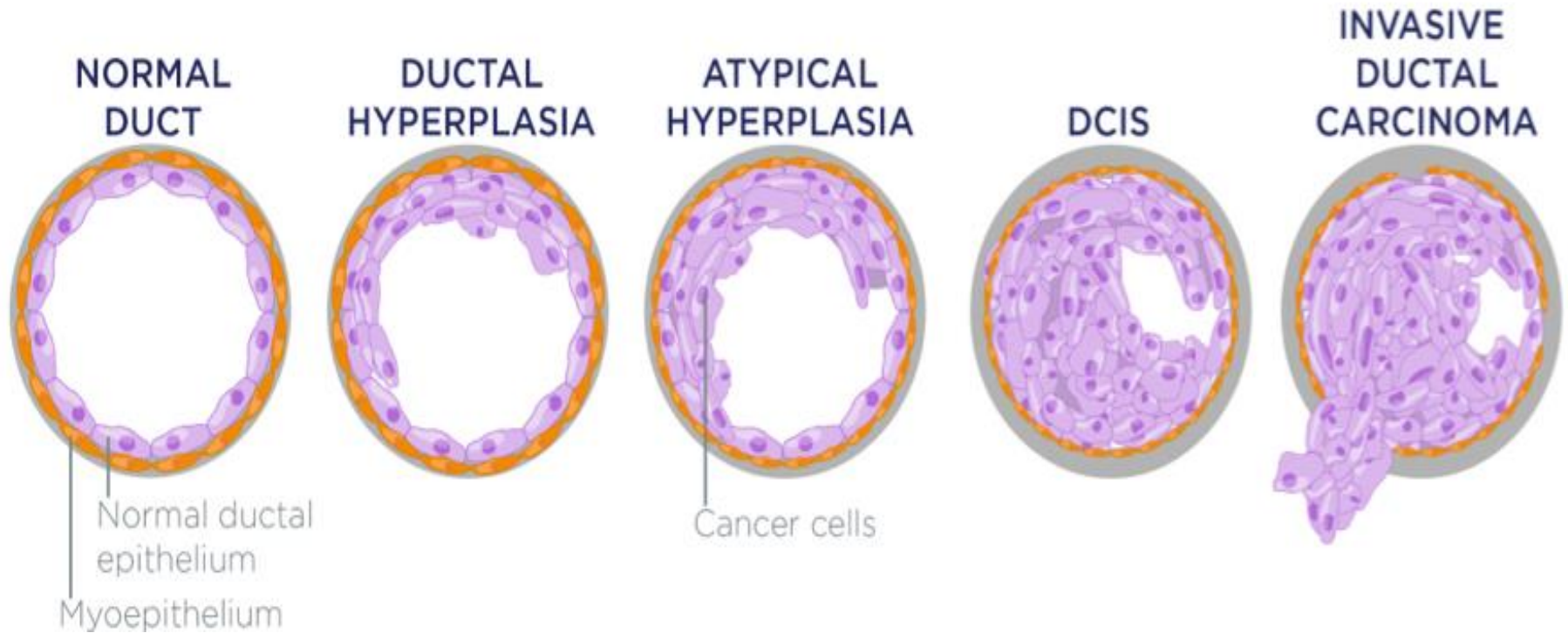


# Breast Carcinoma



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# Introduction

- Commonest cancer in Sri Lankan women.
- The incidence is rising in these countries according to the Cancer Control Statistics.
- Whilst this may not be as high as in western countries
- Any breast lump should be considered as a cancer until proven otherwise in a woman over 35 years.



# Risk factors for breast carcinoma

## Major

1. Female gender
2. previous breast carcinoma
3. history of breast cancer in first degree relative
4. age >20 ears

## Intermediate

1. Early menarche
2. late menopause
3. Nulliparity
4. late first pregnancy
5. reduced breast feeding
6. radiation
7. oral contraceptives / hormone replacement

## Minor

1. Stress
2. obesity



- The risk is increase if having family history of,
  - a. BRCA1 and BRCA2 genes account for the majority of breast carcinomas
  - b. Li- Fraumani Syndrome ( Multiple carcinomas and sarcomas ), Mutation in P53 tumor suppressor gene
  - c. Cowden's disease ( multiple hamartoma syndrome ), Gene mutation in Chromosome 10q
  - d. Heterozygous carriers of ataxia telangiectasia



