



Promise of a beautiful day

Ductal carcinoma in Situ

Lobular Carcinoma in Situ

Natural History

Manosmed Tartous Oct 2009

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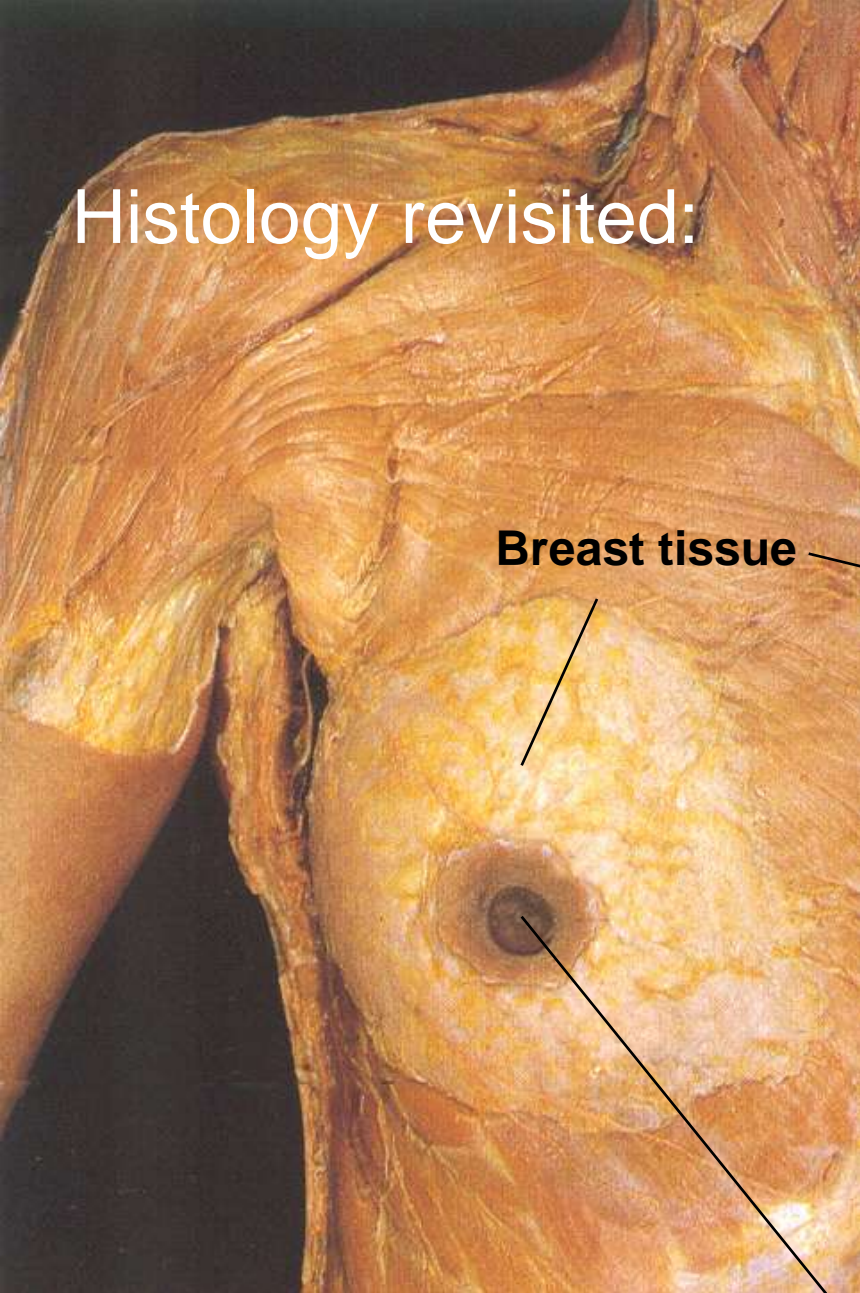
Faculty of Medicine St Joseph University
Beirut LEBANON



