

Management of Benign High Risk Breast Lesions

Eun Yeong Oh, MD, PhD

Subspecialty Chief of Breast Pathology and Immunohistochemistry Laboratory

MidAtlantic Permanente Medical Group Regional Laboratory

Introduction

- ▶ Benign high risk breast lesions that are typically excised if diagnosed in a CNB:
 - Atypical ductal hyperplasia (ADH)
 - Flat epithelial atypia (FEA)
 - Lobular neoplasm (ALH/LCIS)
 - Intraductal Papilloma (IDP)
 - Radial scar/complex sclerosing lesion (RS/CSL)
 - Mucocele-like lesion (MLL)
 - Fibroepithelial lesion with increased stromal cellularity
 - Spindle cell neoplasm
 - Microglandular adenosis

Lifetime Risk and Upgrade Rates to Malignancy in Subsequent Excision

	Lifetime Risk
ADH	3-5 X
Papilloma with atypia	7-8 X
MLL with atypia	
LCIS	8-10 X
ALH	3-5+ X
FEA	1.5-2 X
RS/CSL	2 X
Benign IDP	1-2X
MLL without atypia	

Management for many benign high risk lesions are evolving due to low upgrade rates to malignancy in subsequent excision

Could we characterize subset(s) of patients who could be managed non-surgically?

Flat epithelial atypia (FEA)

Lobular neoplasm (ALH/LCIS)

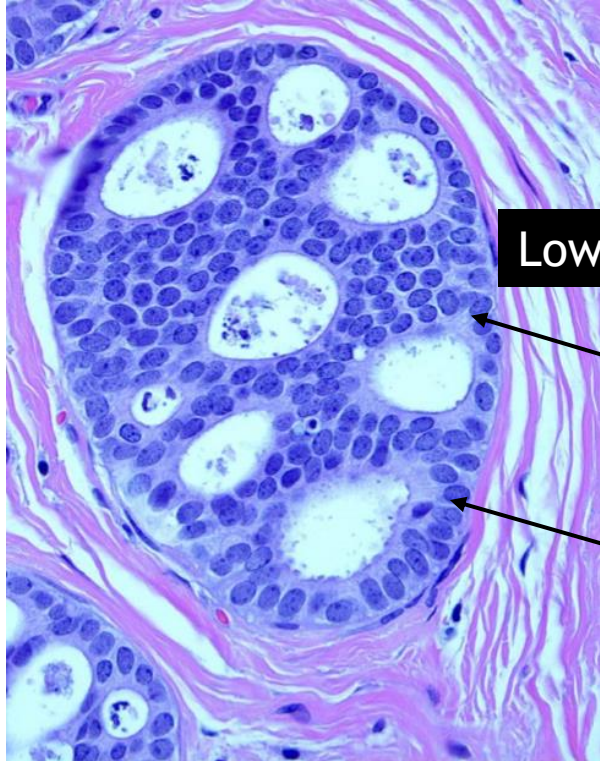
Intraductal Papilloma (IDP)

Radial scar/complex sclerosing lesion (RS/CSL)

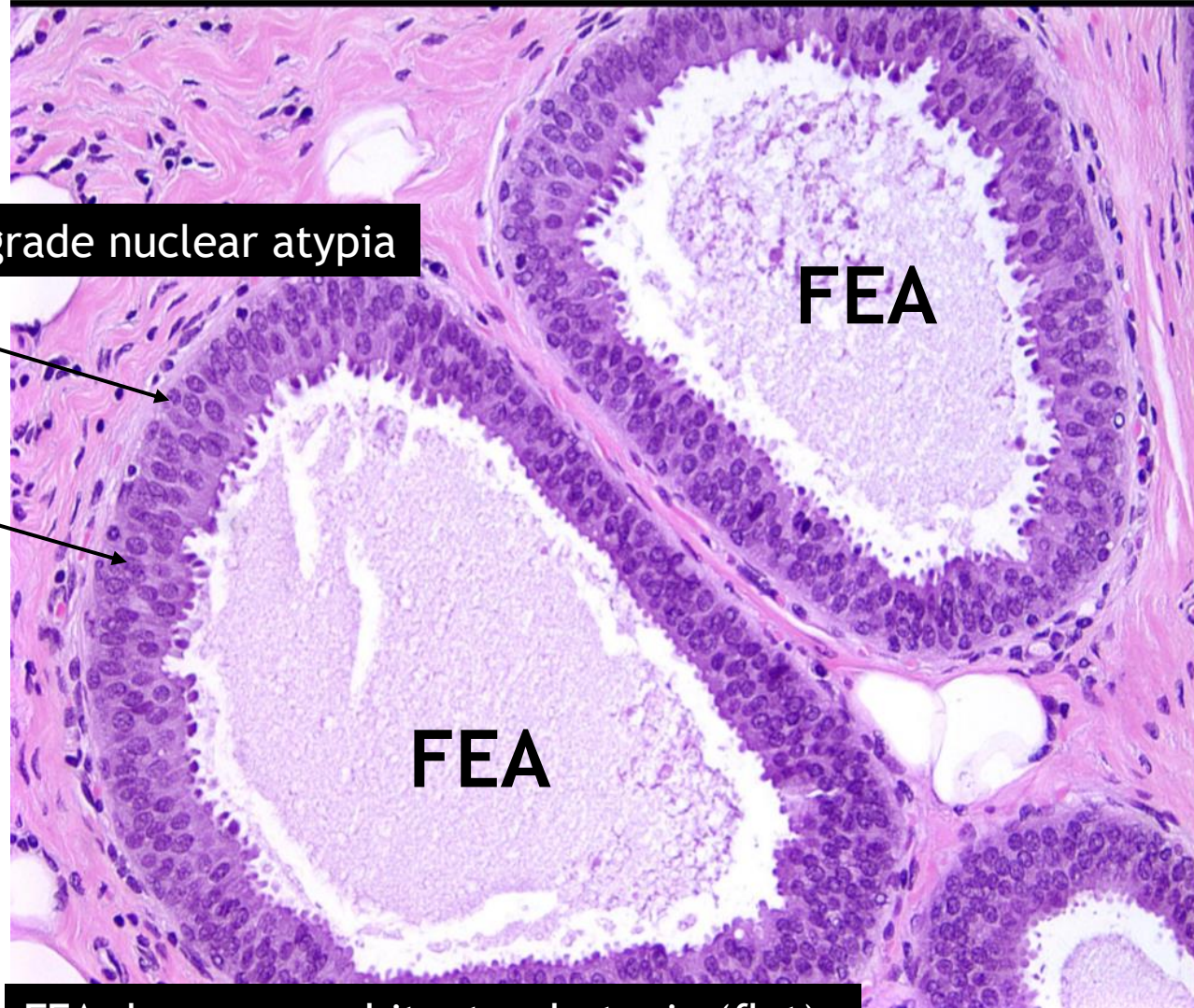
Mucocele-like lesion (MLL)

Flat Epithelial Atypia (FEA)

Low grade DCIS



Low grade nuclear atypia



FEA shows no architectural atypia (flat):
"clinging pattern" of LG DCIS

ADH arising in a background of FEA and Ca⁺⁺

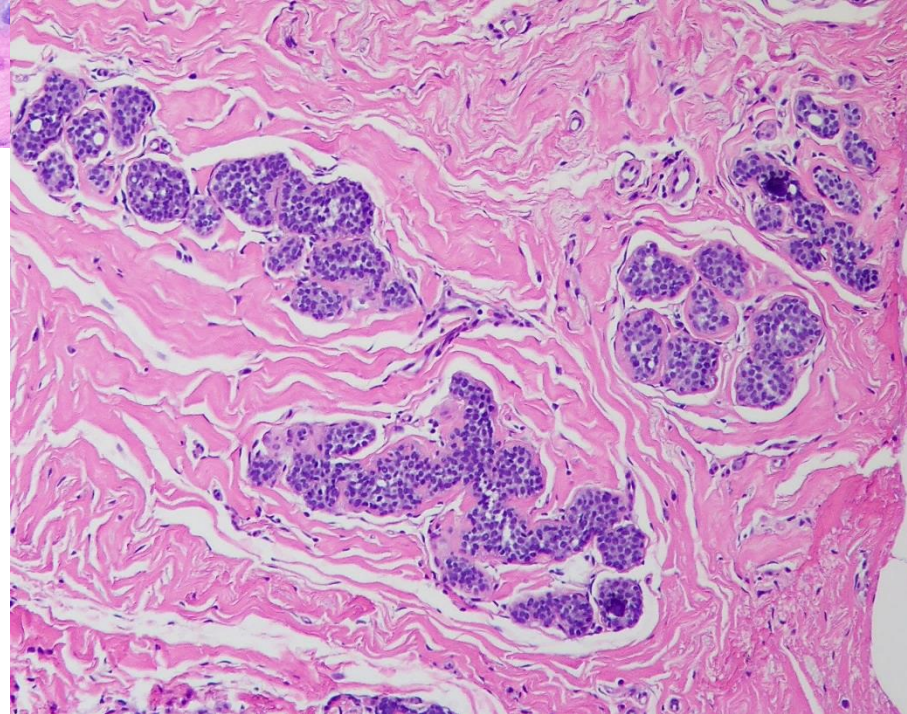
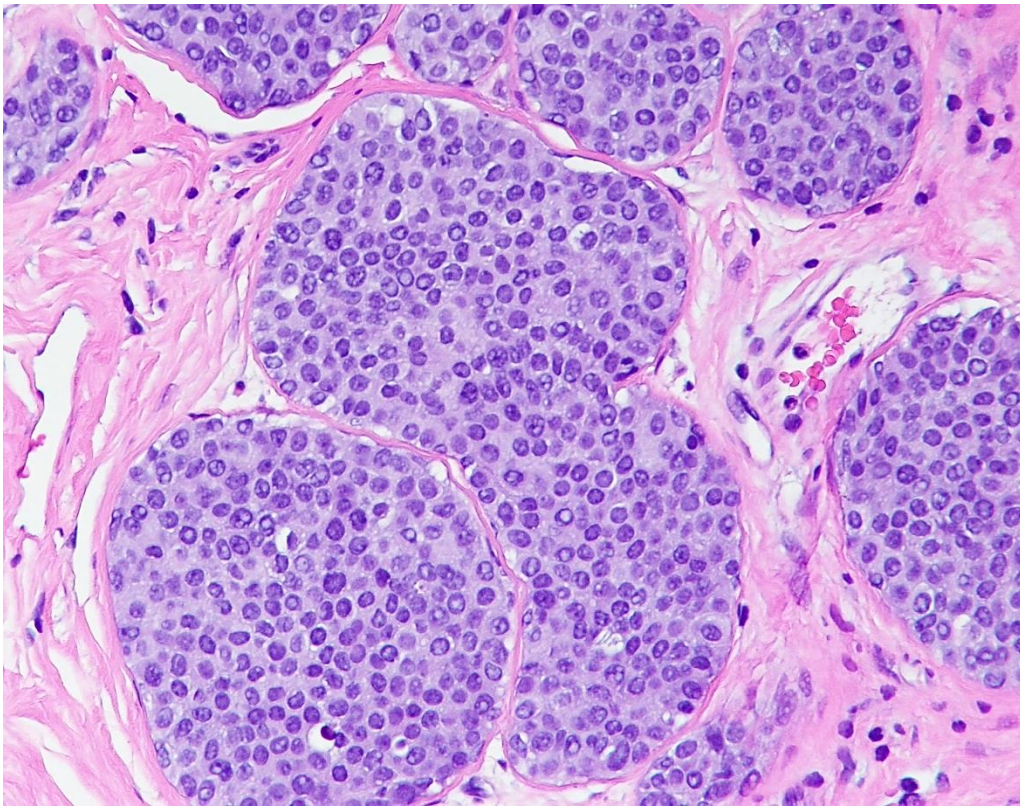


