

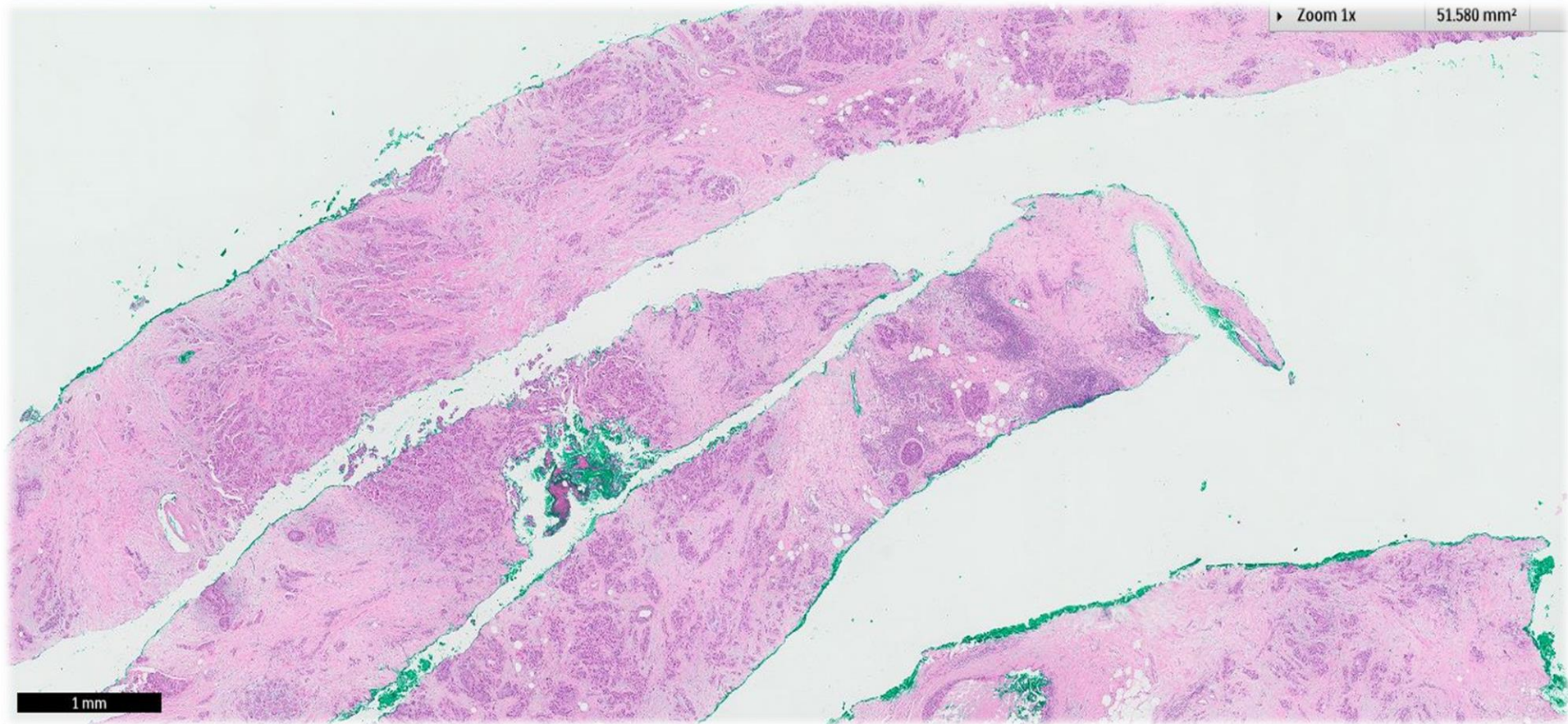
Case 25

57 year old Chinese lady underwent right breast mastectomy with axillary clearance, post-neoadjuvant chemotherapy.

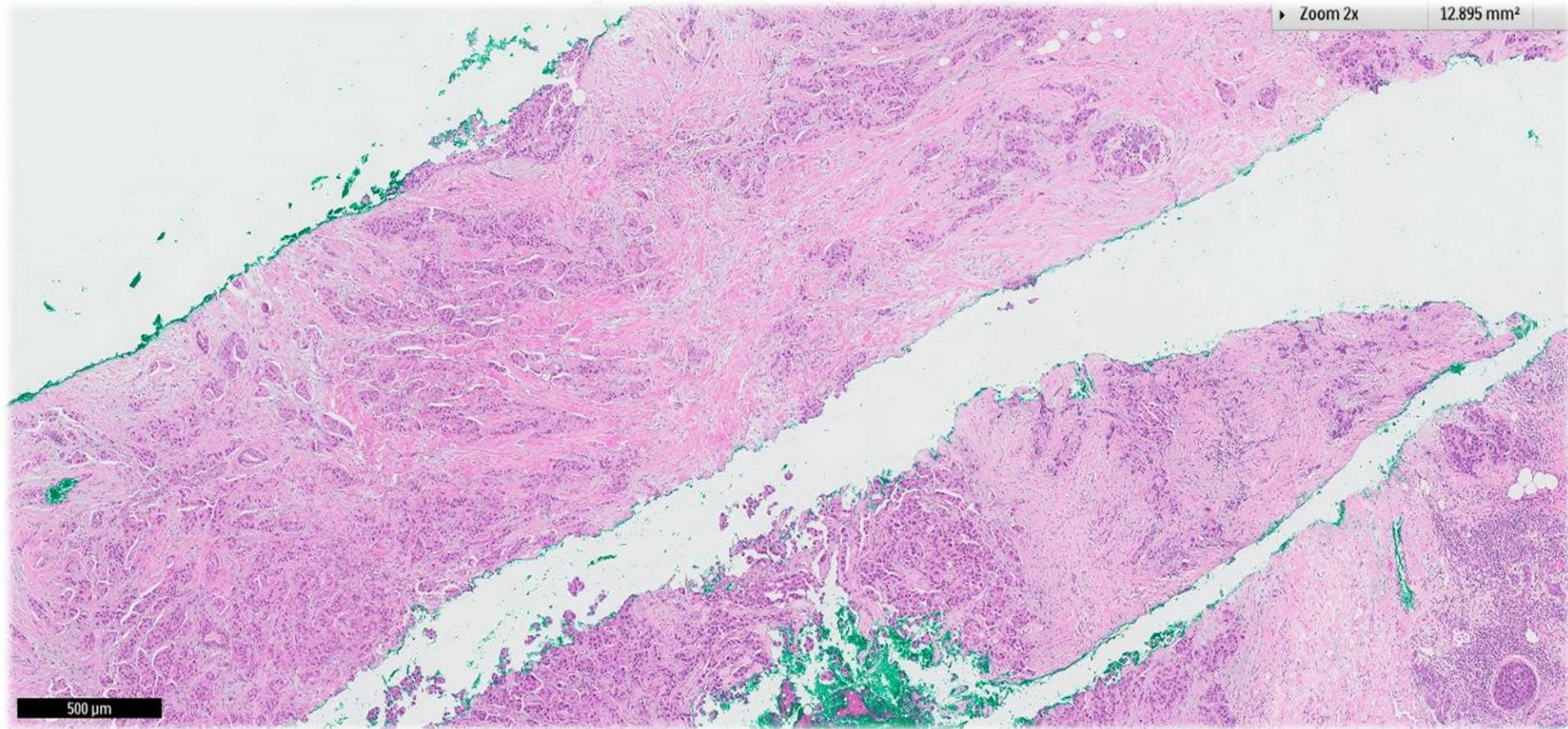
Invasive carcinoma with ductal features was previously diagnosed on core biopsy of the right breast (A) with positive axillary nodal metastasis (B).



