

AMSER Case of the Month: April 2018

23 year old female with palpable right breast mass



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Allegheny
Health Network



Patient Presentation

- CC/HPI: 23 year old female presents with a palpable right breast mass at the 10:00 position, 4cm from the nipple. No other symptoms.
- Past Medical Hx: no pertinent history
- Past Surgical Hx: no pertinent history
- Past Medications: none

What Imaging Should We Order?

ACR Appropriateness Criteria for palpable breast mass in a woman younger than 30, initial evaluation

Variant 6: Palpable breast mass. Woman younger than 30 years of age, initial evaluation. (See [Appendices 2A-2B](#) for additional steps in the workup of these patients.)

This imaging modality was ordered

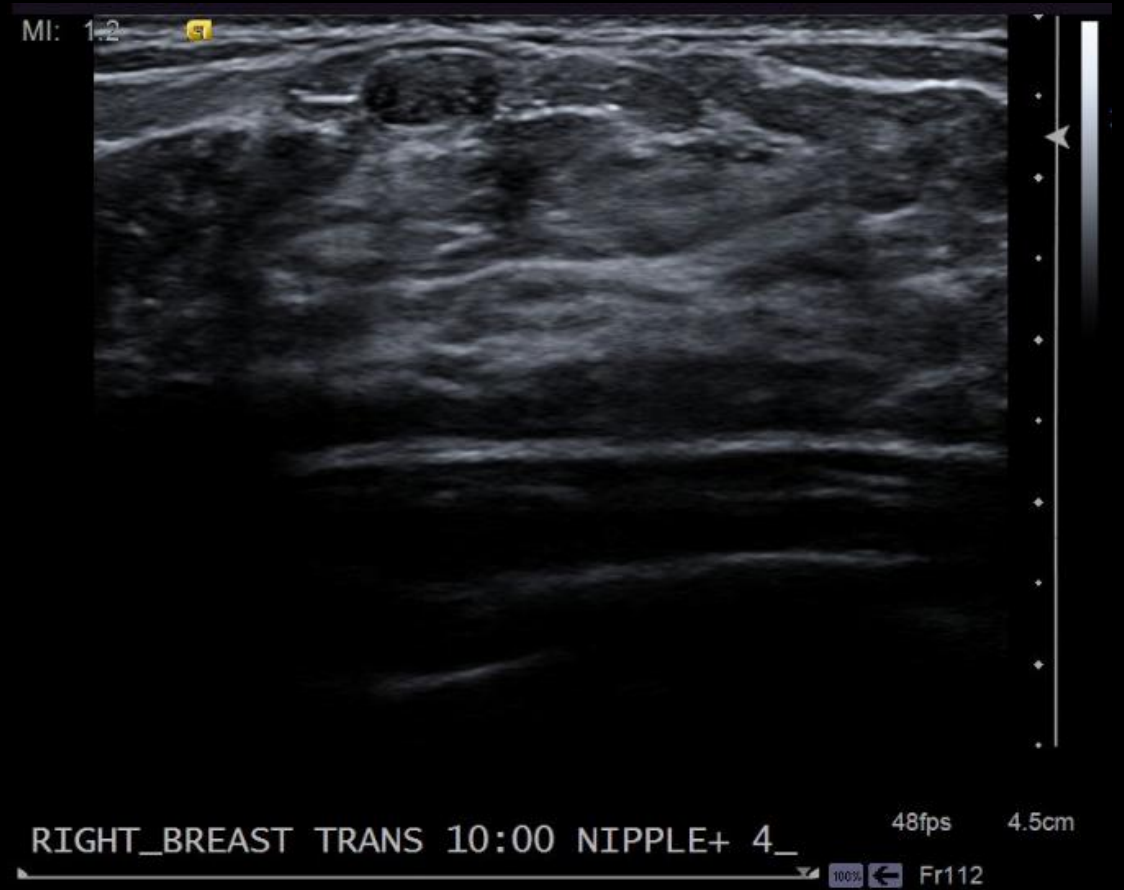
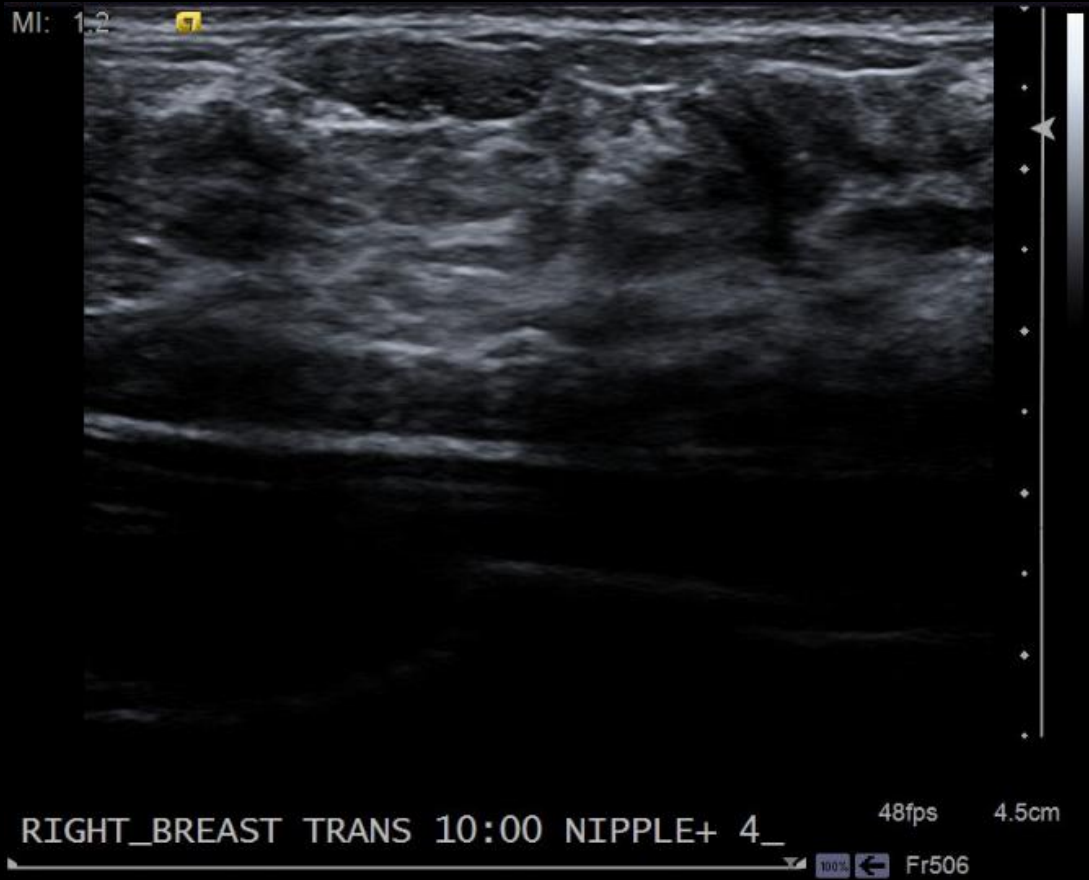


