

Breast: Benign & Workup

1. TRIPLE ASSESSMENT (95% ACCURACY)

Q: What are the 3 components?

1. Clinical Examination.
2. Imaging (MMG/USG).
3. Pathology (FNAC/Core Biopsy).

Q: Imaging choice for age < 35?

Ultrasound (Breast is radiodense).

Q: Imaging choice for age > 35?

Mammography (Breast is radiolucent/fatty).

Q: What is the BI-RADS Score?

Radiological grading (0-6).

- BI-RADS 1: Normal.
- BI-RADS 5: Highly suggestive of malignancy.

2. INVASIVE INVESTIGATIONS

Q: FNAC vs Core Biopsy?

FNAC: Tells Cytology only. Cannot distinguish In-Situ vs Invasive.

Core Biopsy: Histology. Gold standard. Shows receptor status (ER/PR/HER2).

Q: Indications for Breast MRI?

1. BRCA gene carriers (Screening).
2. Lobular carcinoma (Multifocal).
3. Assessing implants.

3. CONGENITAL / MISC

Q: What is Tietze's Syndrome?

Costochondritis (Painful costochondral junction). Mimics breast pain.

Q: What is Mondor's Disease?

Thrombophlebitis of superficial veins (Thoracoepigastric). Presents as a tender, palpable cord. Rx: NSAIDs (Self-limiting).

4. ANDI (NORMAL DEVELOPMENT/INVOLUTION)

Age	Condition	Features
15-25	Fibroadenoma	"Breast Mouse". Painless, mobile, rubbery.
25-40	Cyclical Pain	Hormonal. Lumpy breast. Rx: Evening Primrose Oil.
35-55	Cysts	Smooth, fluid-filled. Rx: Aspiration (Discard fluid if straw-colored).

5. NIPPLE DISCHARGE & DISORDERS

🚨 DISCHARGE DECODER

Q: Blood-stained from single duct?

Duct Papilloma (Most common) or Cancer. Rx: Microdochectomy.

Q: Green/Black/Dirty discharge?

Duct Ectasia. Assoc with smoking/slit-like retraction.

Q: What is Paget's Disease of Nipple?

Eczema-like erosion of nipple. Underlying DCIS or Invasive Ca.

6. INFECTIONS

Q: Lactational Mastitis/Abscess?

Staph Aureus. **Do NOT stop breastfeeding.** Rx: Flucloxacillin + Aspiration/I&D.

Q: Periductal Mastitis (Recurrent Abscess)?

Strongly associated with **Smoking** (Squamous metaplasia of ducts). High recurrence. Rx: Stop smoking + Duct excision.

Breast Carcinoma

7. RISK FACTORS

Q: Genetic Factors?

BRCA1 (Ch 17), BRCA2 (Ch 13), p53 (Li-Fraumeni).

Q: Hormonal Risk Factors?

Early menarche, Late menopause, Nulliparity, HRT, OCPs (Uninterrupted Estrogen exposure).

Q: Lifestyle?

Obesity (Peripheral aromatization of estrogen), Alcohol.

8. PATHOLOGY (WHO CLASSIFICATION)

Type	Characteristics
DCIS	In-Situ (No basement membrane breach). Calcifications on MMG. Pre-invasive.
Invasive Ductal	Most Common (75%) . "No Special Type" (NST). hard, gritty.
Invasive Lobular	10-15%. Multifocal, Bilateral. "Indian File" pattern. Difficult to feel.
Inflammatory	Worst Prognosis . Red, hot, peau d'orange. Blockage of dermal lymphatics.

9. CLINICAL SIGNS

Q: Why Peau d'orange?

Cutaneous lymphatic edema (pitting) + Tethered hair follicles (pits).

Q: Why Skin Dimpling?

Invasion of **Cooper's Ligaments**.

Q: Why Nipple Retraction?

Invasion of lactiferous ducts (Cancer pulls it in).

10. STAGING & SPREAD

Q: Most common site of metastasis?

Bone (Lumbar vertebrae). Then Lung, Liver, Brain.

Q: Lymphatic Drainage?

75% to Axilla. 25% to Internal Mammary nodes.

Q: What defines Axillary Levels?

Pectoralis Minor Muscle.

- Level I: Lateral to Pec Minor.
- Level II: Behind Pec Minor.
- Level III: Medial to Pec Minor.

11. PRE-OP WORKUP

🚨 MANDATORY STEPS

Q: Local Staging?

Bilateral Mammogram + Ultrasound Axilla (Biopsy suspicious nodes).

Q: Systemic Staging (Metastatic workup)?

CT Chest/Abdomen/Pelvis + Bone Scan. (Indicated if node positive or T3/T4).

Q: Receptor Status?

Must check ER, PR, and HER2 status on biopsy.

Management & Prognosis

12. SURGICAL OPTIONS

Q: Breast Conserving Surgery (BCS/WLE)?

- Indication: Solitary tumor < 4cm, good breast size.
- **Must be followed by Radiotherapy.**

Q: Mastectomy Indications?

- Multifocal tumor.
- Large tumor/Small breast.
- Central tumor (Nipple involvement).
- Patient choice / Cannot tolerate Radiotherapy.

Q: Sentinel Lymph Node Biopsy (SLNB)?

Standard for clinically node-negative axilla. Use Blue Dye + Isotope. If negative -> No further clearance needed (avoids lymphedema).

13. SYSTEMIC THERAPY (DRUGS)

Q: Hormonal Therapy (ER+)?

Pre-menopausal: Tamoxifen (SERM). SE: Endometrial Ca, DVT.

Post-menopausal: Aromatase Inhibitors (Letrozole/Anastrozole). SE: Osteoporosis.

Q: Biological Therapy (HER2+)?

Trastuzumab (Herceptin). SE: Cardiotoxicity (Must do Echo).

Q: Chemotherapy?

Anthracyclines (Doxorubicin) + Taxanes. For Triple Negative, HER2+, or High NPI.

14. NOTTINGHAM PROGNOSTIC INDEX (NPI)

FORMULA: (Size in cm x 0.2) + Node Status + Grade

Nodes:

- **1 point: Node negative.**
- **2 points: 1-3 nodes.**
- **3 points: >3 nodes.**

Grade: 1, 2, or 3.

Score < 3.4 = Excellent Prognosis.

Score > 5.4 = Poor Prognosis.

15. SPECIAL SCENARIOS

Q: Pregnancy and Breast Cancer?

- Surgery: Safe in all trimesters.
- Chemo: Safe in 2nd/3rd trimester (Avoid 1st).
- Radiotherapy: **Contraindicated** until delivery.
- Termination not routinely required.

Q: Male Breast Cancer?

Always Invasive Ductal. Associated with BRCA2. Rx: Mastectomy + Tamoxifen.

Q: Advanced/Metastatic Cancer?

Palliative. Bisphosphonates for bone pain. Systemic therapy priority over surgery.