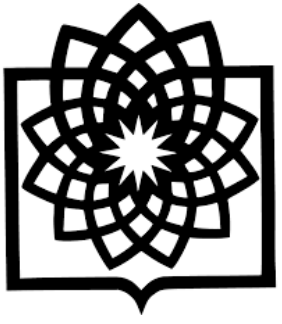




IN THE NAME of GOD



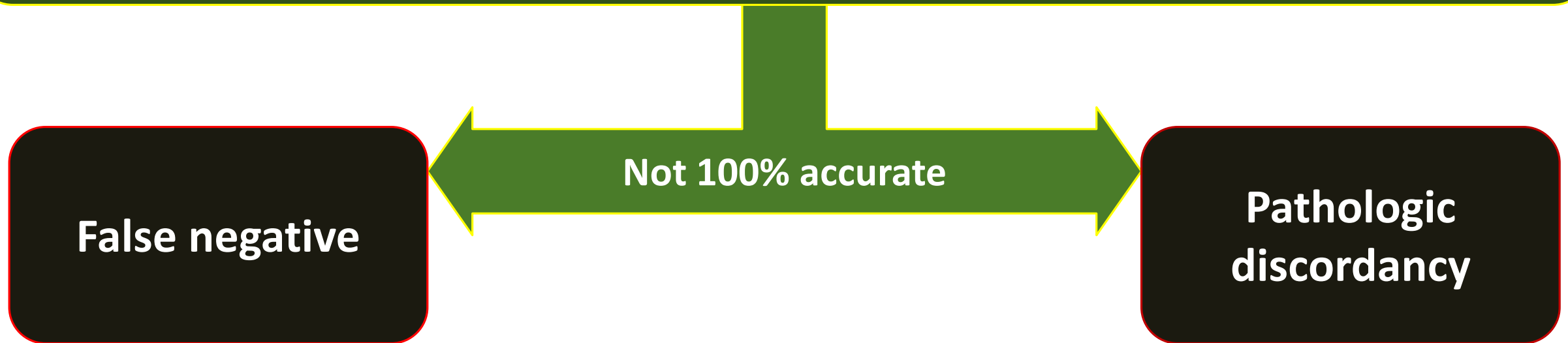
# Radiology pathology correlation

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GOLNAZ IZADI AMOLI

ASSISTANT PROFESSOR OF SHAHID BEHESHTI UNIVERSITY

**Imaging-guided Bx** ➔ **standard tool for breast cancer diagnosis**



Concordance established by "radiologist/breast specialist"  
after review of CNB pathology report & imaging findings  
This may require discussion/review with pathologist

Rad-path correlation

Histopathologic  
results

Malignant

Concordant  
malignant

Discordant  
malignant

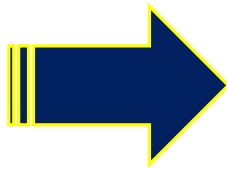
Benign

Concordant  
benign

Discordant  
benign

High risk/  
Borderline

**Radiology-Pathology  
correlation**



**1. Concordant Malignant**

**2. Discordant Malignant**

**3. Concordant Benign**

**4. Discordant Benign**

**5. Borderline / High-Risk**

# Concordant Malignant

---

**BIRADS 4 or 5**



**Referred to surgeon / oncologist for treatment**

# Concordant Malignant



**Specimen :**  
Right breast mass, core needle biopsy

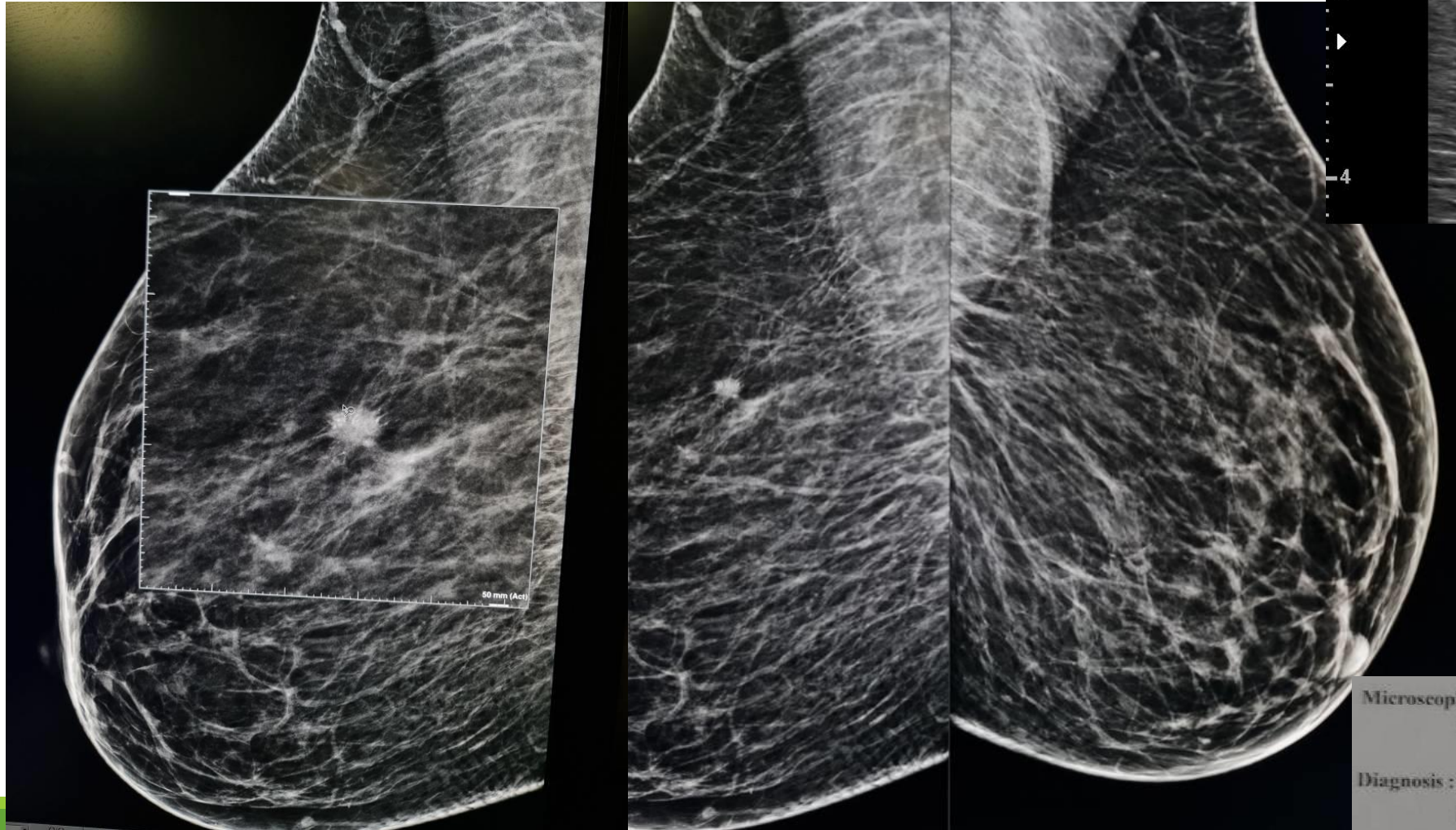
**Macroscopic :**  
Specimen received in formalin consists of multiple cores, tan, yellow in color, totally measuring 5 cm in length and 0.2 cm in diameter.  
Totally submitted in 2 blocks.

**Microscopic :**  
Histologic findings confirm the following diagnosis.

**Diagnosis :**  
Right breast mass, core needle biopsy specimen showing:  
- Findings are consistent with invasive ductal carcinoma, Nos type  
- Nuclear grade II/III



# Concordant Malignant



## Microscopic :

Histologic findings confirm the following diagnosis.

## Diagnosis :

Right breast mass, core needle biopsy specimen showing:  
- Findings are consistent with invasive ductal carcinoma,  
- Nuclear grade II/III

# Discordant Malignant

**BIRADS 2 or 3**

Well-circumscribed masses



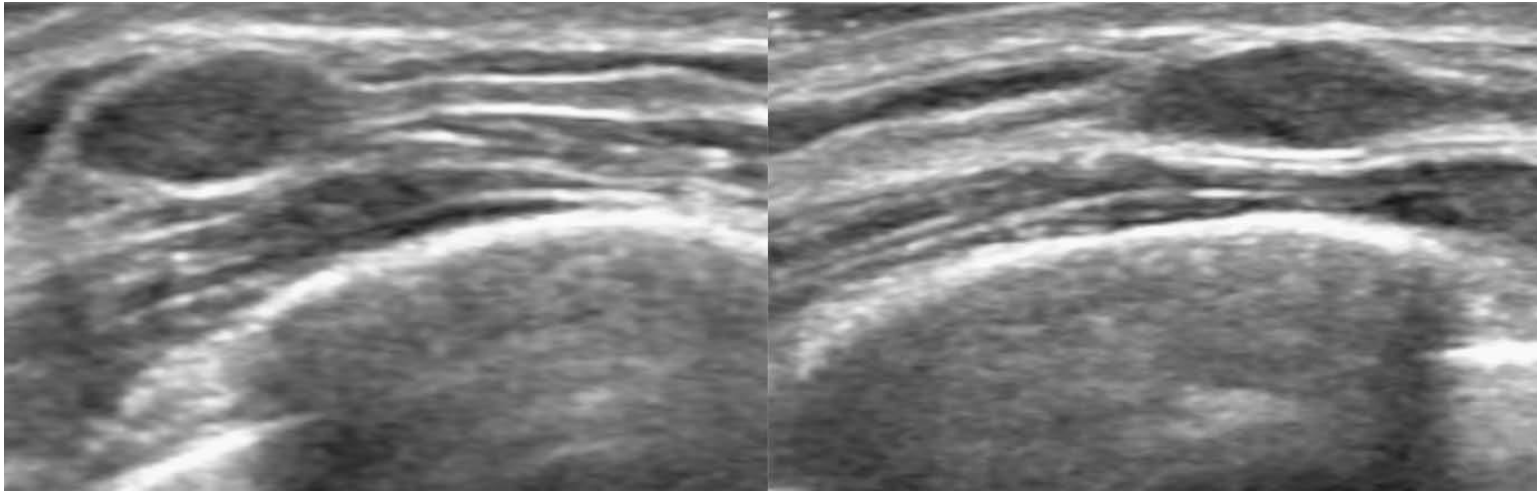
**Review histopathologic result & confirm diagnosis**

