In the Name of God

Breast Lumps in Pregnancy and Lactation

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Case 1

- ★ 22 y old woman, G1
  - ✦ 32 w pregnant
    - ▲ Mass in LB
    - ▲ Questions?
      - ⅄ FH –
      - ⅄ Previous round mobile mass in RB
      - ⅄ Newly enlarged
      - ⅄ mobile, non-tender
- ★ Plans?

Case 1, 22 y, 32 w, newly enlarged mobile non-tender mass

★ US: 2.3 cm, solid, round, circumscribed, typical of FA

✦Next plan?

Case 2

- ★ 33 y old, G2L1
  - ✦12 w pregnant
    - ⮝mass in UOQ of LB
- ★ Questions?
  - ✦Firm, fixed mass
    - ⮝Around 2 cm
      - ⮝One firm fixed axillary LAP
- ★ Plans?

Case 2, 33 y, 12w, 2 cm fix mass, fix LAP

- ★ US: ٢١mm, solid, irregular border
  - ✦Suspicious axillary LAP
    - ▲BIRADS ٥
- ★ Mammography?
  - ✦Spiculated mass in LB
  - ✦Suspicious microcalcification in RB
- ★ Next plan?

For breast lumps in pregnant or BF women

Three major concerns

Appropriate diagnostic steps?

-Accuracy

-No harm to mother and fetus

What are the most probable diagnoses?

-Any difference with women in general?

How to treat?