# Clinical features

- Most common site if upper outer quadrant of breast
- Non tender breast lump
- Hard or firm irregular mass
- Palpable axillary lymph nodes
- Skin ulceration

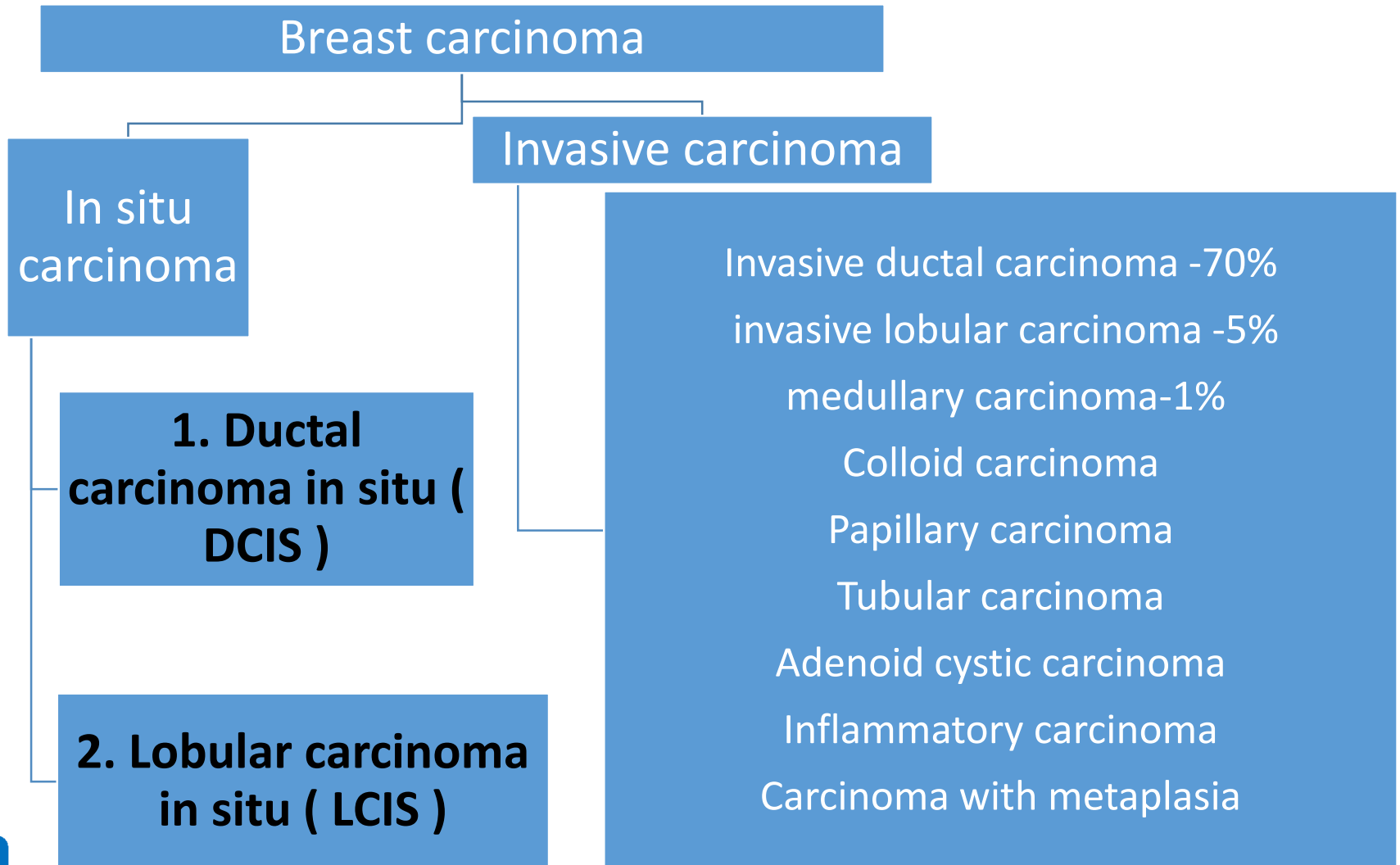


# Clinical features cont...

- Skin retraction or discharge
- Features of local or metastatic spread
- Nipple deviation sign and peau`d orange appearance



