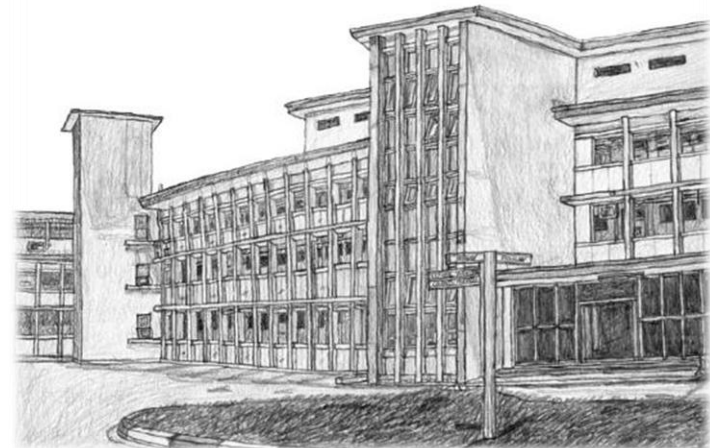
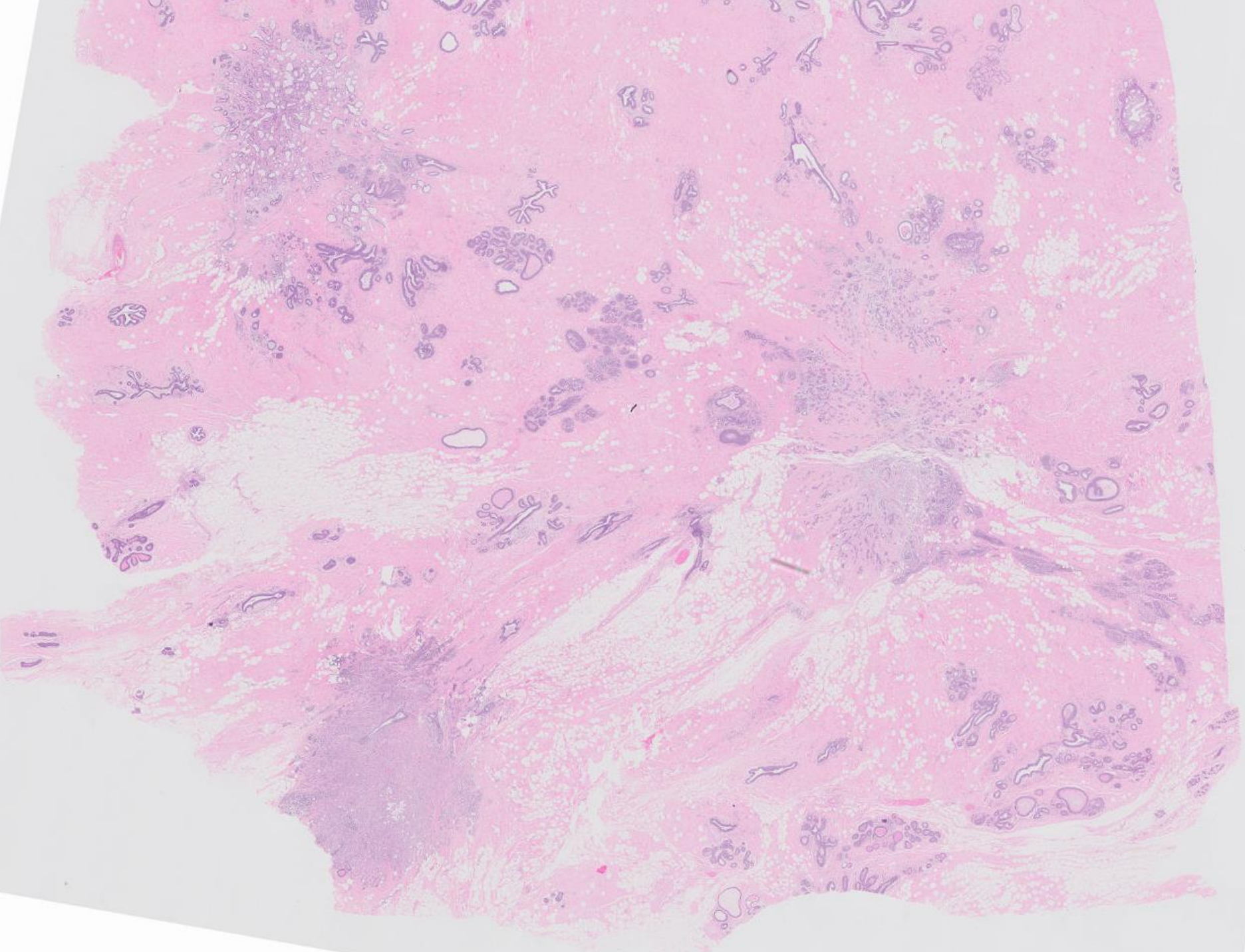