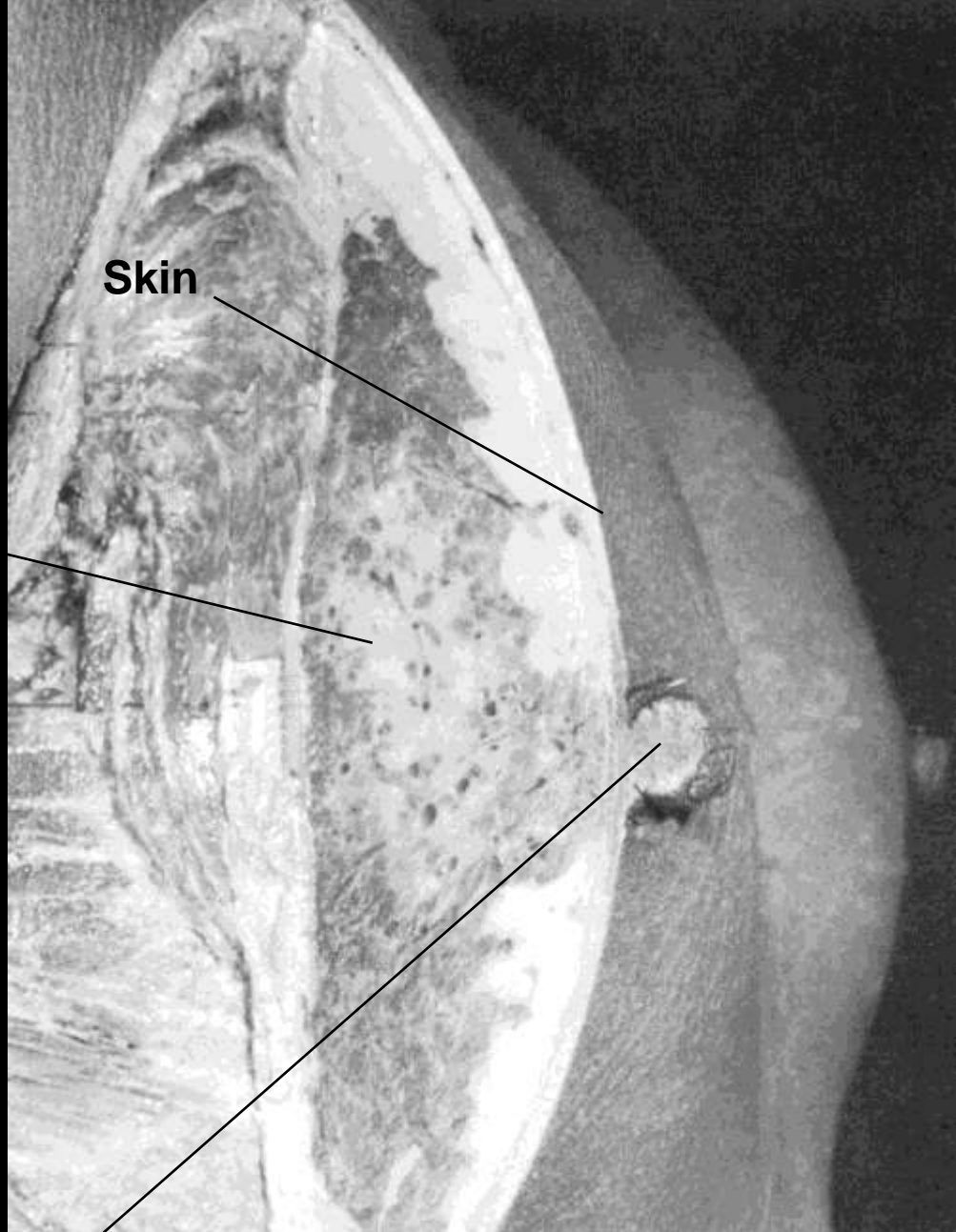
Natural History

- Definitions: Precancerous lesions?
- The breast tissue, a crash histology review
- “Lobular carcinoma in situ”:
 - Classifications (“Birth” Origin, Family picture)
 - Clinical significance (“Growth”- Evolution)
- Ductal carcinoma in situ:
 - Classifications (“Birth” Origin, Family picture)
 - Clinical significance (“Growth”- Evolution)
- *Take home messages*

Histology revisited:



Breast tissue



Skin

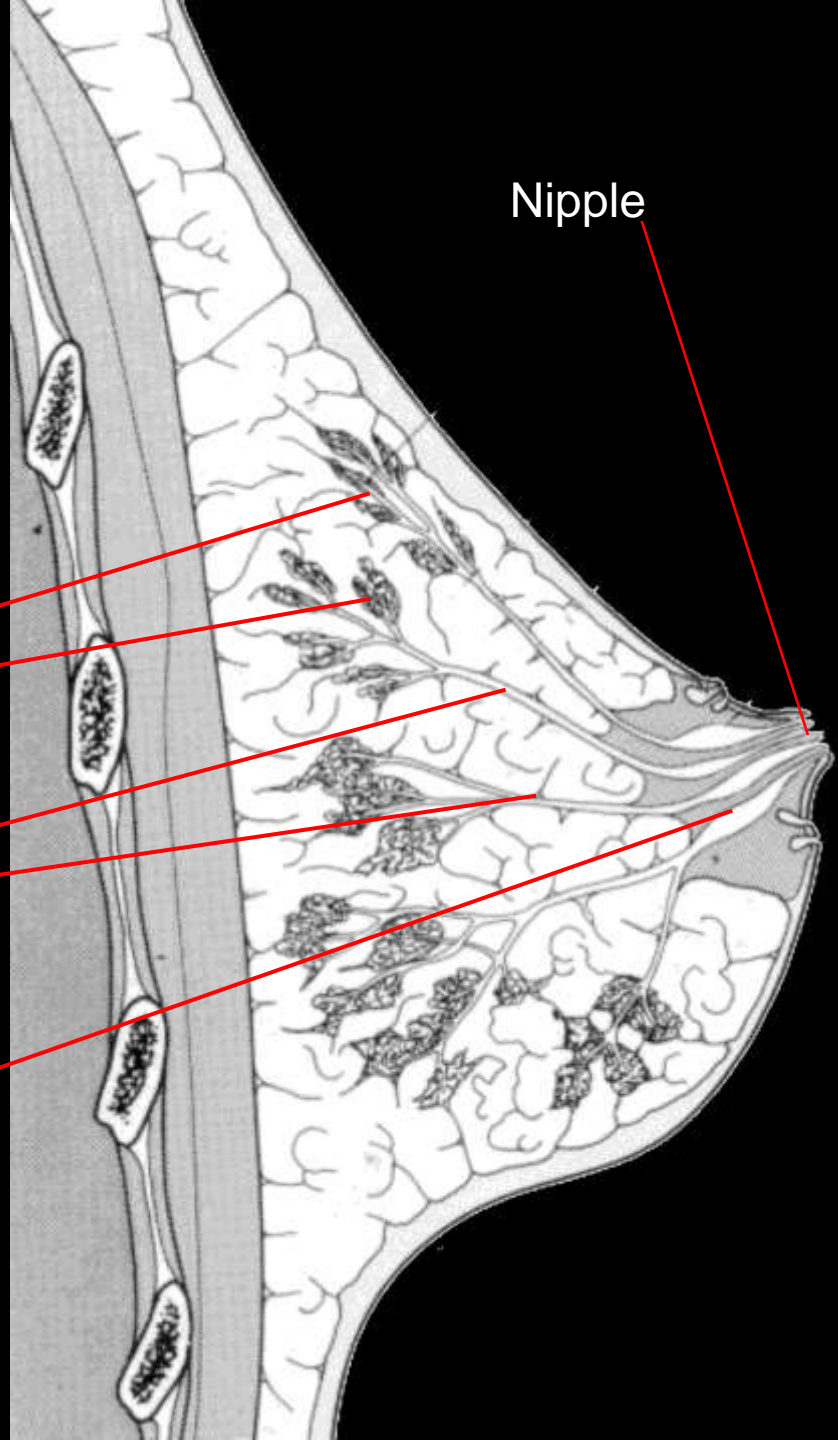
Nipple



Lobes

Galactophores
(Ducts)