Core biopsy of right breast



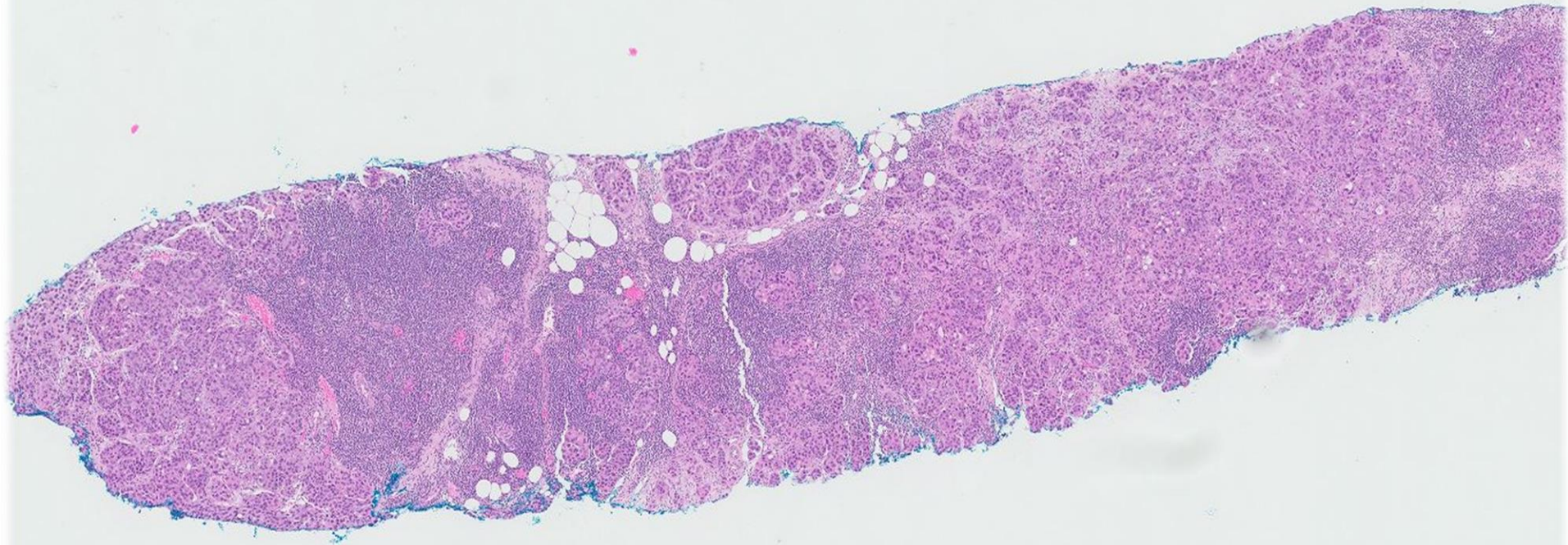
Core biopsy of right breast



Core biopsy of right axillary lymph node