Management of FEA diagnosed on a CNB

- ▶ Mean upgrade rate to malignancy on excision is 8% (0-21%)
- ▶ 1% upgrade rate excluding rad-path discordant cases (El Khoury *et al*)
- ▶ Studies have shown no upgrade on excision where no residual calcifications present after CNB
- ▶ Watchful surveillance may be acceptable for FEAs without residual calcifications or associated mass
- ▶ Radiology-Pathology Correlation is Strongly Advised

Lobular Neoplasm (LCIS and ALH)

LCIS, classic type



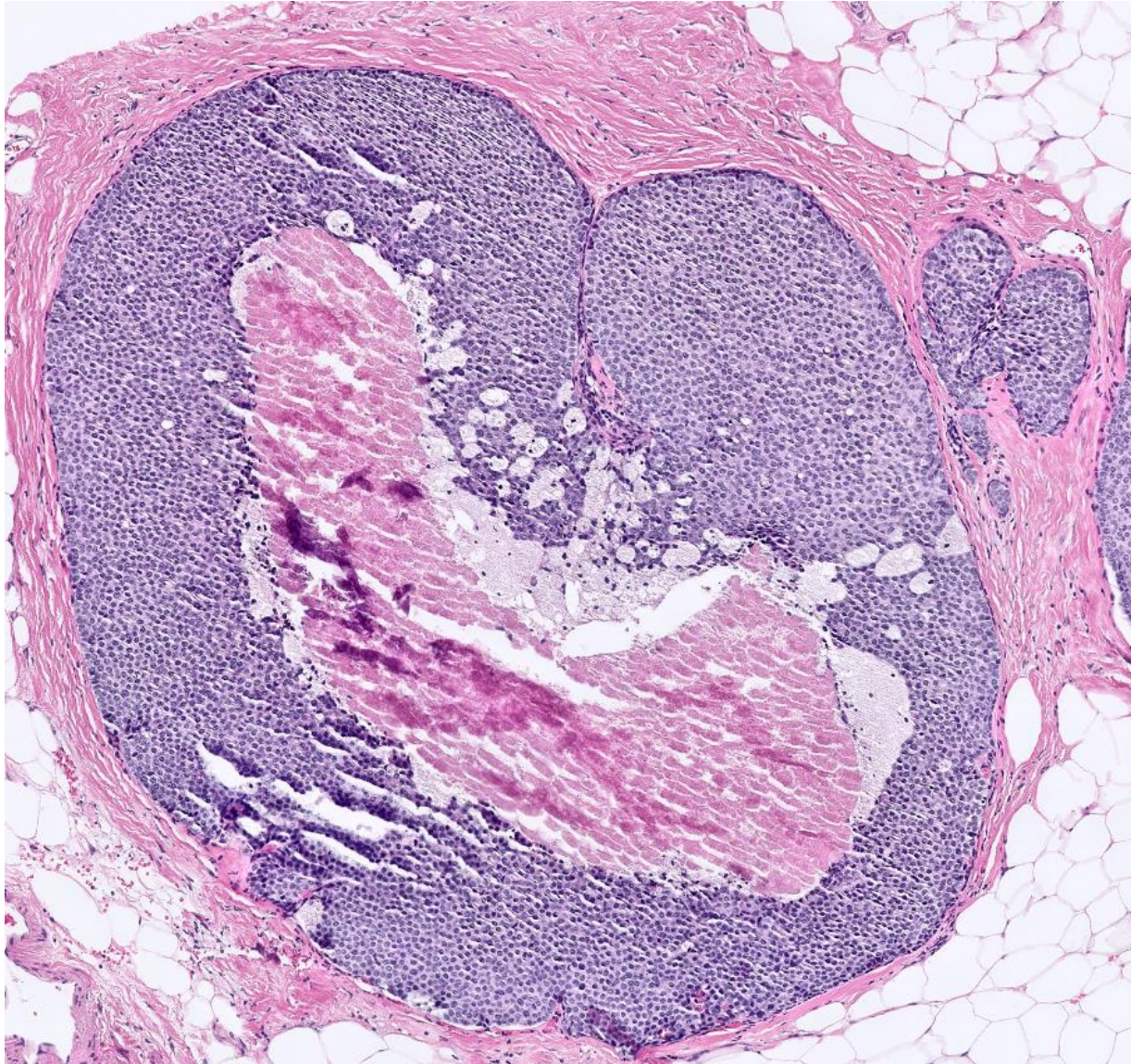
ALH

ALH with pagetoid involvement of a duct

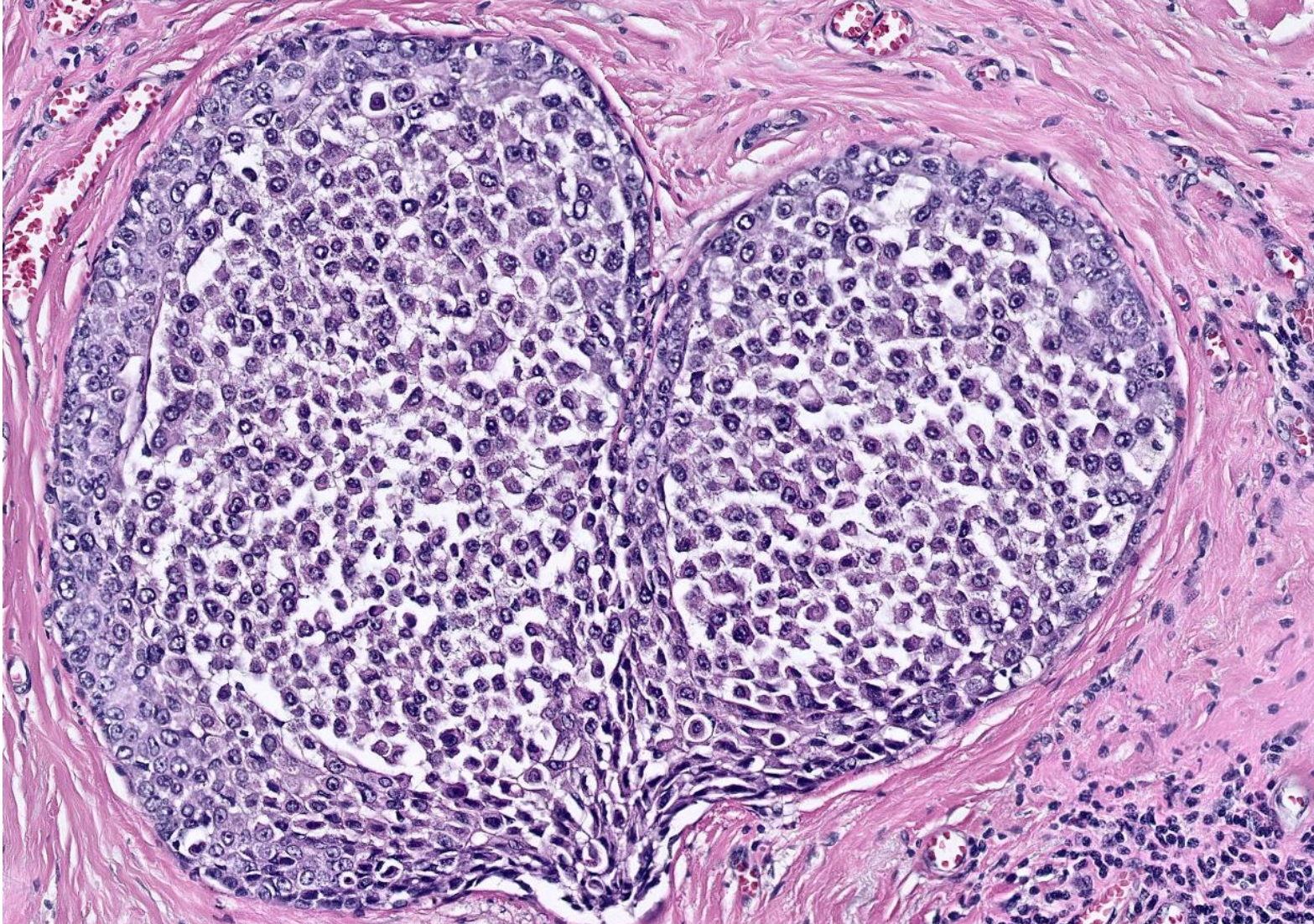


E-Cadherin: Negative

LCIS with necrosis and calcifications



Pleomorphic LCIS

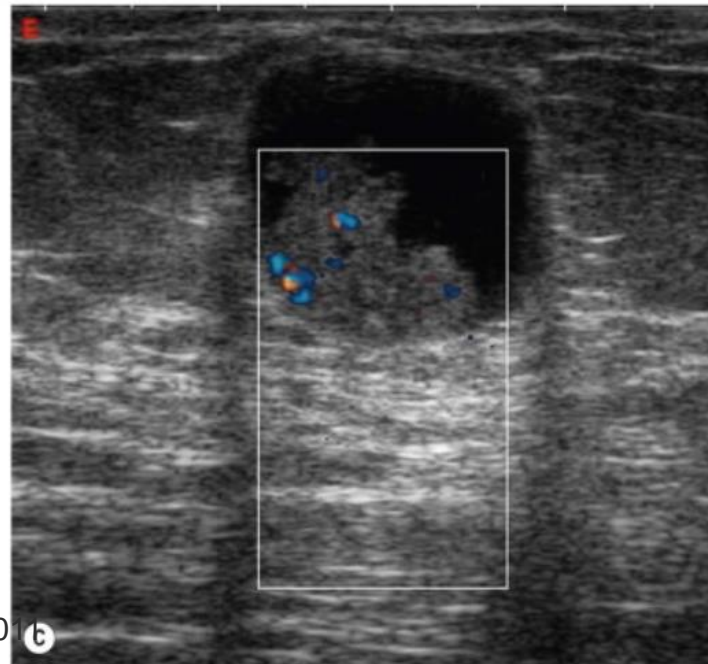