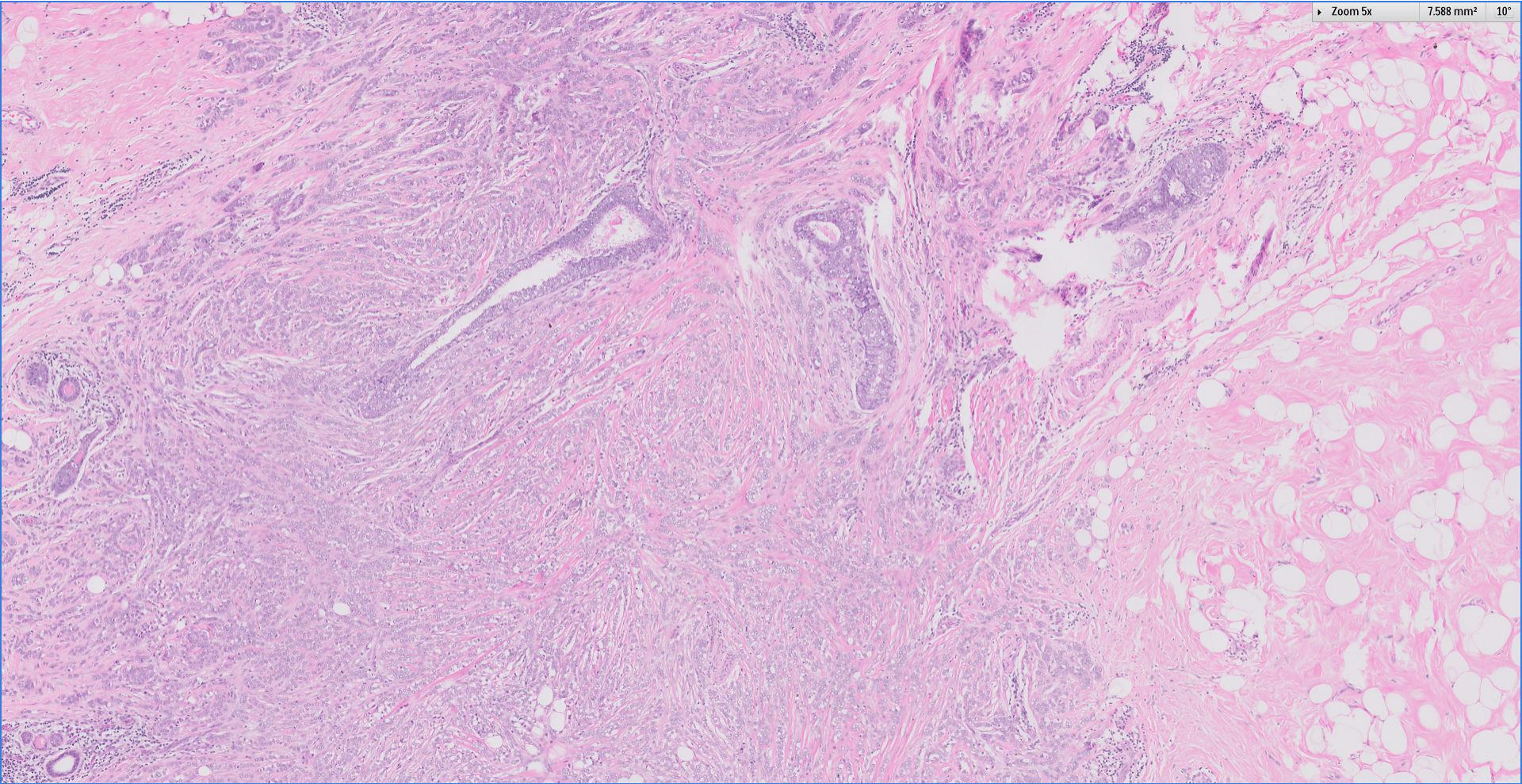
Case 5