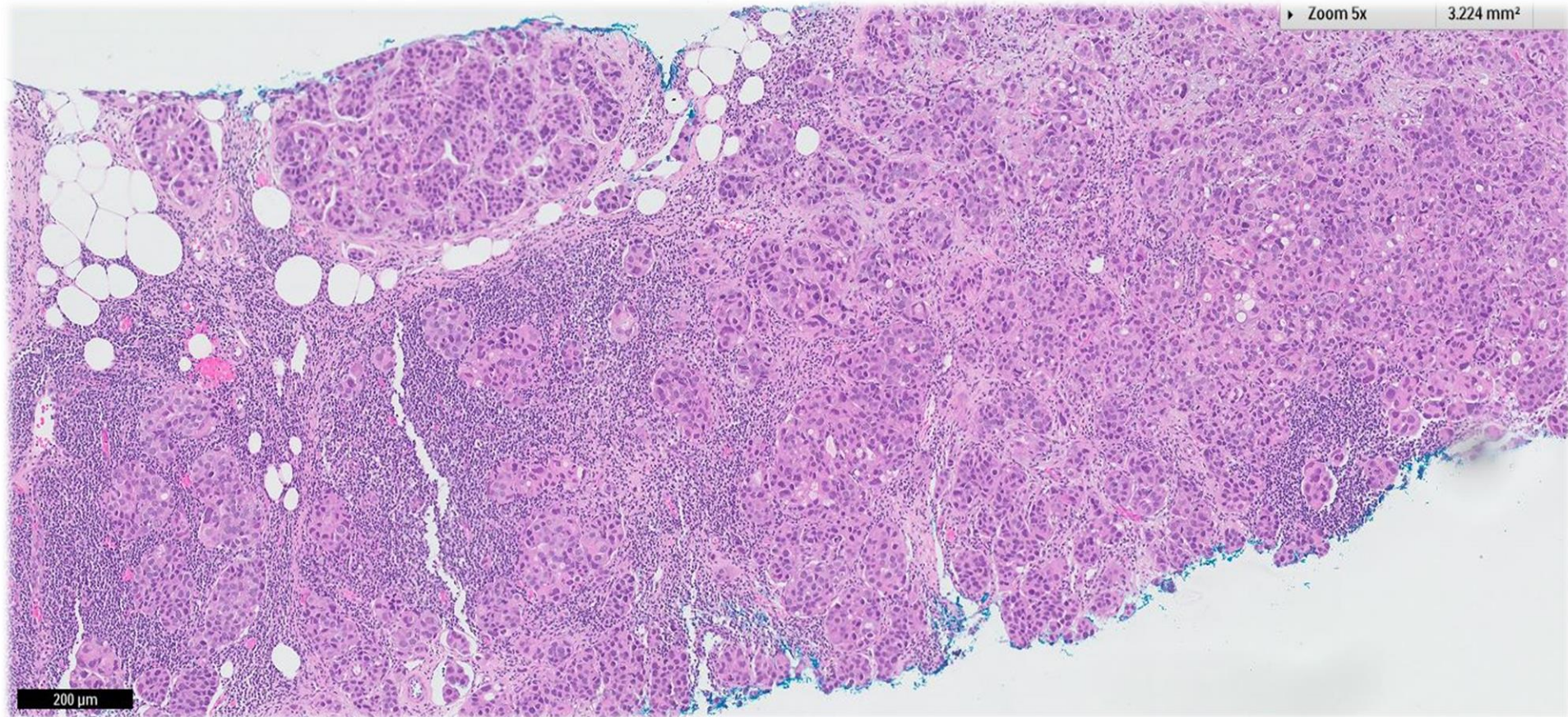
Zoom 2x

12.895 mm²



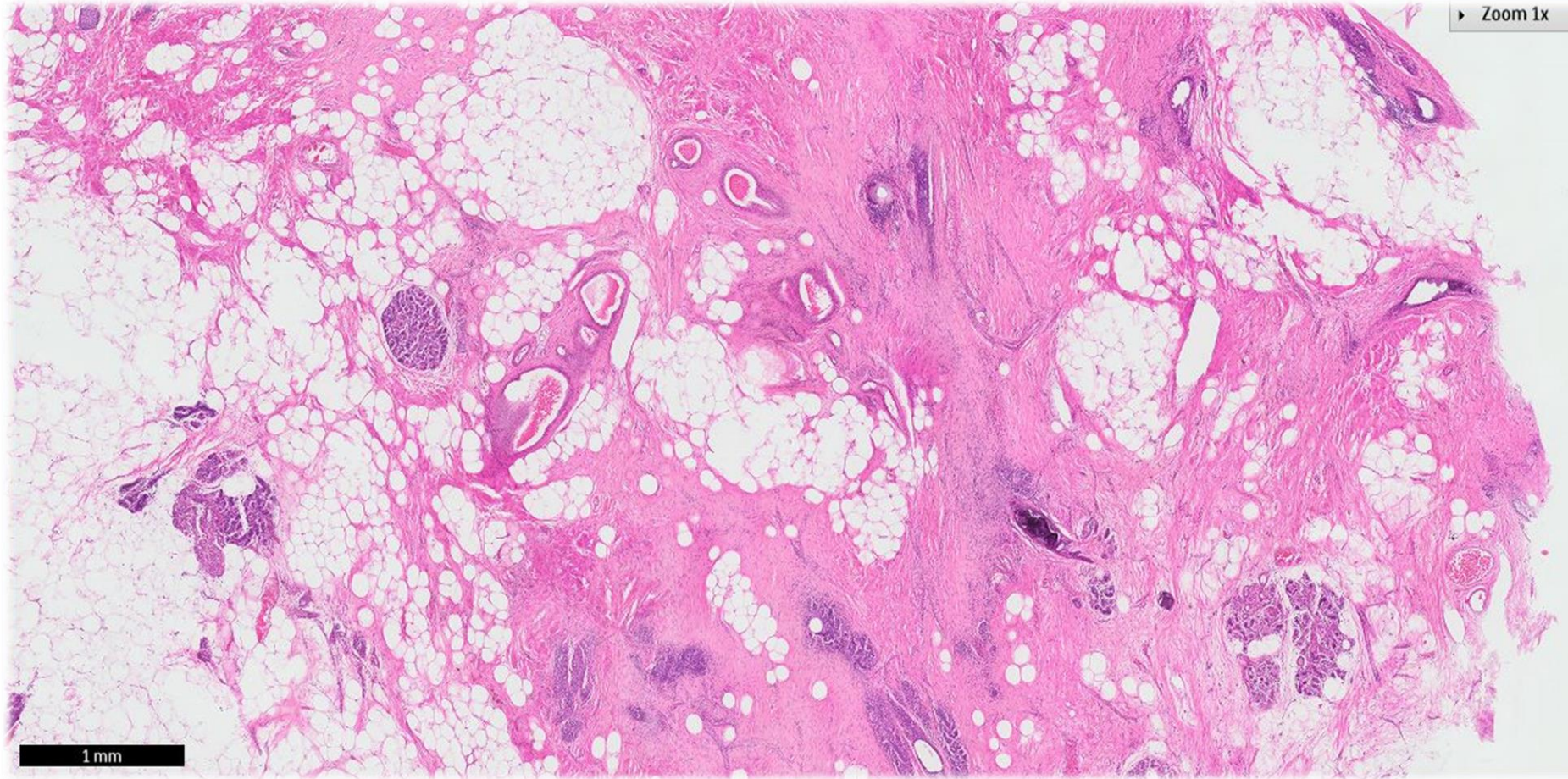
500 μ m