# Types of carcinoma



# Ductal carcinoma in situ

- Earliest form of cancer is often DCIS and then progress to invasive ductal carcinoma
- Histological patterns
  1. Micropapillary
  2. Papillary
  3. Cribriform
  4. Solid and comedo





# Lobular carcinoma In situ

- Patients with LCIS has a 7 – 12 fold increased relative risk over the general population or approximately 20- 25% risk at 15 year follow up of developing an invasive breast cancer



# Investigations

- Proceed with the triple assessment.
  1. Clinical assessment with history and examination
  2. Radiological assessment by imaging
    - USS and mammography
  3. Cellular assessment with FNAC



# Investigations cont..

- Do the imaging before taking the tissue biopsy. Because,
  1. FNAC could lead to bleeding which would falsely increase tumor size and blood streaks may even mimic as speculated masses on mammography.
  2. Even if FNAC diagnoses breast CA, must do imaging to see other parts of the



# Investigations cont..

- USS – for women under 35 years , because,
  1. Young females have dense breast tissue and mammography findings are difficult to interpret.
- Mammography – for others , because,
  1. Breast is less dense with age and increase sensitivity of mammogram.



# Investigations cont..

- USS features suggesting a carcinoma
  1. Detect irregularities
  2. Increase echogenicity
  3. Local invasion
  4. Axillary lymph node involvement



# Investigations cont..

- Suspicious features of malignancy on mammogram,
  1. Micro calcifications
  2. Speculated masses
  3. Structural distortions
  4. Mammary skin oedema
  5. Presence of hilar lymph nodes



# Investigations cont..

- When MRI mammography is preferred?
  1. If diagnosis is hard with conventional mammography
  2. No primary is seen in USS/mammography but still suspicious
  3. For young women with a positive family history for breast cancers (as a surveillance method)



5. Paget`s disease with no underlying lump
6. Metastatic axillary lymph node engorgement but no identified primary mass
7. If going to breast preserving surgery USS per se is not enough to judge rest of breast
8. To differentiate a scar from a recurrence in a person who received previous breast conservative therapy
9. In female with breast implants





# Investigations for staging

- Chest X ray – can identify cannonball metastatic deposits
- USS abdomen –liver secondaries/ ascites/ lymph nodes
- Bone scan – done only if the serum ALP level is elevated



- Tumour staging is done via TNM staging system
- Then go for the investigations to assess the fitness for surgery
  1. Full blood count
  2. ECG
  3. Serum creatinine and blood urea level
  4. Blood grouping and cross marching.....etc.