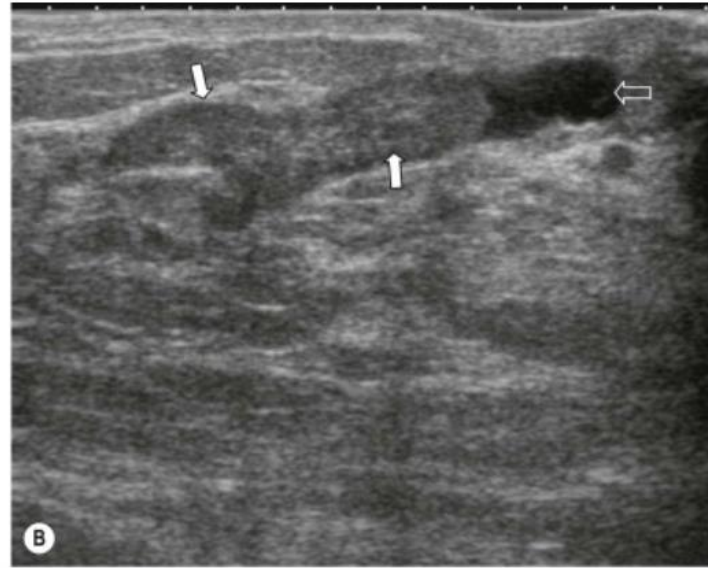


Management of Lobular Neoplasm

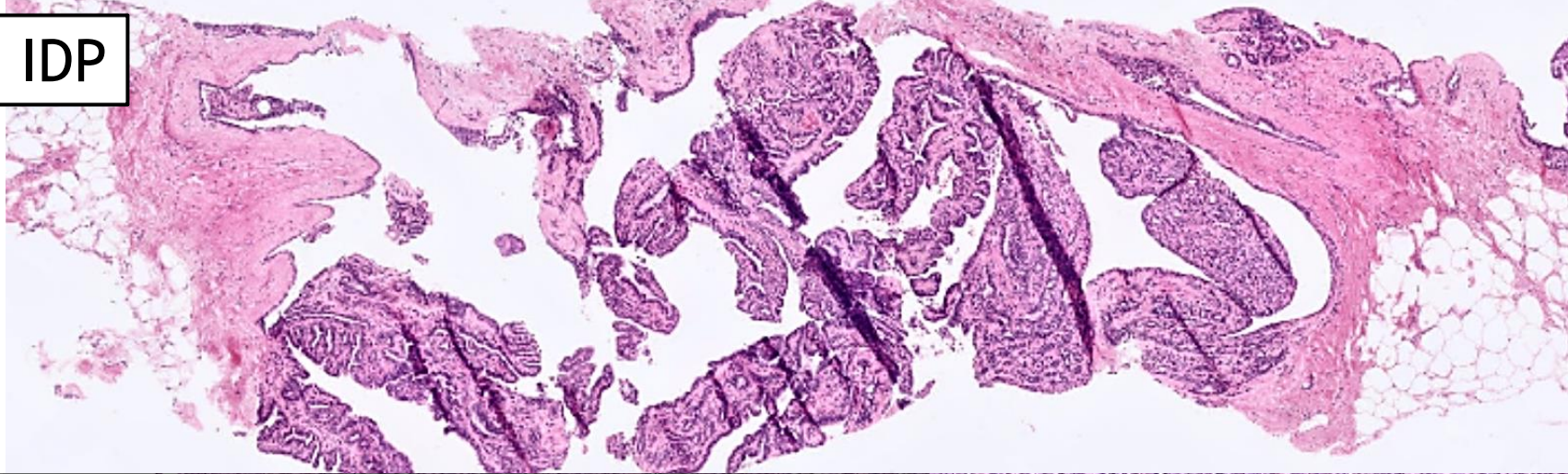
- ▶ **Mooney et al (2016)**
 - ▶ Mean upgrade rate is 9% (0-67%) for ALH and 18% (0-60%) for LCIS
 - ▶ Incidental ALH or LCIS on CNB: 5% upgrade rate to malignancy
 - ▶ Targeted ALH or LCIS on CNB: 30% upgrade rate to malignancy
- ▶ Recent studies also suggest that surgical excision may not be mandatory for lobular neoplasm when it is an incidental finding and there is concordance between radiologic and pathological findings regarding the targeted biopsied lesion
- ▶ LCIS variants (LCIS with necrosis and pleomorphic LCIS) and targeted LCIS/ALH (mass or associated calcs) should be excised
- ▶ Radiology-Pathology Correlation is Strongly Advised