**Review imaging (subtle suspicious feature)**

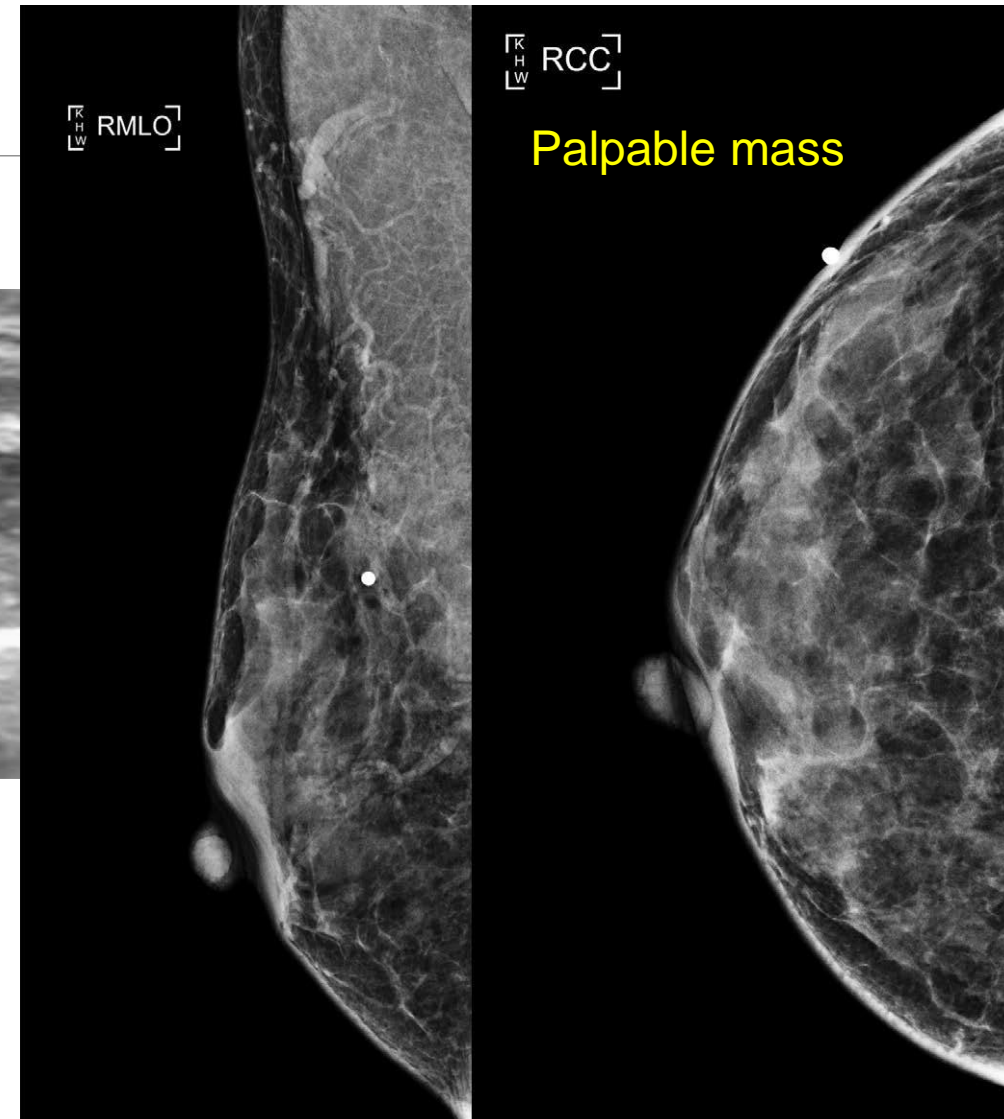
**Management identical to concordant malignancy, without any delay**



## Discordant Malignant



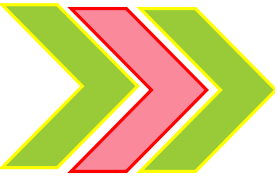
**Invasive carcinoma with micropapillary features**



# Concordant Benign

**BIRADS 2, 3, or 4A**

**F/U interval according to institution**



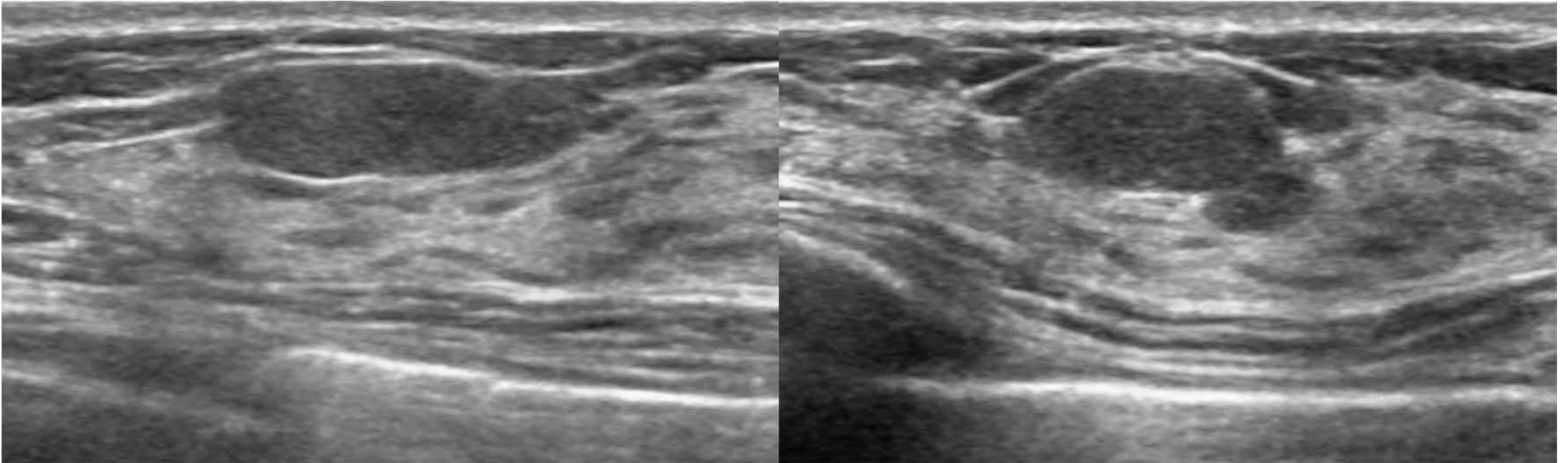
**Benign pathology is  
concordant with imaging  
findings**

**Screening  
or  
Physical examination and/or  
imaging at 6 or 12 mo for up to  
1 y to assess for changes**

NCCN Guidelines Version 1.2023  
Breast Cancer Screening and Diagnosis

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## Concordant Benign



**Bx: fibroadenoma**

# Discordant Benign

## BIRADS 4 or 5

### Benign lesions with spiculation :

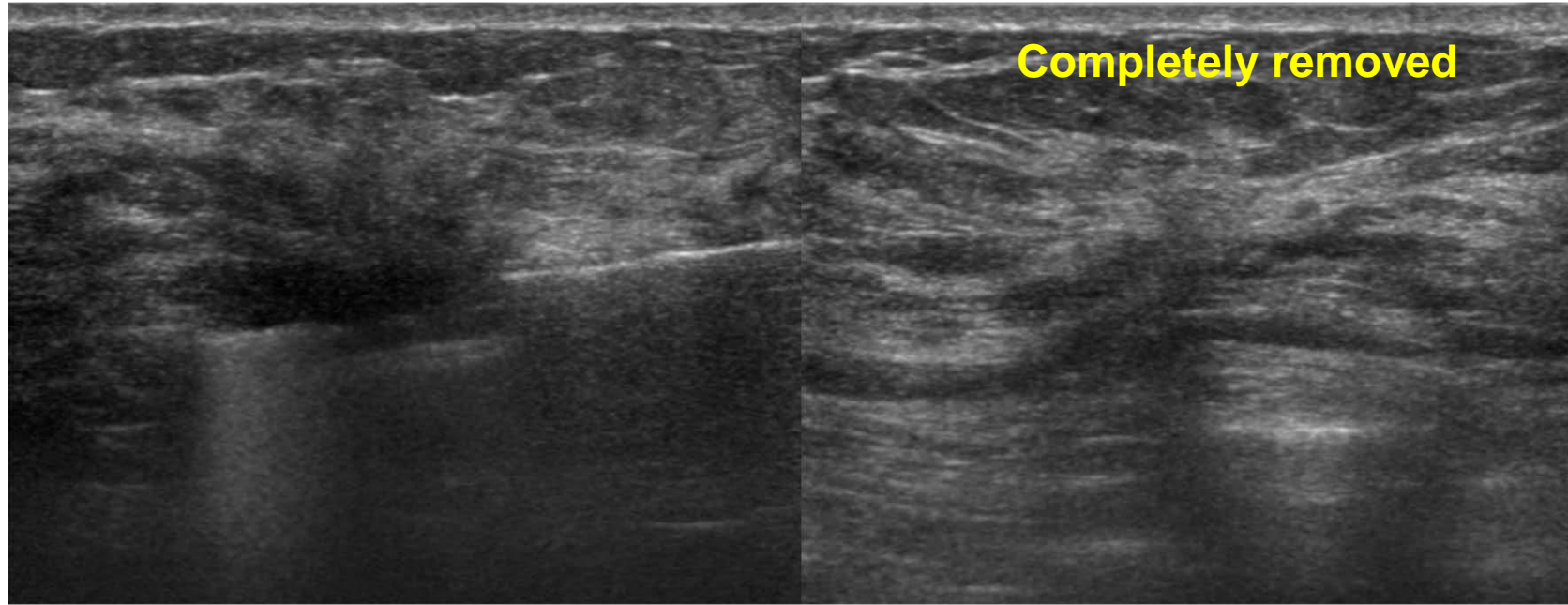
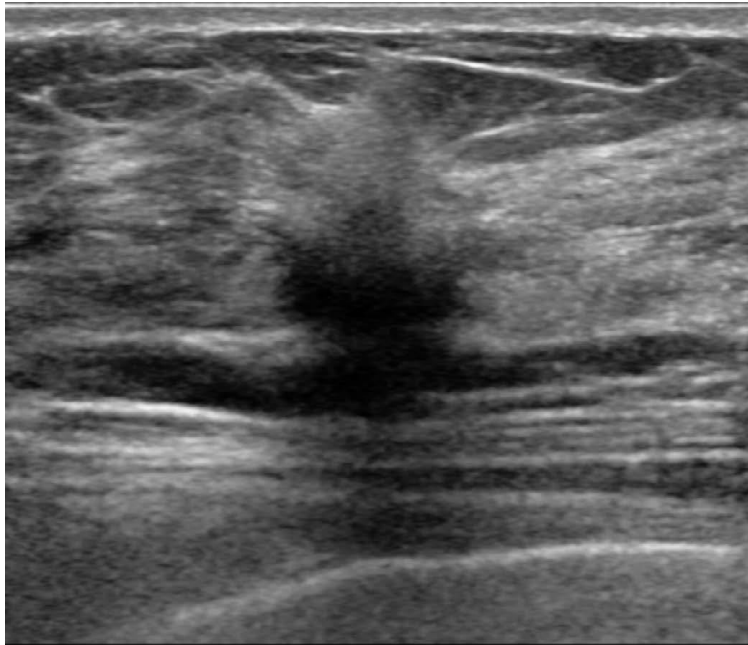
- Granular cell tumor, postsurgical scar, fat necrosis
- Mastitis, diabetic mastopathy, sarcoidosis, , sclerosing adenosis