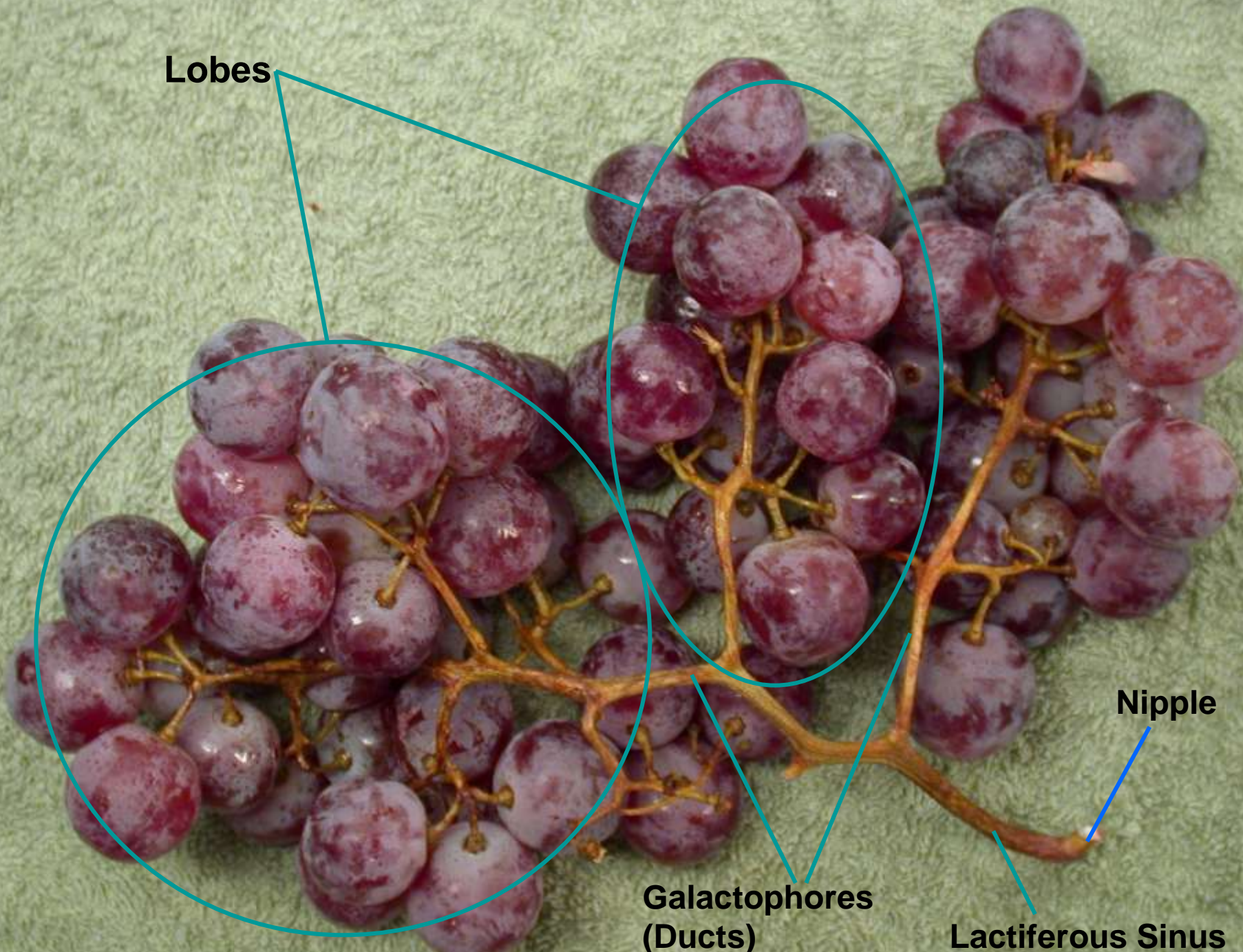
Lactiferous
Sinus



Nipple

Histology: the epithelial tissue of the breast





Lobes

Nipple

**Galactophores
(Ducts)**

Lactiferous Sinus

HISTOLOGY

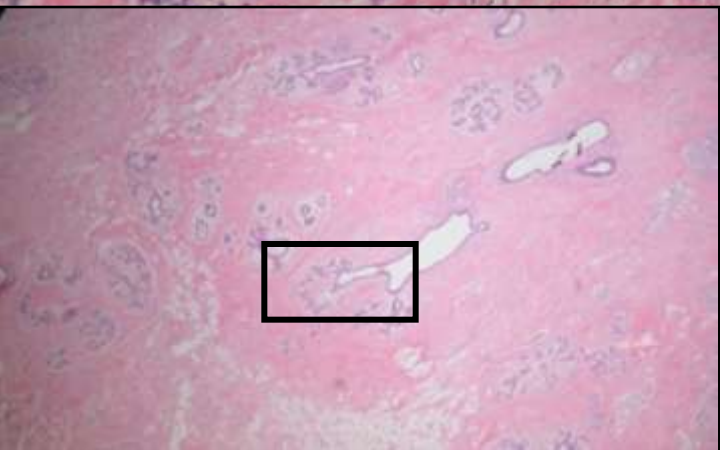
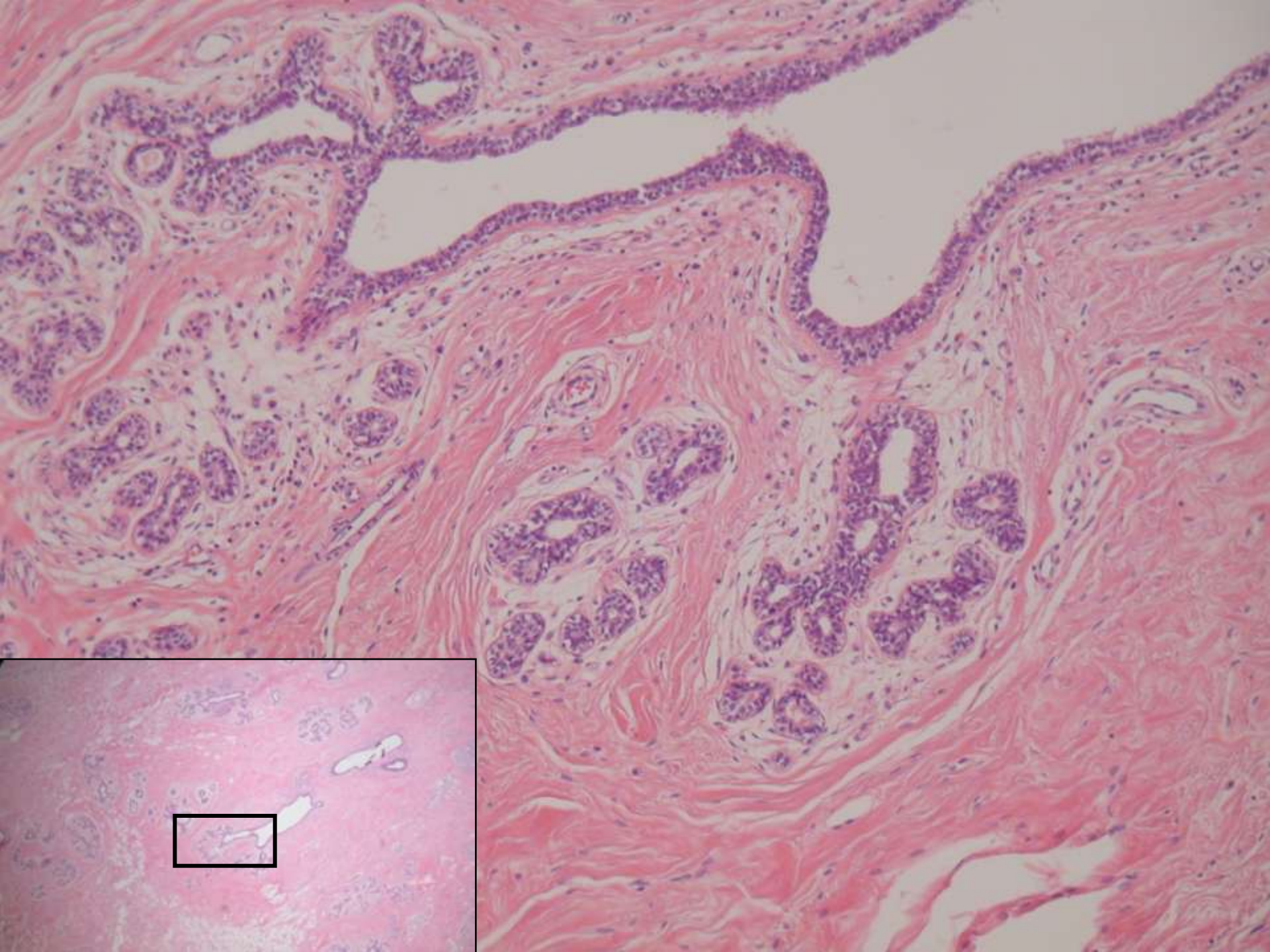
Lobule