Radiologic Procedure	Rating	Comments	RRL*
US breast	9	See references [25-29,62].	O
Mammography diagnostic	3		⊕⊕
Digital breast tomosynthesis diagnostic	3		⊕⊕
MRI breast without and with IV contrast	1	See references [4,49].	O
MRI breast without IV contrast	1		O
FDG-PEM	1		⊕⊕⊕⊕
Tc-99m sestamibi MBI	1		⊕⊕⊕
Image-guided core biopsy breast	1		Varies
Image-guided fine-needle aspiration breast	1		Varies

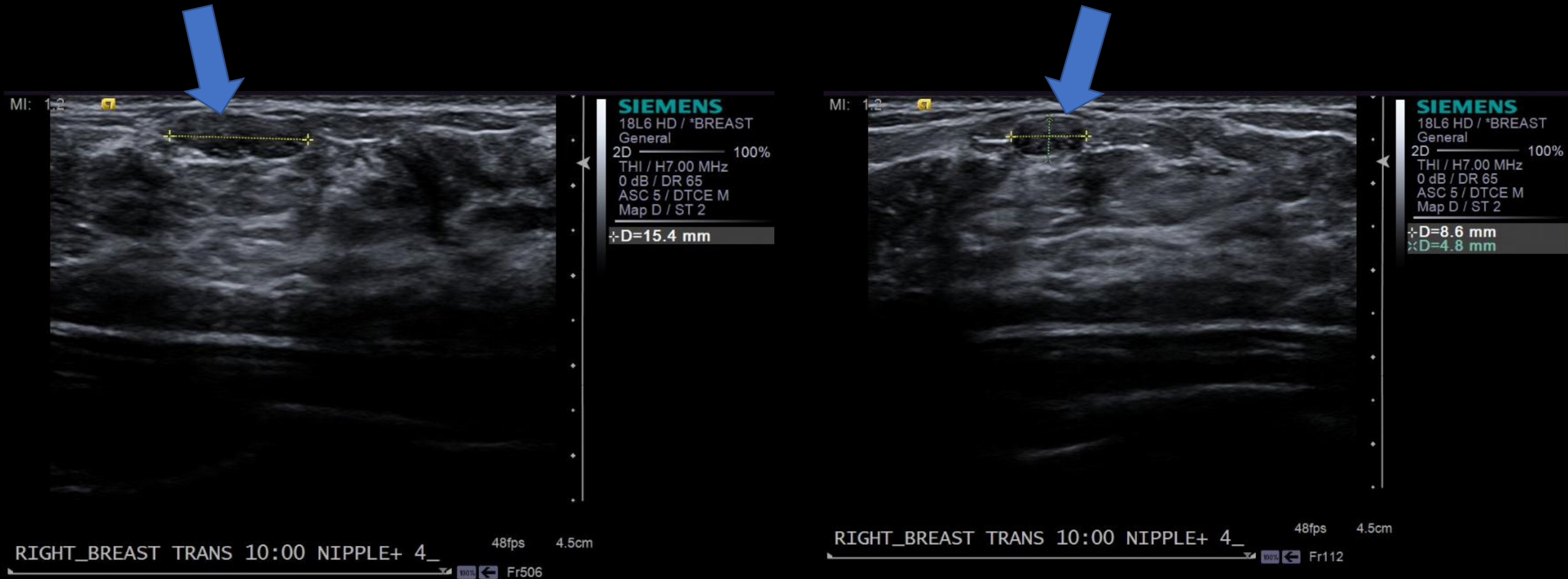
Rating Scale: 1,2,3 Usually not appropriate; 4,5,6 May be appropriate; 7,8,9 Usually appropriate

