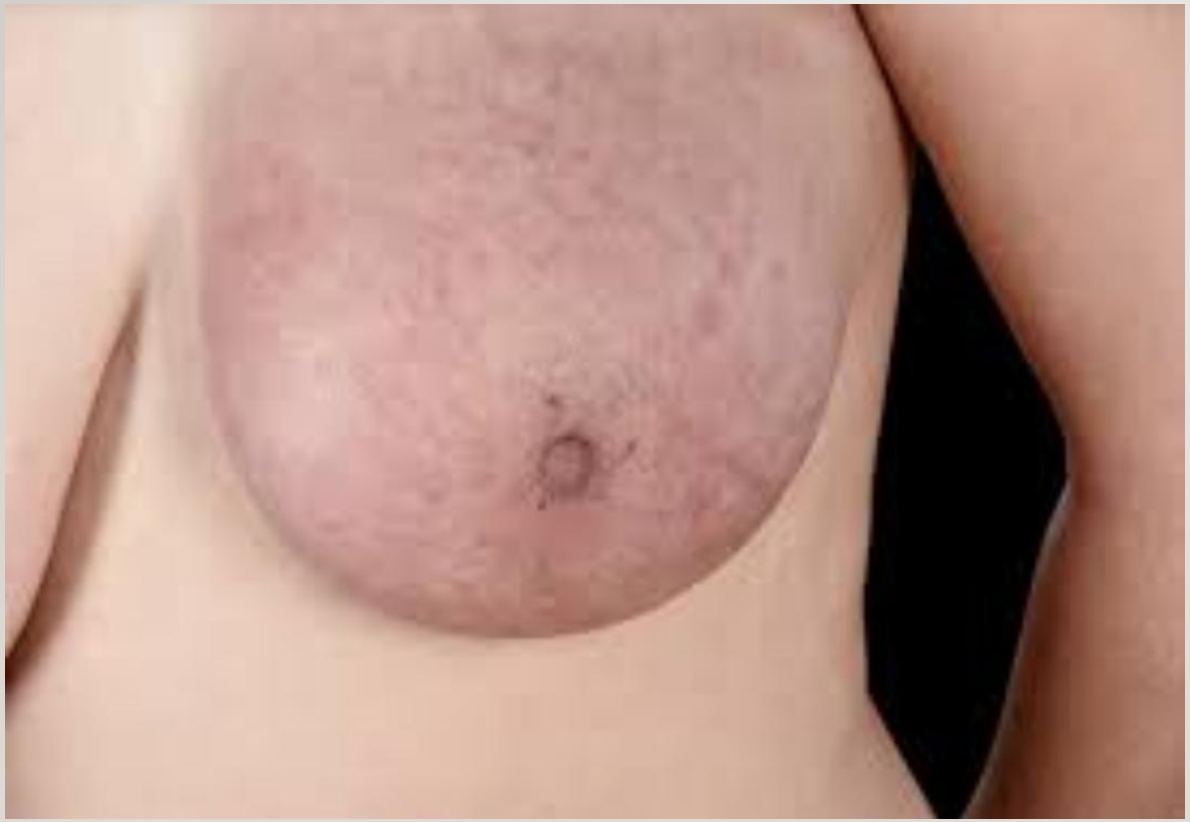
BREAST CANCER



- Dhairy Bhatt

ETIOLOGY

- **Age** – Incidence of breast cancer increase with age, majority of patients presenting with breast cancer over the age of 50 years.
- **Genetic factors** – family history of breast cancer .The risk is greatest in patients with 1st degree relatives if they were under the age of 50 years, with 2nd degree relatives the risk is less . Gene BRCA 1 and BRCA 2 responsible for 30% of all familial breast cancers.
- **Child bearing and fertility** – single and nuliparous married women have high risk than parous women. Women whose first child birth was over the age of 35 years may have increased risk of breast cancer.
- **Geographical** – Commonly seen in western countries

ETIOLOGY (CONT...)

