Utility of breast ultrasound following contrast enhanced spectral mammography

- Authors have nothing to declare

Introduction

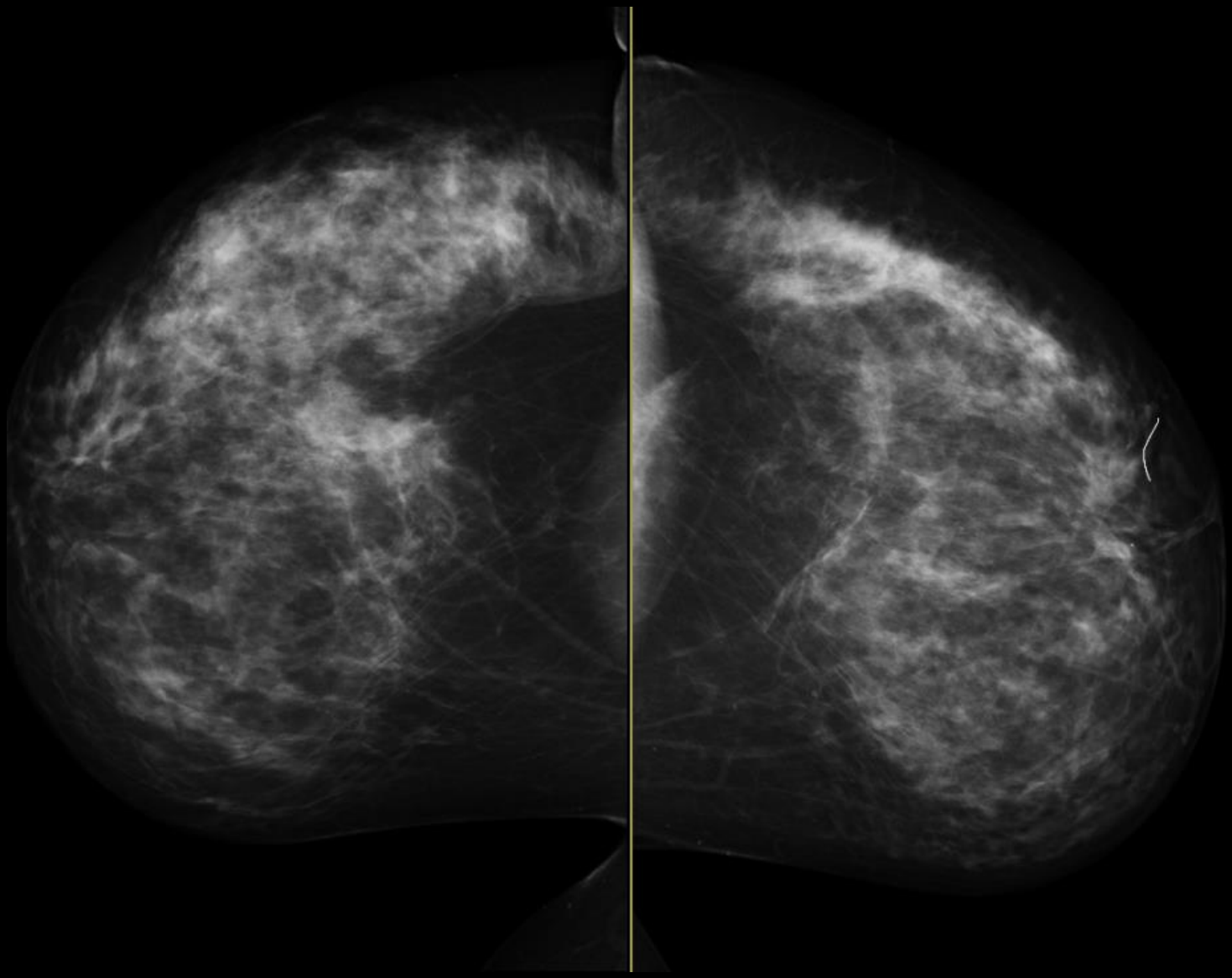
- Breast cancer
- Mammography
- Ultrasound
- Contrast mammography

Introduction

- Breast cancer – most commonly diagnosed cancer among women
- Mammography
- Ultrasound
- Contrast mammography