Intraductal Papilloma

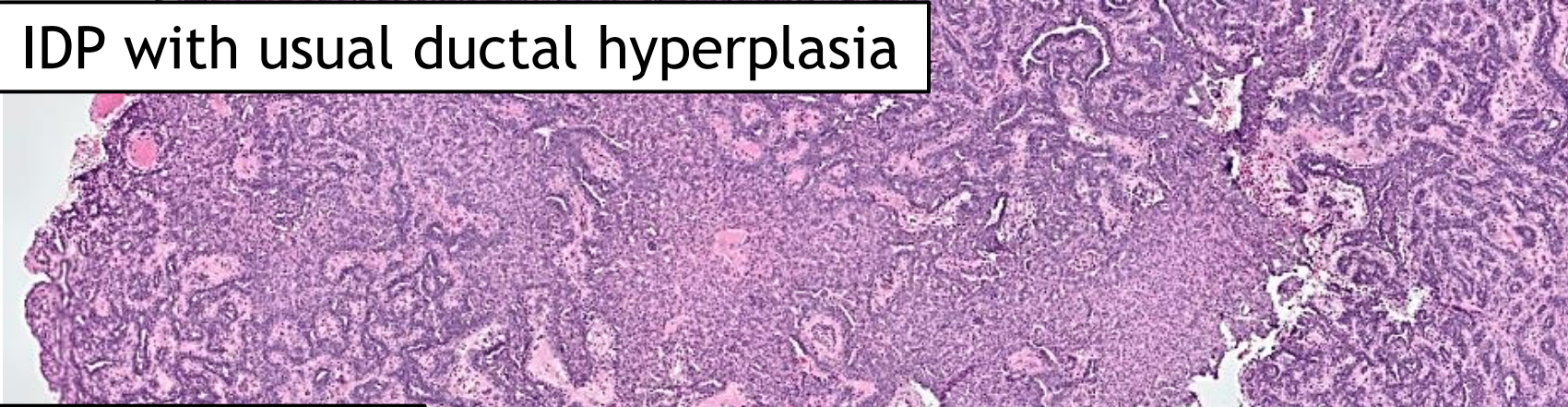




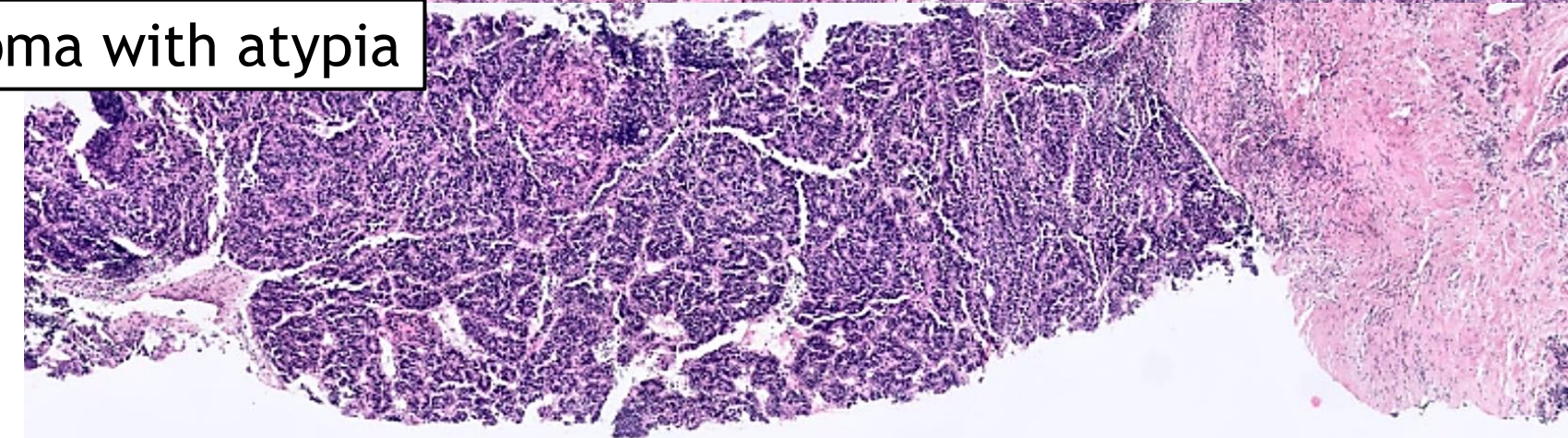
Benign IDP



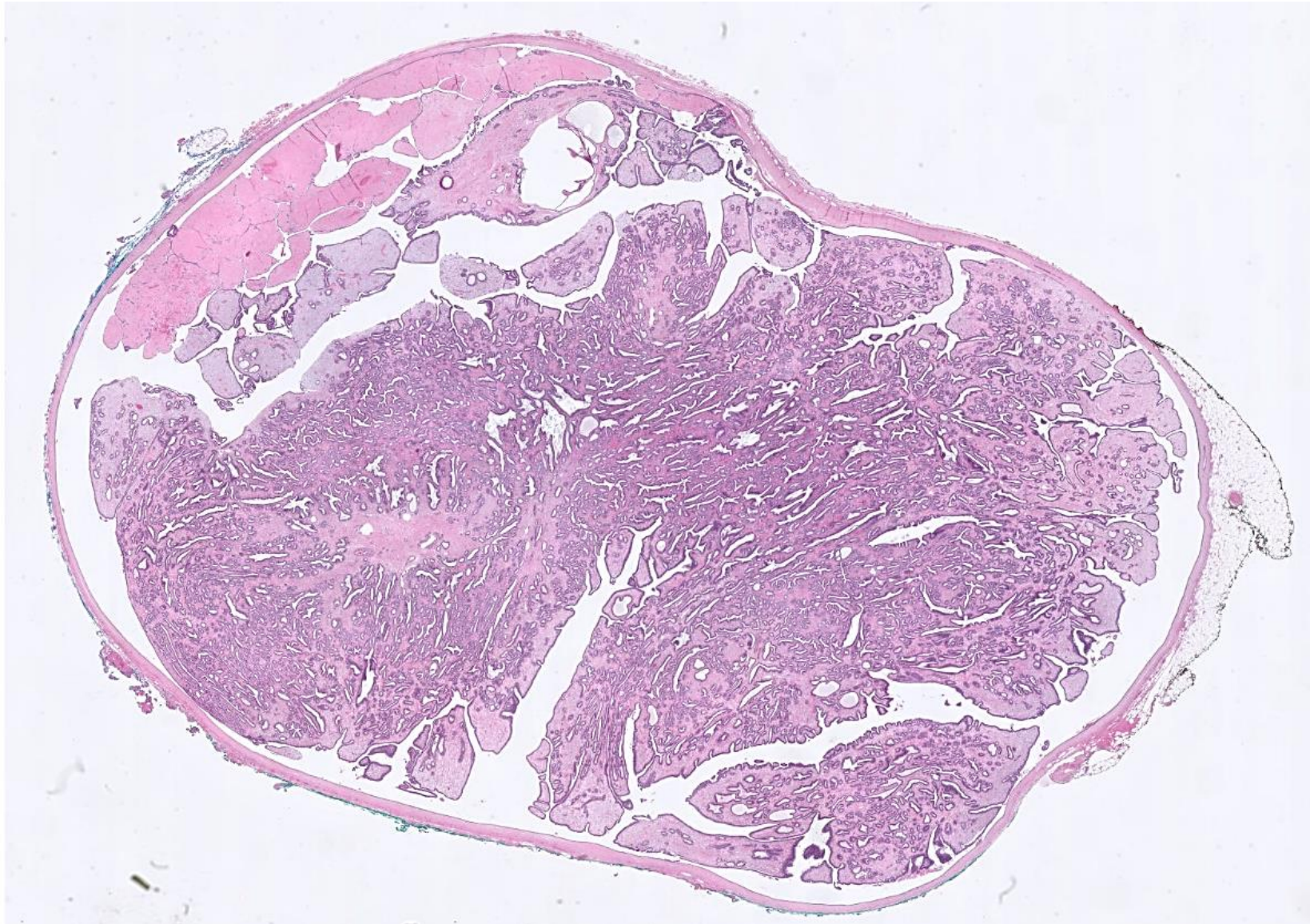
Benign IDP with usual ductal hyperplasia