- **Age of menarche and menopause** – the girls whose menarche occurs before the age of 12 years and women in whom menopause occurs after ate of 55 years have twice risk of developing breast cancer.
- **Endocrine** – exogenous hormones, oral contraceptives, and HRT .
- **Diet** – rich in saturated fatty acids , fried and high fat foods , high intake of alcohol all these increase the risk of developing breast cancer.
- **Benign duct disease** – multiple papillomatosis, gross atypia with hyperplasia.

DUCTAL CARCINOMA OF THE BREAST

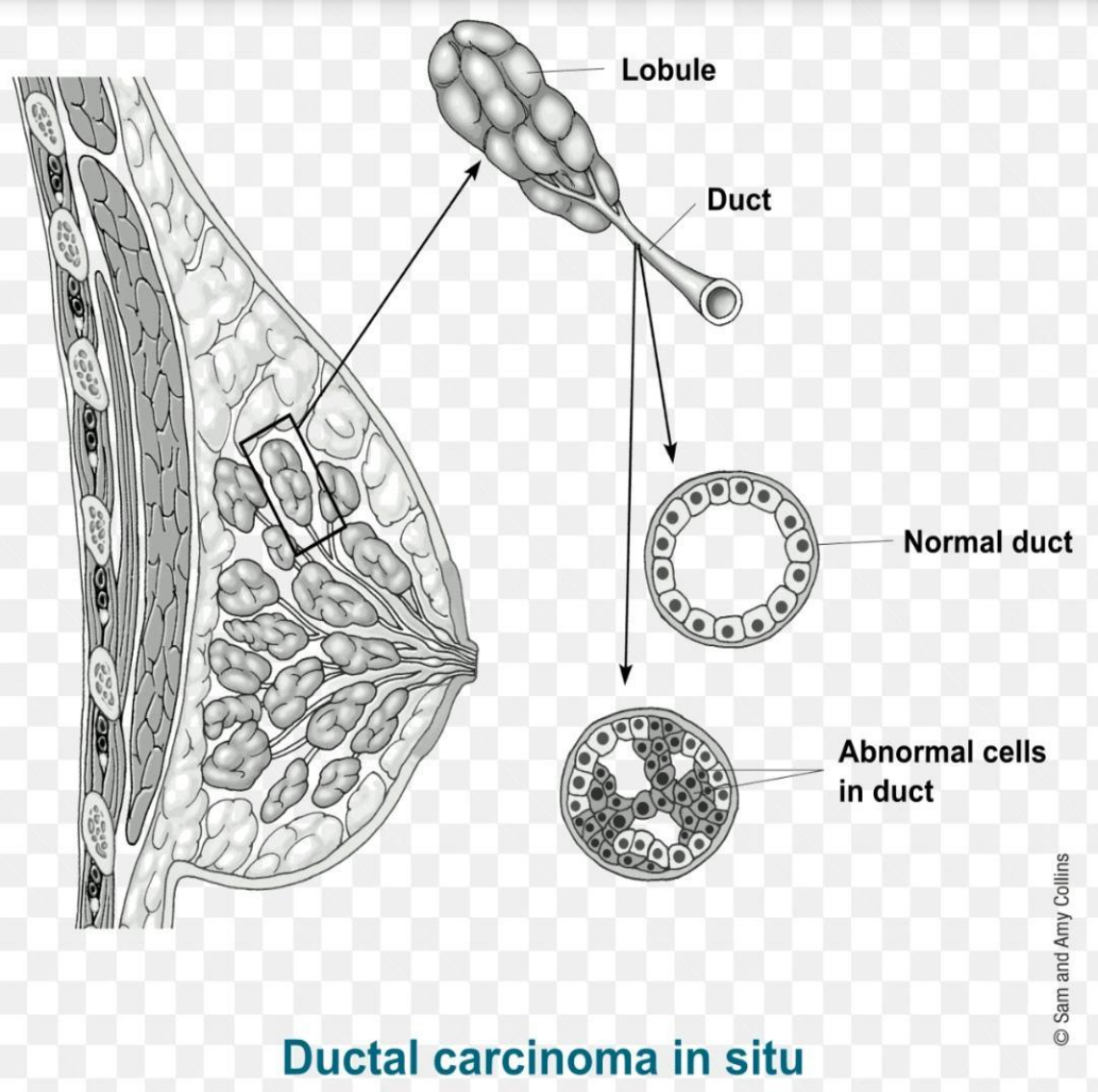
DUCTAL CARCINOMA IN – SITU

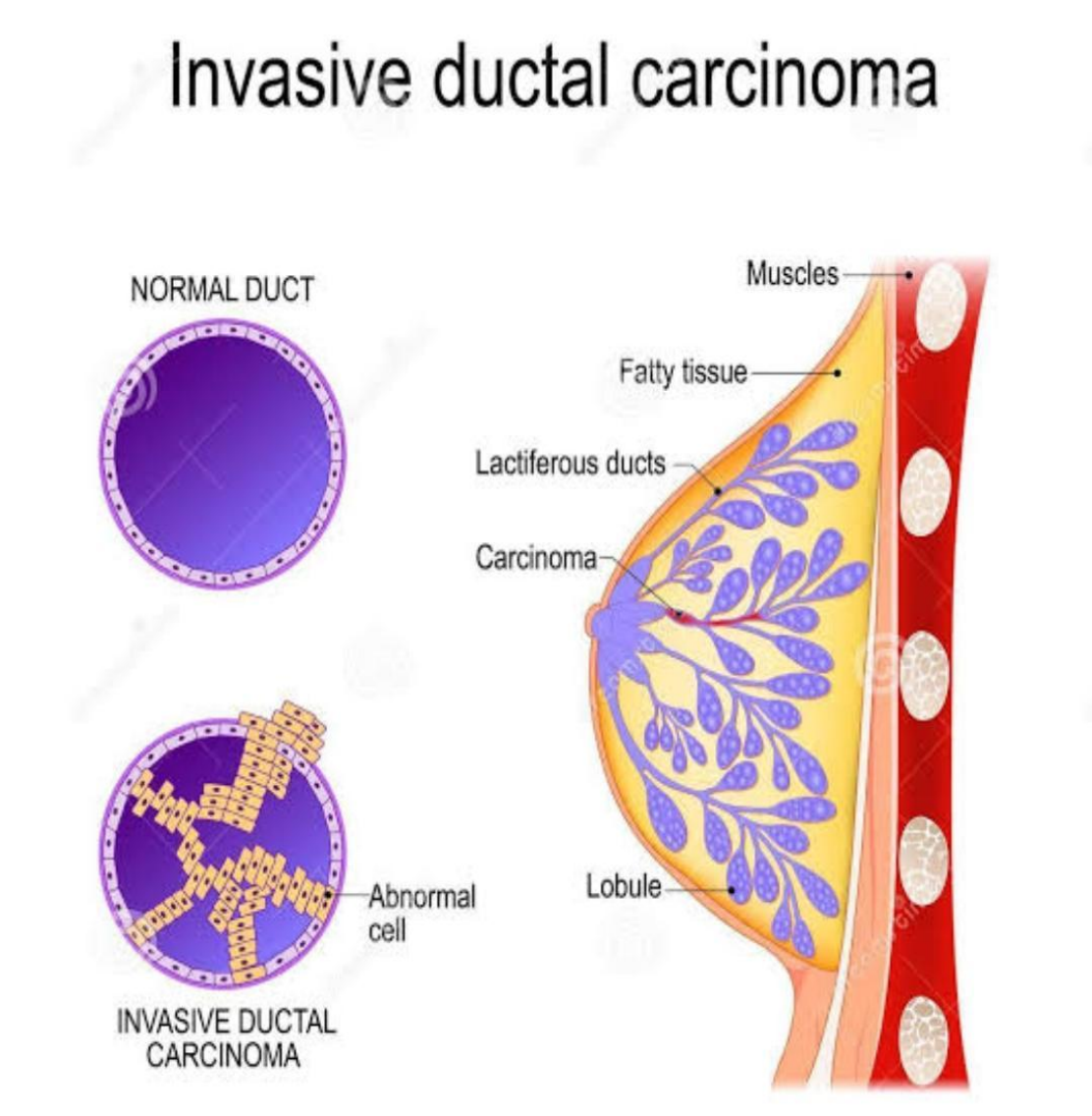
- Proliferation of malignant breast epithelial cells confined to the duct system.
- Most imp aspect is its malignant potentially
- Two types :