**Best biopsy method** chosen through communication between radiologist, pathologist, referring physician & patient

US-guided VABB could be an alternative to surgery

## Discordant Benign



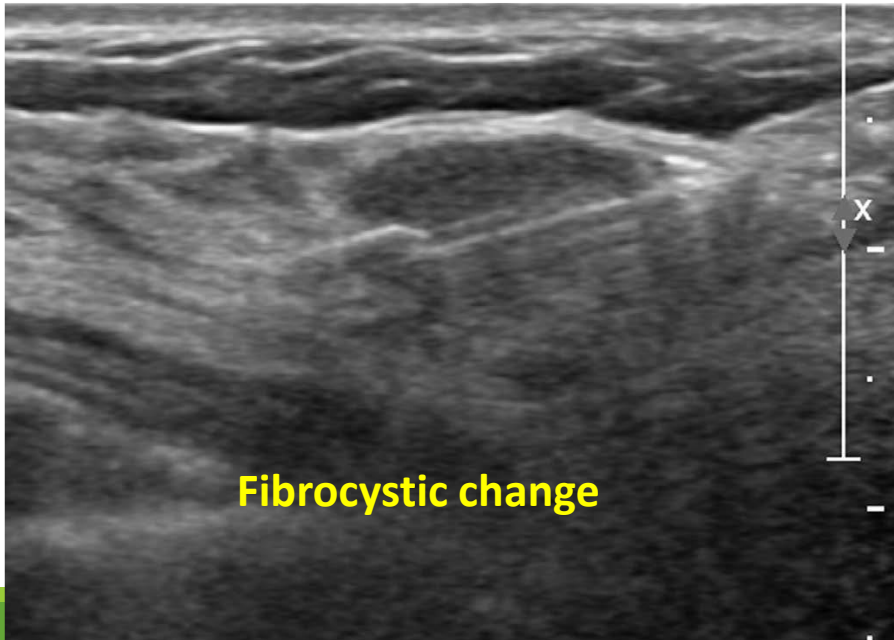
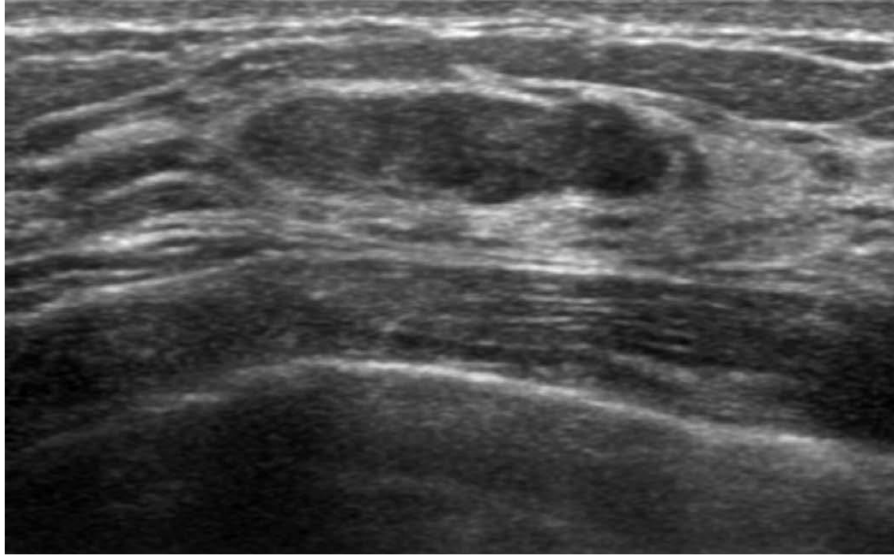
**B4C → US CNB fibroadenoma with sclerosing adenosis**