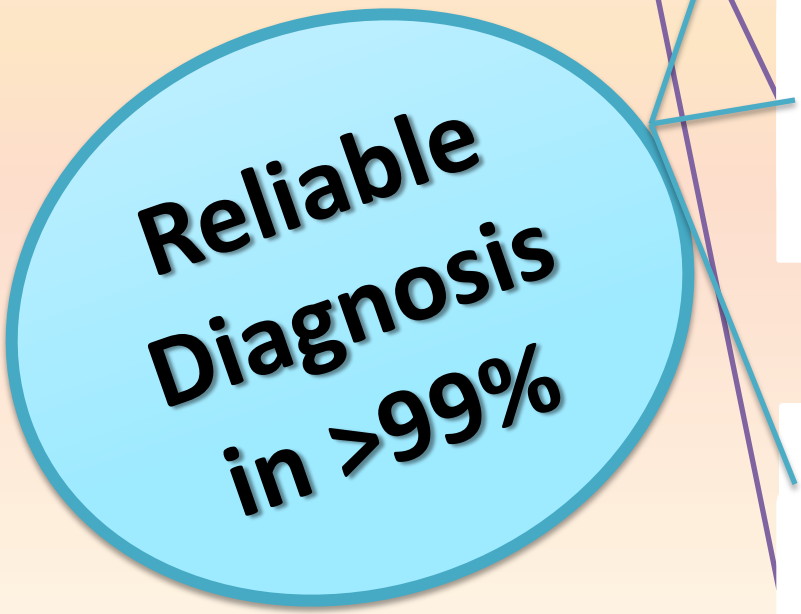
-No harm to mother and fetus

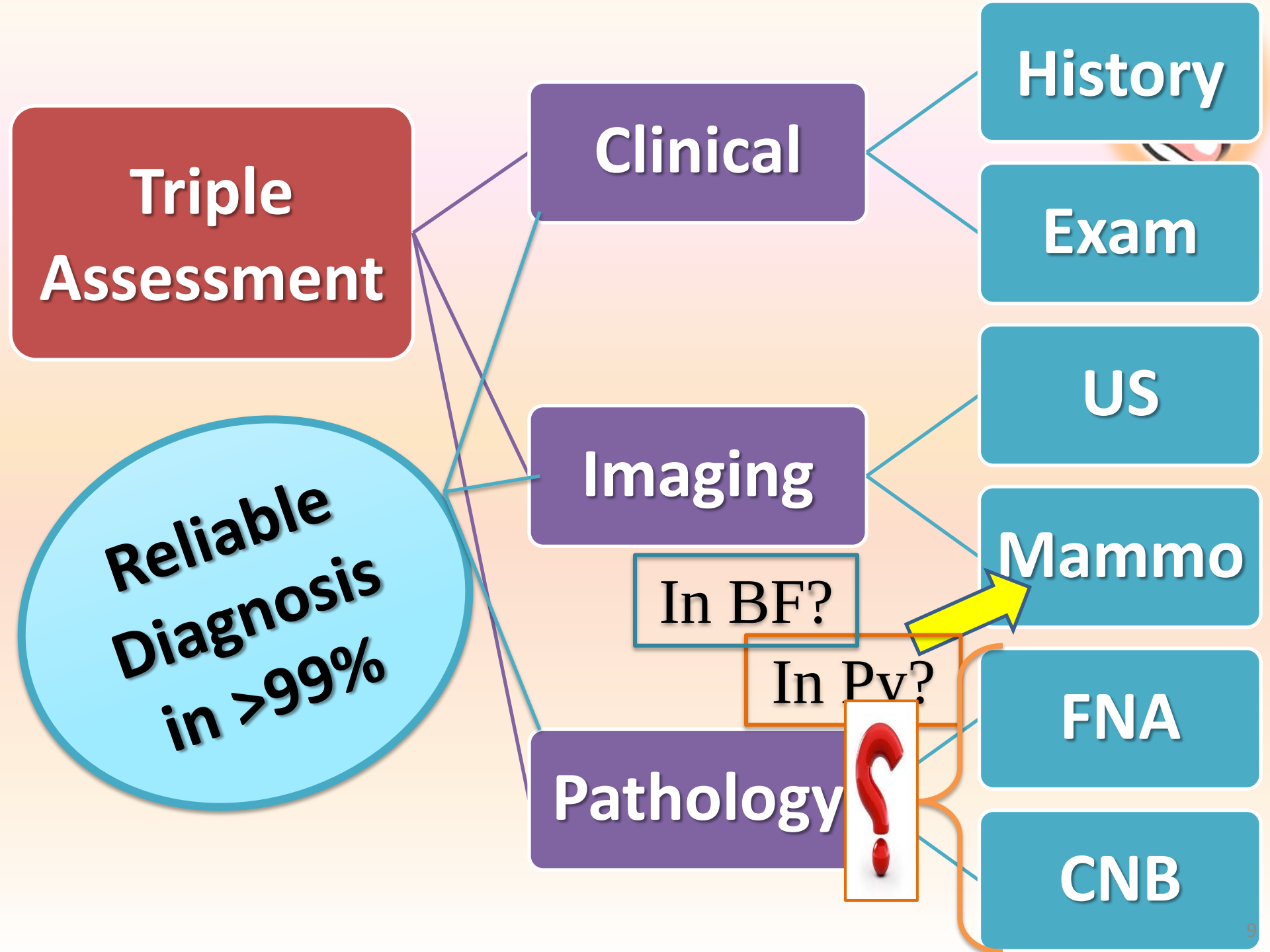
Triple Assessment

In general women, how do we approach a mass in the breast?

Appropriate diagnostic steps?

Triple Assessment




Triple Assessment
Clinical
History
Exam
Imaging
US
Mammo
In BF?
In Py?
Pathology
FNA
CNB
Reliable Diagnosis in >99%

What are the important points in *self-history*?

★ New in Py/BF?

★ Increase in size in Py/BF?

★ Associated symptoms?

✦Nipple discharge?...bloody?

May be physiologic in Py

If no clinical or paraclinical finding

When with mass: considered pathologic

What are the important points in the *past/family history*?

- ★ History of
  - ✦Breast/Ovarian/Other cancer
  - ✦Chest radiation therapy
- ★ Family history of
  - ✦breast or ovarian cancer

In examination: On which points should we focus in ***inspection*** ?