1. Solid or comedo type
2. Papillary or cribriform

INVASIVE DUCTAL CARCINOMA

- Scirrhous carcinoma
- Medullary carcinoma
- Tubular carcinoma
- Mucinous carcinoma
- Papillary carcinoma
- Adenoid cystic carcinoma


Lobule
Duct
Normal duct
Abnormal cells in duct
© Sam and Amy Collins
Ductal carcinoma in situ


Invasive ductal carcinoma
NORMAL DUCT
Abnormal cell
INVASIVE DUCTAL CARCINOMA
Muscles
Fatty tissue
Lactiferous ducts
Carcinoma
Lobule

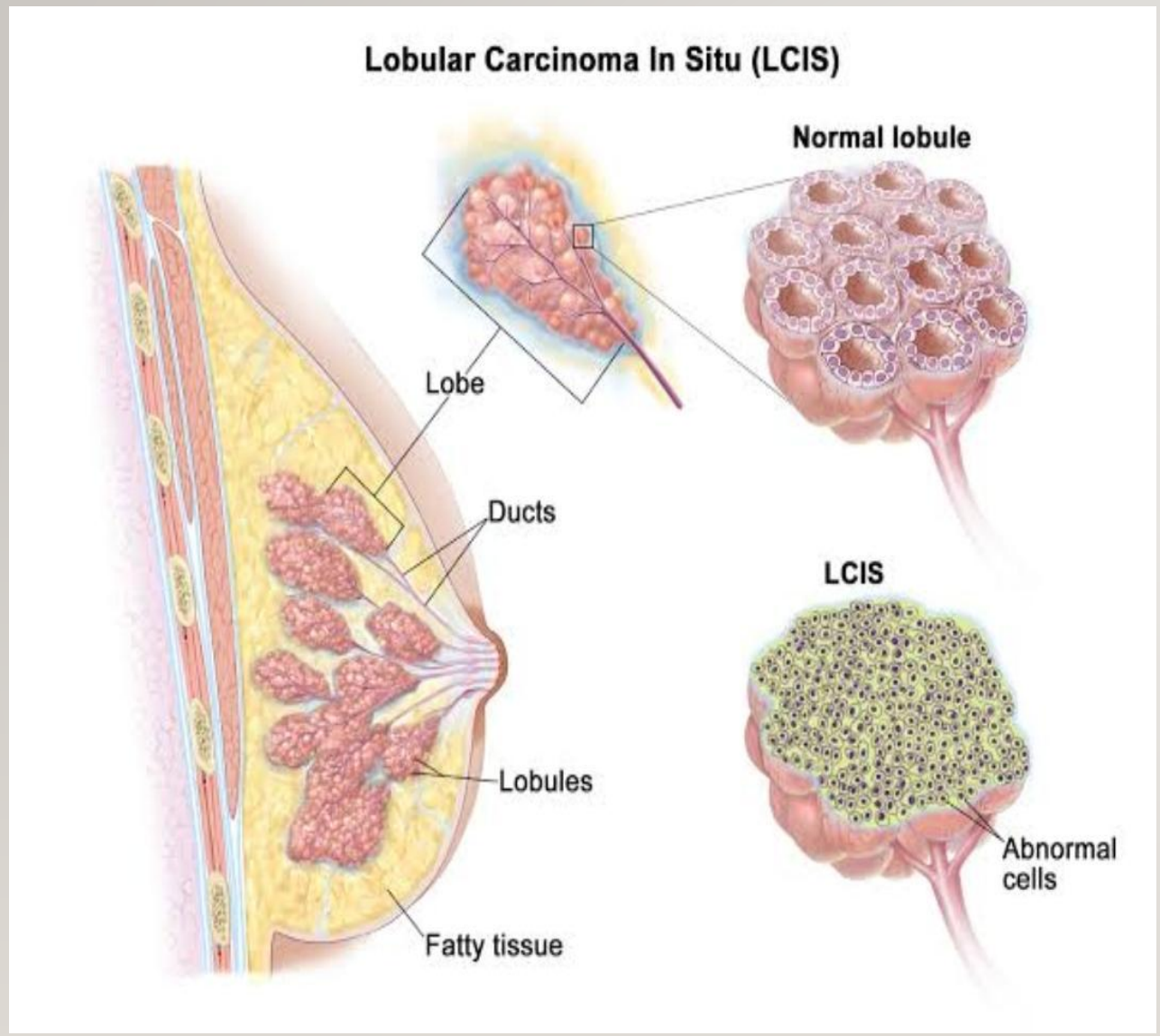
LOBULAR CARCINOMA

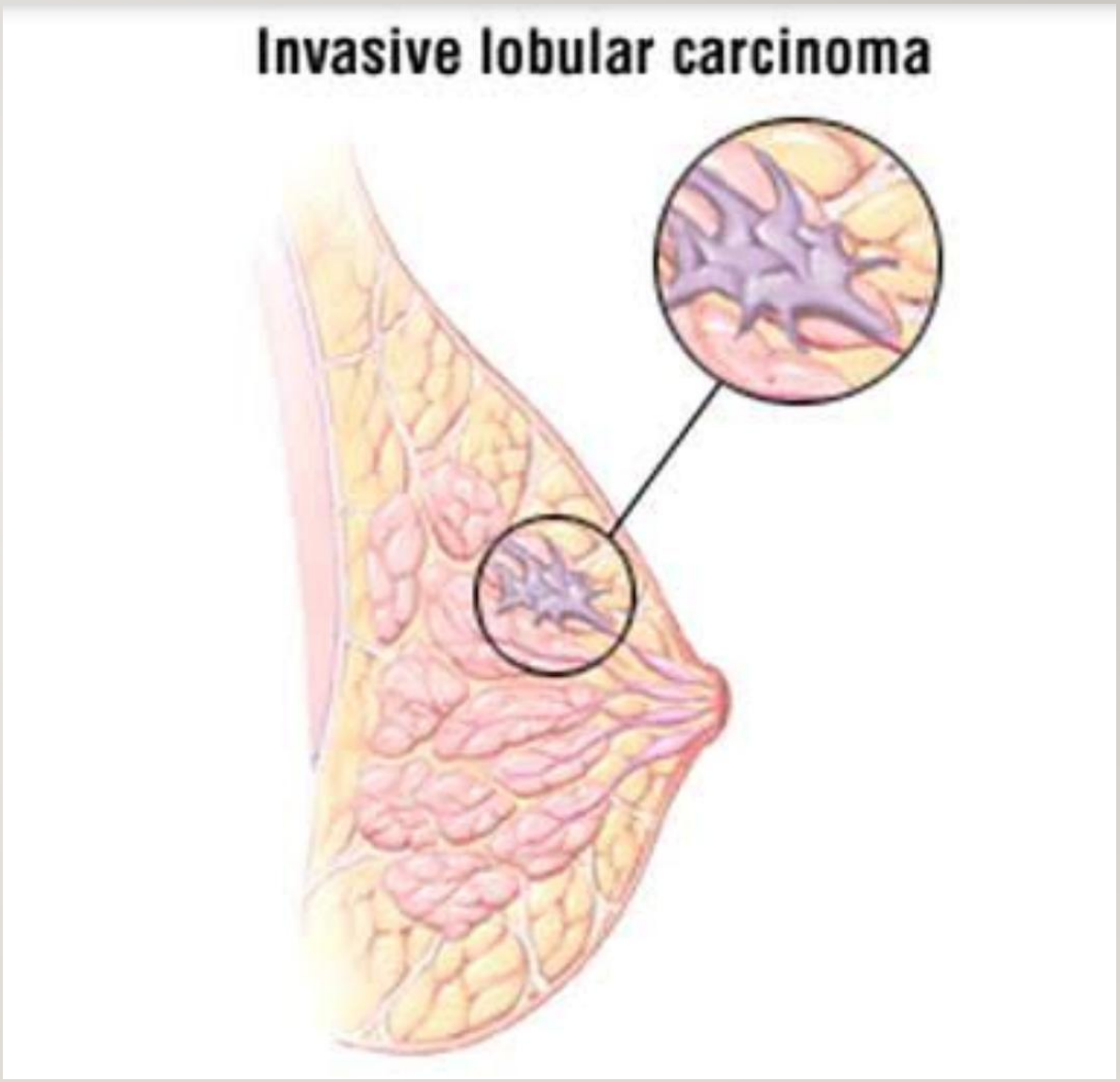
LOBULAR CARCINOMA IN – SITU

- Within lobule there must be a uniform proliferation of cells .
- Potential for becoming invasive.