**In VABB → Sclerosing adenosis, no newly developed lesions over a F/U of more than 2y**



## Discordant Benign

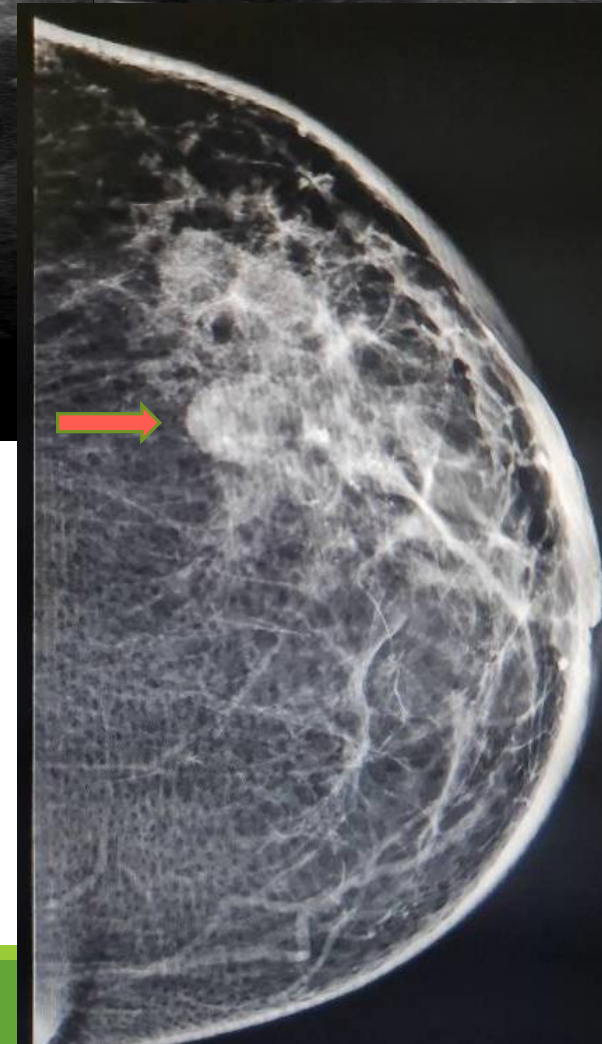
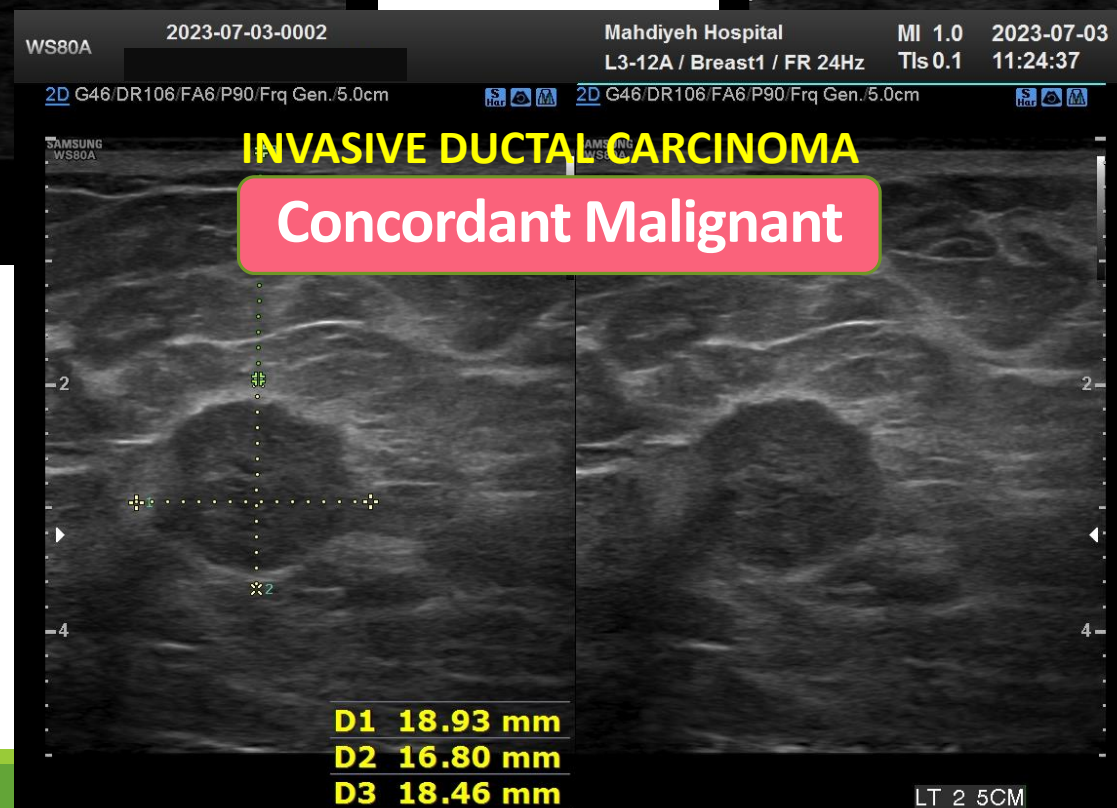
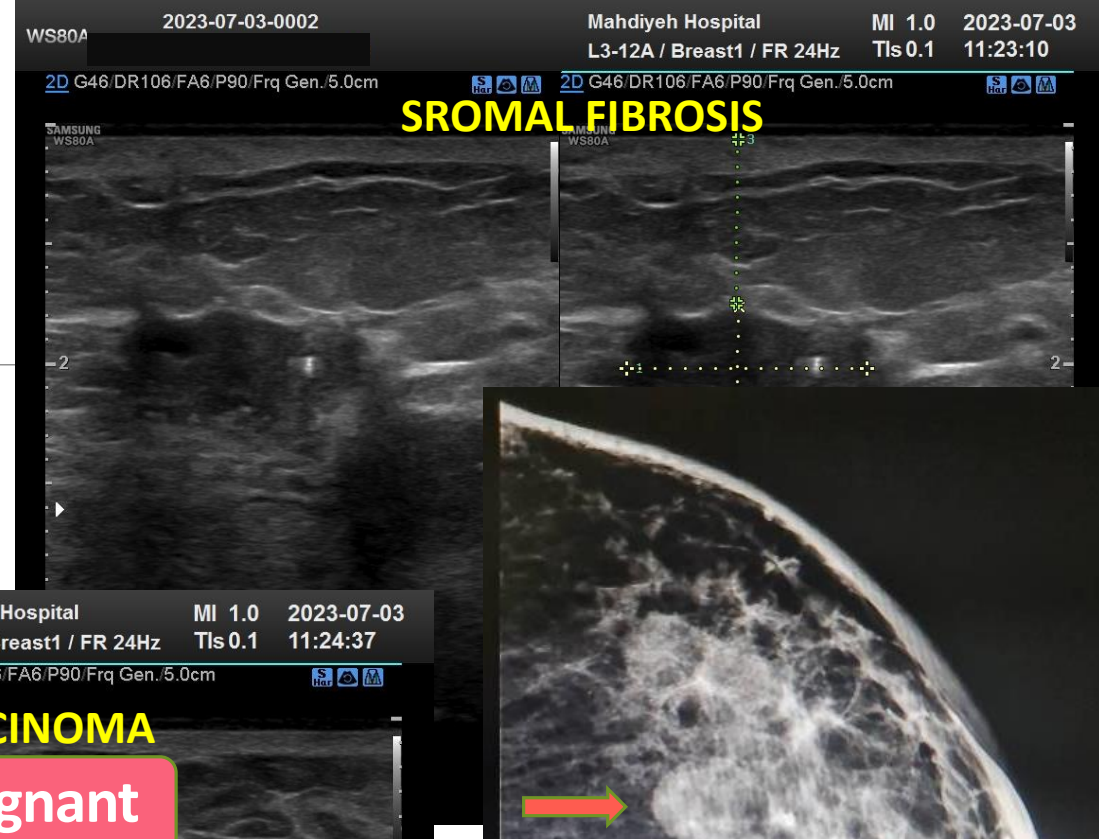
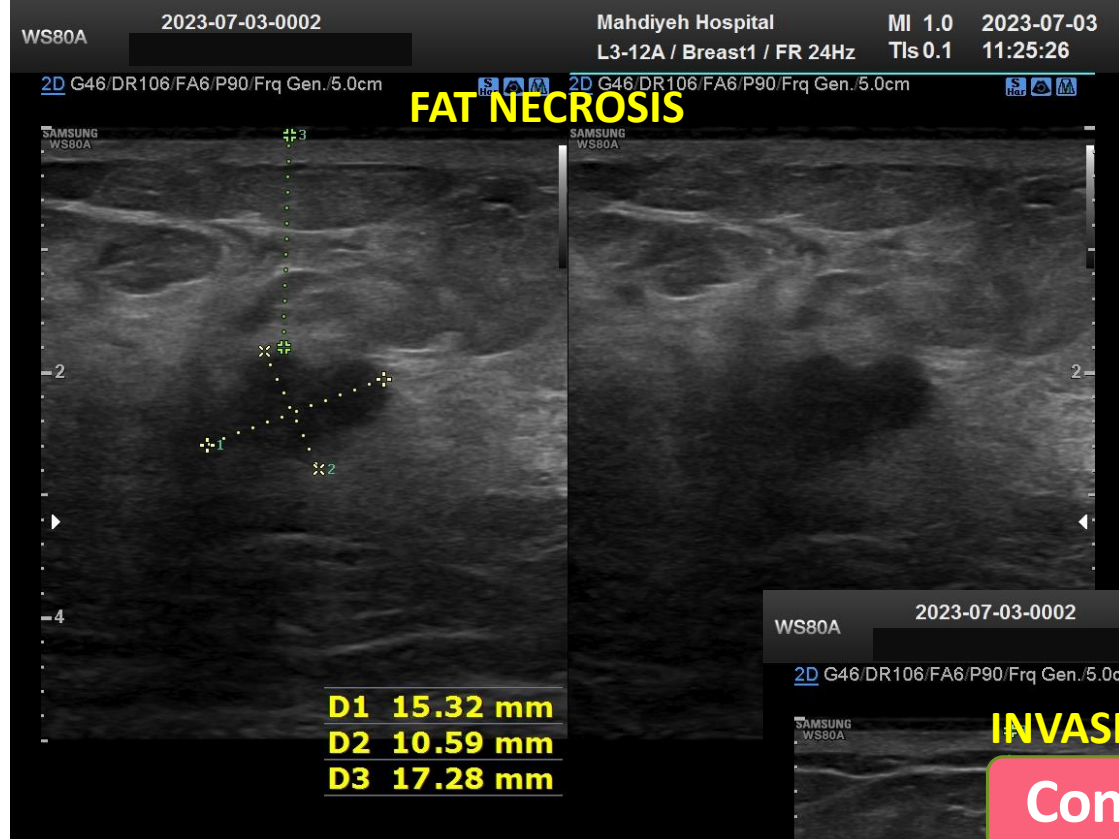
Benign nonspecific results may be considered discordant if obtained from a discrete solid mass even if the lesion was initially thought to be benign (BIRADS category 2, 3, or 4a)