*Relative Radiation Level

Ultrasound of right breast mass

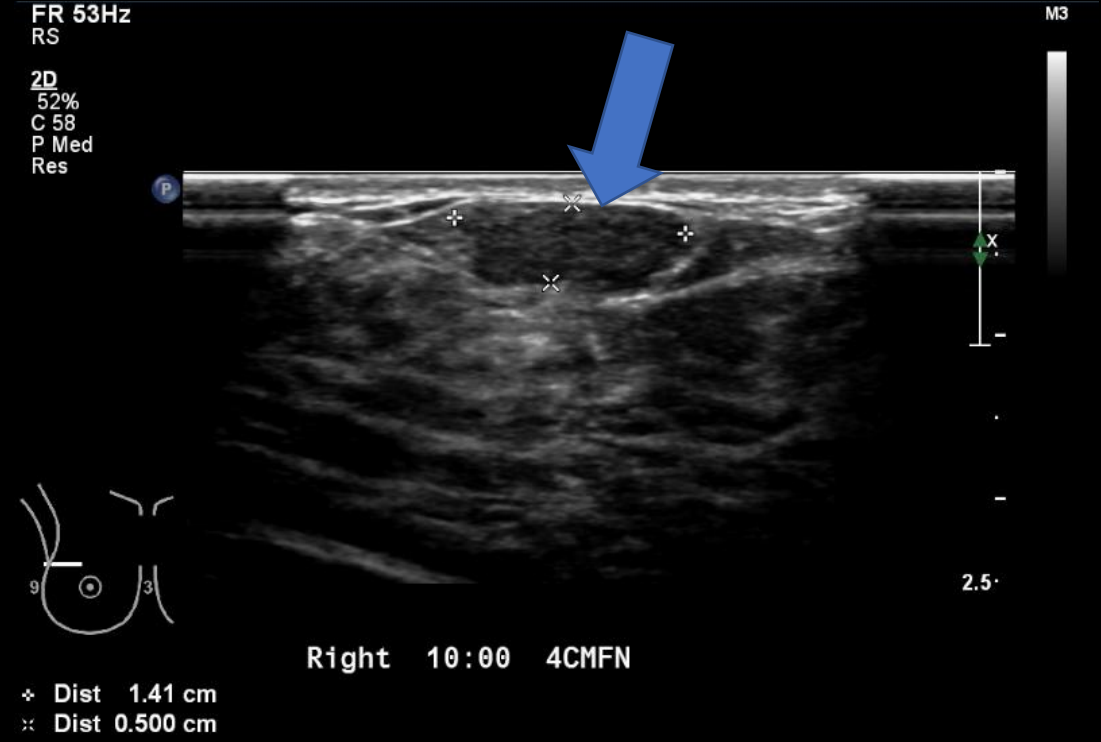
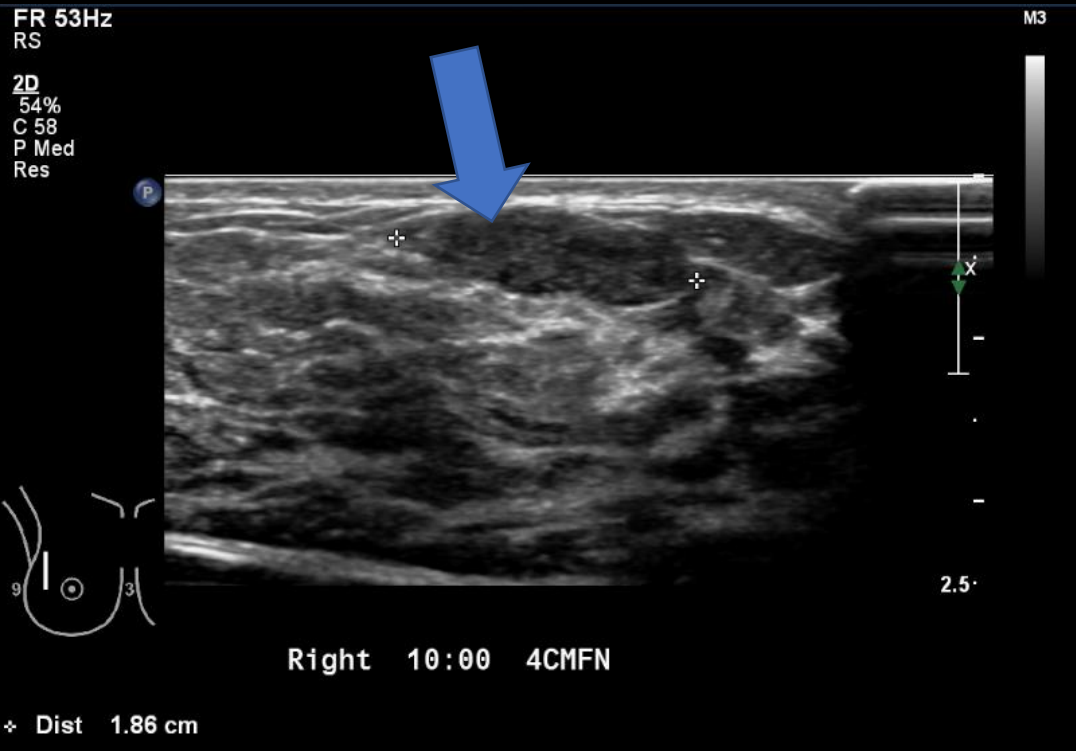


Findings:



Hypoechoic well circumscribed solid mass present on the right breast at the 10:00 position, 4 cm from the nipple. Measured at 9 x 5 x 15 mm. Diagnosed as BIRADS 3, recommended 3 month follow up.