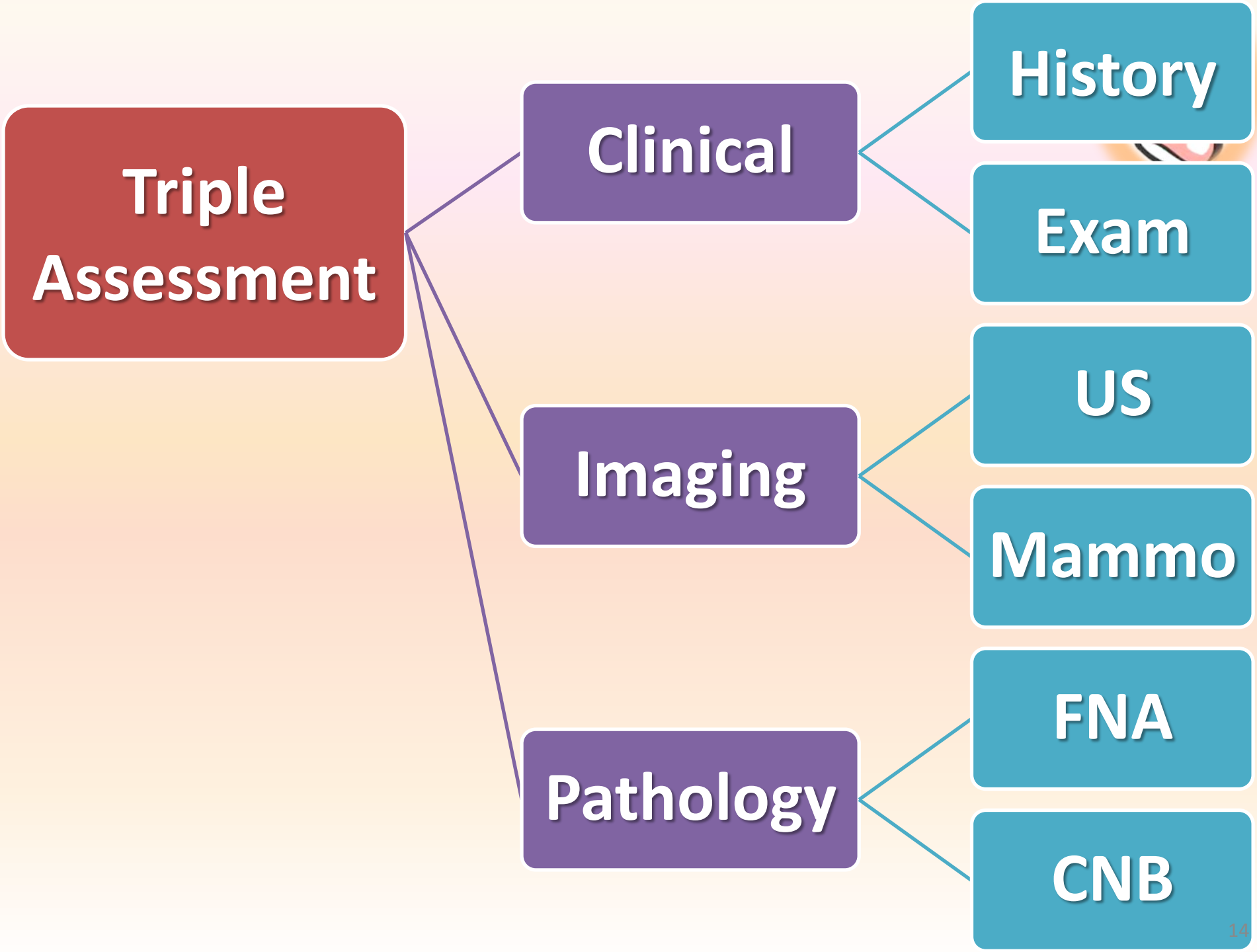
- ★ Retraction over the mass
- ★ Retraction of nipple
- ★ Skin changes
  - ✦Erythema
  - ✦Edema
  - ✦Dimpling

#May be physiologic in Py
-If no clinical or paraclinical finding

In exam: On which points should we focus in *palpation*?

- ★ Size/border/mobility/consistency
- ★ Tenderness — Frequent in Py
- ★ Nipple retraction or excoriation
- ★ Pathologic nipple discharge

- May be physiologic in Py
- When with mass: considered pathologic


Triple Assessment
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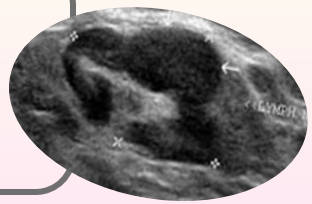
Ultrasonography



★First-line imaging in Py/BF

✦Due to safety, and useful information

- When doctor is uncertain: US can confirm there is no lump, just NL breast tissue
  - Diagnoses simple cystic lesions
  - Investigates solid and atypical cystic lesions
    - Gives precise description and Bi-Rads classification