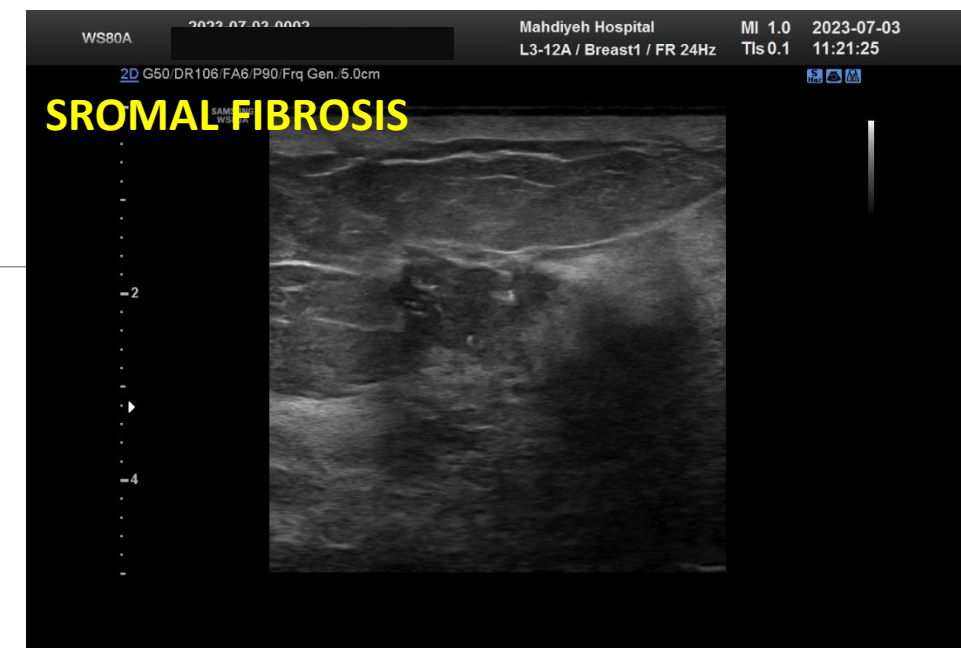


3y later







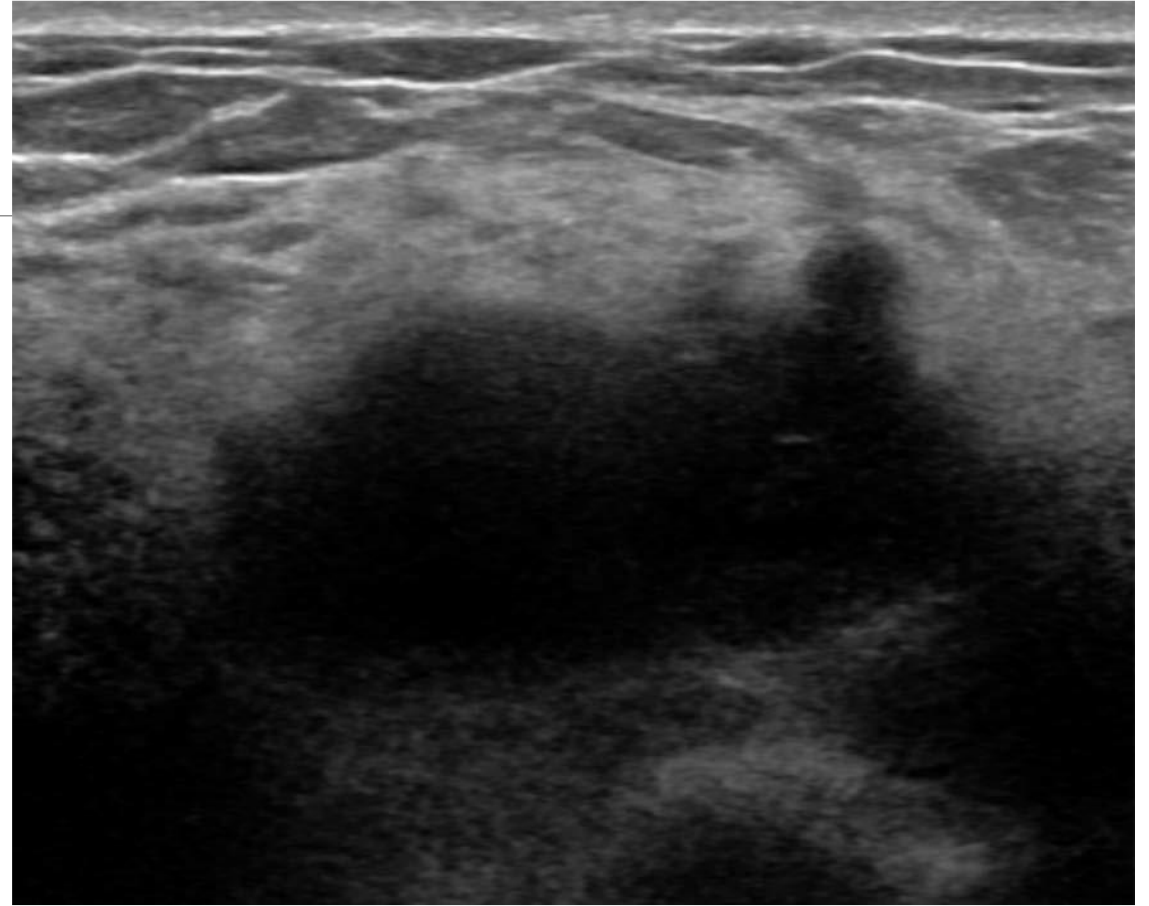
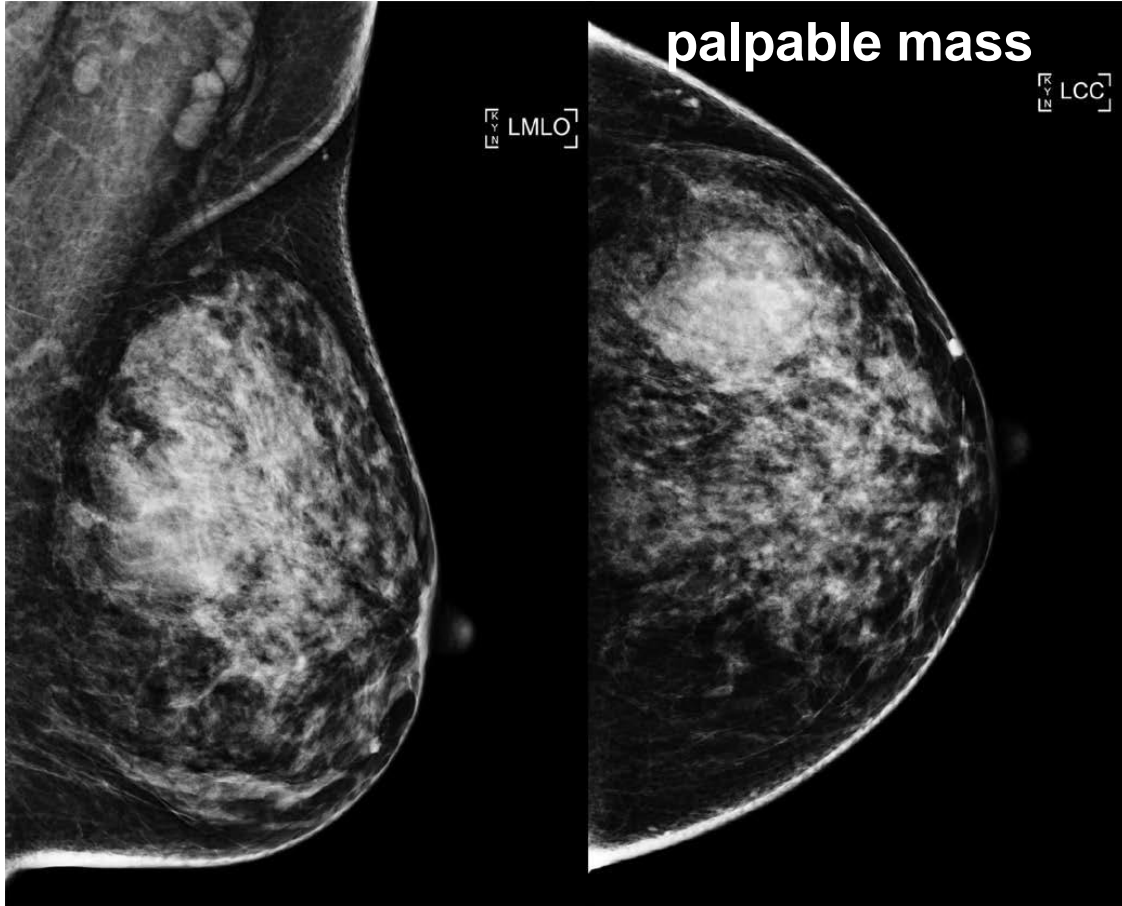


**Diagnosis :**

- A) Breast biopsy (Lateral border of suture):
  - Fat necrosis
  - Chronic and acute inflammation and foamy macrophages infiltration
- B) Designated as breast mass 2 core needle biopsy
  - Stromal fibrosis
  - Cystic apocrine metaplasia
- C) Breast mass 3 o'clock :
  - finding are in favor of invasive ductal carcinoma with mucinous feature
  - nuclear grade II/III
- D) Left Axillary lymph node core needle biopsy :