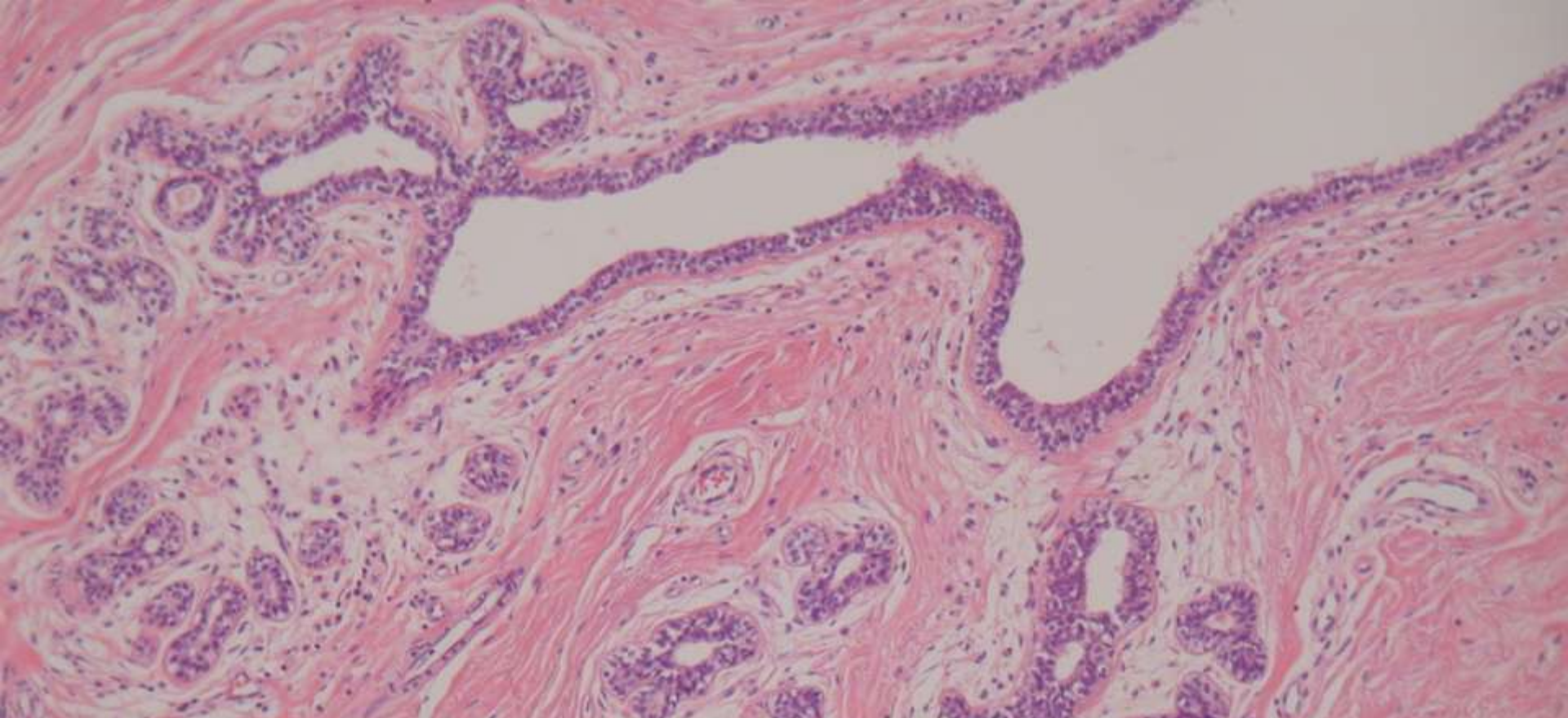
Ductule



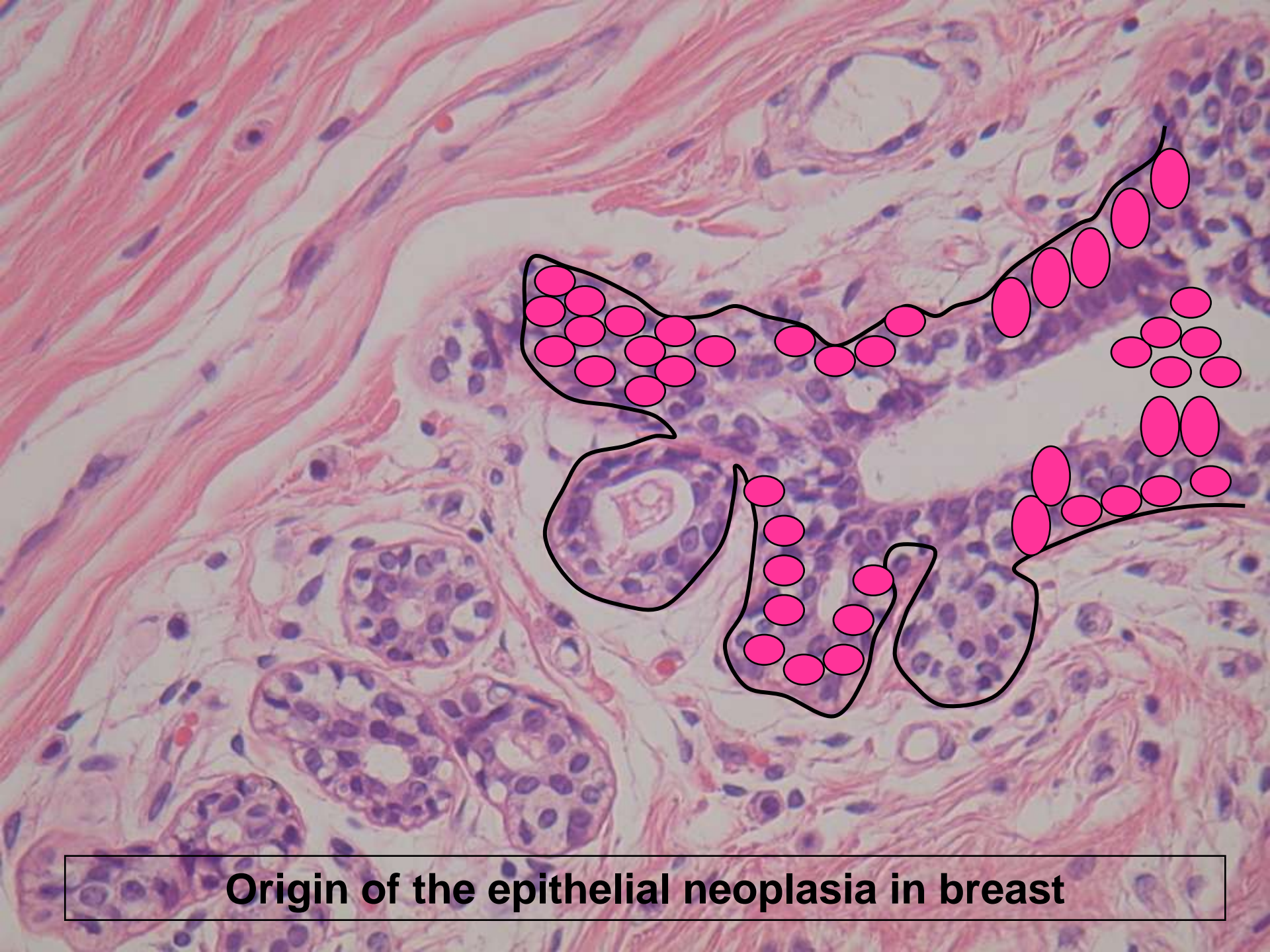
Interlobular fibrous tissue

Adipose Tissue