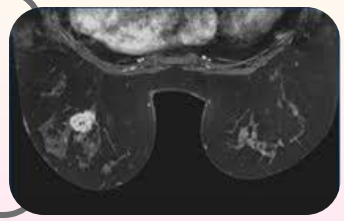
Adriana Langer, Breast Diseases in Pregnancy and Lactation

Mammography

- ★Not performed when unnecessary
- ★But done if persistent doubt after US
  - ✦often helpful and not dangerous
    - ▲If BC detected in CNB in Py/BF, bilateral mammo is necessary

Adriana Langer, Breast Diseases in Pregnancy and Lactation

MRI in Py



★Gadolinium must be avoided

✦enters fetal blood, although adverse effects reported only in animal studies

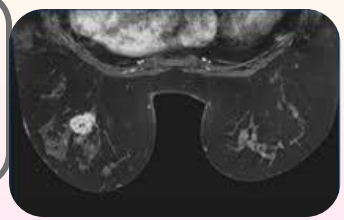
✦Heating can affect cell migration in T1

✦Noise may harm fetal hearing (~24 w)

★MRI without Gad. may be OK, but not helpful

▲New studies about MRI without Gad A. Langer

MRI in BF



★Can be performed during BF

✦Main indication: diagnosed BC

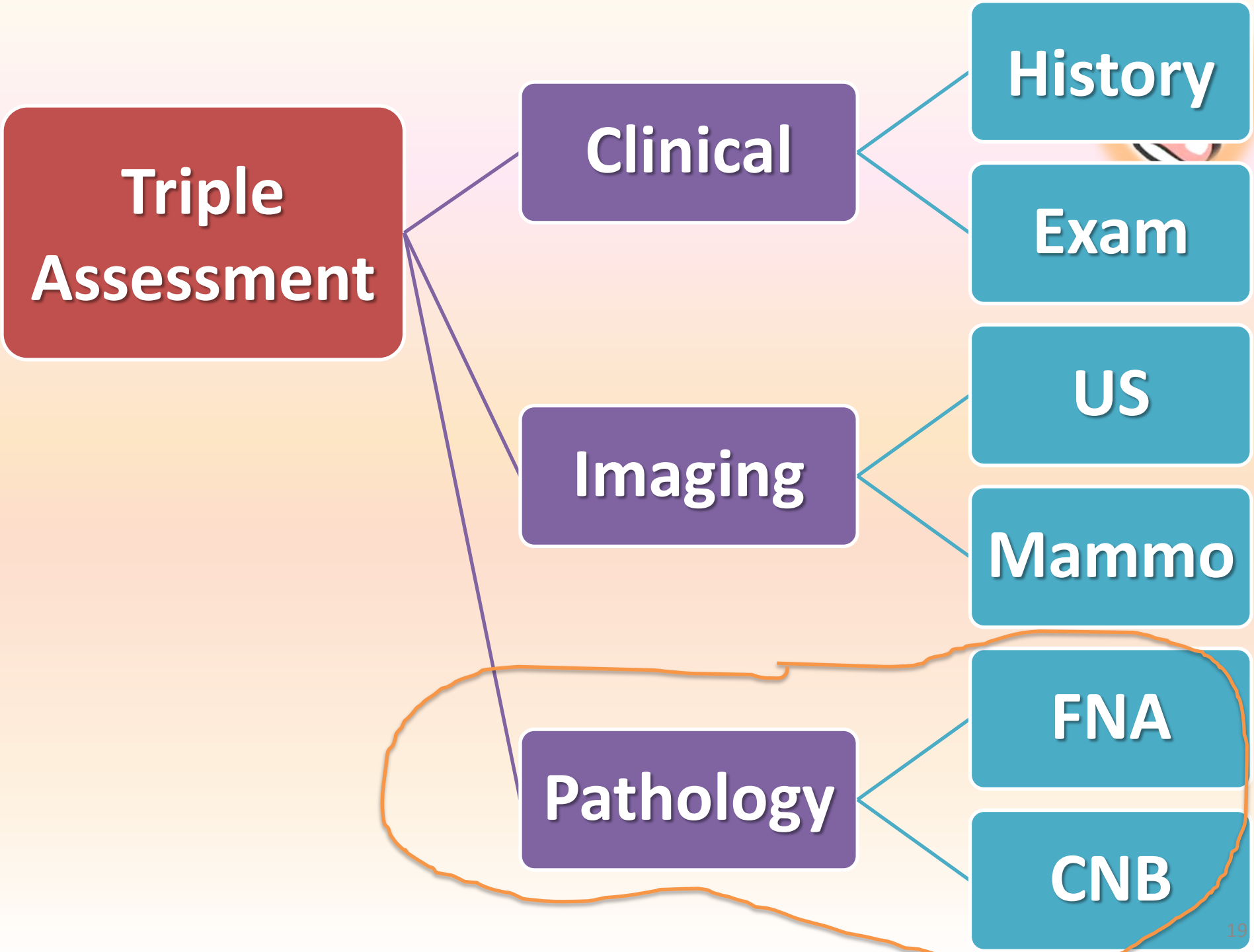
▲BC extension maybe underestimated

✦ Little Gad. excreted in milk

▲Absorbed by infant

⅄no reported cases of direct toxicity

×12- 24 h BF pause preferable A. Langer


Triple Assessment