## Discordant Benign



First Bx: fibrocystic change

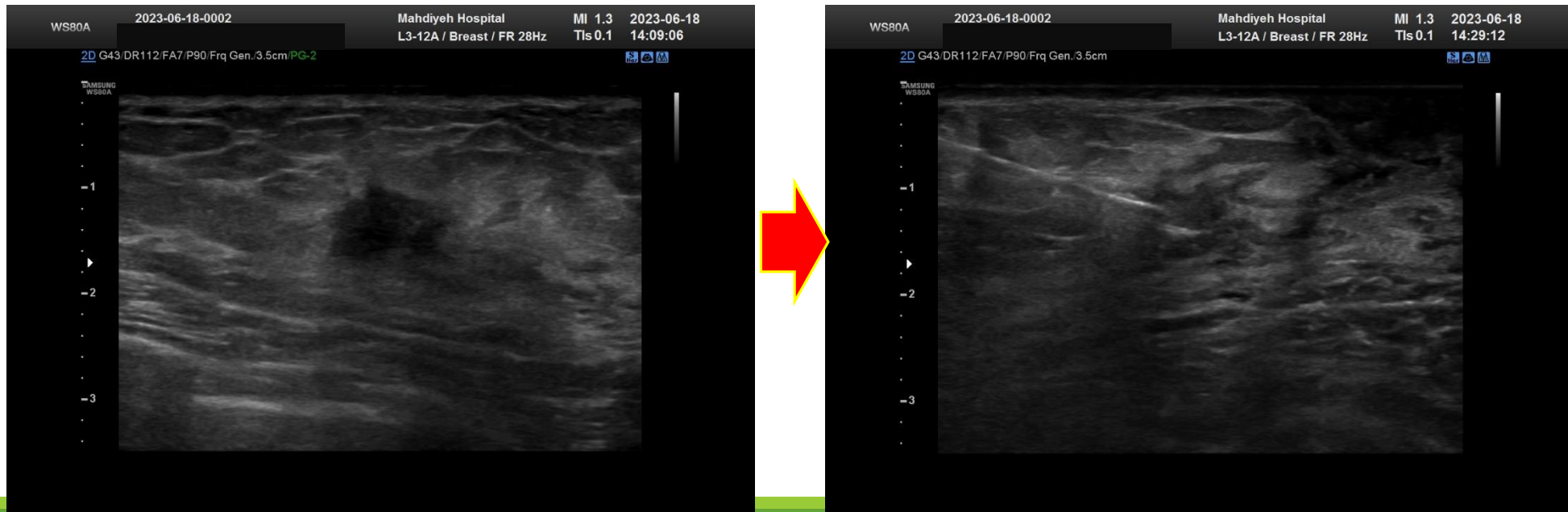
error

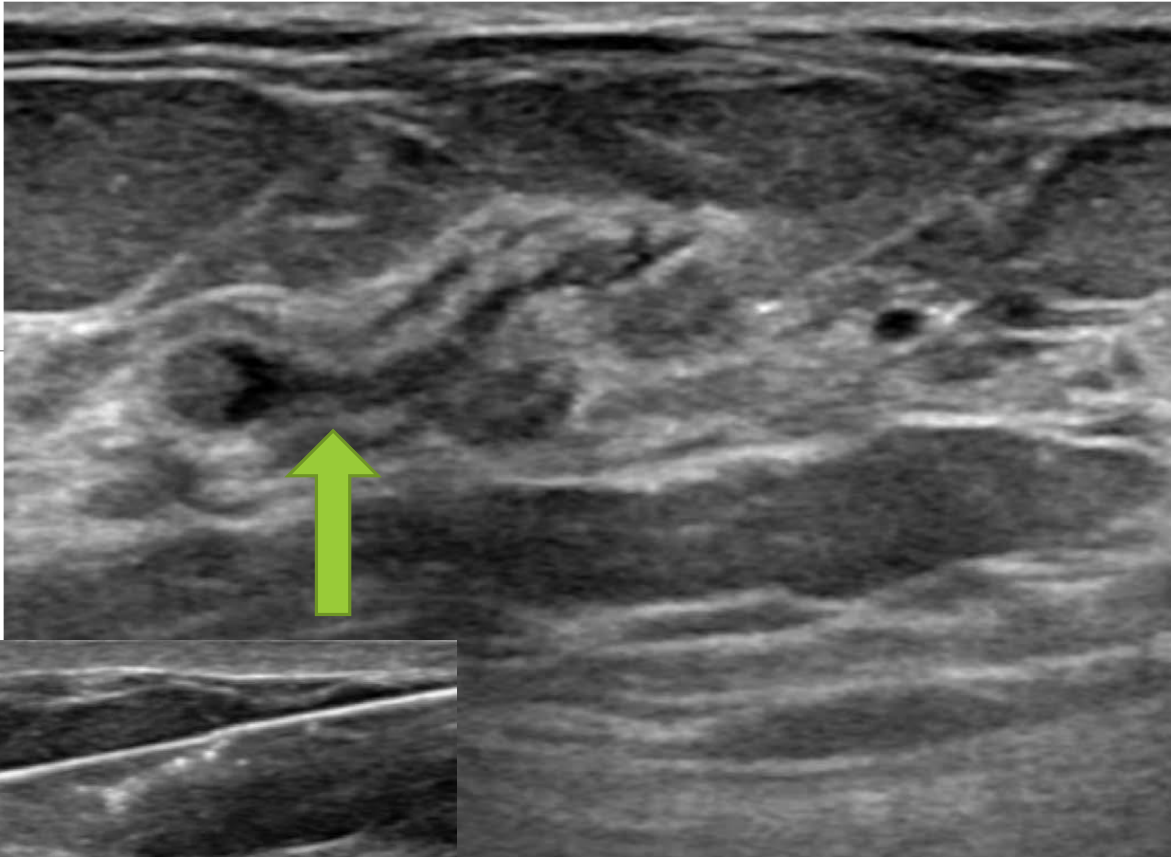
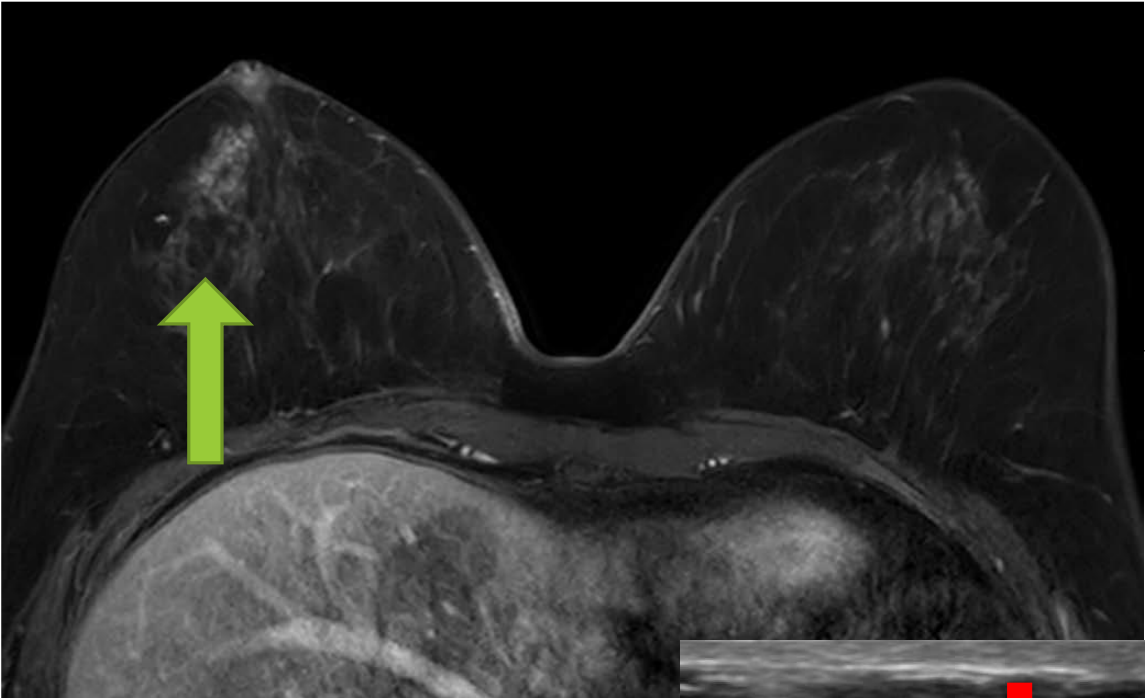
Repeat US CNB: invasive ductal carcinoma

# Aspect to consider for better US guided breast Bx

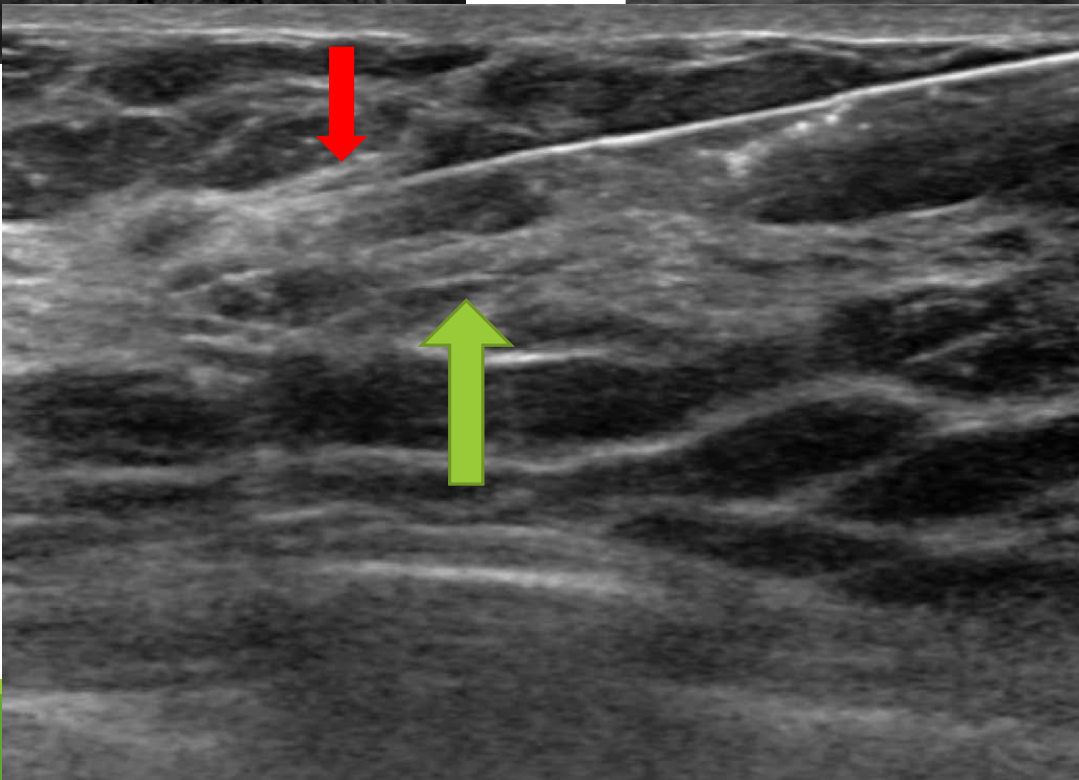
## 1. Adequate targeting

Entire length of the needle passing through the lesion





**Adequate targeting**

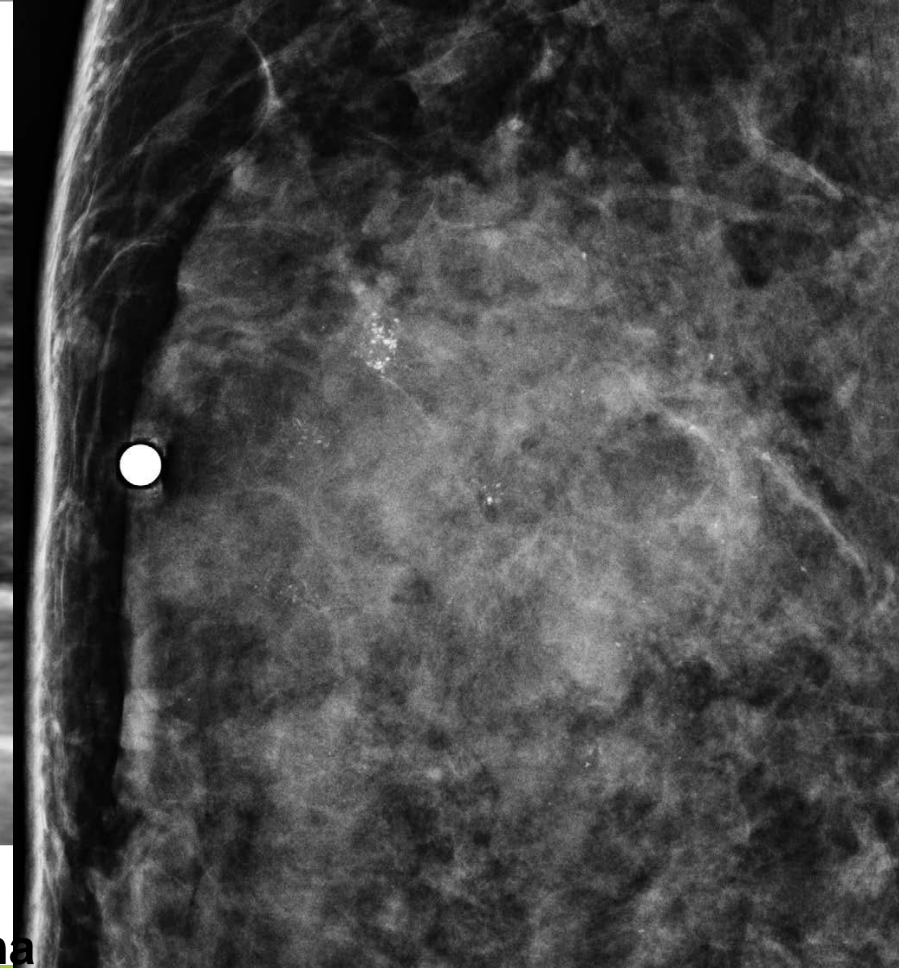
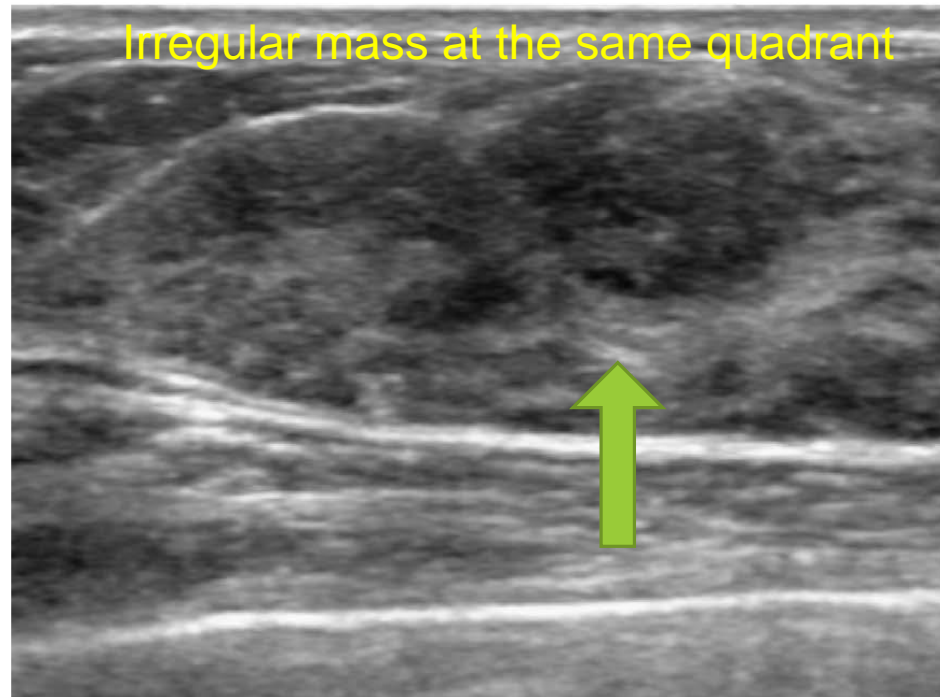
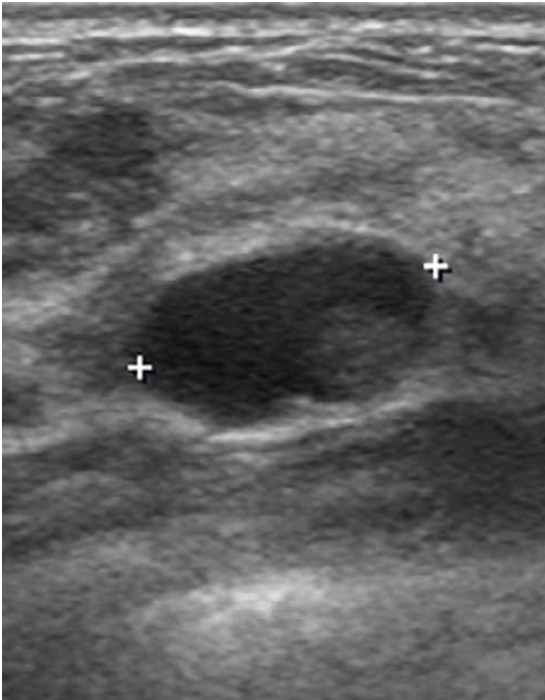