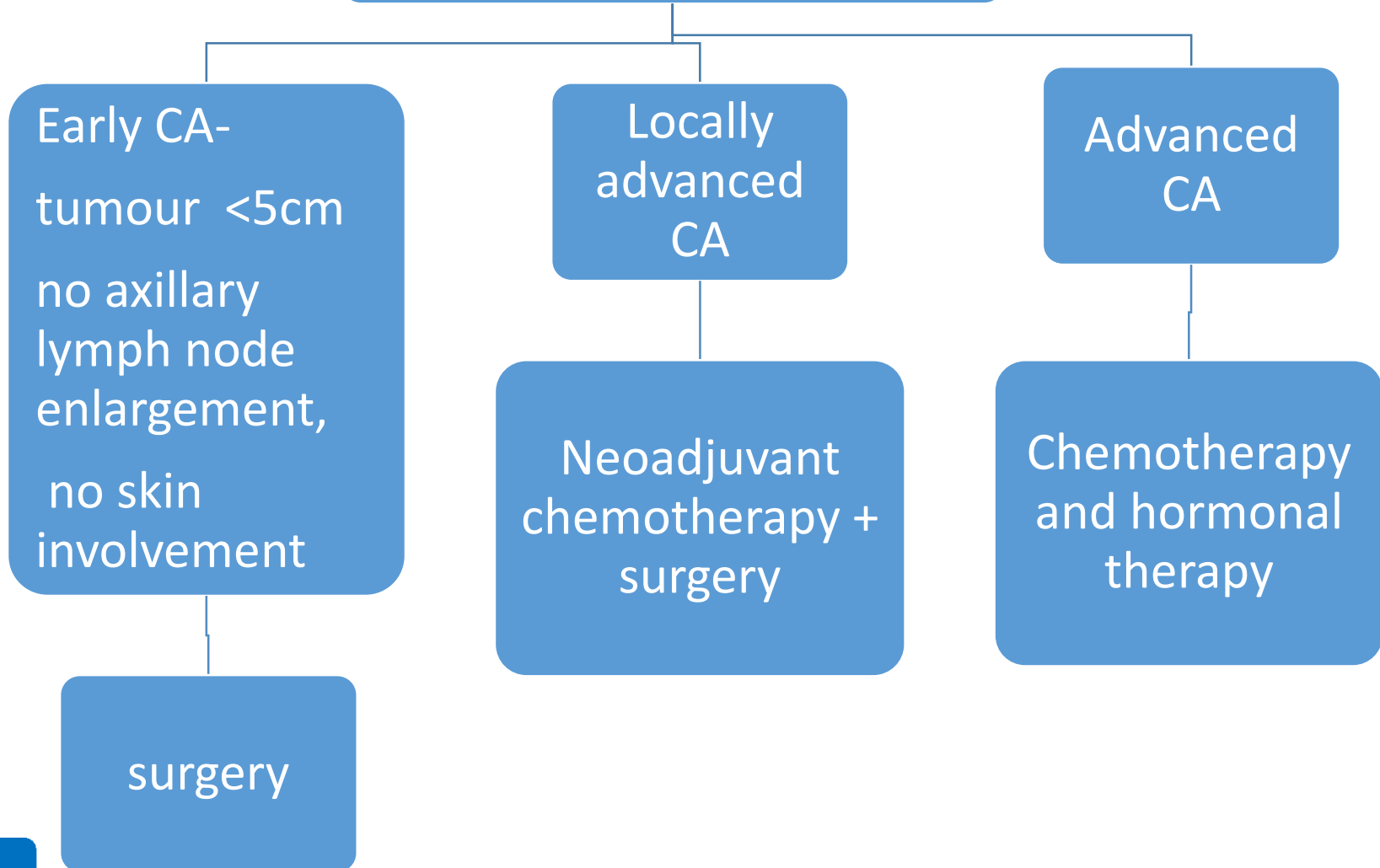


# Management – non invasive carcinoma

- Ductal in situ carcinoma- wide local excision
- Lobular in situ carcinoma – not precancerous but indicates future CA in a separate place on same breast/ opposite breast. Therefore need surveillance with MRI



# Invasive breast carcinoma management



# Surgical options for breast carcinoma

## Surgery to breast

1. Breast conservative surgery – wide local excision or Quadrantectomy
2. modified radical mastectomy

## Surgery to axilla

1. Sentinel lymph node biopsy
2. axillary node clearance
3. axillary node sampling



# Early breast CA - management

- For  $< T2N1M0$  /  $< T3N0M0$
- Can do either wide local excision or modified radical mastectomy.
- But go for modified radical mastectomy over wide local excision if,
  1. Tumor is large in relation to the breast
  2. Multifocal disease – more than 2 primary CA in 2 quadrants



3. Local recurrence
4. Patient preference
5. Tumour beneath the nipple/ padget`s disease
6. Poor literacy with risk of default for radiotherapy
7. Pregnancy ( cannot give radiotherapy)



# Modified radical mastectomy

- Remove whole breast, a large portion of skin with tumor at centre and includes nipple always, all of fat fascia and lymph nodes of axilla.
- Pectoralis major is preserved but pectoralis minor is dissected or reracted.
- Depending on the histology, post mastectomy radiotherapy may have to follow.





# Wide local excision

- Remove tumour with rim of 2 cm of normal breast tissue.
- Conservative surgery always follow radiotherapy
- Breast conservative surgery with radiotherapy has same benefit as modified radical mastectomy.



# Locally advanced breast cancer management

- For tumour size  $> 5$  cm/ with skin involvement/  $> T3, T4$
- Arrange neoadjuvant chemotherapy to downgrade the tumour
- Do modified radical mastectomy with past operative radiotherapy
- This can combine with the breast reconstruction.



- Chemotherapeutic agents include,
  1. Cyclophosphomide
  2. Methotrexate
  3. Doxorubicine



# Advanced breast cancer management

- Chemotherapy and hormonal therapy is the main stay of treatment.
- Palliative mastectomy can be considered.
- Hormonal treatment is done with Tamoxifen ( selective oestrogen receptor modulator)