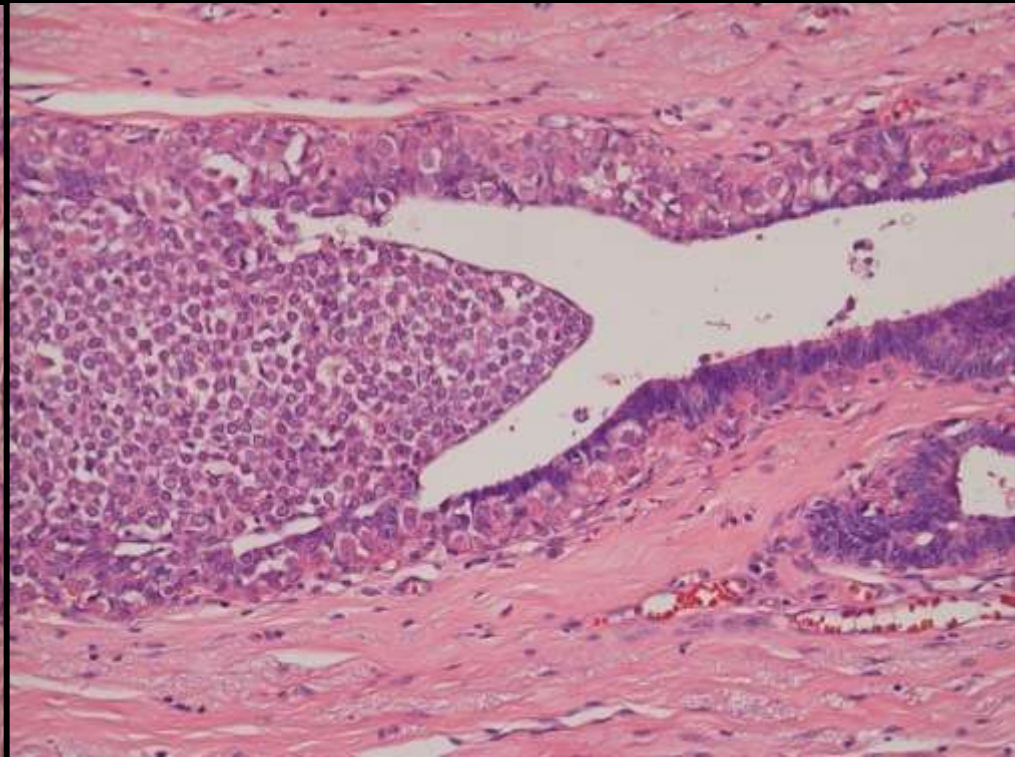
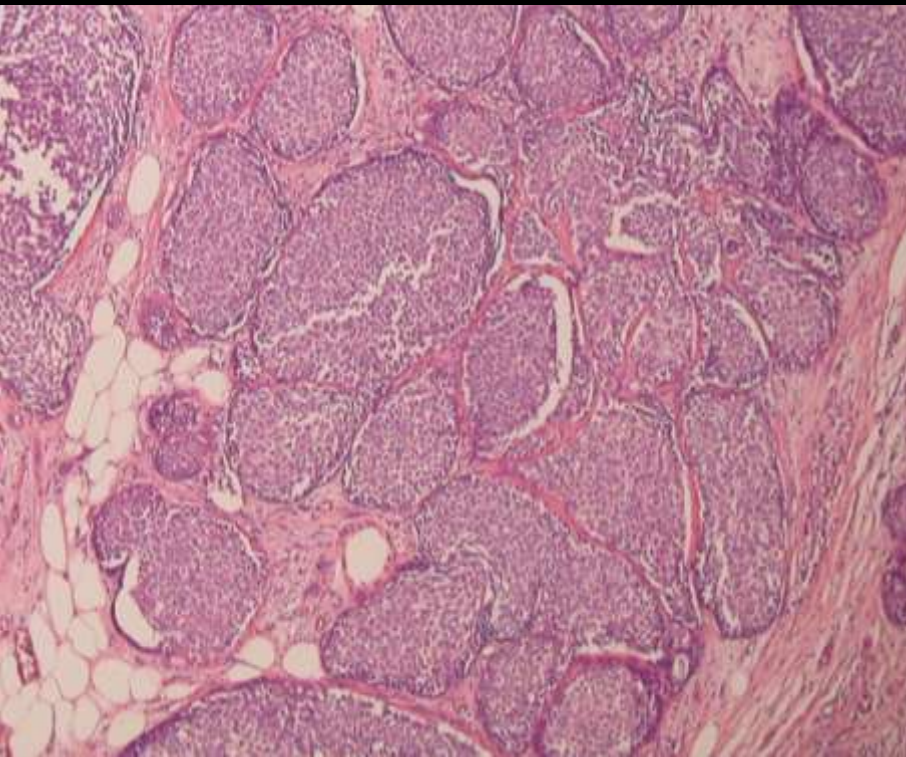
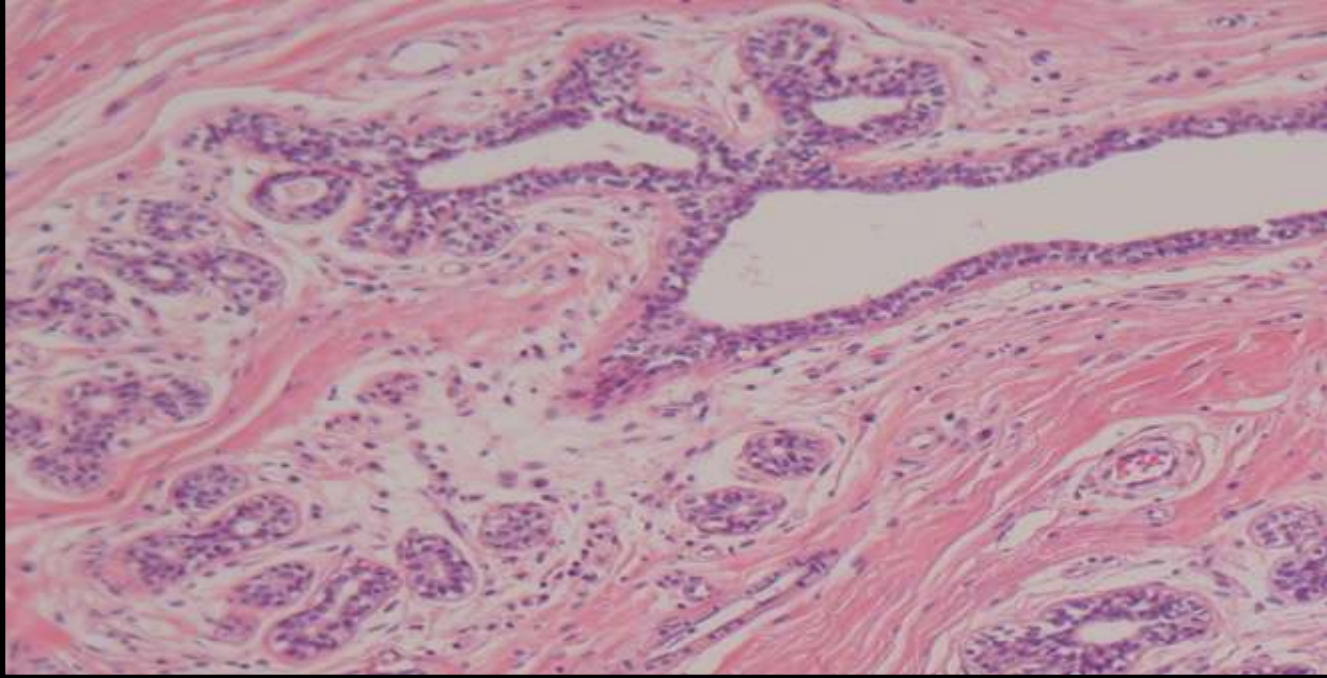
Origin of the epithelial neoplasia in breast