Core biopsy of right axillary lymph node



Mastectomy

Zoom 1x

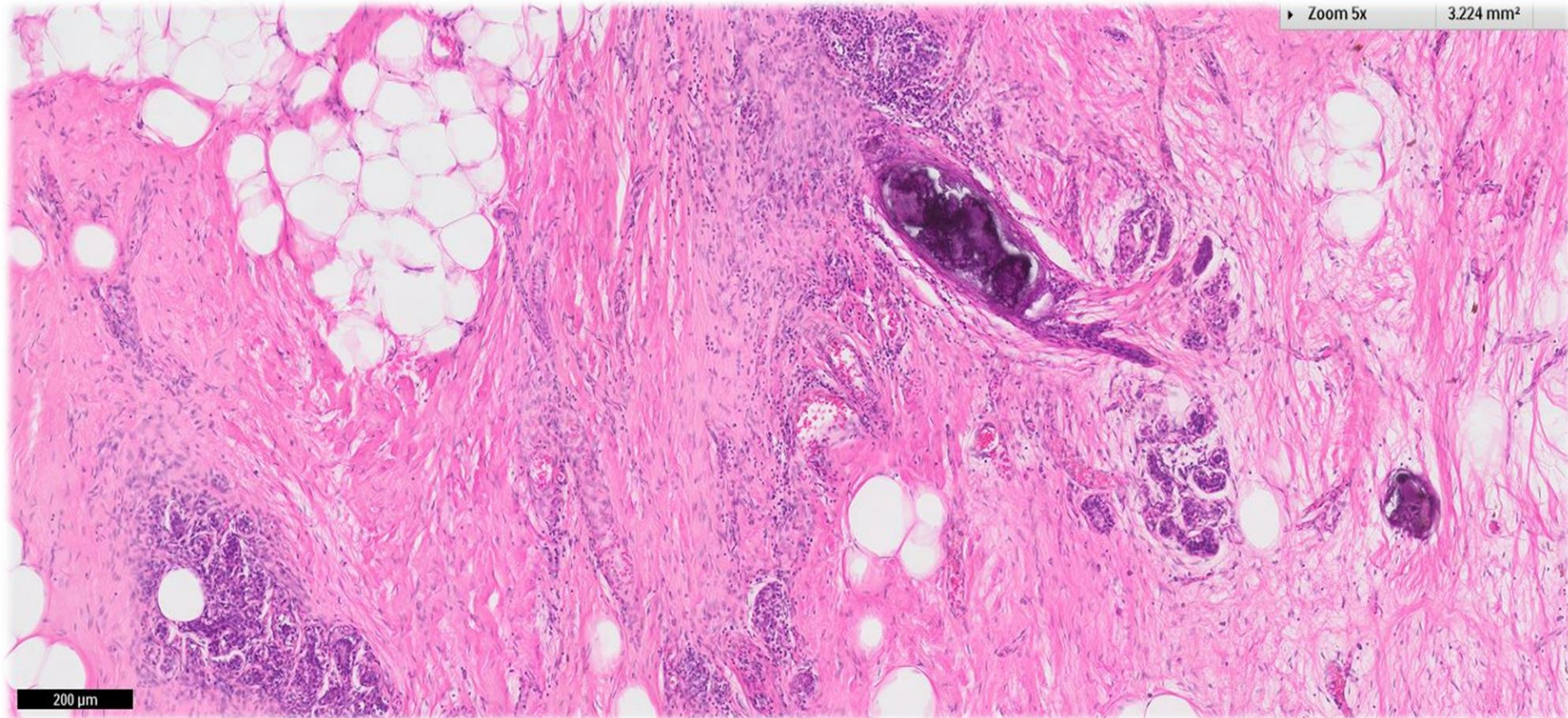


1 mm

Mastectomy

▶ Zoom 5x