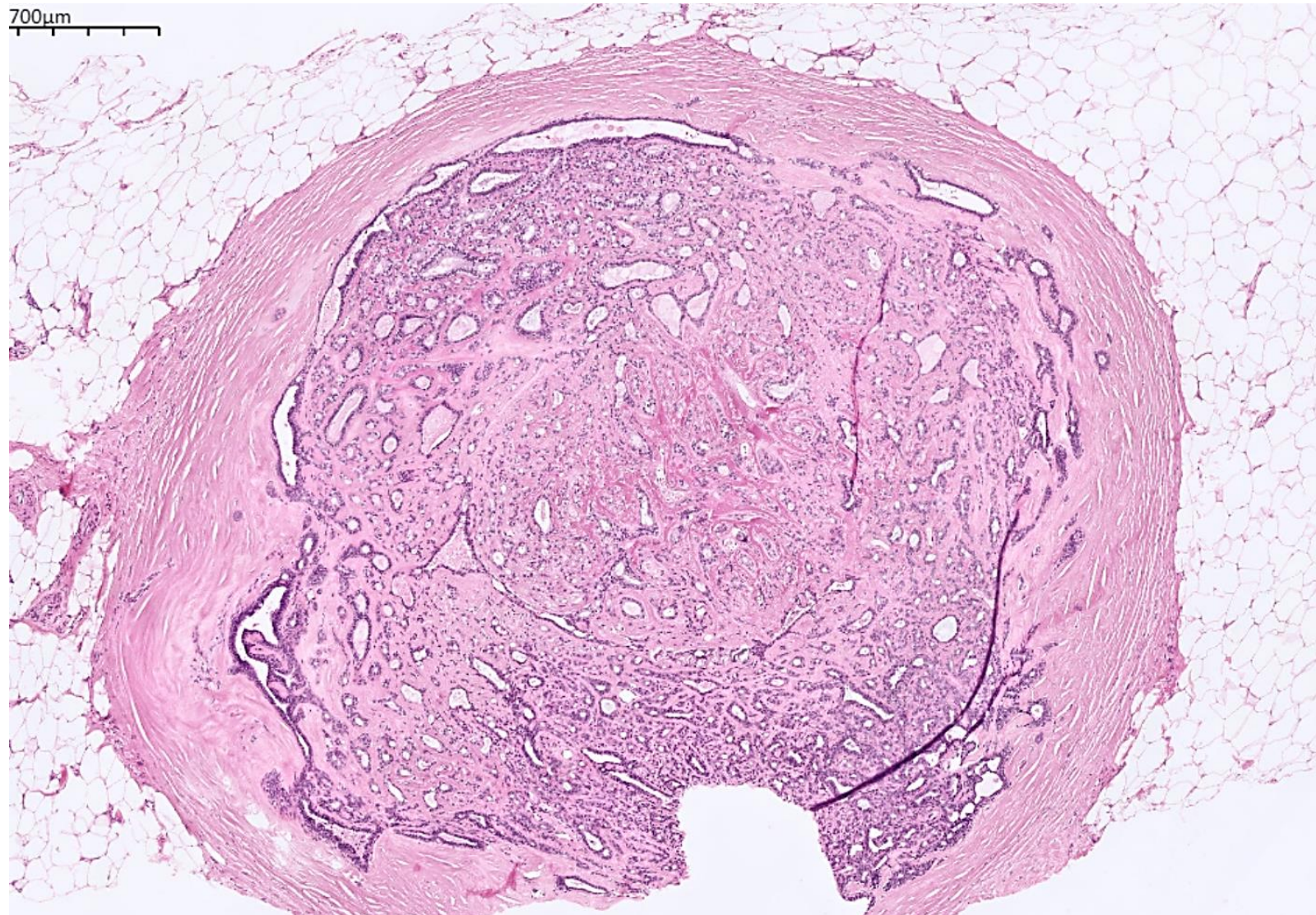
Papilloma with atypia



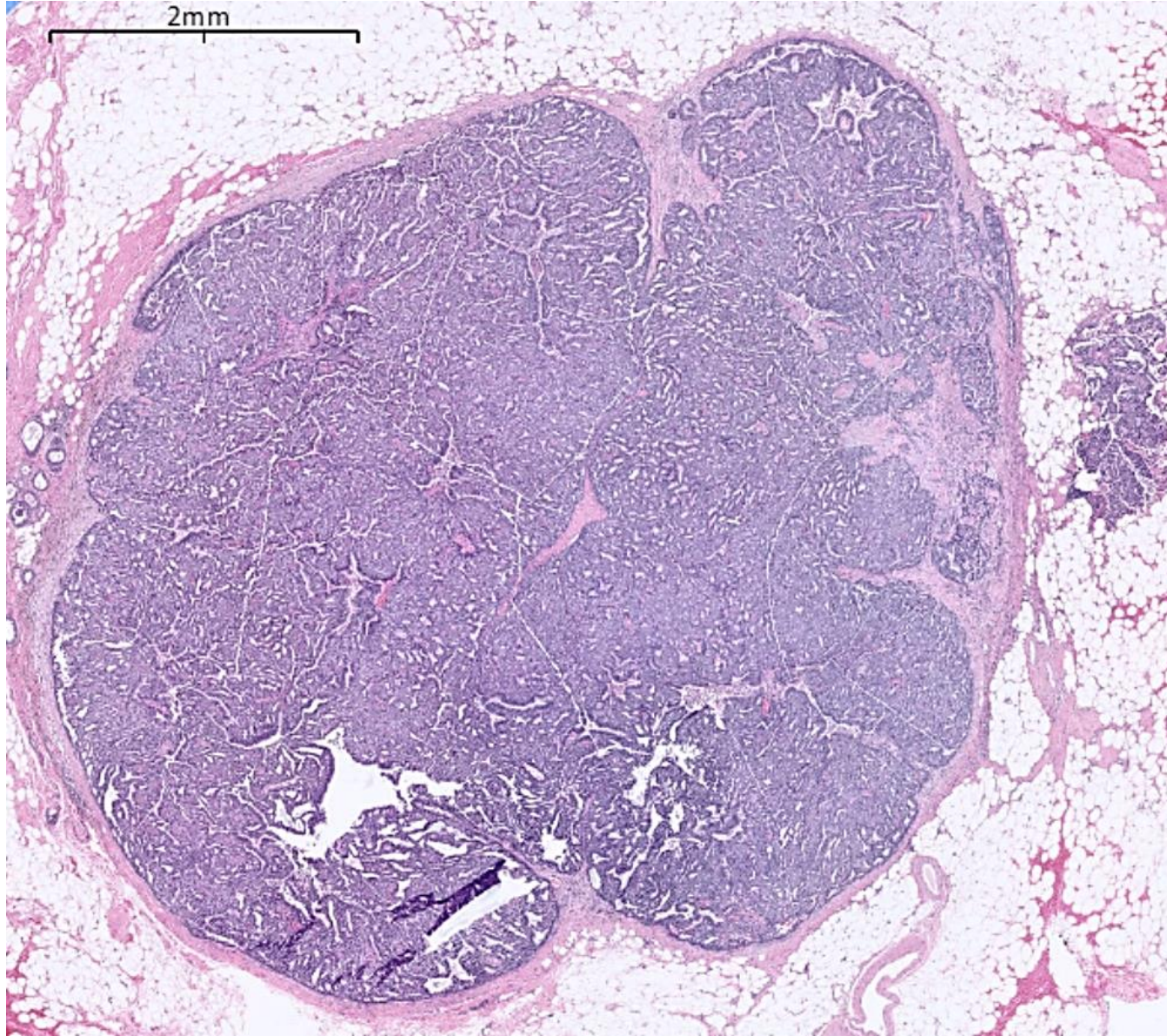
Benign Intraductal Papilloma



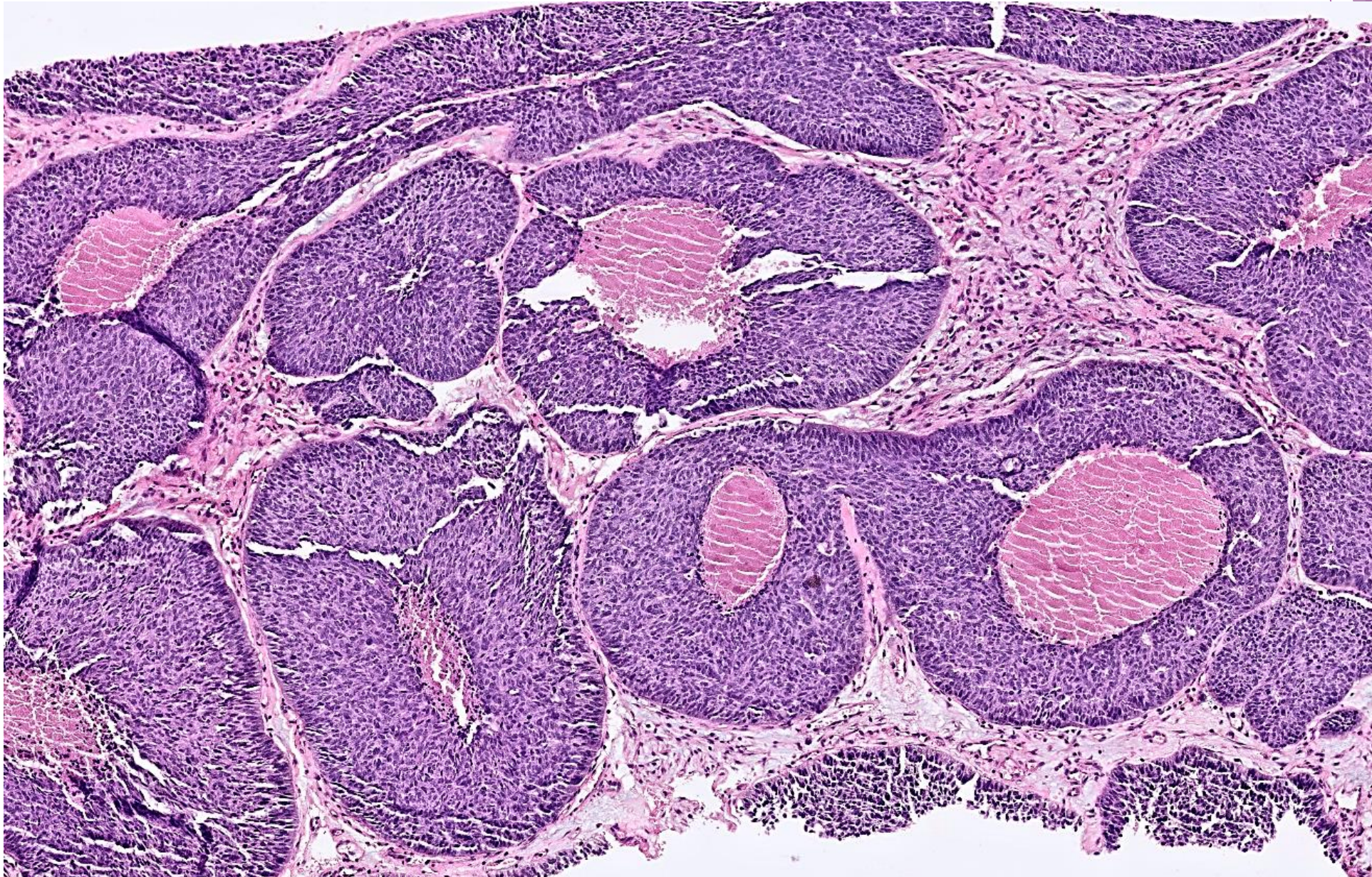
Sclerosed papilloma



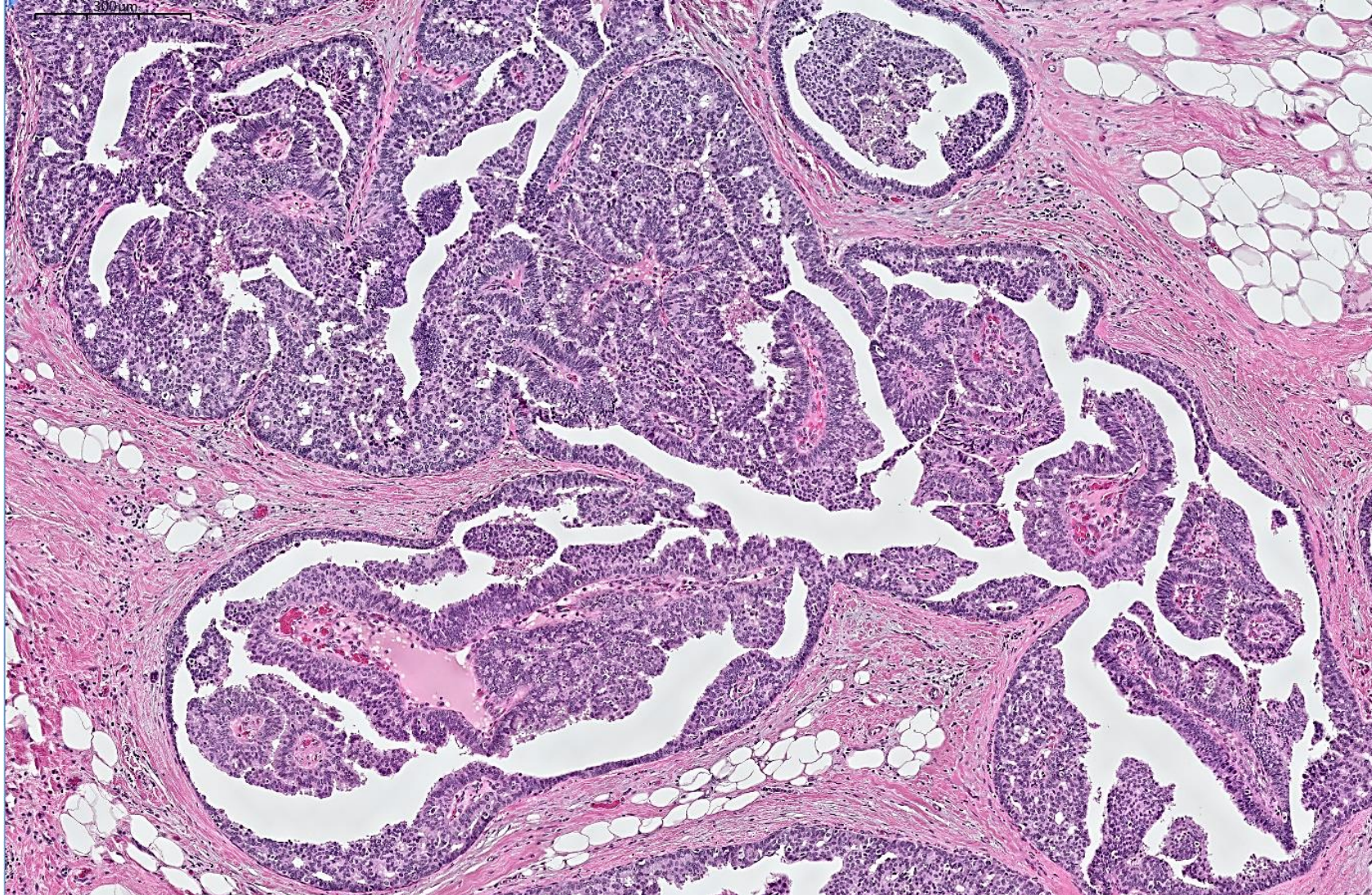
Encapsulated Papillary Carcinoma



Solid Papillary Carcinoma



DCIS with Papillary Growth Pattern

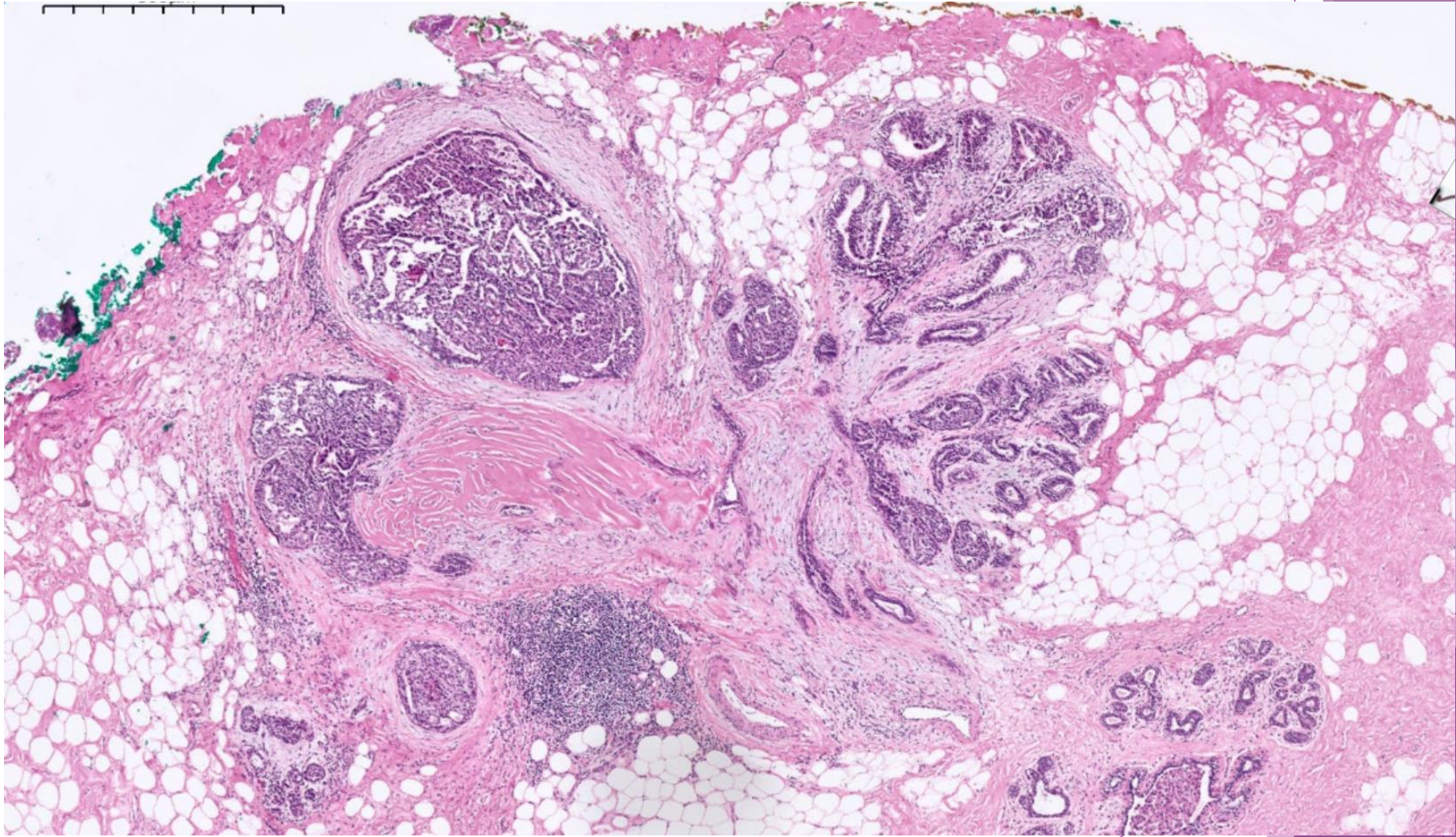


Management of Papillomas

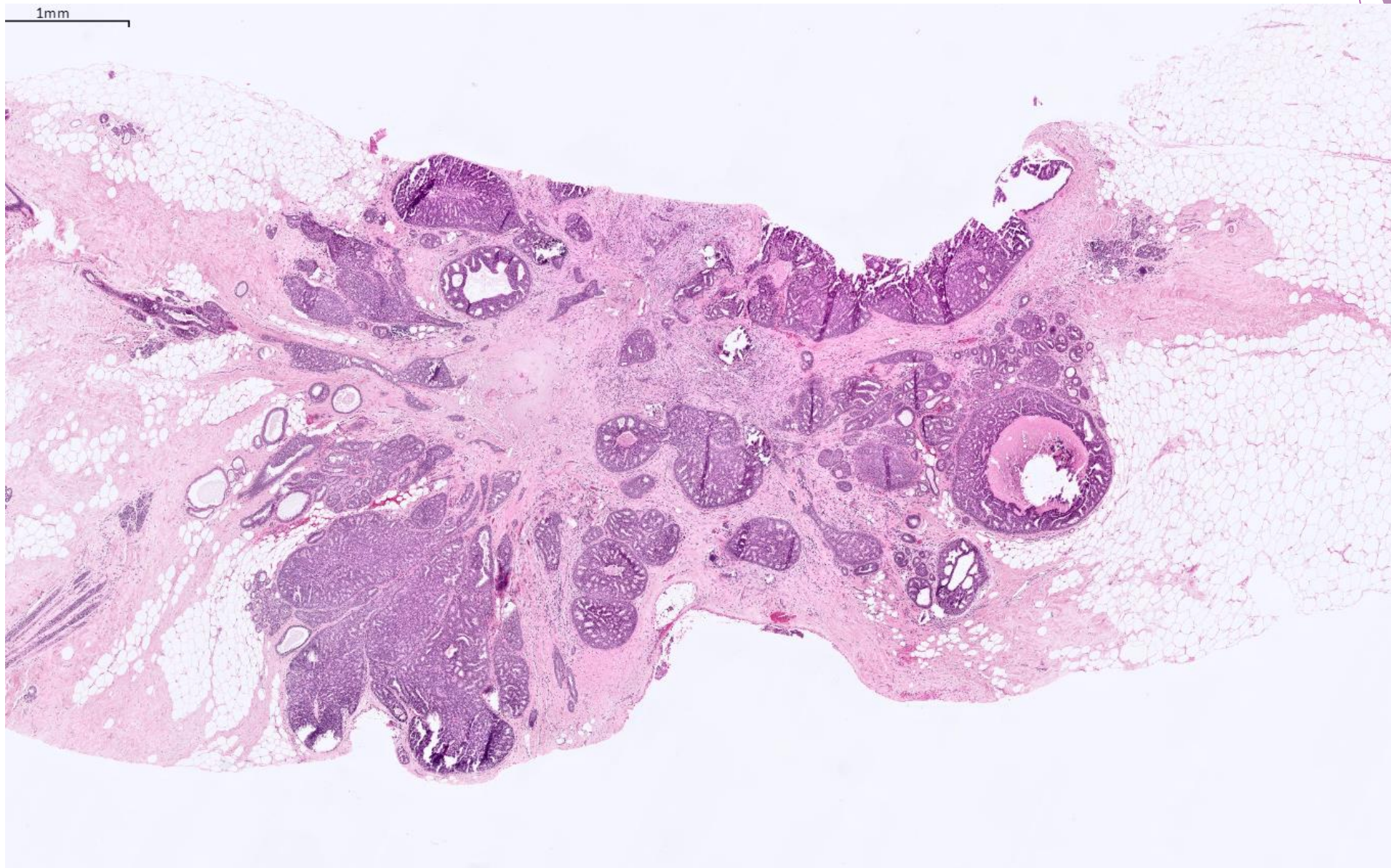
- ▶ Mean upgrade rate for benign intraductal papilloma is 4% (0-10%)
- ▶ Mean upgrade rate for atypical papilloma is 28% (15-68%)
- ▶ Inconsistent results regarding radiologic features associated with benign IDPs that may be upgraded to malignancy on excision
- ▶ No increased risk for sclerosed papillomas
- ▶ Watchful surveillance may be acceptable for benign IDPs without worrisome radiologic features
- ▶ Excisional biopsy for IDPs with atypia, adjacent calcifications, associated irregular/ill-defined mass or when radiologic and pathological findings are discordant