Lobular Neoplasia

- Synonyms
 - Atypical lobular Hyperplasia
 - Carcinoma lobular in situ
- Definition, Grades (I - III)
 - Proliferation of small loosely cohesive cells originating in terminal duct-lobular unit
 - LN constitutes a risk factor and a non obligatory precursor for the development of invasive carcinoma in either breast, either ductular or lobular type



Lobular neoplasia Grade III (Lobular carcinoma in situ)



Lobular Neoplasia

- 85 % multicentric, 30 % bilateral
- No mammographic pattern, with rare exceptions
- Immunoprofile
 - ECadherin – CK5.6 – HMW +
- Molecular genetics:
 - Study of LOH on different chromosomes
 - Specially mutational analysis of the Ecad. gene: direct evidence for a precursor role of LN in invasive lobular carcinoma.

Lobular Neoplasia

- Prognosis and predictive factors:
 - Relative risk for invasive carcinoma: 7 to 12 times
- 18 Retrospective studies:
 - LN in 1174 women treated by biopsy alone:
 - 181 (15.4%) eventually dev. Invasive carcinoma:
 - 102 (8.7%) ipsilateral
 - 79 (6.7%) contralateral
- Prospective study: 100 cases of LN > 10 years:
 - 11/13 Ipsilateral invasive carcinoma

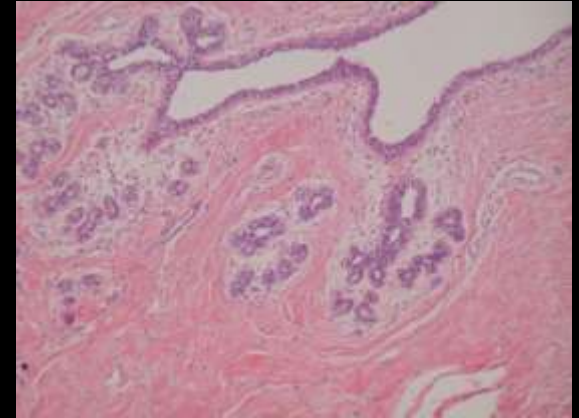
Carcinoma in situ of the female breast. 10 year follow-up of a prospective nationwide study. Ottesen GL et Al (2000)

Breast Cancer Res Treat 62: 197-210

Intraductal proliferative lesions

- **Definition**

- Proliferation originating and confined to the ductular system
- Associated with and increased risk of subsequent development of invasive carcinoma with greatly different magnitudes.