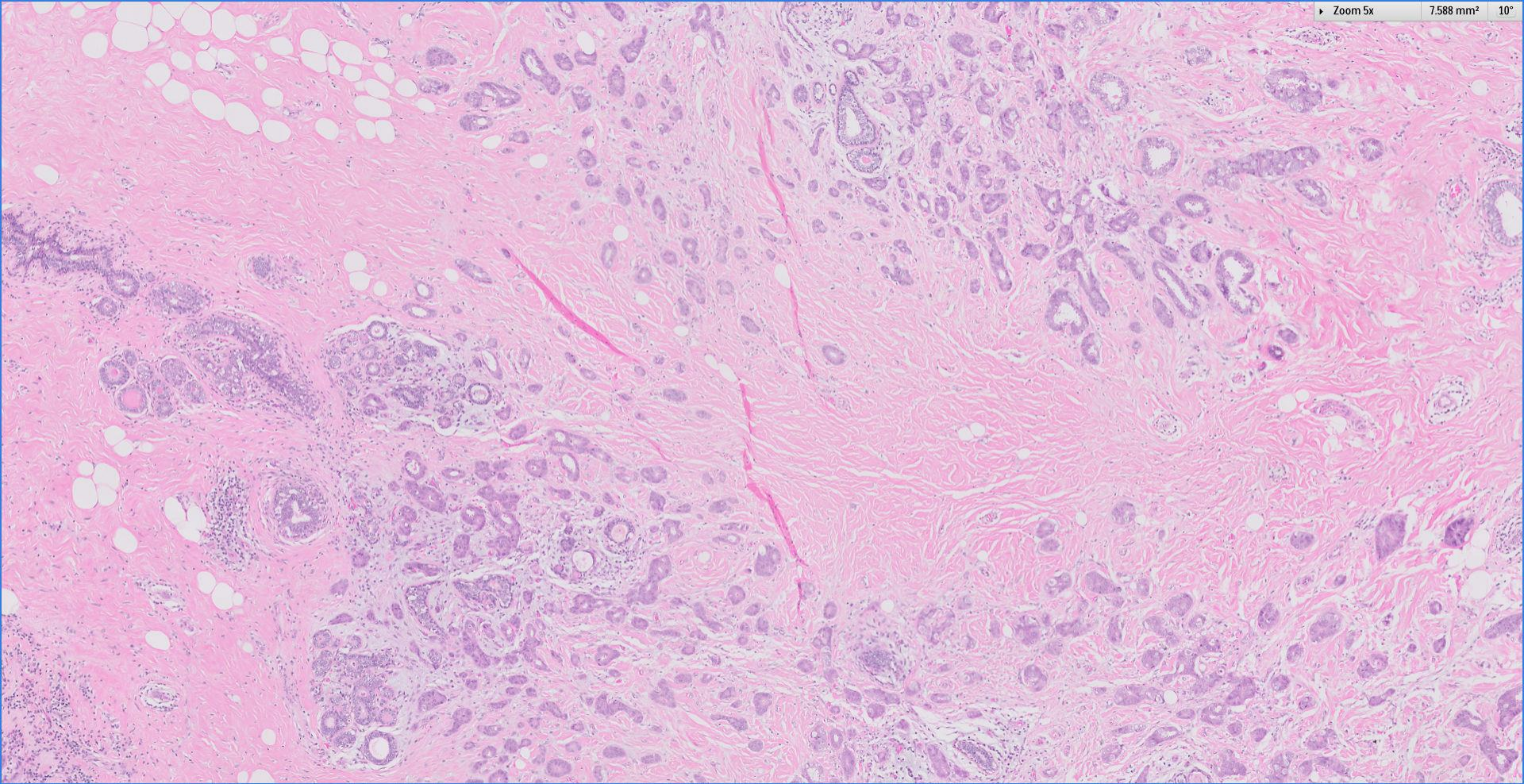
46 year old female.