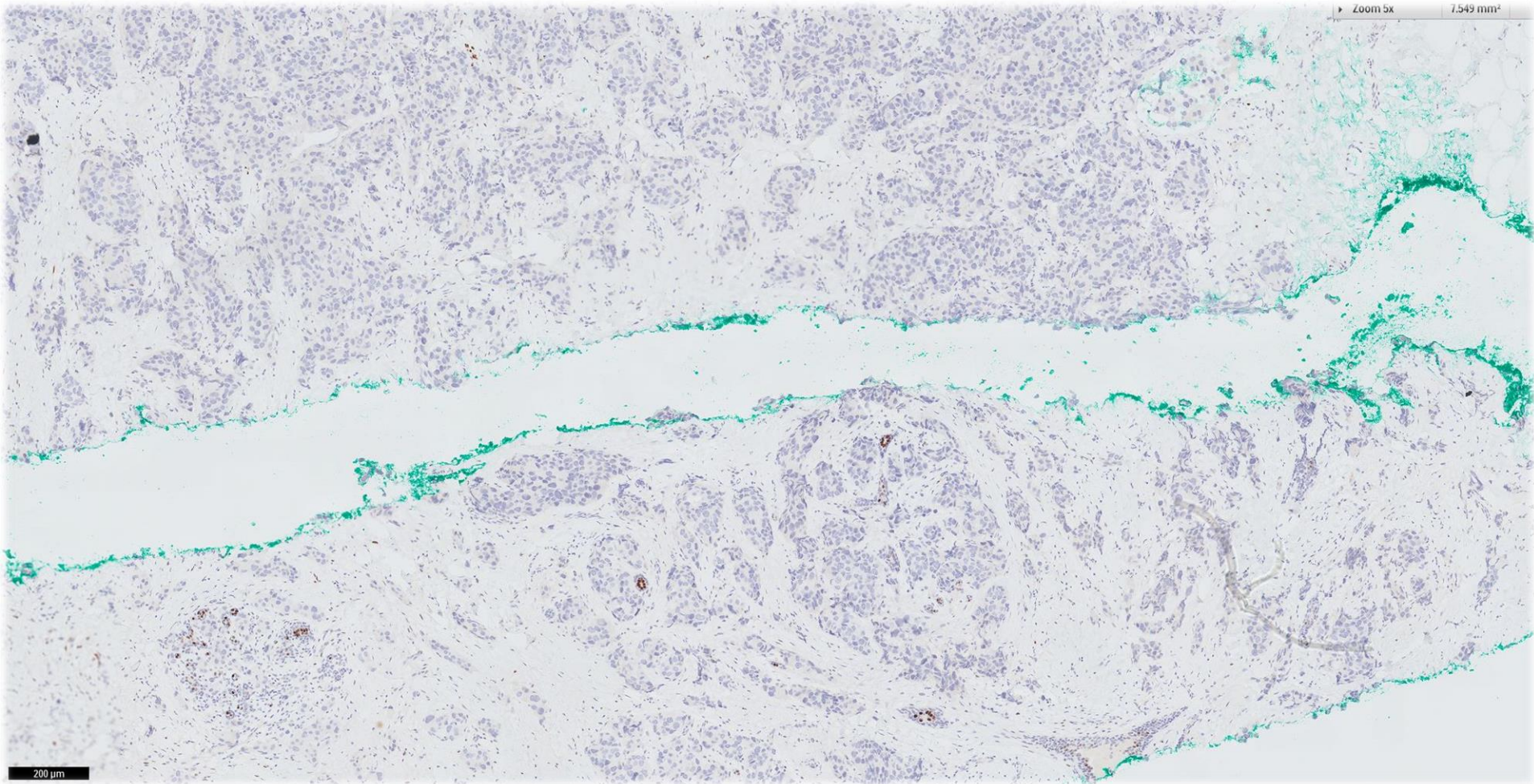
3.224 mm²



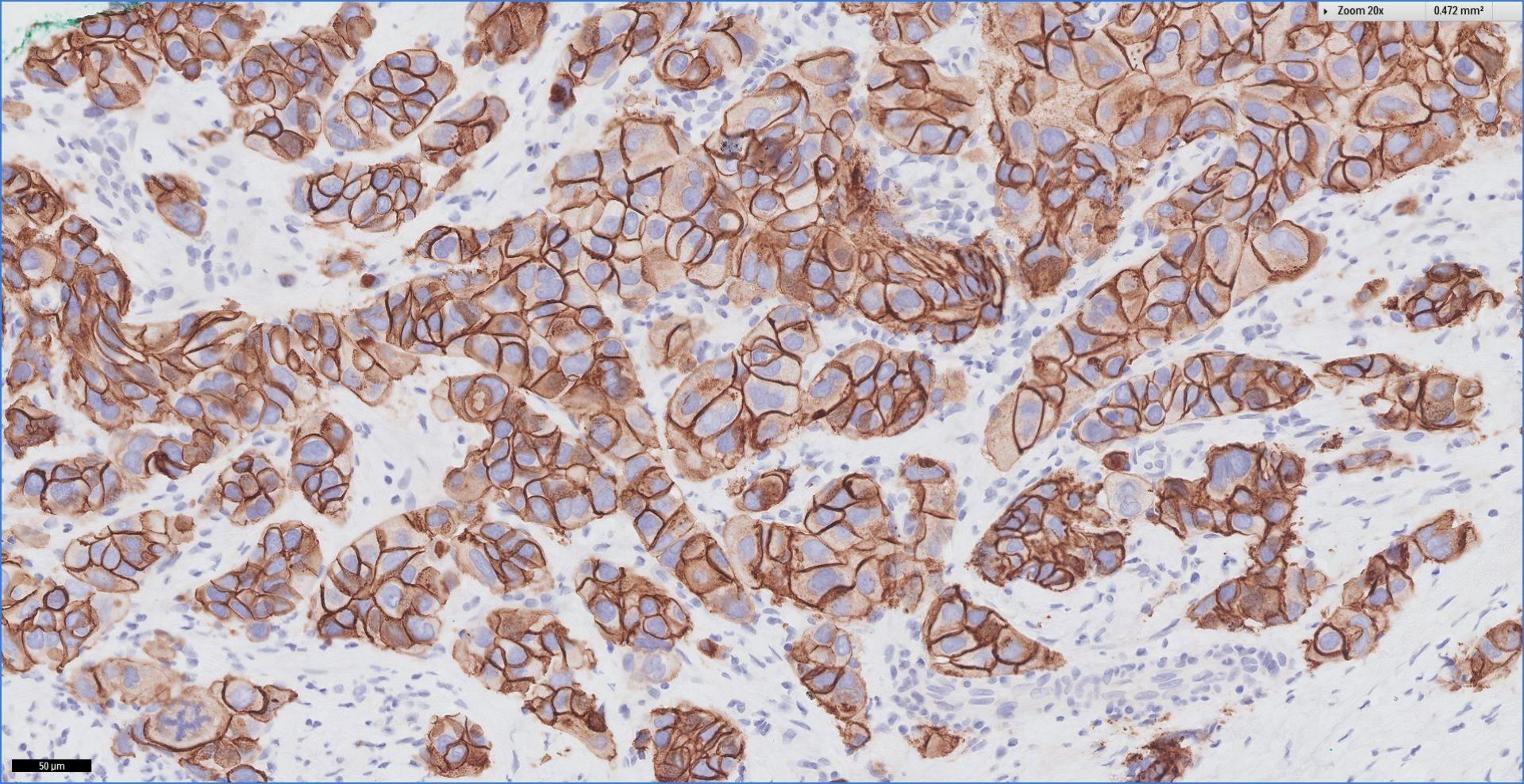
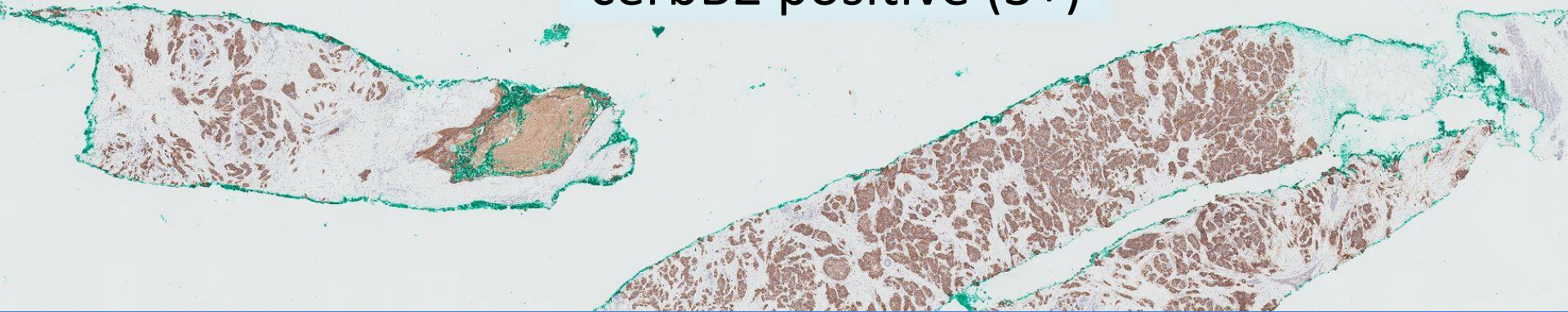
Academia