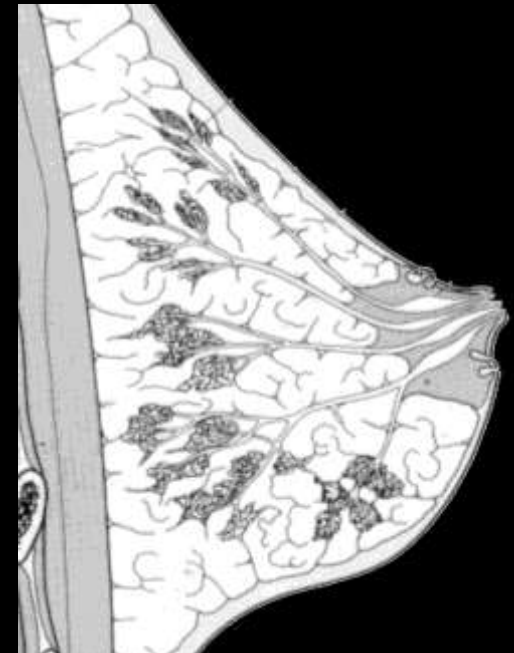


- **Site of origin**

- Terminal duct-lobular unit
- Small proportion from large ducts

- **Route of progression**

- Duct system toward the nipple (Paget)



Intraductal proliferative lesions

Terminology (WHO)

Traditional terminology	Ductal intraepithelial neoplasia (DIN) terminology
Usual ductal hyperplasia (UDH)	Usual ductal hyperplasia (UDH)
Flat epithelial atypia	Ductal intraepithelial neoplasia, grade 1A (DIN 1A)
Atypical ductal hyperplasia (ADH)	Ductal intraepithelial neoplasia, grade 1B (DIN 1B)
Ductal carcinoma in situ, low grade (DCIS grade 1)	Ductal intraepithelial neoplasia, grade 1C (DIN 1C)
Ductal carcinoma in situ, intermediate grade (DCIS grade 2)	Ductal intraepithelial neoplasia, grade 2 (DIN 2)
Ductal carcinoma in situ, high grade (DCIS grade 3)	Ductal intraepithelial neoplasia, grade 3 (DIN 3)

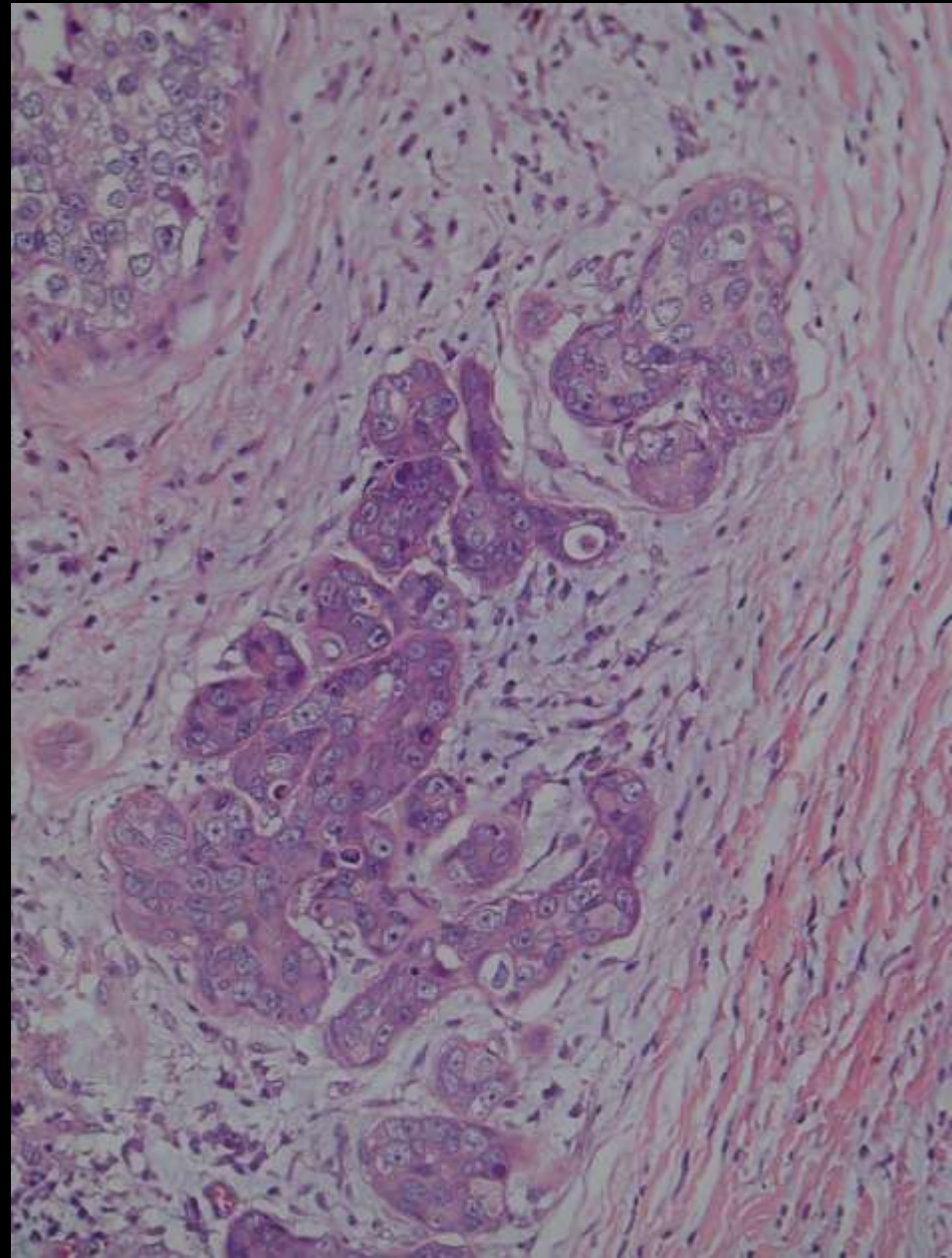
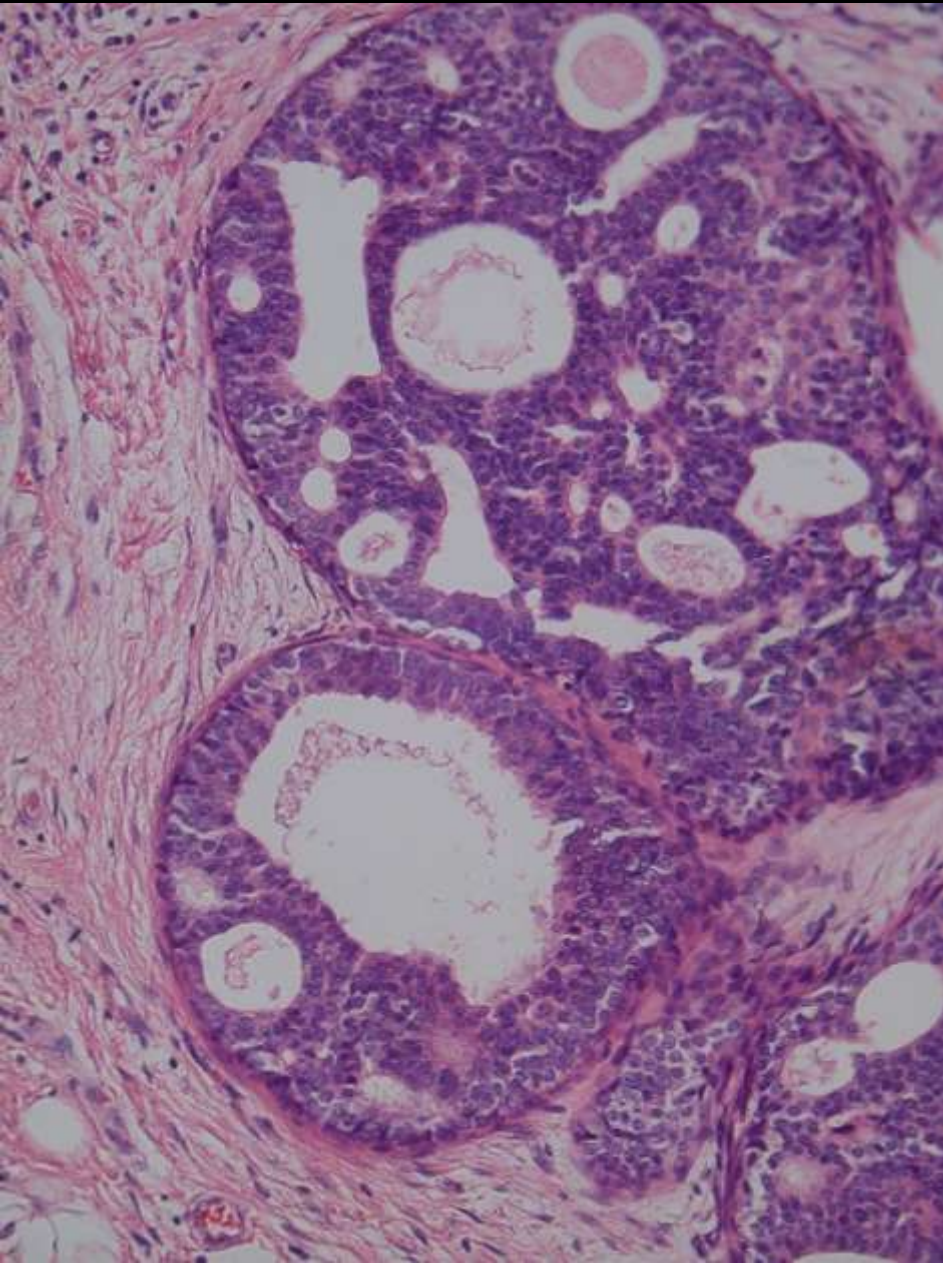
Standardization of histopathological criteria: Problem area ADH – DIN1 C