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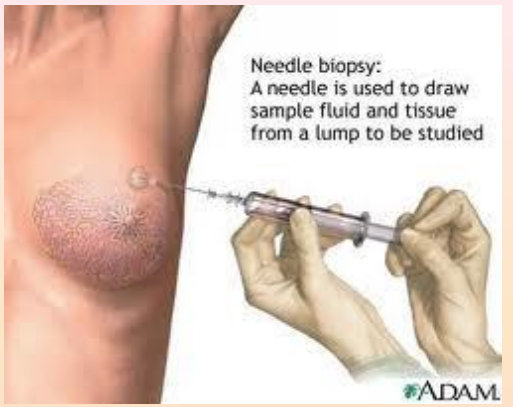
FNA in Py/BF- 1

- ★ May confuse LAs with BC, or LCIS (Finley-1989)
- ★ May confuse BC with cell changes of pregnancy (Novotny 1991)
- ★ FNA as useful as in nonPy, nonBF if team approach (clinician-cytopathologist) (Gupta,1993)
- ★ Can result in false-positive diagnosis of cancer (Pruthi, 2001)
- ★ "Breast lesions that are difficult to classify in FNA= Grey zone lesions", including pregnant and lactating breasts (Mitra 2015)

FNA in Py/BF- 2

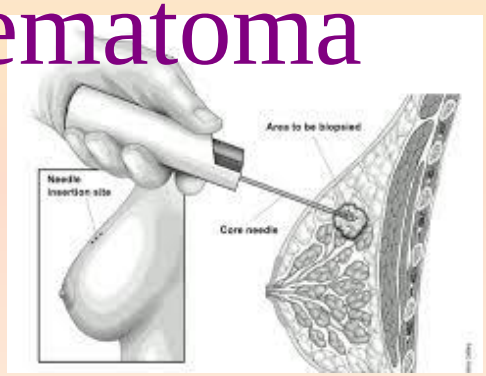


- ★ Provides cell for cytology
  - ✦Not DD in situ from invasive disease
- ★ Mostly adequate for
  - ✦DD cysts from solid
  - ✦Assessment of lymph nodes
- ★ Pathologist must know that the patient is pregnant/BF

CNB in Py/BF- 1 (Pruthi, 2001; Yu, 2013; Beyer 2015)

★Higher rate of complications than general women

- ✦increased risk of bleeding/hematoma
- ✦increased risk of infection
- ✦risk of milk fistula
  - ▲occurs more in central than in peripheral cuts
    - ▲May not heal till ending BF