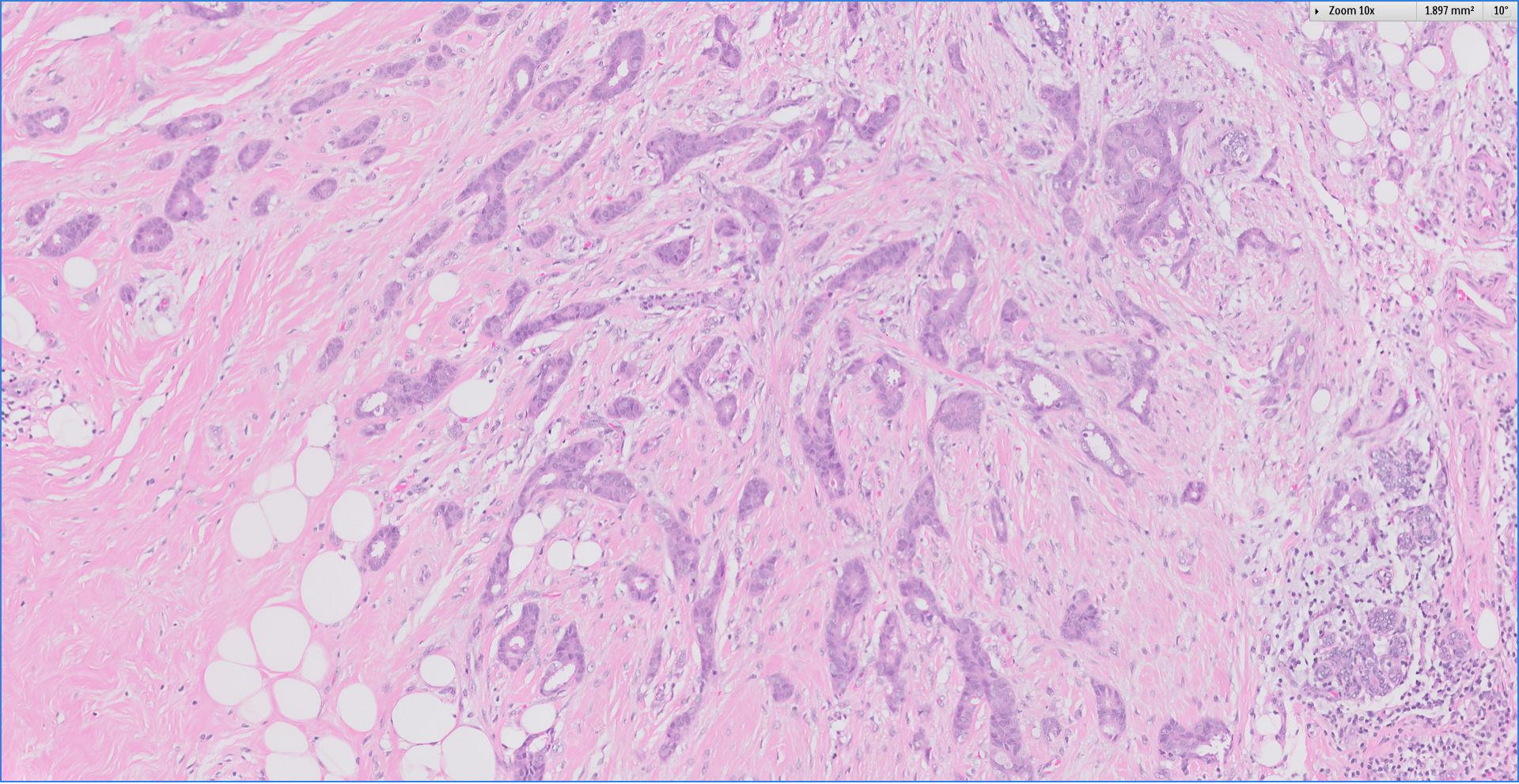
Nipple sparing mastectomy was performed after core biopsy of a right breast 11 o'clock mass disclosed invasive carcinoma. Tumour section from the mastectomy.