**CNB: fibroadipose tissue**  
**Surgery: intraductal papilloma**



# Aspect to consider for us guided breast bx

## 2. Adequate sampling

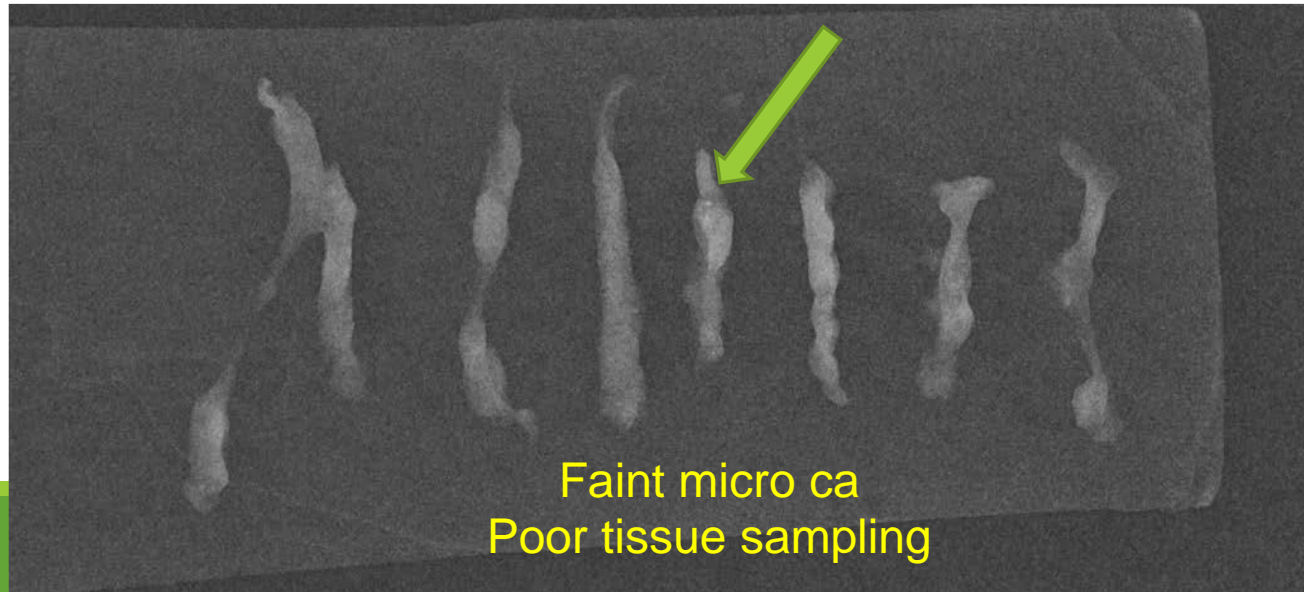
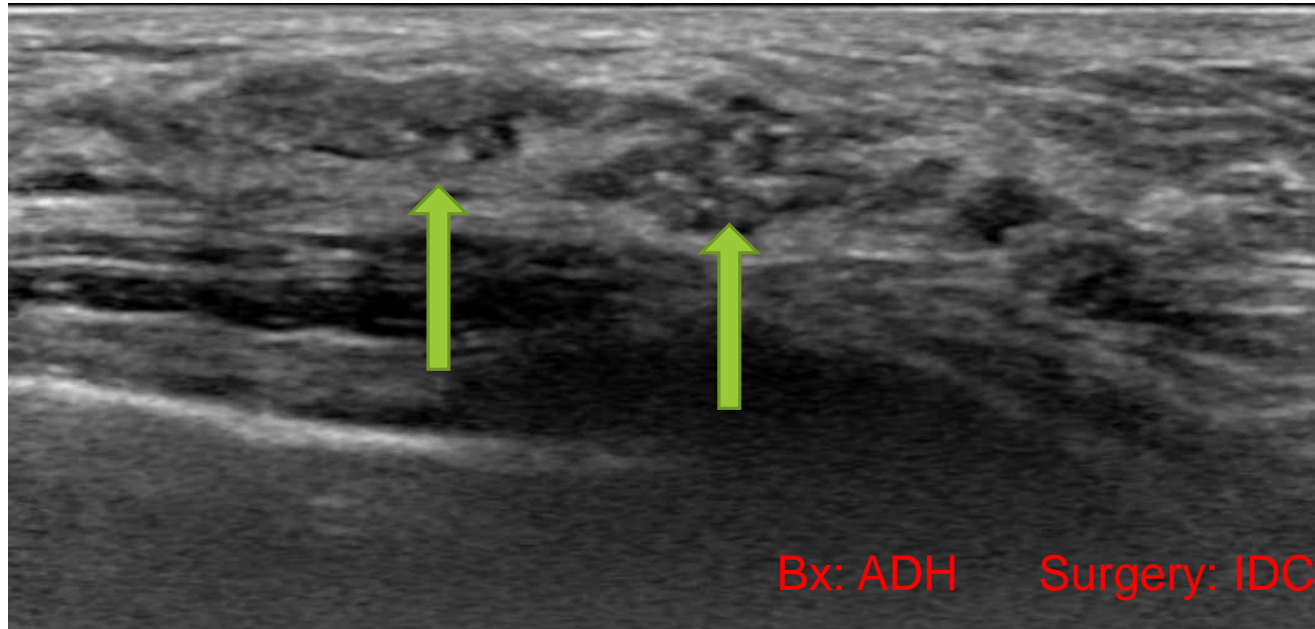