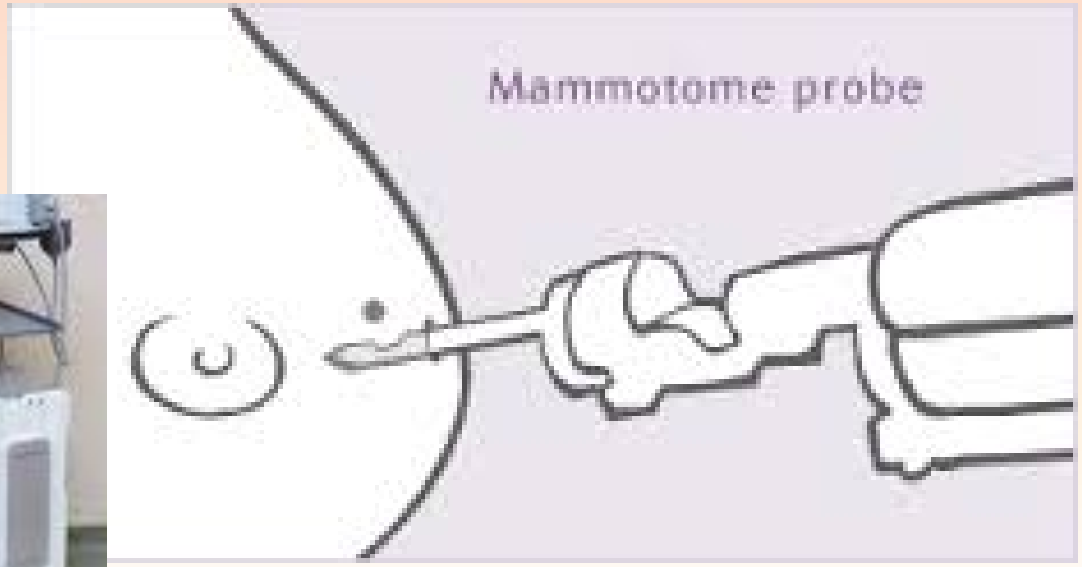


CNB in Py/BF - 2

- ★ Still best method of tissue diagnosis in Py and BF
  - ✦ yields very appropriate tissue
    - ▲ suitable for histologic assessment
    - ▲ suitable for IHC
  - ✦ safe and cost-effective

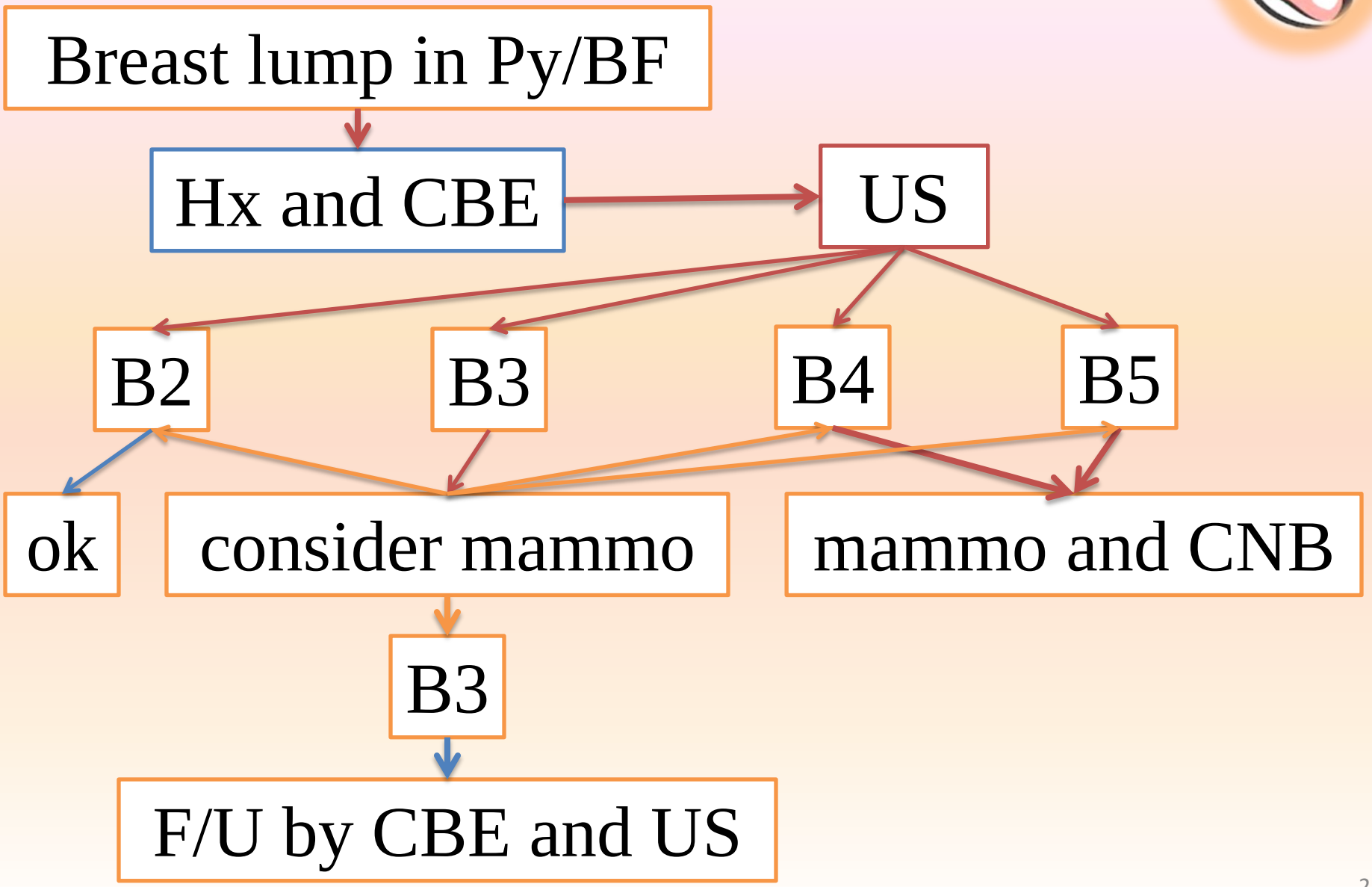
Vacuum-assisted biopsy (VAB)