- Never forms a palpable mass.
- No typical mammographic finding

INVASIVE LOBULAR CARCINOMA

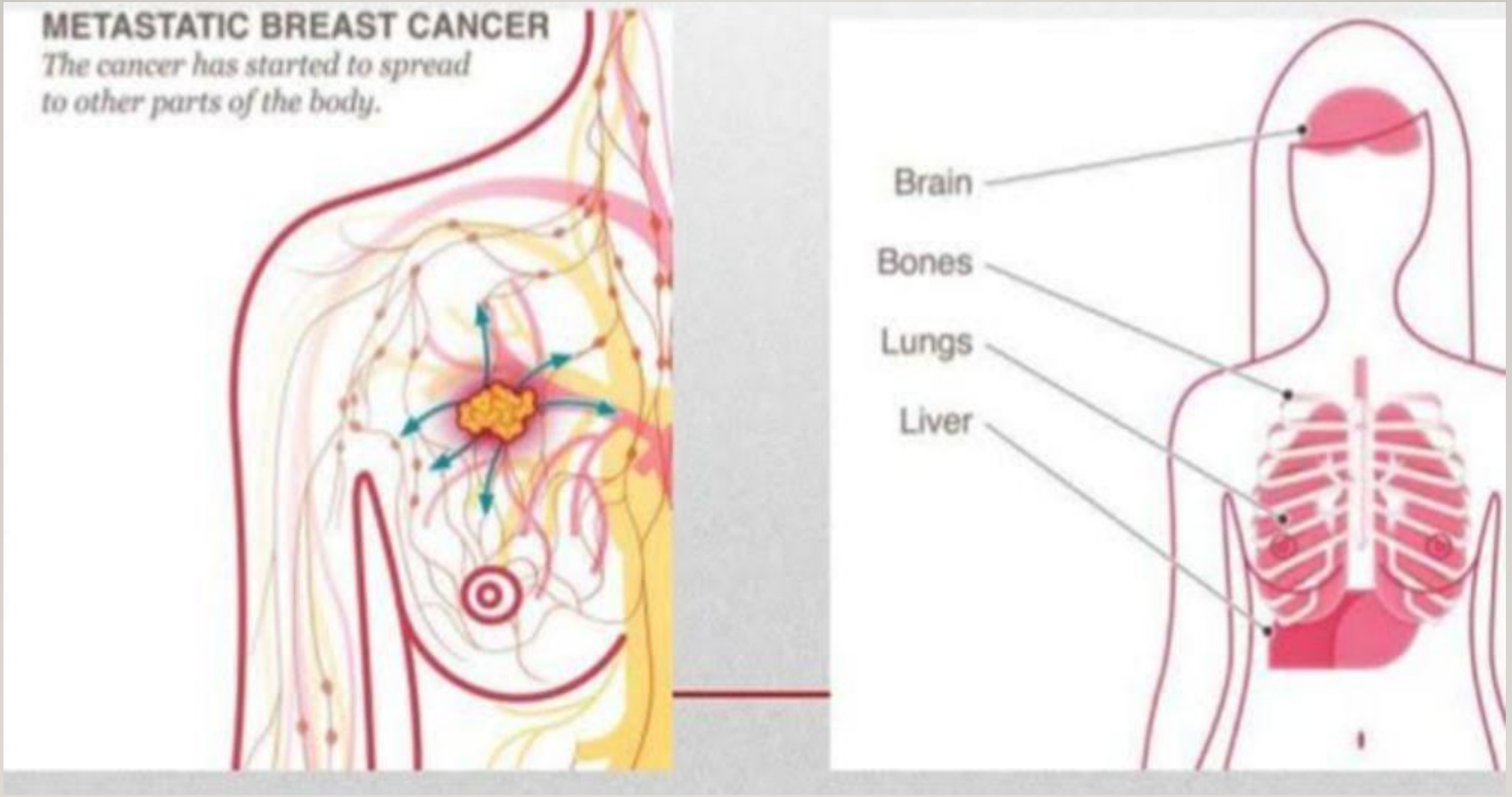
- This cancer may mimic inflammatory or bengin lesions.
- This tumour particularly known for bilaterality, multicentricity, multifocality.
- No distinguishing mammographic features.