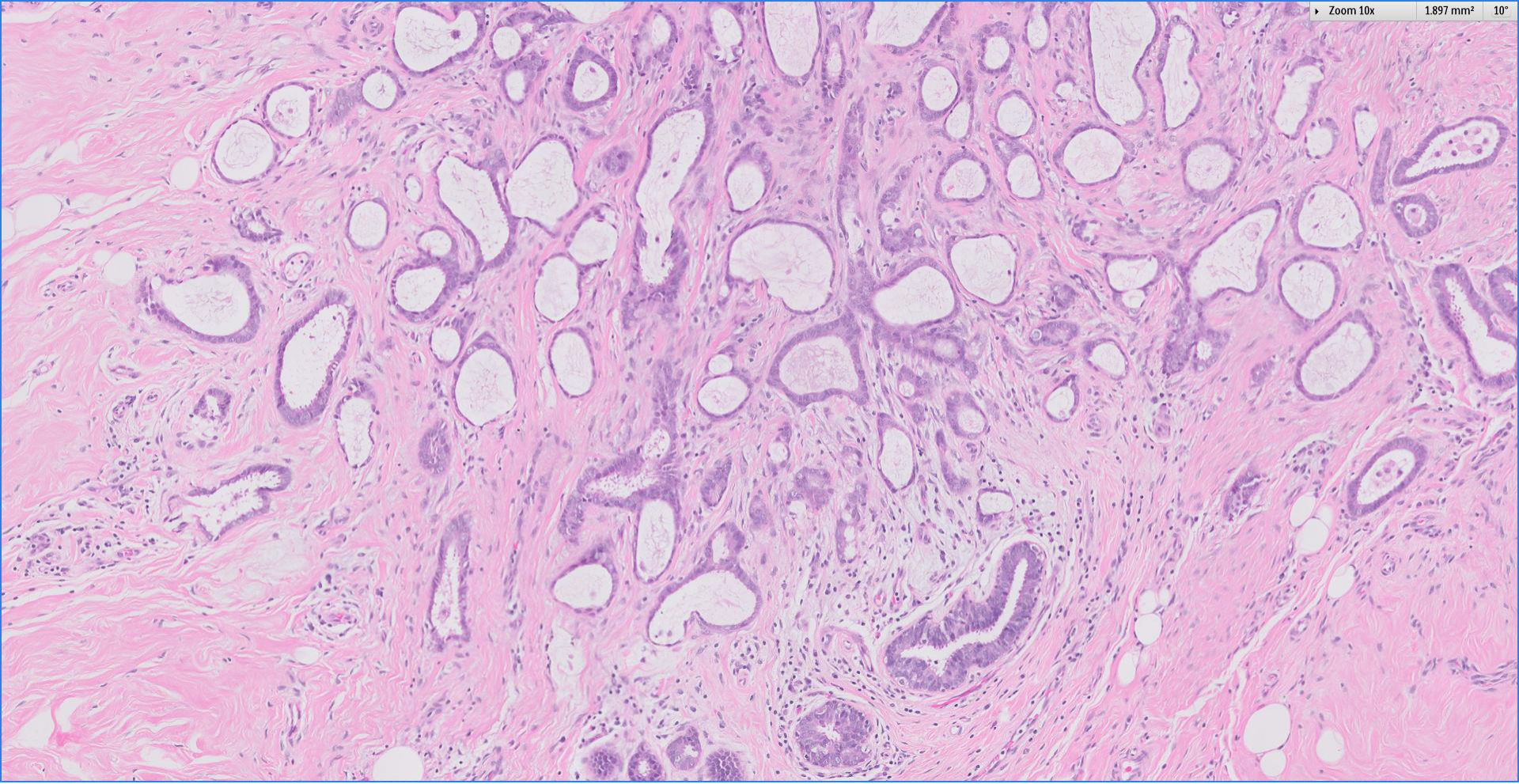




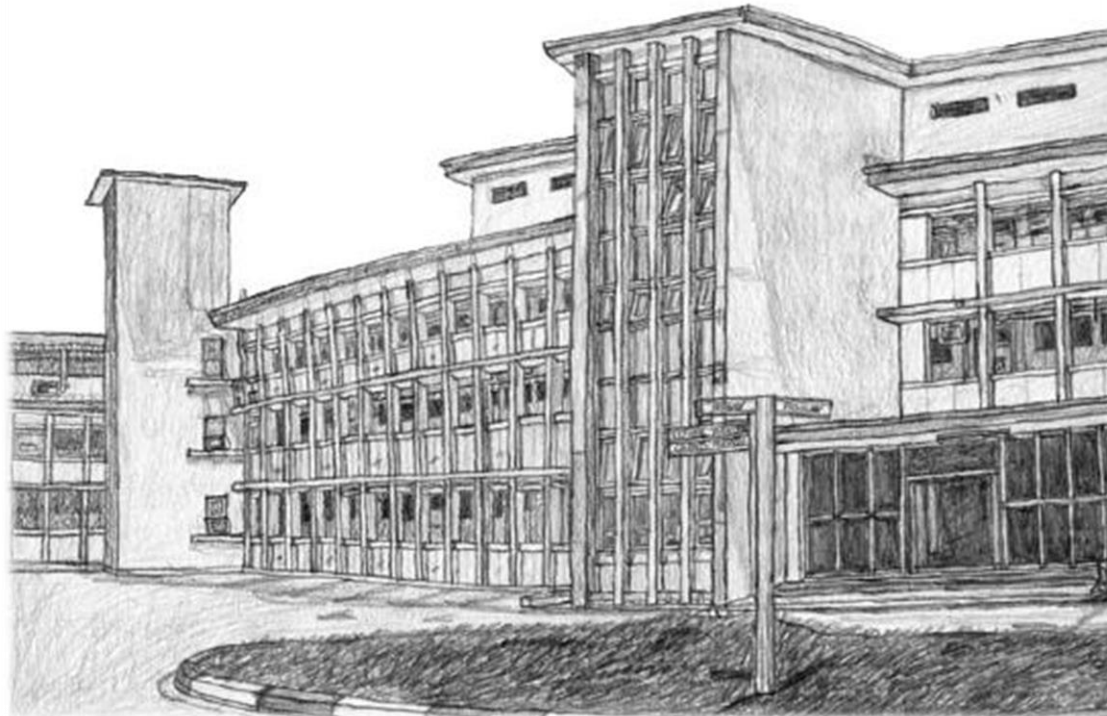








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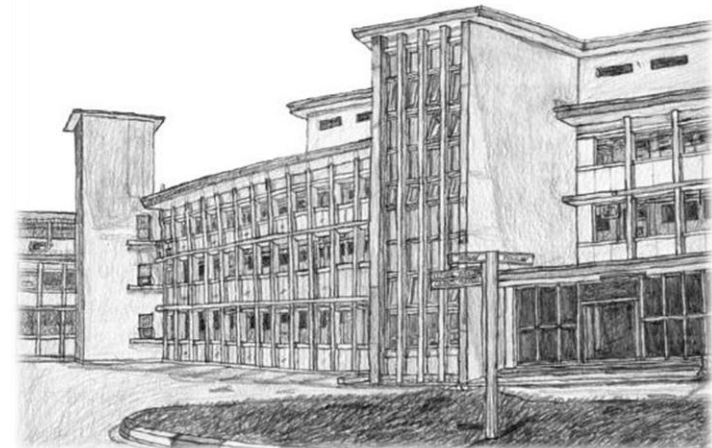
Diagnosis

Nipple sparing mastectomy ~

Invasive carcinoma with mixed ductal and lobular features,
multifocal, grade 2.