Introduction

- Breast cancer
- Mammography – most common breast cancer screening test
- Ultrasound
- Contrast mammography

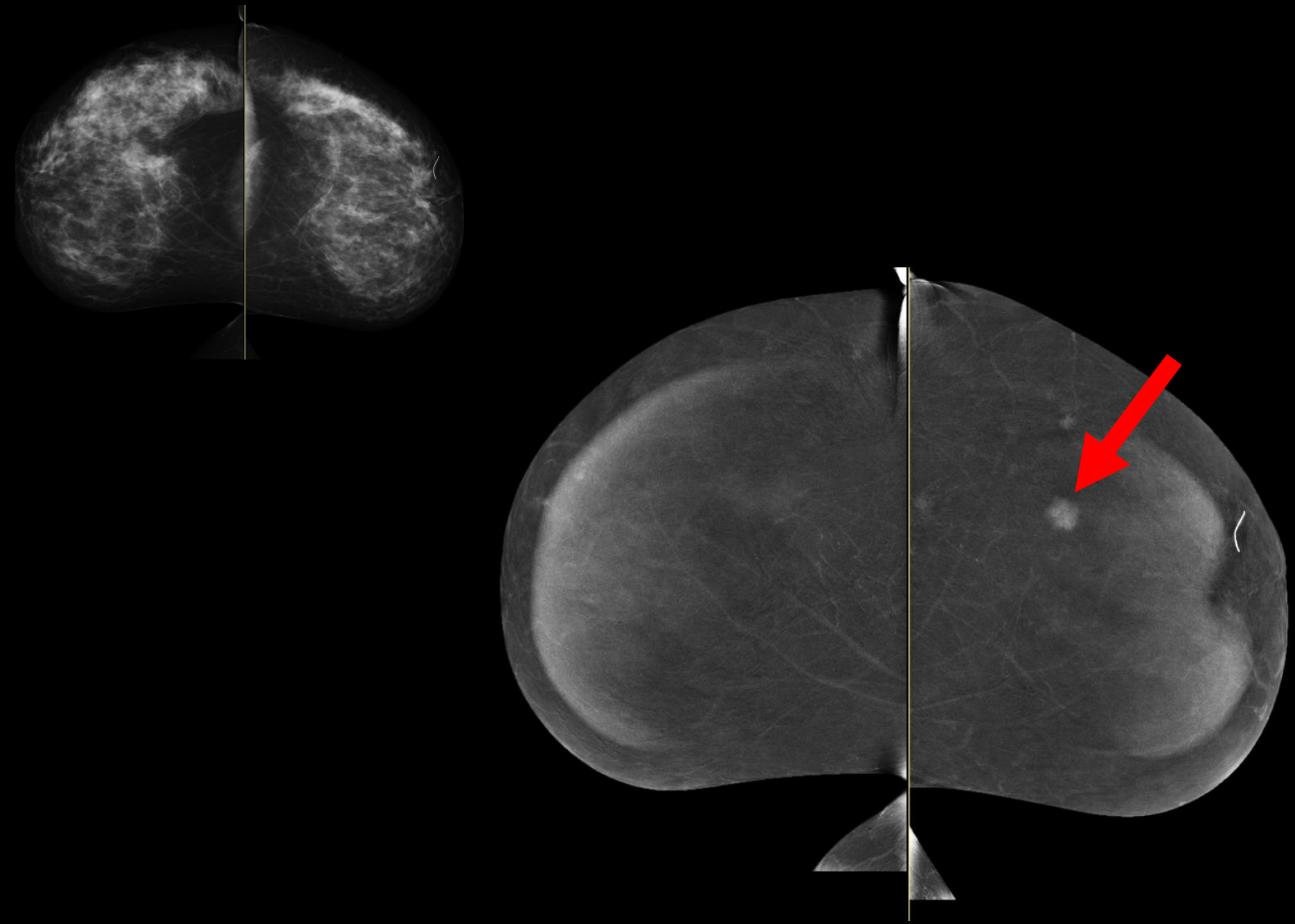


Introduction

- Breast cancer
- Mammography
- Ultrasound – highly sensitive, but increased rate of false positive diagnoses
- Contrast mammography