3 month follow up:



Interval change showed an increase in size of the mass to 14 x 5 x 19 mm, diagnosis changed to BIRADS 4.



Next test for suspicious breast mass based on ACR Appropriateness Criteria

This imaging modality was ordered



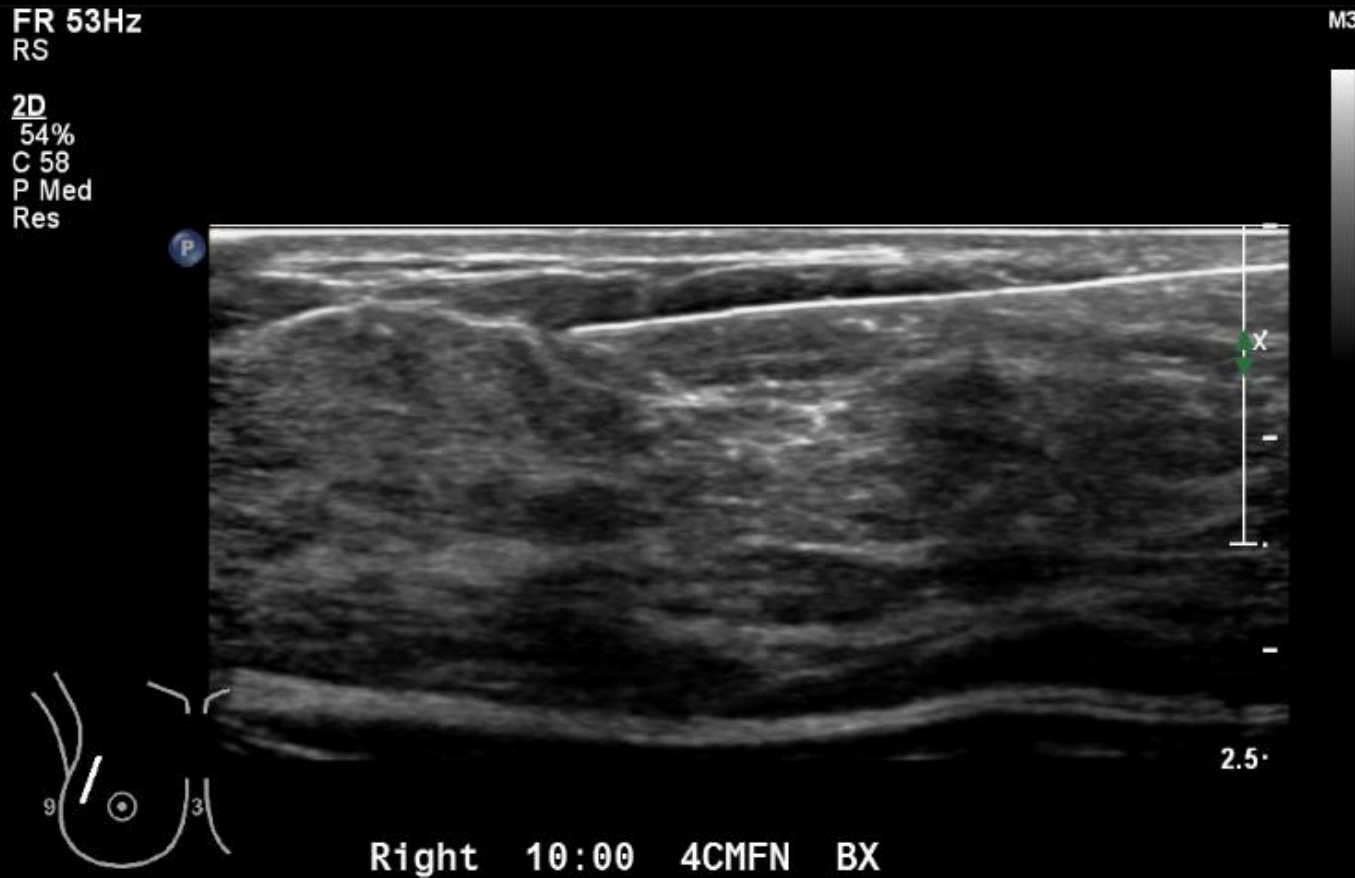
Variant 7: Palpable breast mass. Woman younger than 30 years of age, US findings suspicious for malignancy. Next examination to perform. (See [Appendix 2A](#) for additional steps in the workup of these patients.)