Largest focus of invasive carcinoma is 30mm.

Ductal carcinoma in situ and lobular carcinoma in situ.



Mixed ductal-lobular invasive carcinoma

- Presence of morphological ductal and lobular components.
- Reflection of intratumoural heterogeneity.
- Aetiology ~
 - Collision tumour
 - Divergent differentiation from a common precursor

Mixed ductal-lobular invasive carcinoma

- Mixed ductal-lobular carcinomas: evidence for progression from ductal to lobular morphology.

McCart Reed et al. J Pathol. 2018 Apr;244(4):460-468.

- More frequently coexist with ductal carcinoma in situ (DCIS) than with lobular carcinoma in situ (LCIS);
- E-cadherin-catenin complex was normal in the ductal component in 77.6% of tumours;
- In the lobular component, E-cadherin was almost always aberrantly located in the cytoplasm, in contrast to invasive lobular carcinoma, where E-cadherin is typically absent;
- Comparative genomic hybridization and multiregion whole exome sequencing of four representative cases revealed that all morphologically distinct components within an individual case were clonally related.

Mixed ductal-lobular invasive carcinoma

- Mixed ductal-lobular carcinomas: evidence for progression from ductal to lobular morphology.

McCart Reed et al. J Pathol. 2018 Apr;244(4):460-468.

- Support a model in which separate morphological components of MDLs arise from a common ancestor;
- In MDLs that present with LCIS and DCIS, the clonal divergence probably occurs early, and is frequently associated with complete loss of E-cadherin expression, as in ILC;
- In the majority of MDLs, which present with DCIS but not LCIS, direct clonal divergence from the ductal to the lobular phenotype occurs late in tumour evolution, and is associated with aberrant expression of E-cadherin;
- Mechanisms driving the phenotypic change may involve E-cadherin-catenin complex deregulation.