Introduction

- Breast cancer
- Mammography – Anatomic Imaging
- Ultrasound – Anatomic Imaging
- Contrast mammography – mostly unaffected by dense breast tissue
  - Anatomic and functional imaging



Purpose

- To evaluate if breast ultrasound is routinely indicated following contrast mammography

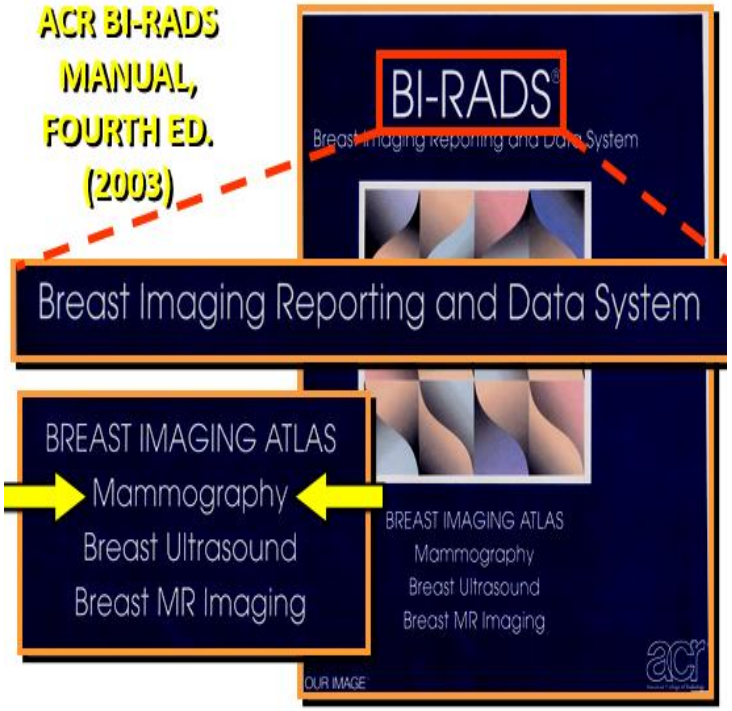
Materials and methods

- Women who underwent contrast mammography and breast ultrasound at Sheba's Meirav Women's Imaging Center were retrospectively collected (2012 – 2016)

Sheba - Academic Medical Center Hospital

Materials and methods

- Both contrast mammography BIRADS scores and ultrasound BIRADS scores were grouped into three categories:
  - **Benign appearance** (BIRADS 1,2)
  - **Follow-up** (BIRADS 3)
  - **Suspicious** (BIRADS 0,4,5)



Materials and methods

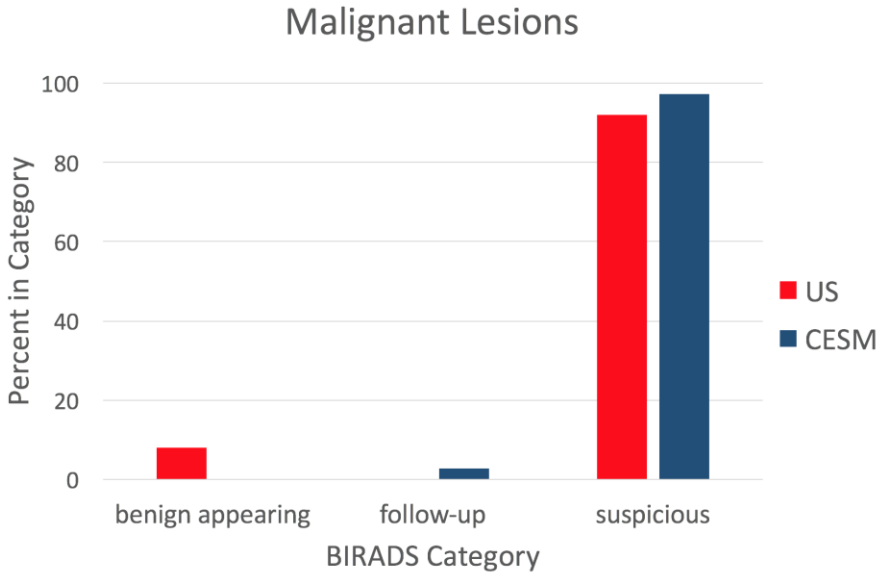
- The association between Suspicious Test Result and Malignant Biopsy were calculated for Ultrasound and Contrast Mammography