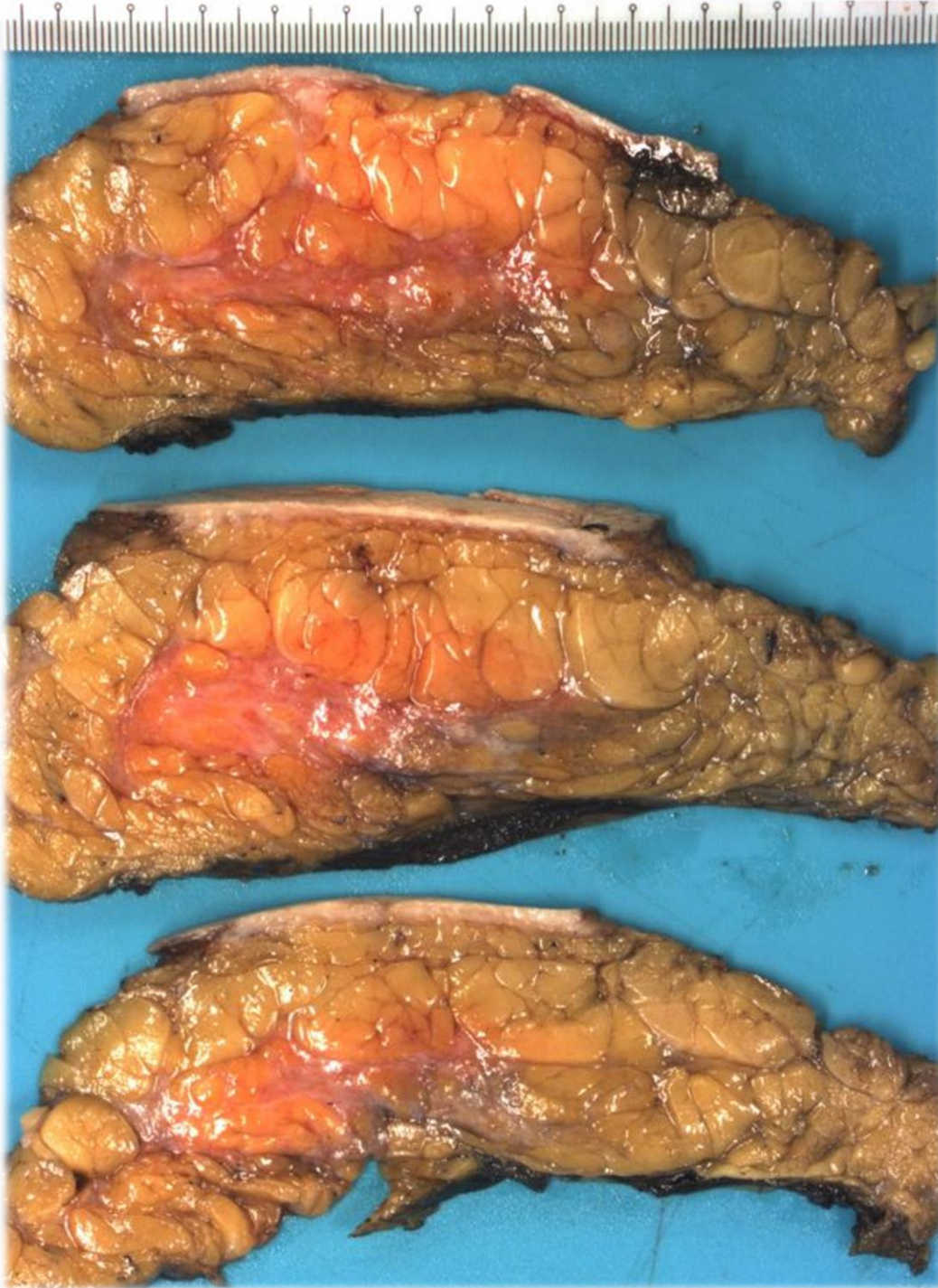
ER, PR negative

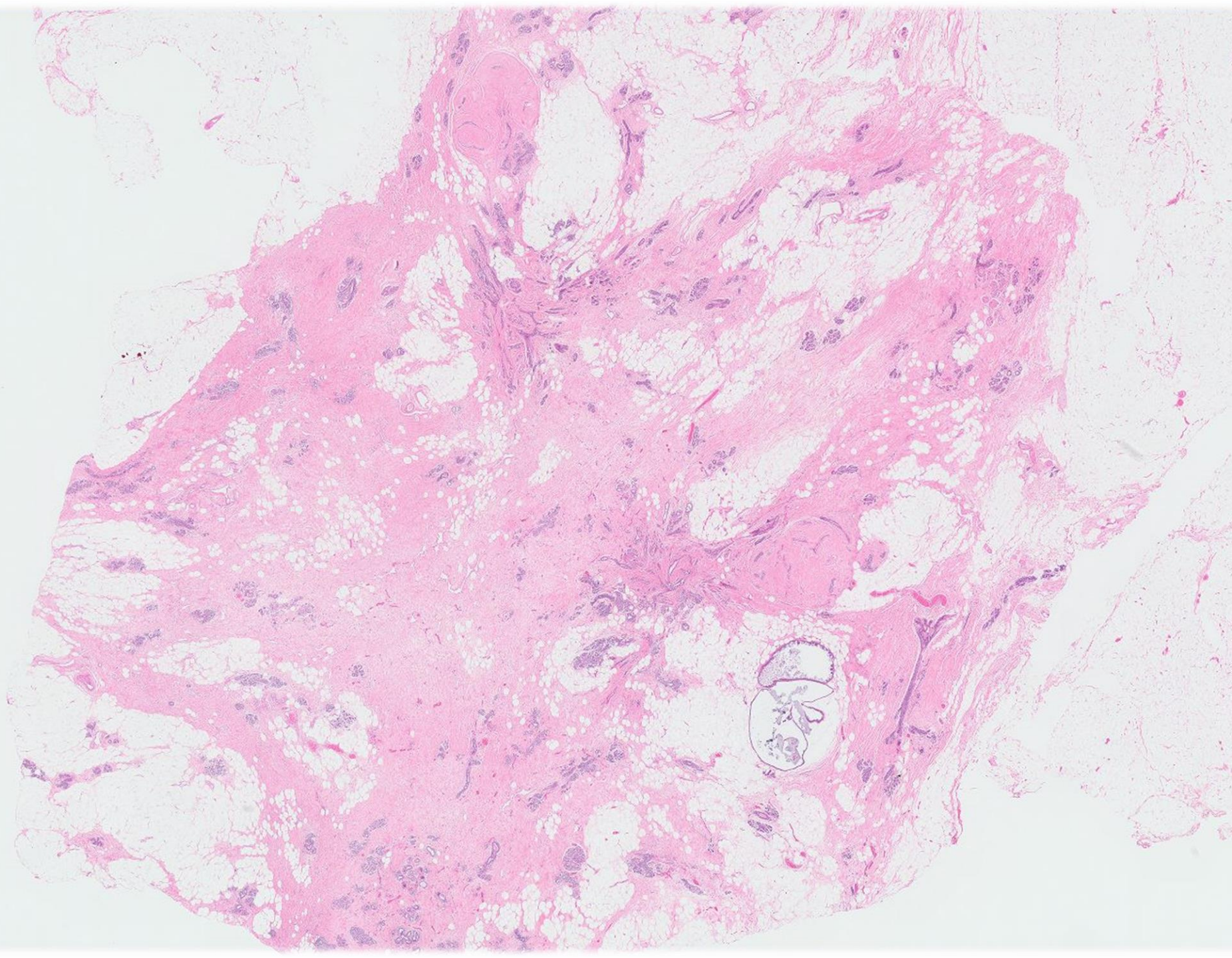