Lobular Carcinoma In Situ (LCIS)
Normal lobule
Lobe
Ducts
LCIS
Lobules
Abnormal cells
Fatty tissue


Invasive lobular carcinoma

SPREAD OF TUMOURS

- Local spread
- Intraductal spread
- Lymphatic spread
- Spread by blood
- Intracoelomic spread


METASTATIC BREAST CANCER
The cancer has started to spread to other parts of the body.
Brain
Bones
Lungs
Liver

CLINICAL FEATURES

- Painless lump in the breast, commonly in the upper and outer quadrant.
- Pain is absent, only inflammatory carcinoma is painful.
- When bigger mass present may give rise to a discomfort.
- Discharge through nipple is not usual, though blood discharge is quite common in ductal carcinoma.
- Retraction of nipple may be noticed.
- Sometimes patients complain of *metastatic symptoms* i.e.- backache, chest pain , haemoptysis, dyspnea, jaundice, ascites, enlarged axillary nodes.

LOCAL EXAMINATION

- **On inspection** : 1. Retraction of nipple can be best ascertained by asking the patient to hold her arms up.

2. Dimpling of skin may be present.

3. Peau d' orange may be present.

4. Oedema of the whole arm is sometimes as a complication of the breast cancer.

5. Red eczematous lesion ia apparent in Paget's disease.

6. Nipple discharge is usually present in papillary carcinoma (bloody discharge)

CONTI.....

- **On palpation** : 1. Breast lump which is best palpated by tha flat of the hand

2. Axillary lymph nodes are always palpable due to their involvement

3. An attempt should always be made to find out if thete is any distant metastasis like ribs, spine, sternum, pelvis, upper end of femur and humerus.

CLINICAL STAGING

Manchester system

Stage 1 – The growth is confined to the breast.

Stage 2 – The growth is confined to breast but palpable and mobile lymph nodes

Stage 3 – The growth extends beyond the mammary parenchyma

Stage 4 - The growth extends beyond the breast area; fixation of tumour to the chest wall; fixation of the axillary lymph nodes; distant metastasis.

• Columbia system

- Stage A : No skin oedema, ulceration or fixation of tumour to chest wall. Axillary nodes are not clinically involved.
- Stage B – axillary nodes are clinicli involved but less than 2.5 cm and not fixed to skin.
- Stage C – presence of oedema, ulceration, fixity to the chest wall, massive involvement of axillary nodes, fixation of axillary nodes.
- Stage D – extensive oedema of skin , satelite skin nodules, parasternal metastasis, oedema of ipsilateral arm amd distant metastasis.