Results

- 953 women underwent contrast mammography
- Ultrasound were conducted for 828 right breasts and 841 left breasts
- 87 (5.2%) breasts were biopsied
- 37/87 (42.5%) biopsies were malignant

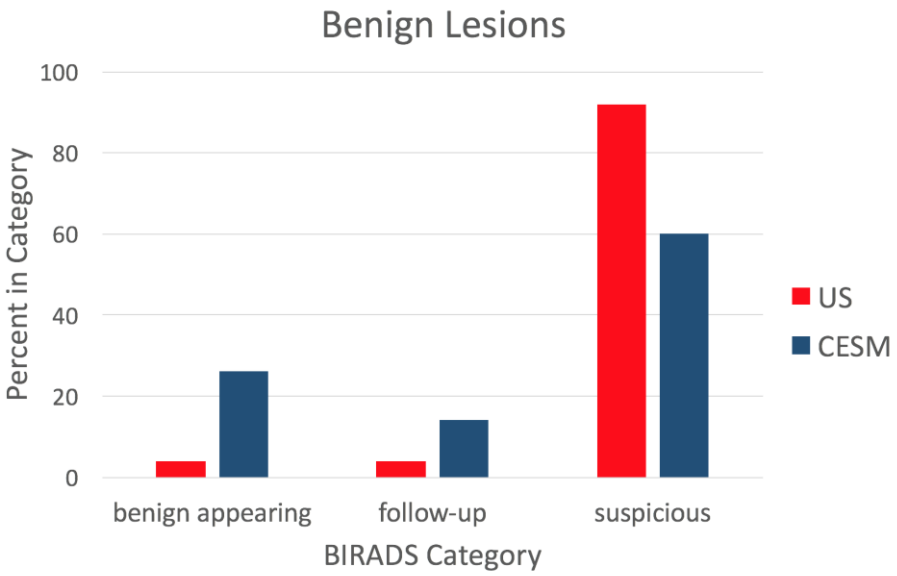
Results – Malignant Biopsies

- In the 37 **malignant** biopsies:
  - None of the malignant biopsies had a benign appearing contrast mammography
  - 1/37 (2.7%) had a Follow-up contrast mammography and Suspicious ultrasound



Results – Benign Biopsies

- In the 50 **benign** biopsies:
  - 46/50 (92%) had a suspicious appearing ultrasound
  - 30/50 (60%) had a suspicious appearing contrast mammography



Results

- Contrast mammography is more sensitive and more specific than ultrasound
- While Suspicious contrast mammography was associated with malignant biopsies ($p<0.0001$, Odds Ratio=24.0)
- Suspicious ultrasound was not ($p=0.985$, Odds Ratio=0.9)

Conclusion

- When the *contrast mammography* shows a BIRADS 0,4,5 we suggest performing ultrasound-guided biopsy
- With *contrast mammography* BIRADS 3 we suggest correlation with *ultrasound*
- If the *contrast mammography* is Benign Appearing (BIRADS 1,2) routine use of *ultrasound* is questionable as it may lead to unnecessary biopsies