Radial Scar/ Complex Sclerosing Lesion

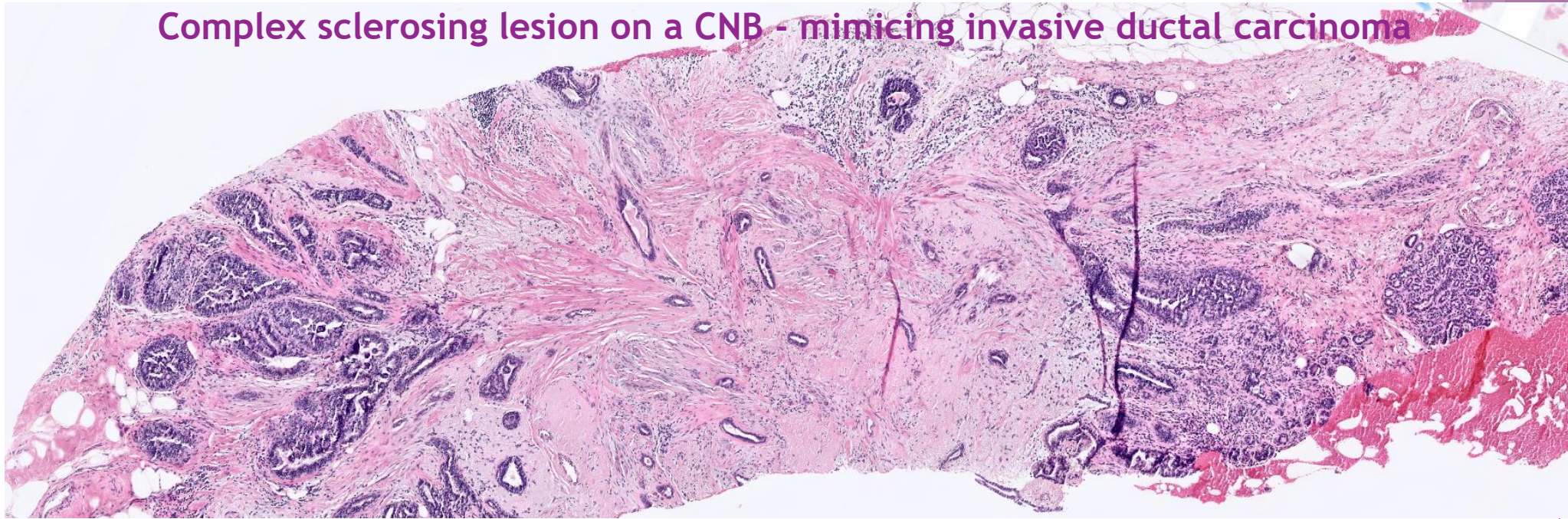
Radial Scar



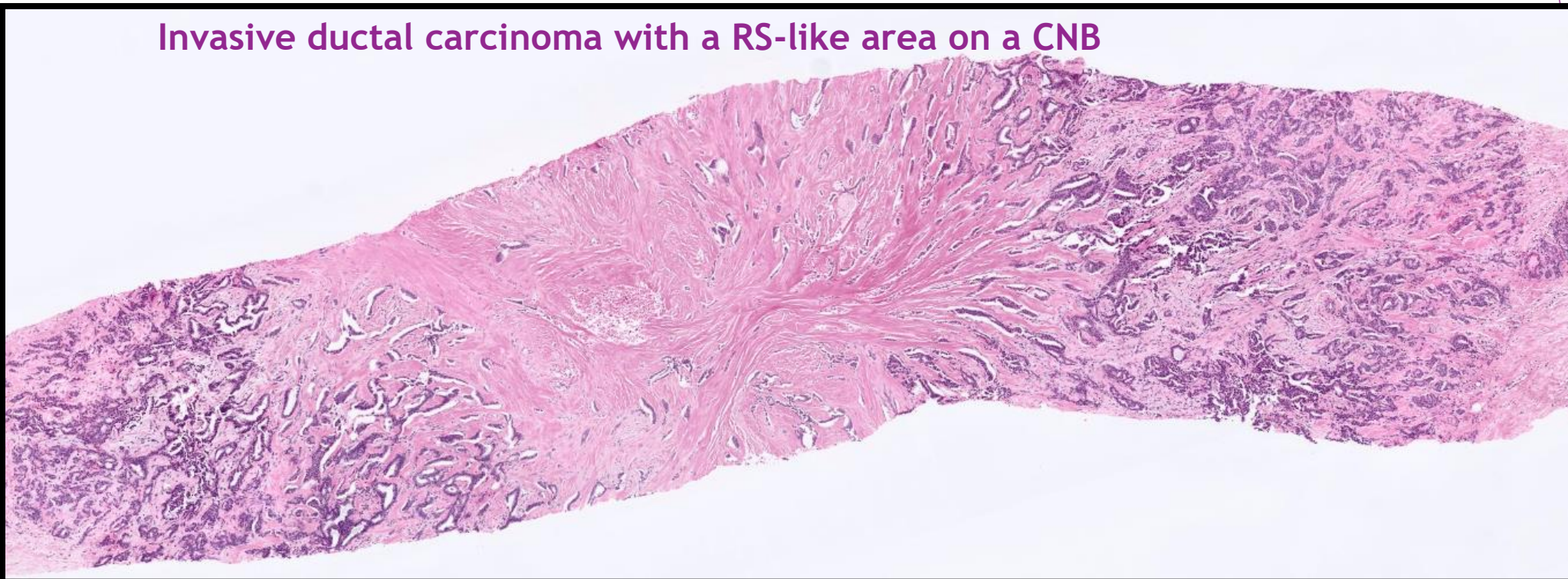
Radial Scar with DCIS



Complex sclerosing lesion on a CNB - mimicking invasive ductal carcinoma



Invasive ductal carcinoma with a RS-like area on a CNB



Radial Scar (RS)/ Complex sclerosing lesion (CSL)

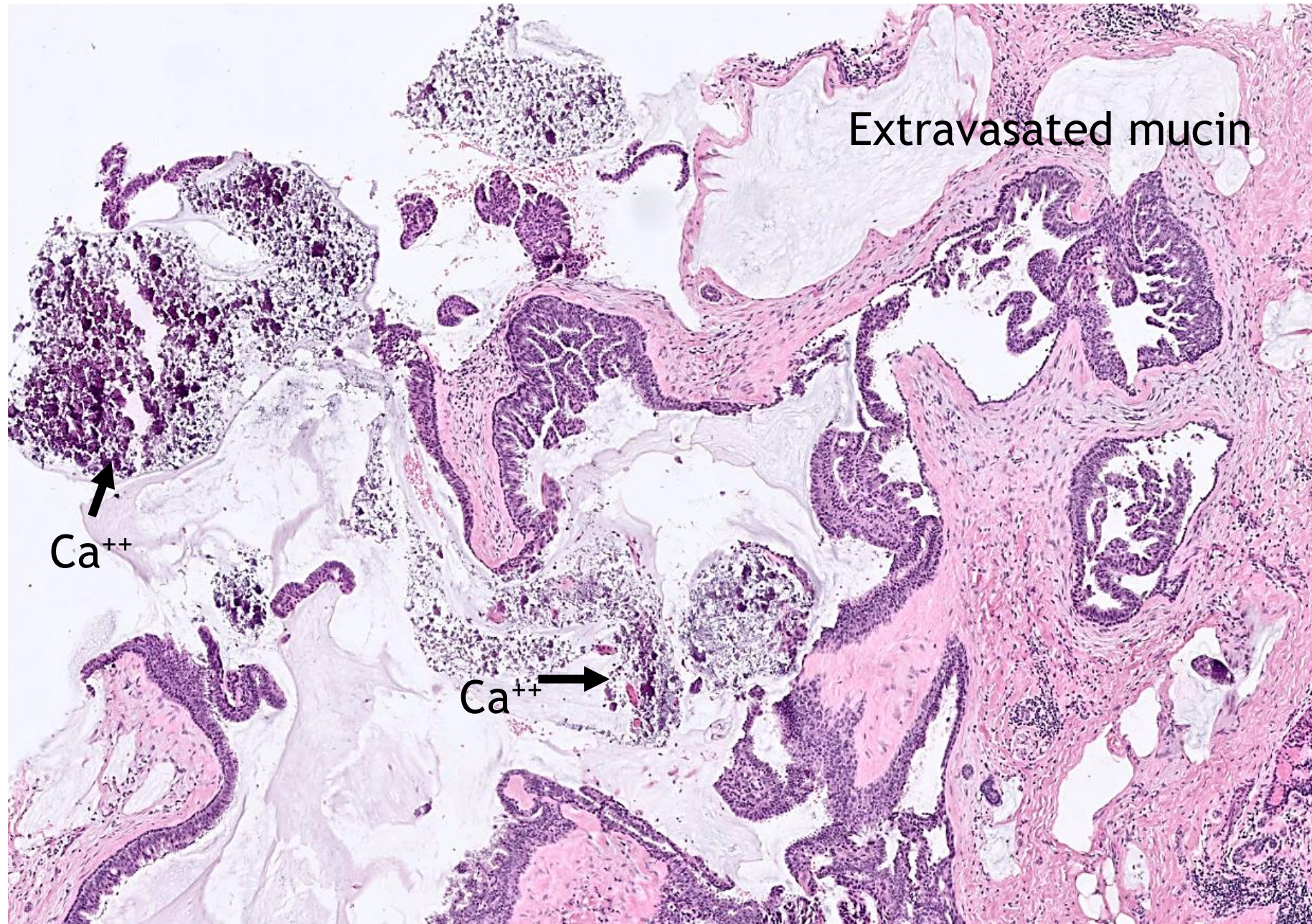
- ▶ 2X increased breast cancer risk (> 50 years old)
- ▶ Mean of 7% upgrade rate to malignancy on excision (0-16%)
- ▶ Although there is no consensus on management of radial scar without atypia, excisional biopsy is usually performed
- ▶ *Mooney et al* (2016, UCLA):
 - ▶ RS < 5 mm or incidental are less likely to be upgraded in the excision
 - ▶ Watchful surveillance may be acceptable for incidental and small radial scars seen on CNB
 - ▶ Conservative excision for lesions > 5 mm

