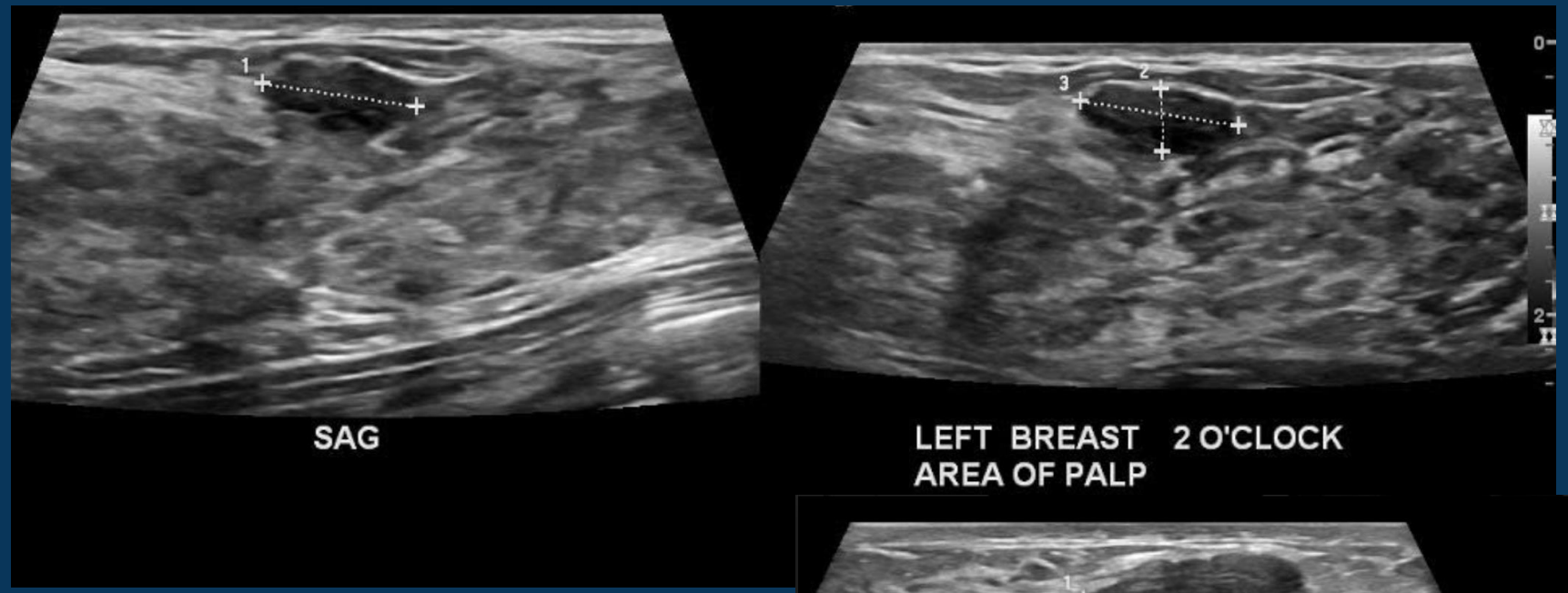

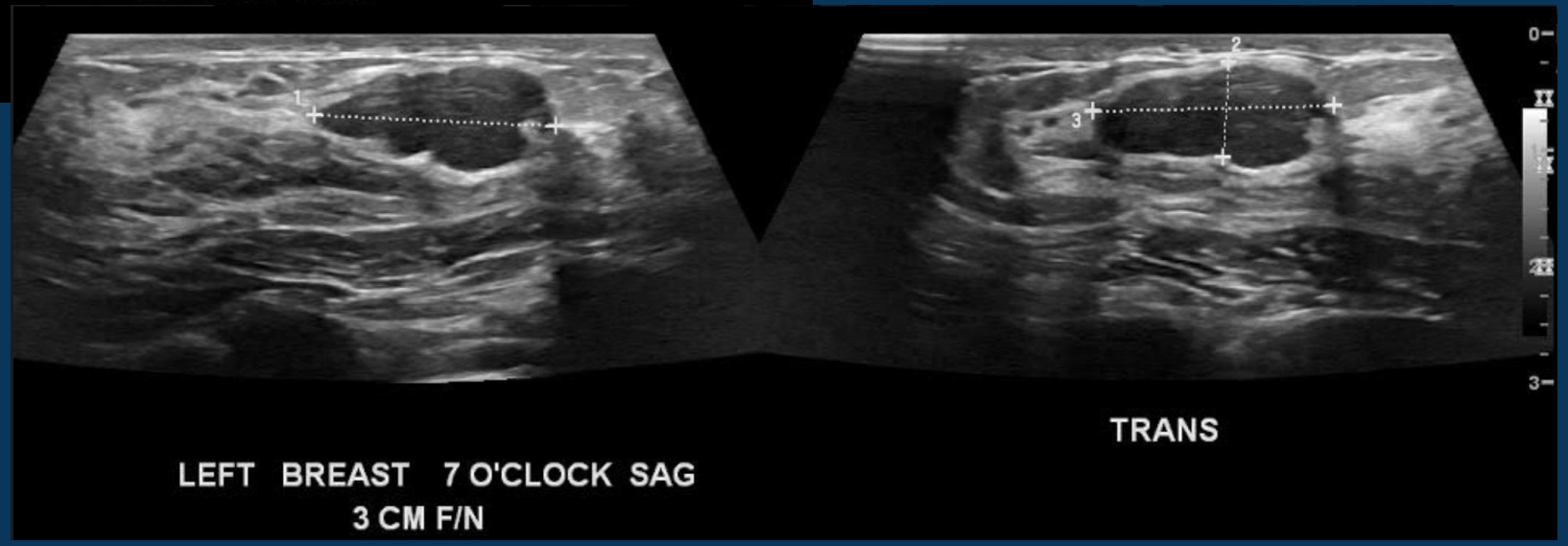