- ★ Like CNB, but larger needle
  - ✦ Attached to a vacuum system
- ★ In small lesions
  - ✦ Can excise whole lesion if small



Summary of approach to breast lumps

(Hogge1999; Beyer 2015; Langer2015)



For breast lumps in pregnant or BF women

Three major concerns

Appropriate diagnostic steps?

-Accuracy

-No harm to mother and fetus

What are the most probable diagnoses?

-Any difference with women in general?

How to treat? -To be effective

-No harm to mother and fetus

Types of breast lumps in Py/BF

★ 30% of breast masses: unique to Py

✦Lactating adenomas (LA), galactoceles, lactational mastitis, infarcts Sorosky,1998

★Many pre-existing breast lumps

✦May grow/ enlarge during Py

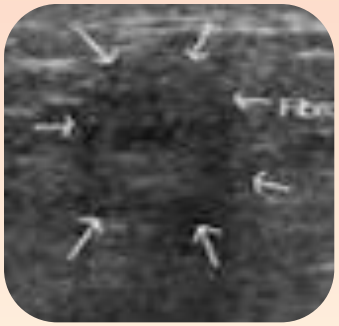
➹Commonly FA, cysts D. Kulkarni

Fibroadenoma

★Most frequently observed tumor during Py

★US: benign (oval, parallel, hypoechoic homogeneous, well-delimited)

★Hormone sensitive, may grow, bleed and become ischemic in Py/BF



✦Becomes ambiguous (B4)

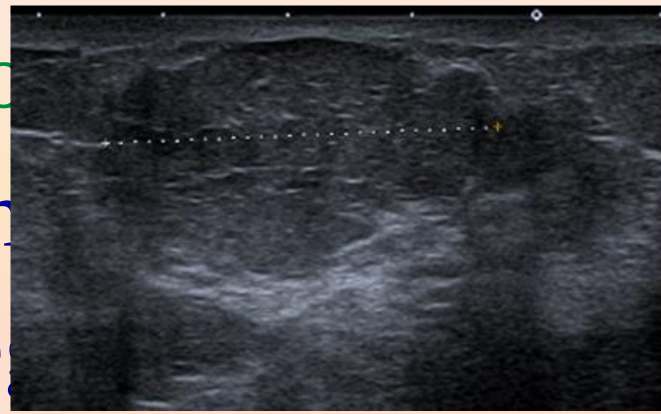
▲require CNB to rule out BCa

★ Regresses in size after pregnancy

A. Langer; D. Kulkarni

Lactating Adenomas

- ★ Most common breast lump in Py/BF
  - ✦ Usually in youngers
    - ▲ Subtype c… , usually benign



- ★ Commonly m… 1- 3 cm
- ★ US: solid, re… , parallel, B3
  - ✦ Sometimes misleading: microlobulated or poorly-defined borders
    - ▲ CNB needed