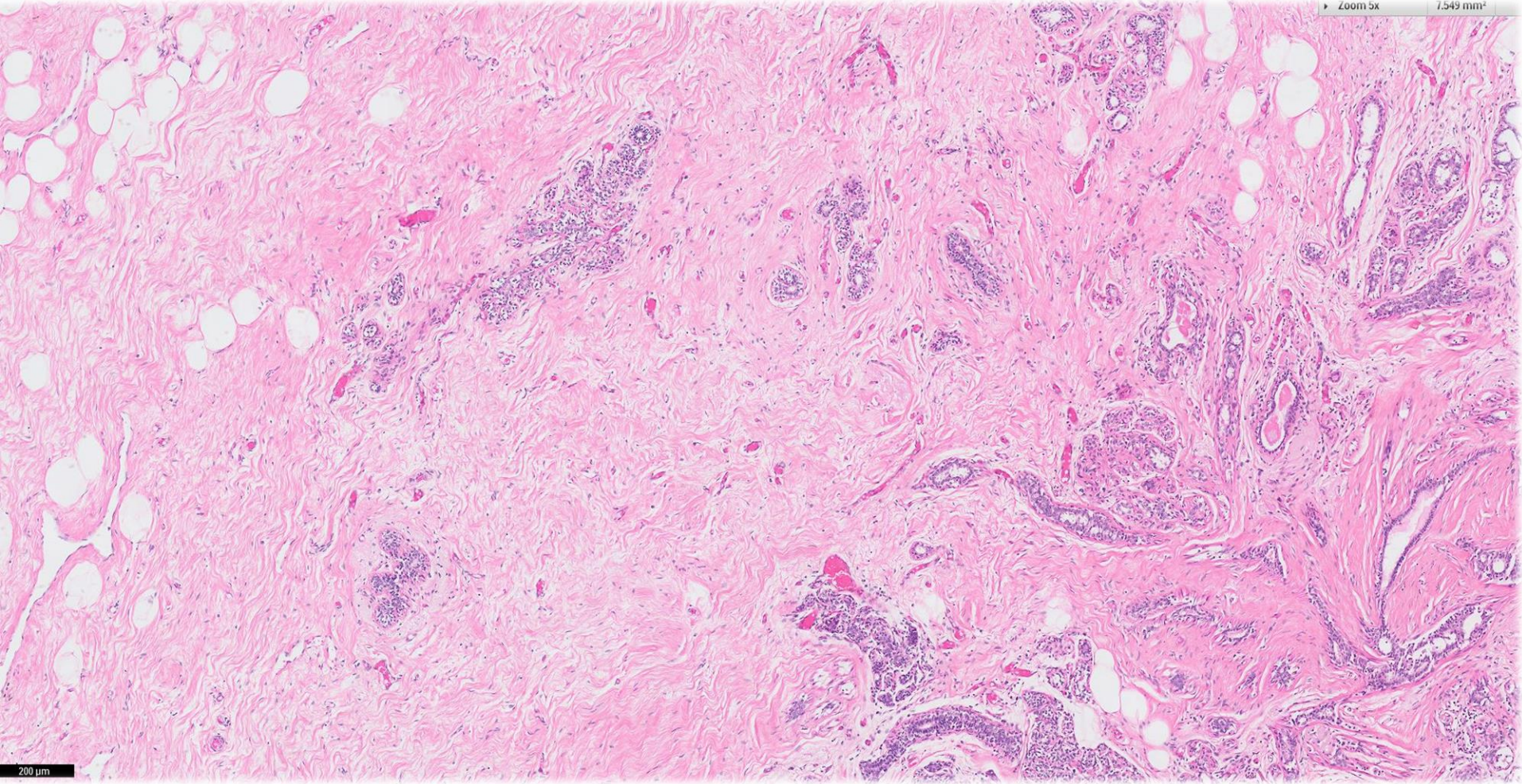
cerbB2 positive (3+)