Mucocele-like Lesion

MLL with associated calcifications

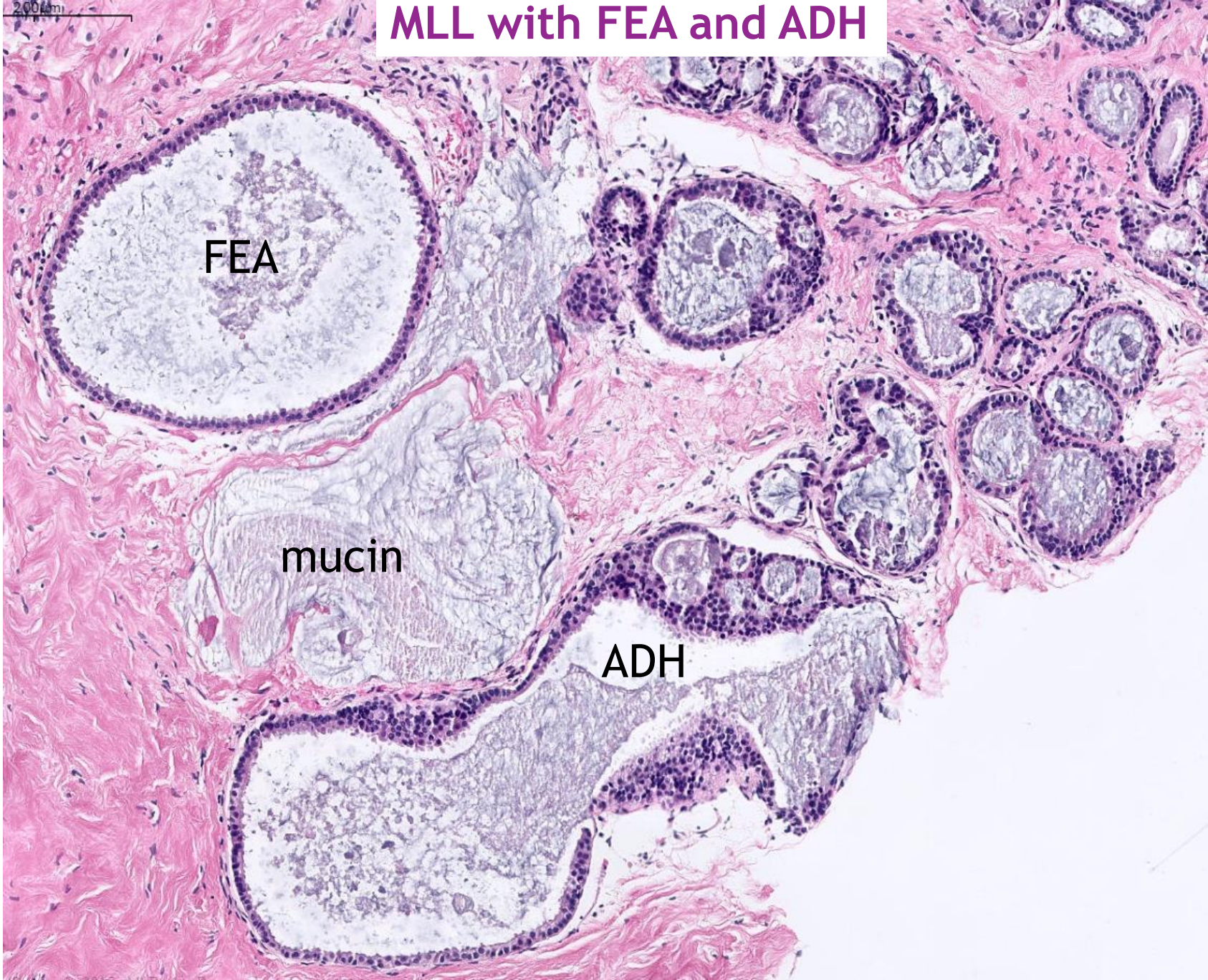


MLL with benign epithelial hyperplasia and associated calcifications



200µm

MLL with FEA and ADH



FEA

mucin

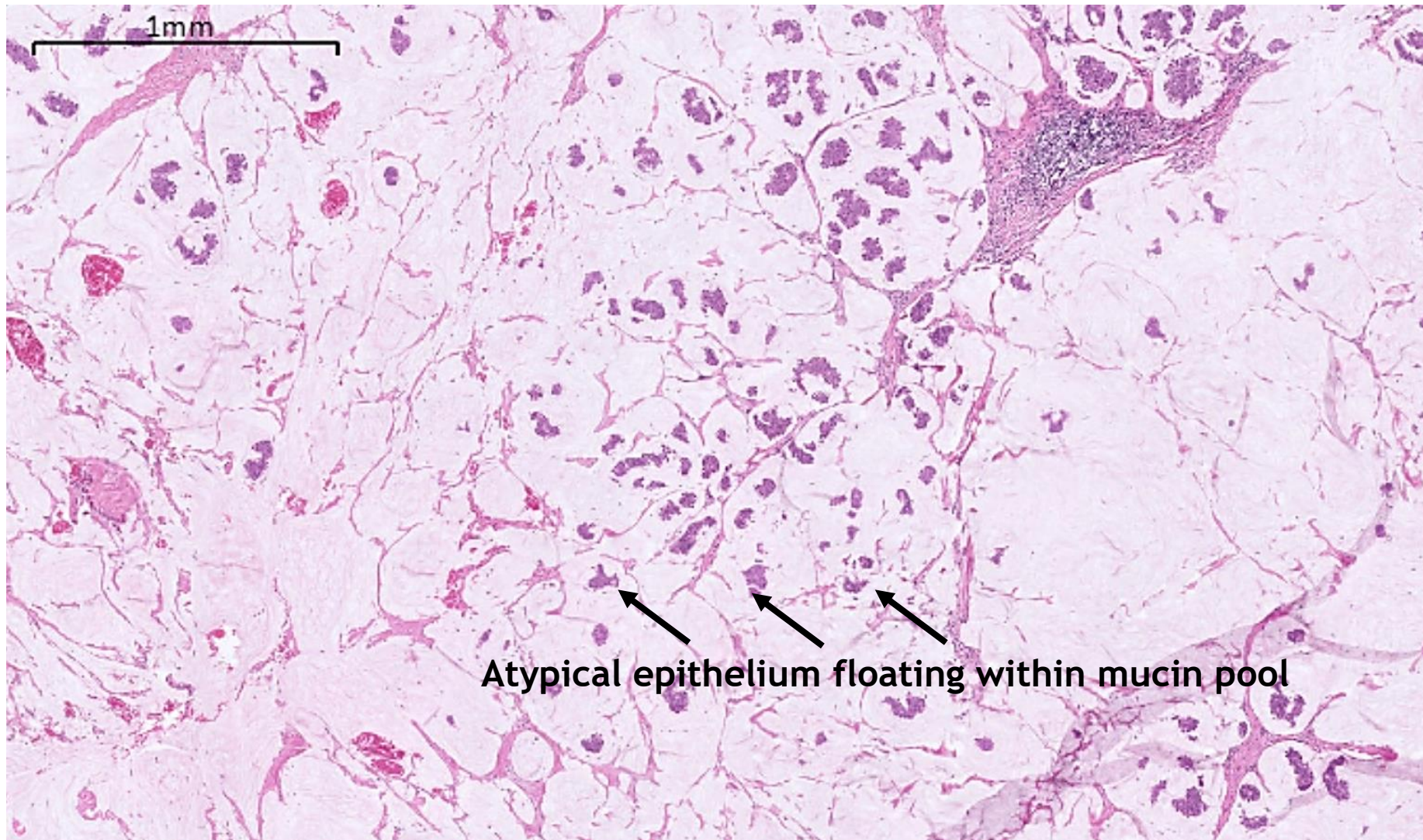
ADH

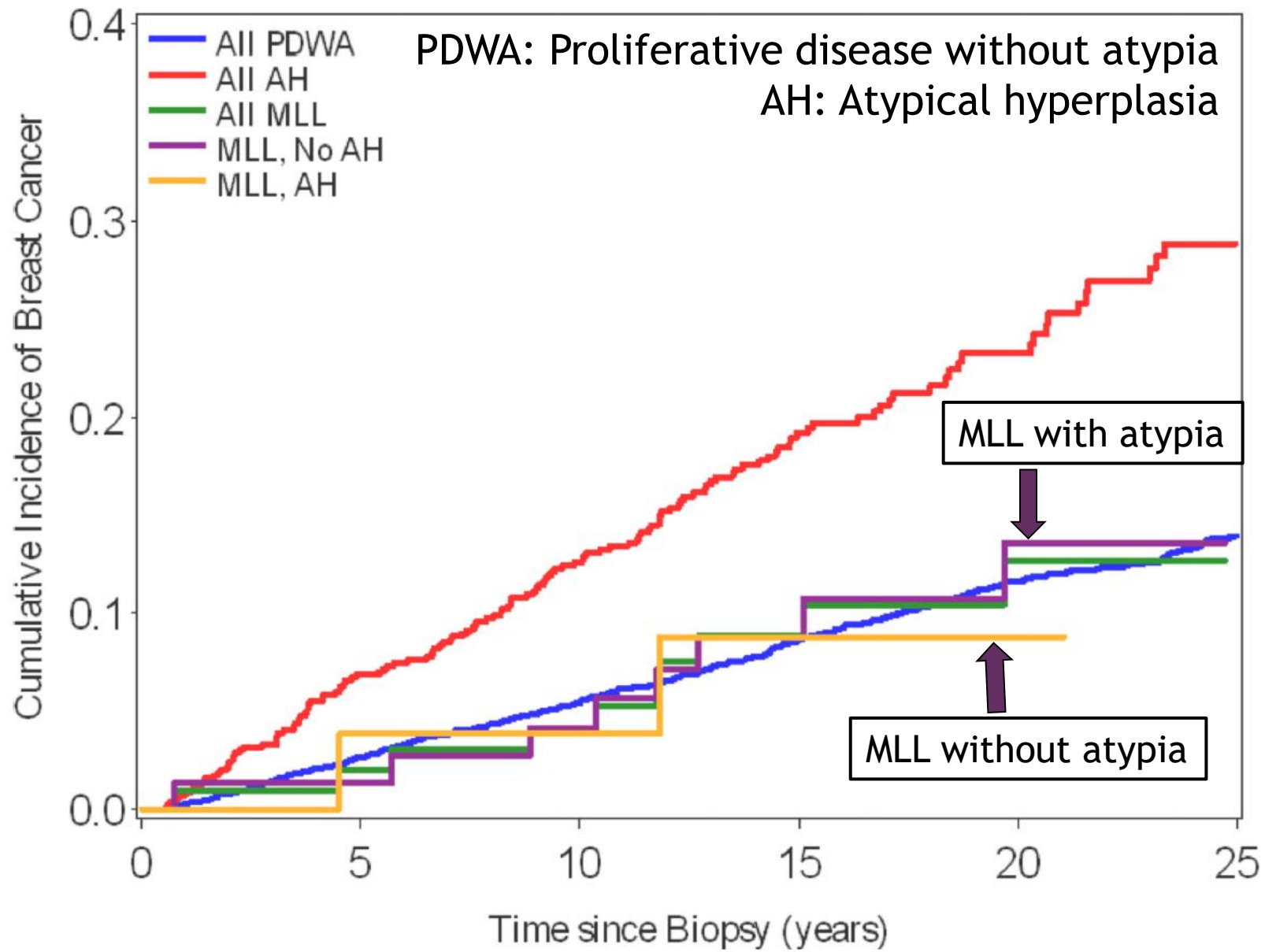


DCIS with extracellular mucin production



Invasive mucinous carcinoma





Management of MLL

- ▶ Mean upgrade rate of MLL without atypia is 4% (small sample size of published studies; Rakha *et al* Histopathology (2013); Sutton *et al* AJCP (2012))
- ▶ MLL without atypia may be managed with imaging surveillance, if no residual calcification or suspicious mass not present
- ▶ Mean upgrade rate for MLL with atypia is 21% (0-100%) and warrants an excisional biopsy for further evaluation
- ▶ Radiology-Pathology Correlation is strongly advised

Summary

- ▶ Excisional biopsy for
 - ▶ ADH
 - ▶ FEA with residual calcifications or mass
 - ▶ Intraductal papilloma with atypia, adjacent calcs, or irregular borders
 - ▶ Targeted ALH and LCIS, and LCIS variants
 - ▶ Targeted radial scars (> 5mm) and complex sclerosing lesion
 - ▶ MLL with atypia or residual calcifications
 - ▶ Discordant radiologic and pathological findings

Summary

- ▶ Watchful surveillance may be acceptable for
 - ▶ FEA without residual calcifications or associated mass
 - ▶ Incidental ALH and LCIS
 - ▶ Intraductal papilloma without atypia or associated calcifications
 - ▶ MLL without atypia, residual calcification or associated mass
 - ▶ Small/incidental radial scar (< 5mm ?)



Questions?