Novotny, 1991; Heymann, 2015; A. Langer; K. McGuire

Galactoceles

- ★Most common benign breast lesion in BF
  - ✦At any time during T3, BF, or at weaning
- ★Milk-filled cysts, result of obstructed duct
  - ✦1- 6 cm, small, tender lump
- ★US: round or oval, well-delimited, uni- or multi-loculated, thin walled

  - ✦CBE and US usually sufficient
    - ▲If in doubt, FNA : brings milky fluid
      - ⅄Usually do not re-fill after aspiration

K. McGuire, A. Langer, D. Kulkarni

Breast infarction

★Occasionally: necrosis and bleeding during Py and BF

- ✦in hypertrophic breast tissue or
- ✦in a pre-existing mass as FA, LA, hamartoma

★Presentation

- ✦painful mass
- ✦US: solid and heterogeneous (B4), may LAP
  - ➢ DD: BCa
    - ➢CNB required

A Langer

Gestational BC- 1

- ★ =BC diagnosed during Py or BF or up to 1y post-partum
  - ✦ Incidence: 17.5 to 39.9 per 100,000 births
    - ▲ but much lower during Py (3.0 to 7.7)
      - ⅄ than during post-partum (13.8 to 32.2)
- ★ 4% of BC < 45y are diagnosed during Py/BF
- ★ Incidence is increasing in many populations
  - ✦ Probably due to higher maternal age at birth

Gestational BC- 2

- ★Delay in diagnosis frequent
  - ✦Due to
    - ▲lack of awareness by patient and doctor
    - ▲fear of mammography
    - ▲the wish to be reassuring
- ★It is essential to avoid delay in diagnosis
  - ✦“Let’s wait until delivery” must not be accepted

A Langer

Gestational BC- 3

All masses

without specific diagnoses

should be evaluated with US

and all suspicious masses

should be biopsied

without delay

A Langer

Gestational BC- 4

★Generally present with a large palpable mass

★US: typical Bi-Rads 5 lesion

✦ heterogeneous solid mass with irregular borders, vertical axis and acoustic shadowing

➢But not always that typical

➢falsely reassuring appearance can be misleading

A Langer

Gestational BC- 5

★Whenever microlobulated and/or irregular borders in US

- ✦Categorized as B4
  - ▲Mammography
  - ▲CNB
  - ▲In high-risk patients, esp. BRCA1+, BC often has pseudo-benign appearance

A Langer

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How to treat?

-To be effective

-No harm to mother and fetus

Treatment of breast lumps in Py/BF

- ★Not necessary to excise biopsy-proven benign lumps during Py/BF
  - ✦Surgery should be avoided. D. Kulkarni
- ★ Galactocele, LA, FA, infarcts
  - ✦If diagnosis made, no treatment needed
    - ▲ except for severe, rapid growth in T1, T2, early T3
      - ⅄May need to re-biopsy/surgery
    - ▲Late T3:
      - ⅄Wait until delivery
- ★ For BCa: discussed in subsequent pannel

Point

In visits prior to Py: keep a record of pre-existing lumps
It helps with comparison and monitoring during pregnancy and lactation.

D. Kulkarni

Point (Hogge1999)

★ Breast changes during Py/BF make CBE extremely difficult

★ Thorough CBE at first prenatal visit is essential

✦subsequent CBE will become more difficult as the breast enlarges and becomes more firm and nodular

Case 1, 22 y, 32 w, newly enlarged mobile non-tender mass

- ★ US: 2.3 cm, solid, round, circumscribed, typical of FA
  - ✦ Next plan?
    - ▲ If previously diagnosed FA by CNB
      - ⅄ Wait till delivery
    - ▲ If not
      - ⅄ CNB
    - ▲ What if she were 10 w?
      - ⅄ Re-CNB if severe enlargement

Case 2, 33 y, 12w, 2 cm fix mass, fix LAP

- ★ US: 17 mm, solid, irregular border
  - ✦ Suspicious axillary LAP
    - ▲ BIRADS IV
- ★ Mammography:
  - ✦ spiculated mass in LB
  - ✦ Suspicious microcalcification in RB
- ★ Next plan?
  - ✦ CNB/VAB of both lesions

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Thank
you