First Bx: intraductal papilloma

Second Bx: DCIS  
Surgery: invasive ductal carcinoma



# Adequate sampling



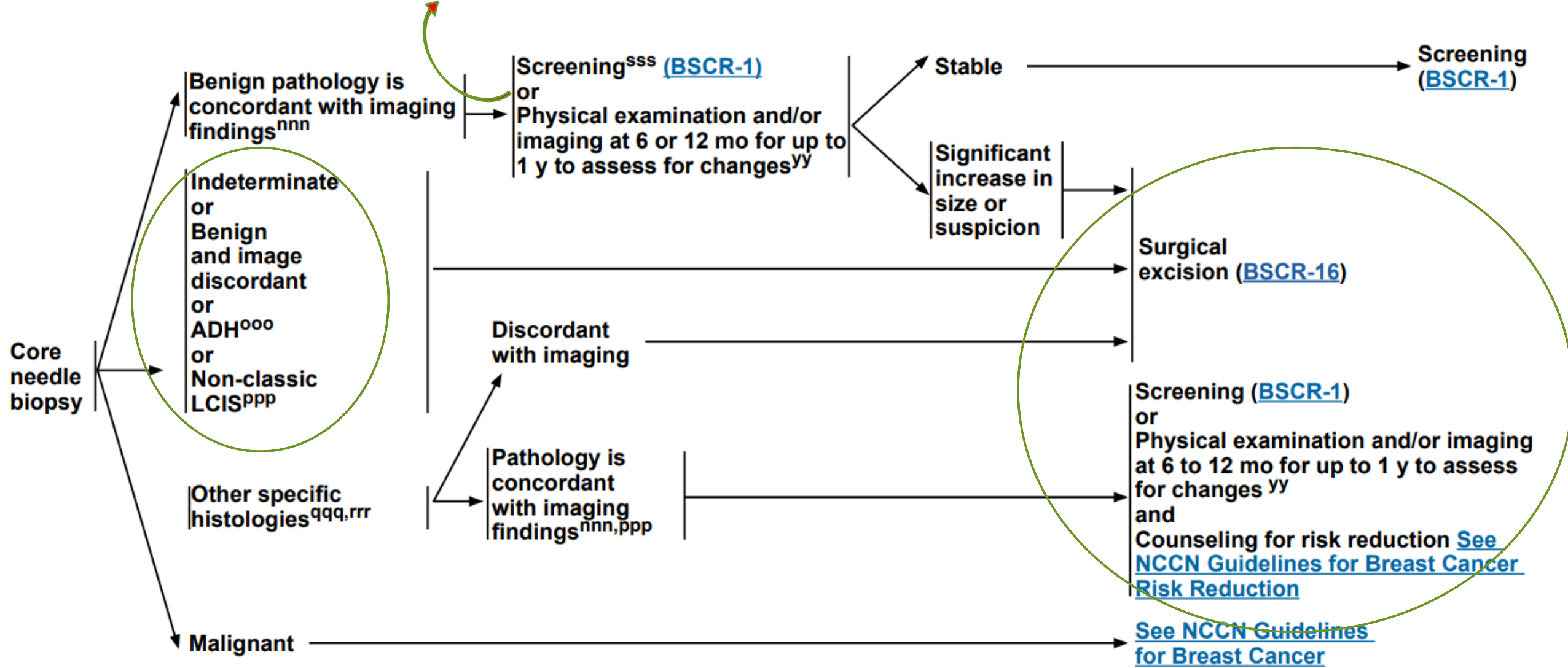
## Borderline or High-Risk

ADH, lobular neoplasia(ALH, LCIS), radial scar, papillary lesions, possible phyllodes tumors  
Flat epithelial atypia, fibroepithelial lesions, columnar cell lesion, spindle cell lesion.....



**Multidisciplinary team**  
**Personalized management recommendations**

yy There may be variability on the follow-up interval of physical examination based on the level of suspicion.



**1-Familiar with BIRADS classification**



**2-Correctly performed procedure**



**3-Radiologic pathologic correlation**



**4-Multidisciplinary approach**

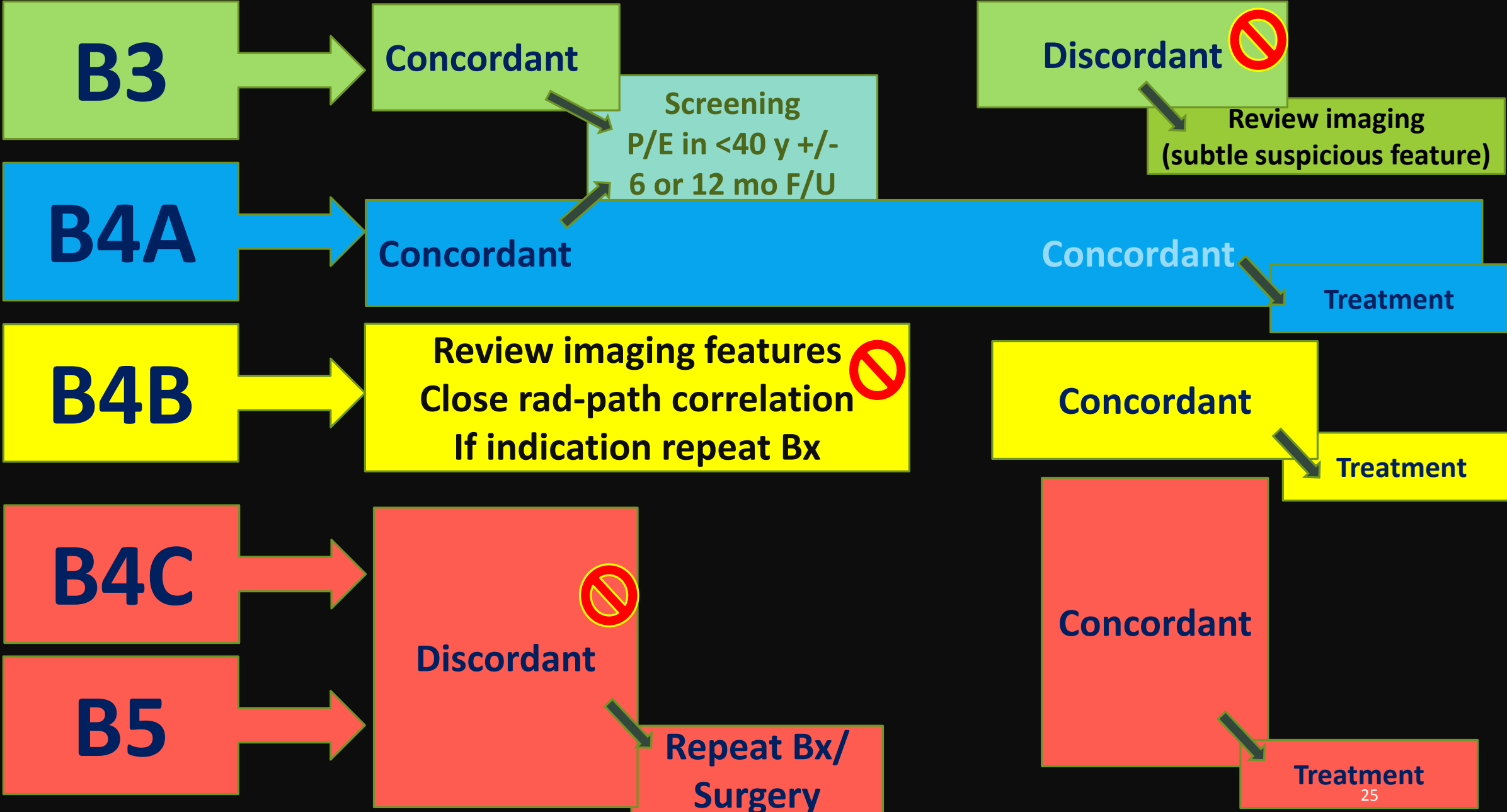


Histopathology results:

Benign

Malignant

Radiology BIRADS





# Evaluating imaging-pathology concordance and discordance after ultrasound-guided breast biopsy

Vivian Youngjean Park, Eun-Kyung Kim, Hee Jung Moon, Jung Hyun Yoon, Min Jung Kim

Department of Radiology and Research Institute of Radiological Science, Severance Hospital, Yonsei University College of Medicine, Seoul, Korea

## ULTRA SONO GRAPHY

### REVIEW ARTICLE

<https://doi.org/10.14366/usg.17049>  
pISSN: 2288-5919 • eISSN: 2288-5943  
Ultrasonography 2018;37:107-120

DOI: 10.32768/abc.20229132-39

## Avoidable and Unavoidable Repeat Breast Core Needle Biopsies

Xiaoqin Wang<sup>a,b</sup>, Fara Shikoh<sup>a,b</sup>, Aurela Clark<sup>a,b</sup>, Mauro Hanaoka<sup>a\*</sup>

<sup>a</sup>Department of Radiology, University of Kentucky, Lexington, Kentucky USA

<sup>b</sup>Markey Cancer Center, University of Kentucky, Lexington, Kentucky USA

### ARTICLE INFO

### ABSTRACT



Archives Of  
**Breast**  
Cancer

DOI: 10.32768/abc.202294465-473

## Imaging and Pathological Correlation in Spectrum of Fibrocystic Breast Disease and its Mimics – our Experience

Bhawna Dev<sup>a\*</sup>, Udaya Vakamudi<sup>a</sup>, Lasya Thambidurai<sup>a</sup>, Leena Dennis Joseph<sup>a</sup>, JaiPrakash Srinivasan<sup>a</sup>

<sup>a</sup>Department of Radiology Sri Ramachandra Institute of Higher Education & Research, Porur Chennai, India

### ARTICLE INFO

### ABSTRACT

Received:  
24 August 2022  
Revised:

**Background:** Fibrocystic change (FCC) of the breast is one of the most common benign breast diseases commonly observed between 20-50 years, with a peak in

# NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) Breast Cancer Screening and Diagnosis

Version 1.2023 — June 19, 2023

NCCN.org

Cam and Sakura Med J 2022;2(2):70-74

CSMJ

## Ultrasound-guided Breast Biopsy: Evaluation of the Correlation Between Radiologic and Histopathologic Findings

Handan Eren<sup>1</sup>, Tuçe Soylemez Akkurt<sup>1</sup>, Hazal Izol Ozmen<sup>1</sup>, Mehmet Ali Nazli<sup>2</sup>, Ebru Sen<sup>3</sup>, Soykan Arıkan<sup>3</sup>, Burcin Pehlivanoglu<sup>4</sup>

<sup>1</sup>University of Health Sciences Turkey, Başakşehir Çam and Sakura City Hospital, Department of Pathology, Istanbul, Turkey

<sup>2</sup>University of Health Sciences Turkey, Başakşehir Çam and Sakura City Hospital, Department of Radiology, Istanbul, Turkey

<sup>3</sup>University of Health Sciences Turkey, Başakşehir Çam and Sakura City Hospital, Department of General Surgery, Istanbul, Turkey

<sup>4</sup>Dokuz Eylül University Hospital, Department of Pathology, Izmir, Turkey

### ORIGINAL ARTICLE – CANCER RESEARCH

## Discrepancies between radiological and histological findings in preoperative core needle (CNB) and vacuum-assisted (VAB) breast biopsies

Inna Jörg<sup>1,5</sup>, Jann Wieler<sup>2</sup>, Constanze Elfgen<sup>3,4</sup>, Kristina Bolten<sup>5</sup>, Claudia Hutzli<sup>6</sup>, Julia Talimi<sup>7,8</sup>, Denise Vorburger<sup>7,8</sup>, Matthias Choschick<sup>9</sup>, Linda Moskovszky<sup>9</sup>, Konstantin Dedes<sup>7,8</sup>, Zsuzsanna Varga<sup>8,9</sup>

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# THANK YOU