Radiologic Procedure	Rating	Comments	RRL*
Image-guided core biopsy breast	9	Either mammography or biopsy is appropriate. It depends on the history and findings. See references [36-38].	Varies
Mammography diagnostic	8	Either mammography or biopsy is appropriate. It depends on the history and findings.	☼☼
Digital breast tomosynthesis diagnostic	8	Either DBT or biopsy is appropriate. It depends on the history and findings.	☼☼
US breast short-interval follow-up	1		0
MRI breast without and with IV contrast	1	See references [4,49].	0
MRI breast without IV contrast	1		0
FDG-PEM	1		☼☼☼☼
Tc-99m sestamibi MBI	1		☼☼☼
Image-guided fine-needle aspiration breast	1		Varies

Rating Scale: 1,2,3 Usually not appropriate; 4,5,6 May be appropriate; 7,8,9 Usually appropriate

*Relative Radiation Level

Final Dx from biopsy:



Ultrasound guided biopsy of hypoechoic mass showed pathology to be a Fibroadenoma

Fibroadenoma

- Fibroadenomas usually present as well-defined, mobile mass on physical examination or a well-defined solid mass on ultrasound. Fibroadenomas are benign solid tumors containing glandular as well as fibrous tissue.
- Peak incidence is in women between ages 25-40. It is the most common breast mass in the adolescent and young adult population.
- Fibroadenomas can occur anywhere on the breast tissue, however they are more commonly seen on the upper outer quadrant.
- Fibroadenomas have a hormonal relationship
 - They persist in the reproductive years
 - Can change size with pregnancy and estrogen therapy and often involute with menopause

Management of Fibroadenomas

- Management of a well defined solid mass with benign imaging features:
 - Short term follow up – 3 or 6 month interval with repeat breast exam and ultrasound
 - Indications for biopsy include enlarging lesion, atypical findings on ultrasound, patient peace of mind
 - Core Needle Biopsy – only way to make a definitive diagnosis
- Biopsy-proven fibroadenomas can be removed by excisional surgery, cryoablation, or percutaneous vacuum-assisted ultrasound-guided excision. However, it is not necessary to remove a biopsy-proven fibroadenoma unless the patient desires it or if there is malignant change.
- It is important to watch a suspected fibroadenoma for rapid growth or if it becomes symptomatic. These are signs that raise the suspicion for a Phyllodes tumor, an unusual fibroepithelial tumor that requires more extensive surgical excision and may require radiation treatment as well. Phyllodes tumors and fibroadenomas have a similar appearance on ultrasound.

References:

- ACR Appropriateness Criteria:
<https://acsearch.acr.org/docs/69495/Narrative/>
- Clinical Radiology: The Essentials. Dr. Richard H. Daffner, Dr. Matthew Hartman, Fourth Edition.
- Radiopaedia: <https://radiopaedia.org/articles/fibroadenoma-breast>
- Uptodate: https://www.uptodate.com/contents/overview-of-benign-breast-disease?search=fibroadenoma&source=search_result&selectedTitle=1~13&usage_type=default&display_rank=1