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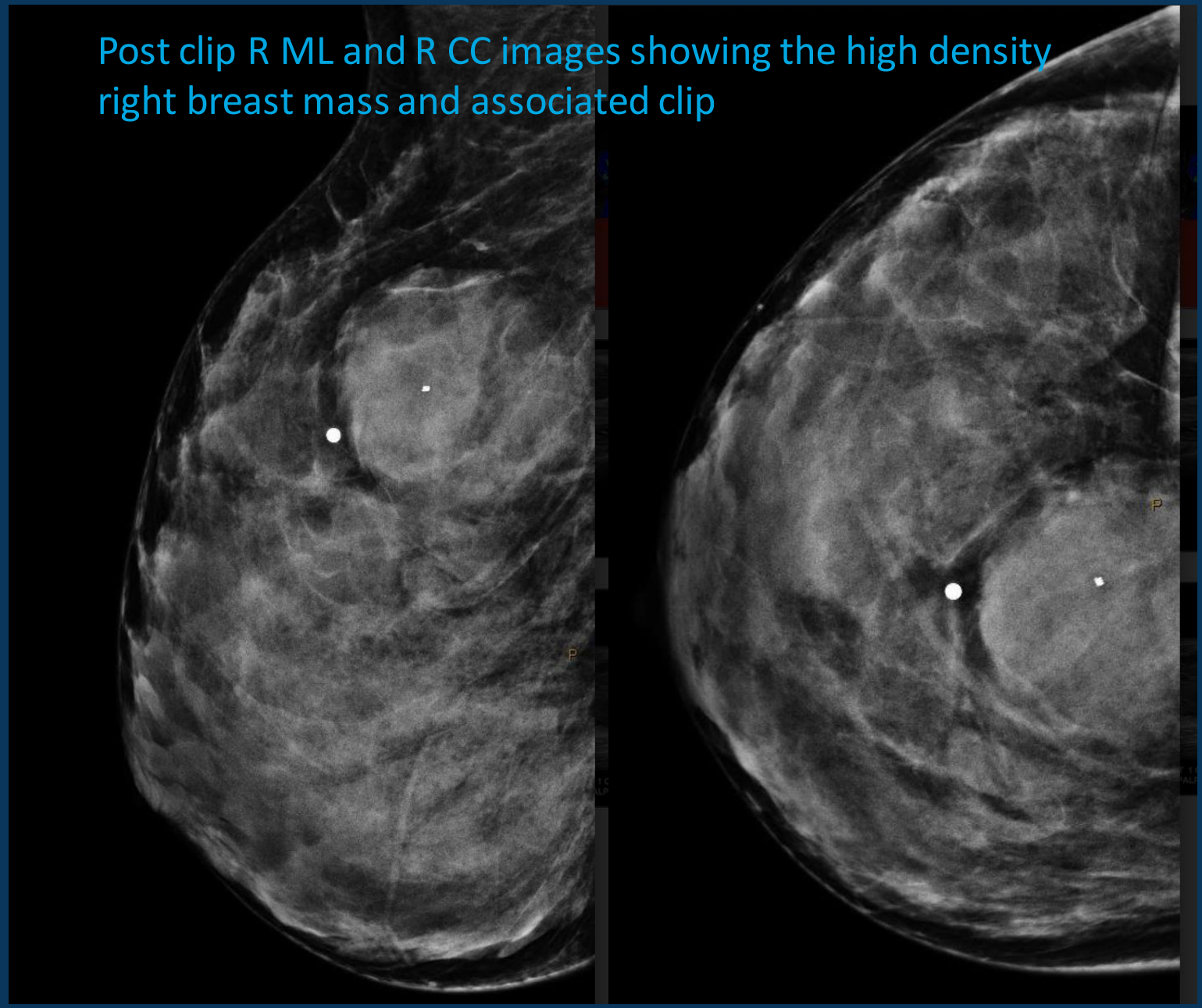
Pathology:

Given size of the largest right breast mass and patient's report of increasing size, patient underwent right breast ultrasound guided core biopsy.

High grade invasive ductal carcinoma, triple negative



Post clip R ML and R CC images showing the high density right breast mass and associated clip

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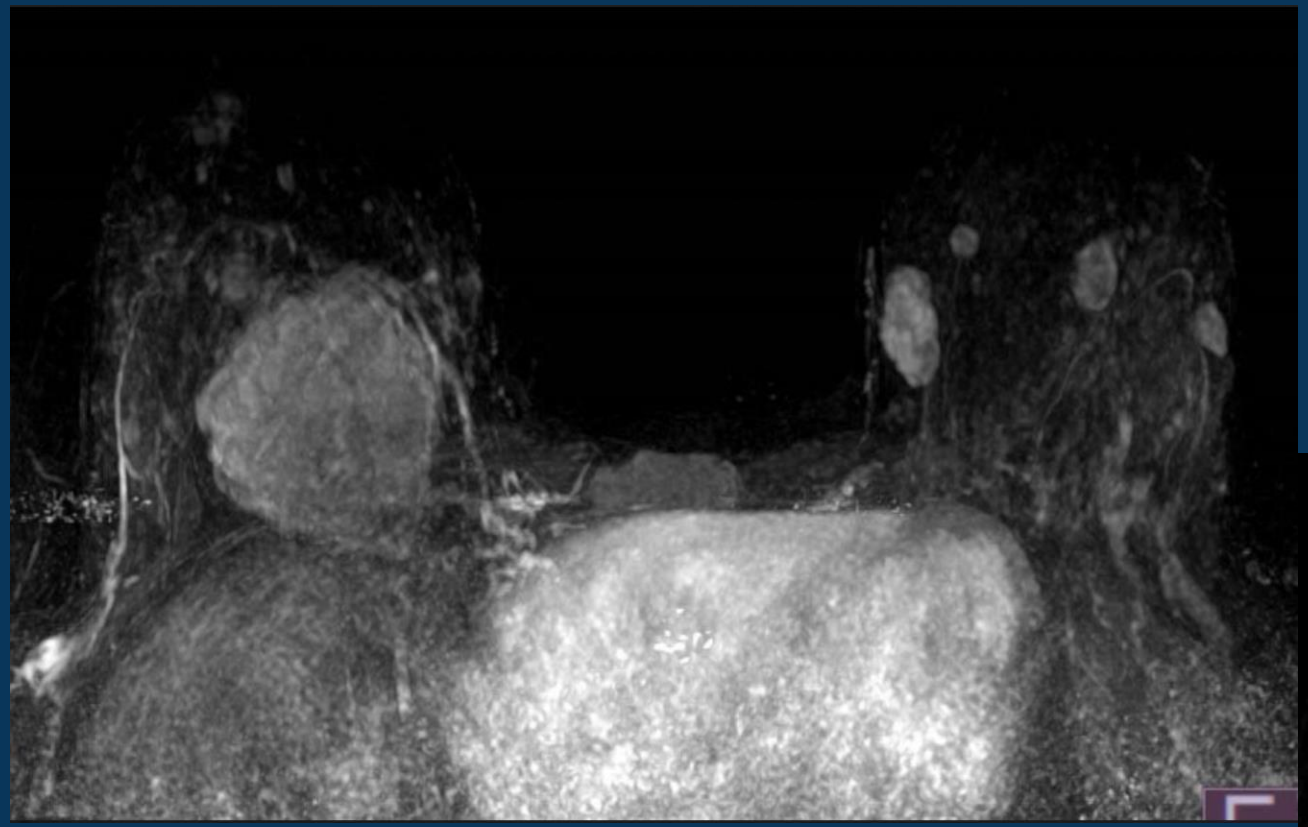
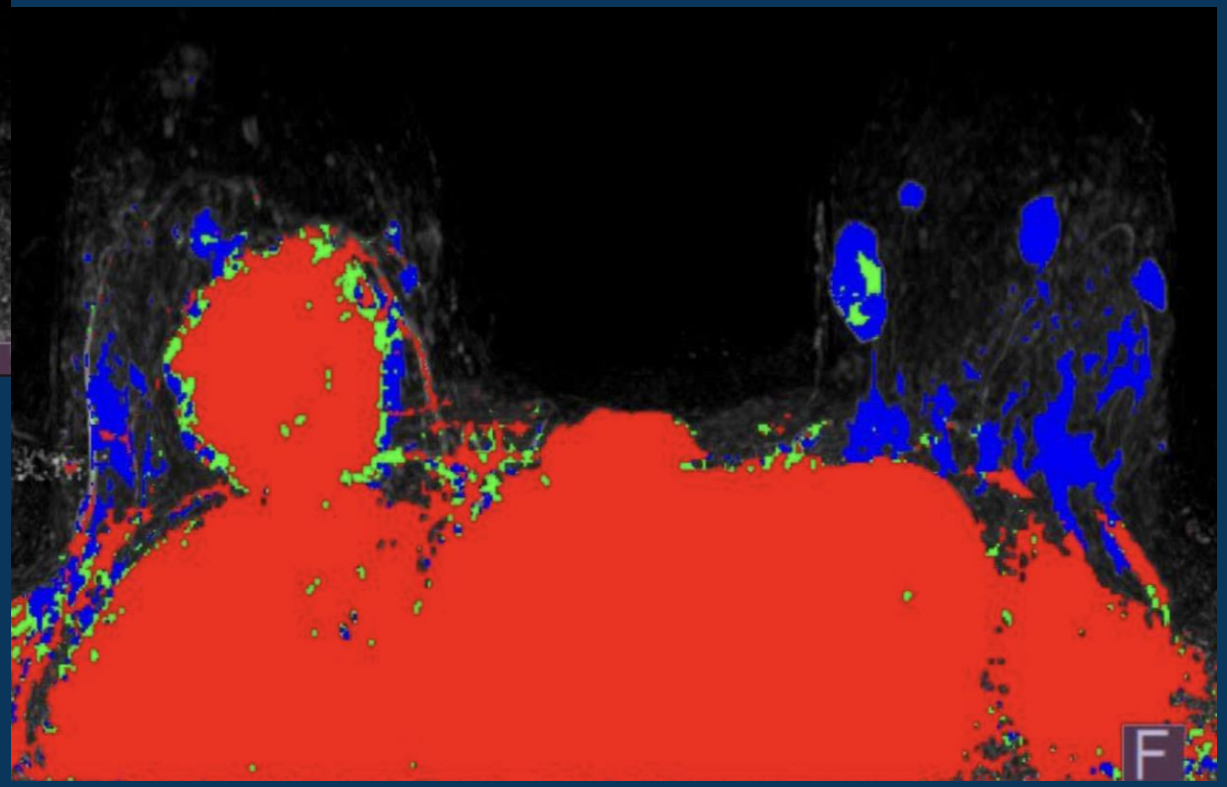
Breast MRI images