Ductal Carcinoma In Situ

- Definition
 - Neoplastic Intraductal lesion with subtle to marked epithelial atypia
 - Not necessary obligate tendency for progression to invasive carcinoma
- Synonyms: DIN1C – DIN3
- Risk progression: 8-11
 - Conservative treatment usually curative

Ductal Carcinoma In Situ

- **Basis of grading** (to be documented in the pathology report)
 1. Nuclear grade
 2. Necrosis
 3. Architectural pattern
 - Associated features
 - Margins, Distance
 - Size (extent and distribution)
 - Microcalcifications
- > Low , Intermediate , High Grade



Ductal Carcinoma In Situ

- Epidemiology
 - Increase in detection
 - Screening mammography
 - Annual increase incidence
 - WHO: 4% (1973-83) > 17.5 % (1983-92)
 - HDF: 7 cases (2004) > 16 Cases (2006) > 28 (2008)
- Facts:
 - 90% DCIS: Comedo in the premammographic era
 - 60% non comedo with mammography, and increasing

Ductal Carcinoma In Situ

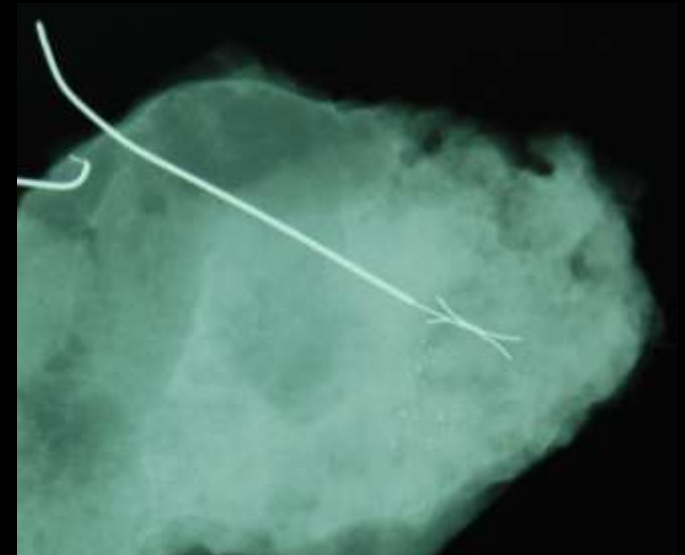
- **Facts**

- DCIS Mortality declining even with limited surgical excision:

- < 1983: 3.4 % died at 10 years (mastectomy)
- 1984-89 : 2 % died at 10 years (lumpectomy)

- **Clinical findings**

- 85 % Mammography
- 10 % Palpable abnormality
 - Discharge
 - Paget



Ductal Carcinoma In Situ

- Prognosis
 - Retrospective studies: Predictive factors for local recurrence
 - High nuclear grade
 - Large lesion size
 - Comedonecrosis
 - Involved margins

Take home Messages

- Lobular neoplasia

- Risk factor

- non obligatory precursor

- Recommendations

- Lifelong follow-up (+/- Tamoxifen)

- Re-excision considered in massive acini distension or pleomorphic variant with close margins.

Take home Messages

- **Ductal carcinoma in Situ**

- Classification:

- interobserver reproducibility poor with no appropriate criteria
- DIN proposal: avoid overtreatment

- RR 8 to 11

- Increase in incidence (mammographic screening era)

- Precursor lesions

- not necessarily an obligate tendency for progression to invasive carcinoma

- Not a life threatening disease: mastectomy represents an overtreatment for many patients

- Reserved for some patients with large extensive lesions

A close-up photograph of a dandelion seed head, also known as a clock, set against a soft, warm sunset sky. The sky transitions from a pale yellow at the top to a deep orange and red at the bottom. The dandelion is dark, almost black, and its many seeds are visible, radiating outwards. The overall mood is peaceful and contemplative.

End of Presentation

- Thank you for your Attention

Promise of a beautiful evening