

Breast lesions

1- INFLAMMATION


Mastitis :

- Acute mastitis > associated with lactation & **Staphylococcus aureus**
- Periductal mastitis > not associated with lactation & association with **cigarette smoking**.

2 BENIGN EPITHELIAL LESIONS


A. Non proliferative Breast Changes (**Fibrocystic** Change/disease) :

common , Age: 20-55yrs , No increased risk for cancer , can produce palpable breast mass, mammographic densities, calcifications, or nipple discharge & thought to be hormone mediated

Histology  : **Cysts** formation with apocrine metaplasia , **Fibrosis** & Adenosis.

B. Proliferative breast disease without atypia :

small mammographic densities , Rarely form palpable masses & Risk for cancer is 1.5 – 2.

1. **Epithelial hyperplasia** : **presence of more than 2 layers** , Both epithelial & myoepithelial cells proliferate & in fibrocystic disease: it is called as proliferative type/variant of fibrocystic disease.
2. **Sclerosing Adenosis** : mimic cancer , **Calcification** ,  adenosis and stromal fibrosis in the lobule
3. **Complex Sclerosing Lesion (Radial Scar)** : mimic invasive carcinoma
4. **Papillomas** : arises from the ductal epithelium
 - **Large duct papillomas (central papillomas)**: solitary , at the nipple , **bloody nipple discharge & subareolar palpable mass**.
 - **Small duct papillomas**: multiple , located deeper within the ductal system & **risk of subsequent carcinoma**.

C. Proliferative breast disease with atypia (Atypical hyperplasia):

Risk for cancer is 4-5 , resembling CIS but lacking sufficient qualitative or quantitative features for a diagnosis of CIS

- Atypical ductal hyperplasia
- Atypical lobular hyperplasia

3- CARCINOMA IN SITU (CIS) - NO MASS & NOT INVASIVE

Malignant proliferation of cells in lobules or duct with no invasion of the basement membrane .


two subtypes:

- **DCIS (80%)** : non-invasive , high risk of development of subsequent invasive carcinoma , Often multifocal , in mammography **micro-calcifications** , **diagnosis by Mammography and confirmed by biopsy**.
- Different patterns of DCIS can be seen > **comedo (central necrosis)** , cribriform -papillary, micropapillary and solid.
- **Paget disease** of the breast : is DCIS that extends up the ducts to involve the skin of the nipple. Presents as nipple ulceration and erythema & might be mistaken for eczema.
- **LCIS (20%)** : **does not produce a mass or calcifications** and is usually discovered incidentally on biopsy , Often multifocal and bilateral.

4- INVASIVE CARCINOMA - WITH MASS & INVASIVE

axillary lymph node metastases , dimpling of the skin, peau d'orange , retraction of the nipple , **palpable mass** , On mammography present as a density.

Subdivision into:

- **Invasive Ductal Carcinoma, NOS (80%)** : scirrhous carcinoma (**hard**) , marked **fibroblastic (desmoplastic)** ,dimpling of the skin or retraction of the nipple , Grossly, see classic “**stellate**” infiltration.
- **Invasive Lobular Carcinoma (10%)** : bilateral and multicentric. ,  grows in a **single-file pattern** (called as **indian file pattern**).
- **Medullary Carcinoma (2%)** : mimic fibroadenoma on mammography

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Prognosis

Major Prognostic Factors

Invasive or In situ disease , Distant metastasis , **Lymph node metastasis** , **tumor size** , Locally advanced disease , Inflammatory Carcinoma.

Minor Prognostic Factors

Histologic Subtype , Tumor Grade (SBR grading) , Tumor cells with estrogen and progesterone positive receptors (**Tamoxifen**) , HER2 (Trastuzumab '**Herceptin**') , Lymphovascular invasion , Proliferative rates (ki67 index)

5-STROMAL TUMORS

A. Fibroadenoma (FA) : most common **benign** tumor of the female breast. , **young** age , firm, mobile lump ("breast mouse") , increase size during pregnancy, Treatment (**lumpectomy**)

B. Phylloides tumor: **old** age , **can be malignant**, characteristic '**leaf-like**' projections, large **palpable masses**.

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