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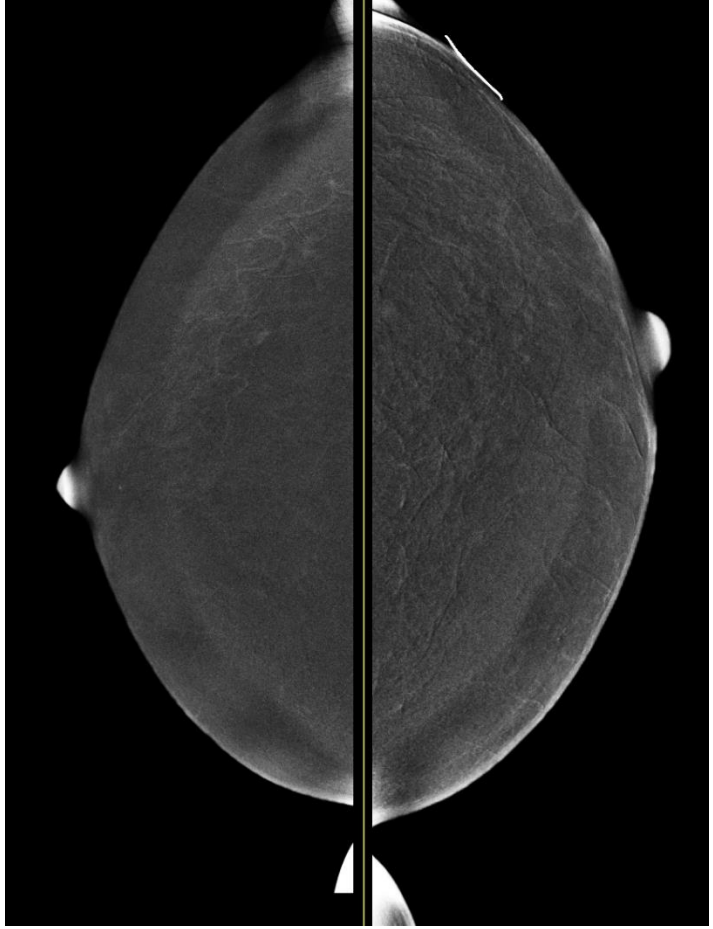
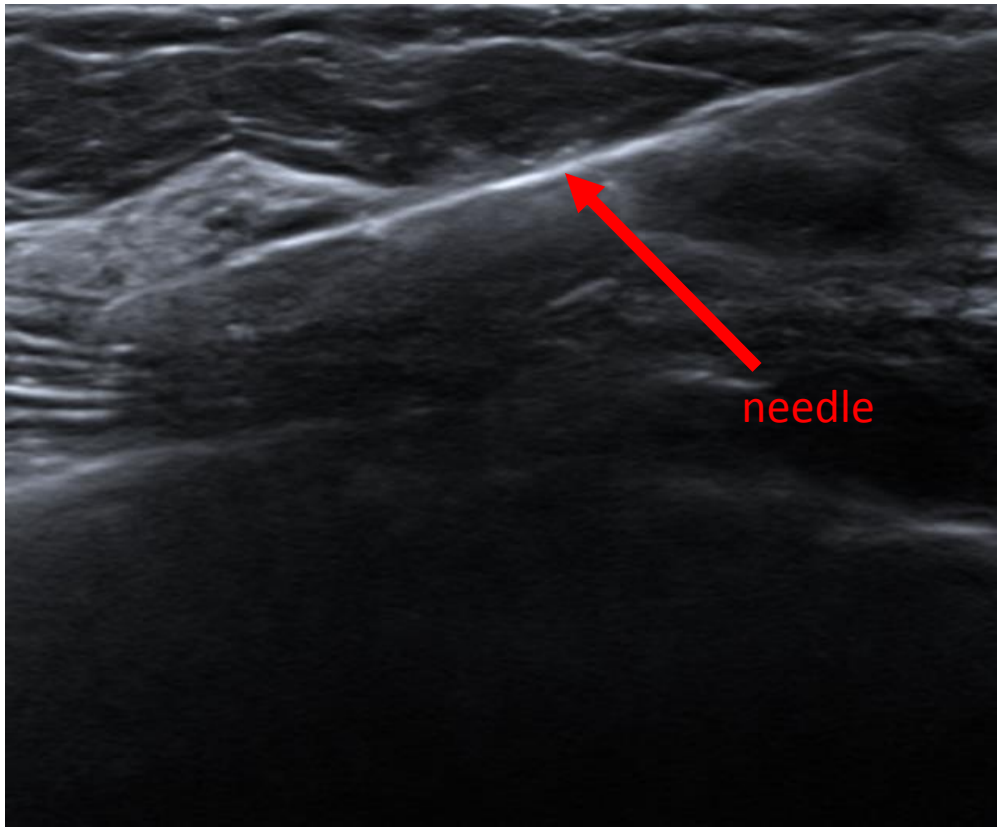


Contrast Mammography
(benign appearing)



Ultrasound-guided breast biopsy

Thank You

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