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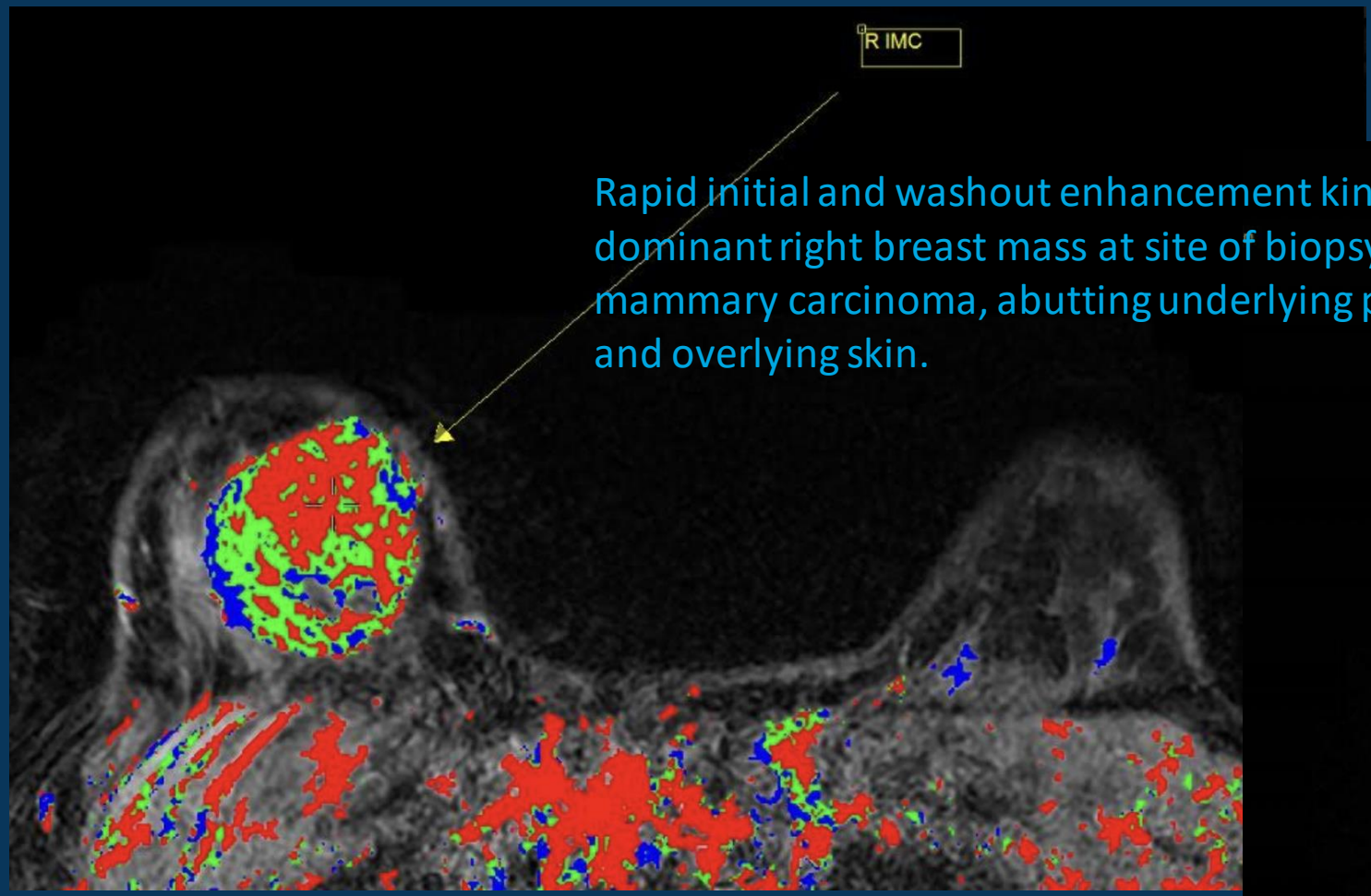
Breast MRI images