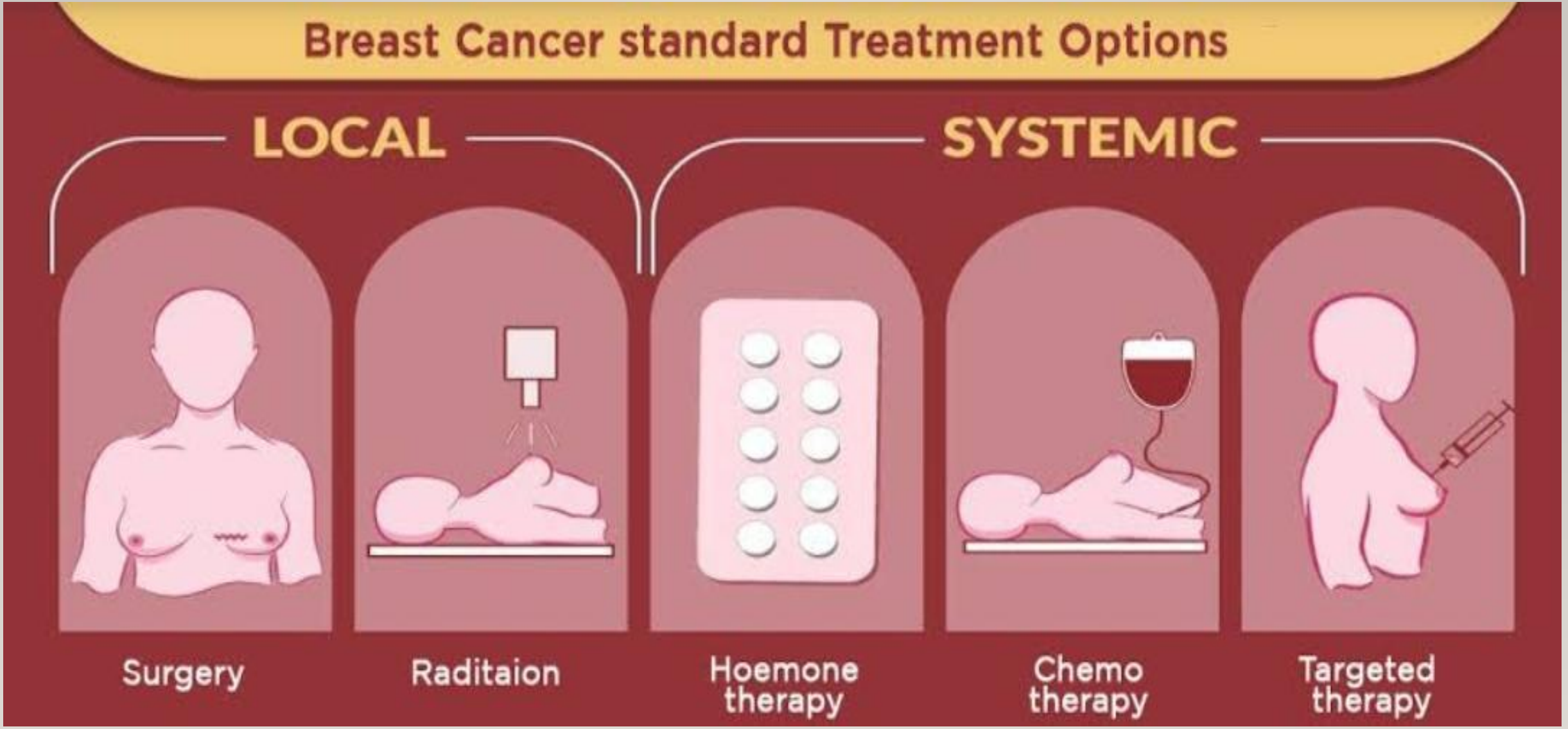
- **TNM system**
  - T – tumour
  - N - regional lymph node
  - M – distant metastasis

SPECIAL INVESTIGATION

- Mammography
- Xeroradiography
- Thermography
- Ultrasound
- Aspiration
- MRI
- Biopsy
- Chestt x-ray
- Bone x-ray
- Liver scan
- CT scan
- Biochemical studies

TREATMENT

- Lumpectomy
- Wide local excision
- Subcutaneous mastectomy with prosthetic replacement
- Total mastectomy
- Halsted radical mastectomy
- Modified radical mastectomy
- Extended radical mastectomy


Breast Cancer standard Treatment Options
LOCAL
SYSTEMIC
Surgery
Raditaion
Hoemone therapy
Chemo therapy
Targeted therapy

PROBLEMS	TREATMENT
• Regional or local recurrence	• Local radiotherapy
• Skeletal pain	• Analgesics + radiotherapy
• Dyspnea with effusion	• Intercostal drainage + cytotoxic drugs
• Hepatic metastasis	• Endocrine therapy with corticosteroid
• Hypercalcaemia	• Corticosteroid, calcitonin
• Paralysis from cord compression	• Emergency laminectomy