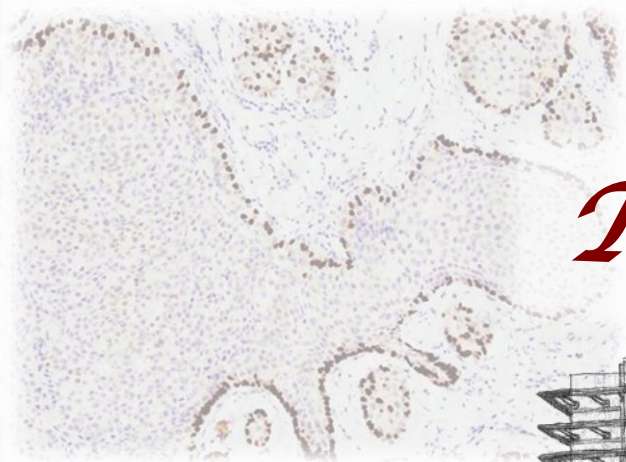
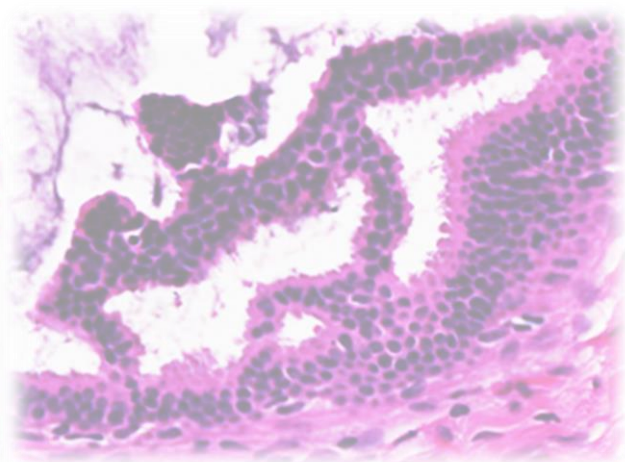
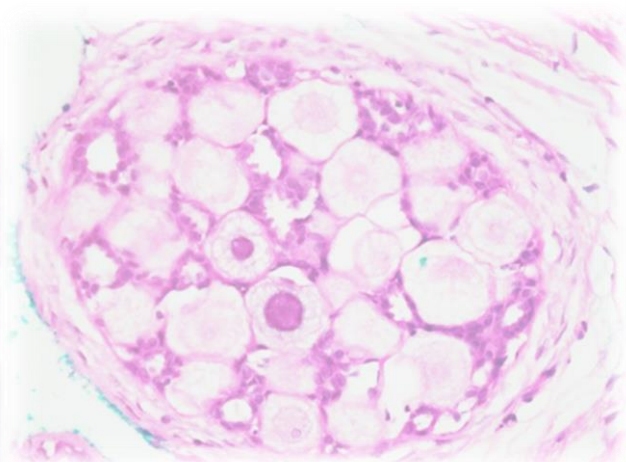
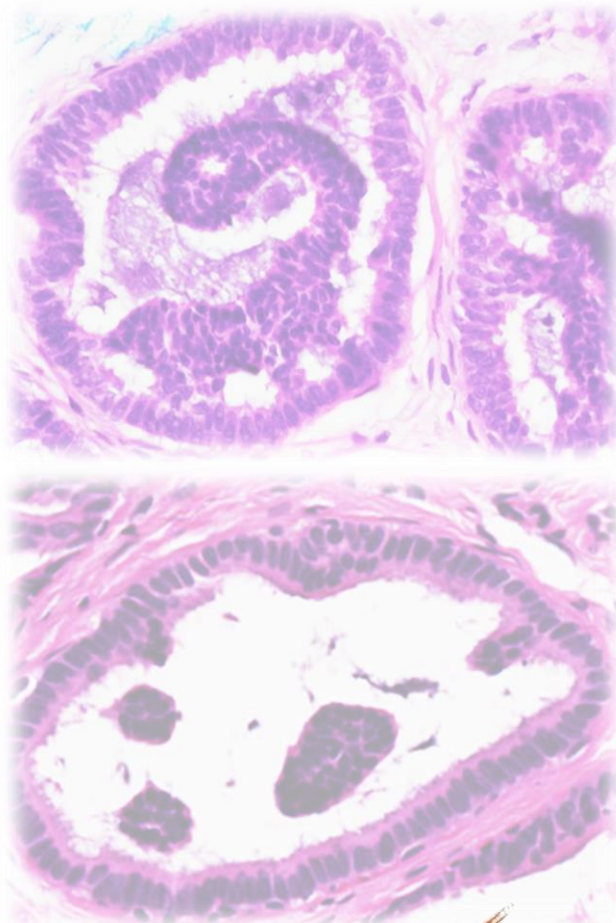
Mixed ductal-lobular invasive carcinoma

- Mixed invasive ductal and lobular carcinoma has distinct clinical features and predicts worse prognosis when stratified by estrogen receptor status.

Xiao et al. Sci Rep. 2017 Sep 4;7(1):10380.

- IDC-L patients had lower tumor grade and higher hormone receptor positive proportions than IDC patients.
- IDC-L patients were younger and had a similar hormone receptor status compared with ILC patients.
- Breast cancer-specific survival (BCSS) of IDC-L patients was significantly better than IDC patients ($P < 0.001$) and tended to be better than ILC patients ($P = 0.166$).
- After adjusting for clinicopathological factors, survival advantage of IDC-L disappeared.
- Subgroup analysis indicated that IDC-L had higher hazard ratios (HRs) than IDC in grade 1, grade 2, ER-positive and ER-negative subgroups.

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Thank you!