Rapid initial and washout enhancement kinetics in the dominant right breast mass at site of biopsy proven invasive mammary carcinoma, abutting underlying pectoralis muscle and overlying skin.

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Triple negative breast cancer in 20-year-old in setting of multiple bilateral masses

- Patient ultimately underwent ultrasound guided core biopsies of additional masses noted on MRI and ultrasound – pathology demonstrating bilateral fibroadenomas.
- Underscores the importance of following BIRADS criteria
  - BI-RADS defines a mass on US as a 3D lesion that occupies space and is visualized in two different scanning planes.
  - Benign features include parallel orientation, oval shape, circumscribed margins, and anechoic echogenicity, whereas malignant features include an irregular or round shape, vertical orientation, and noncircumscribed margins that are microlobulated, indistinct, angular, or spiculated.
  - Among these features, margins provide the most predictive diagnostic information, and all margins should be circumscribed for a mass to be characterized as "circumscribed" on US, rather than the 75% required at mammography.
  - By multiple bilateral masses, we mean at least three masses, with at least one mass in each breast.
  - The multiple masses must have a similar appearance in that not one of them can be substantially different from the others in terms of size, margin characteristics, or density.

  Read More: https://www.ajronline.org/doi/full/10.2214/ajr.175.1.1750023
- Genetic testing revealed a pathogenic BRCA1 mutation

References

- Multiple Bilateral Circumscribed Breast Masses Detected at Imaging: Review of Evidence for Management Recommendations Ethan O. Cohen, Hilda H. Tso, and Jessica W. T. Leung American Journal of Roentgenology 2020 214:2, 276-281
- Multiple Bilateral Circumscribed Masses at Screening Breast US: Consider Annual Follow-up Wendie A. Berg, Zheng Zhang, Jean B. Cormack, and Ellen B. Mendelson Radiology 2013 268:3, 673-683
- Multiple Bilateral Masses Detected on Screening Mammography Jessica W. T. Leung and Edward A. Sickles American Journal of Roentgenology 2000 175:1, 23-29