Mastectomy

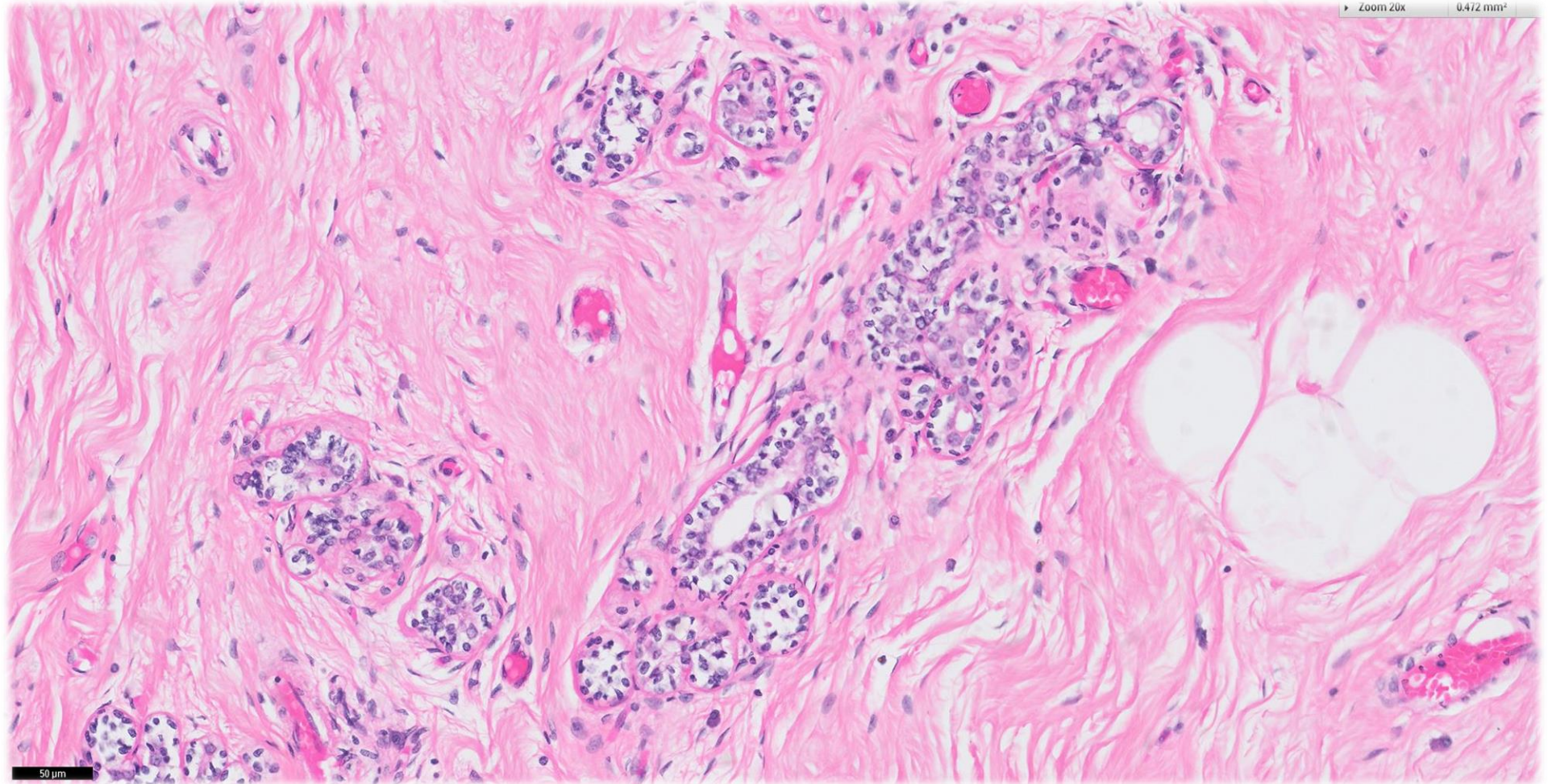




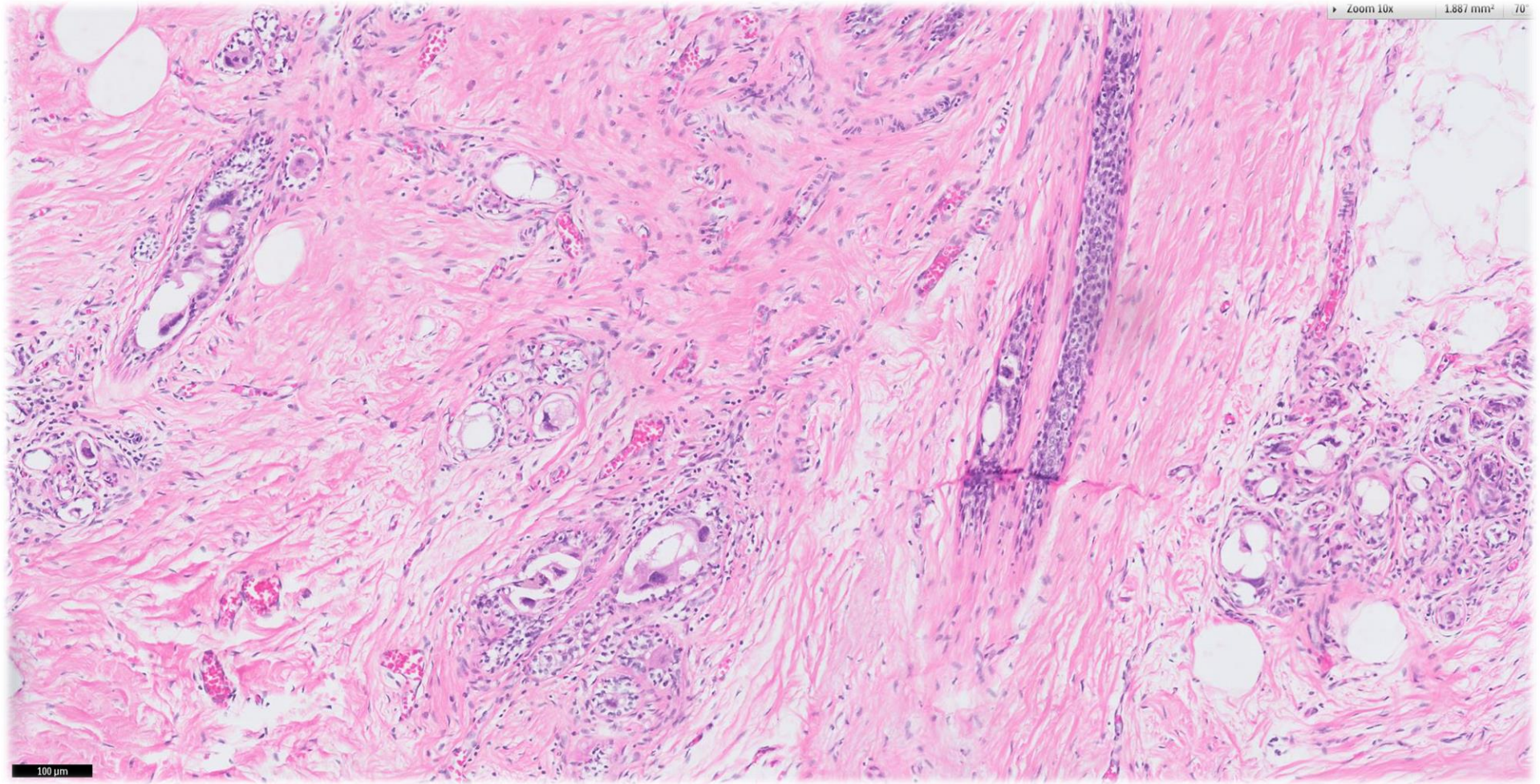


Zoom 20x

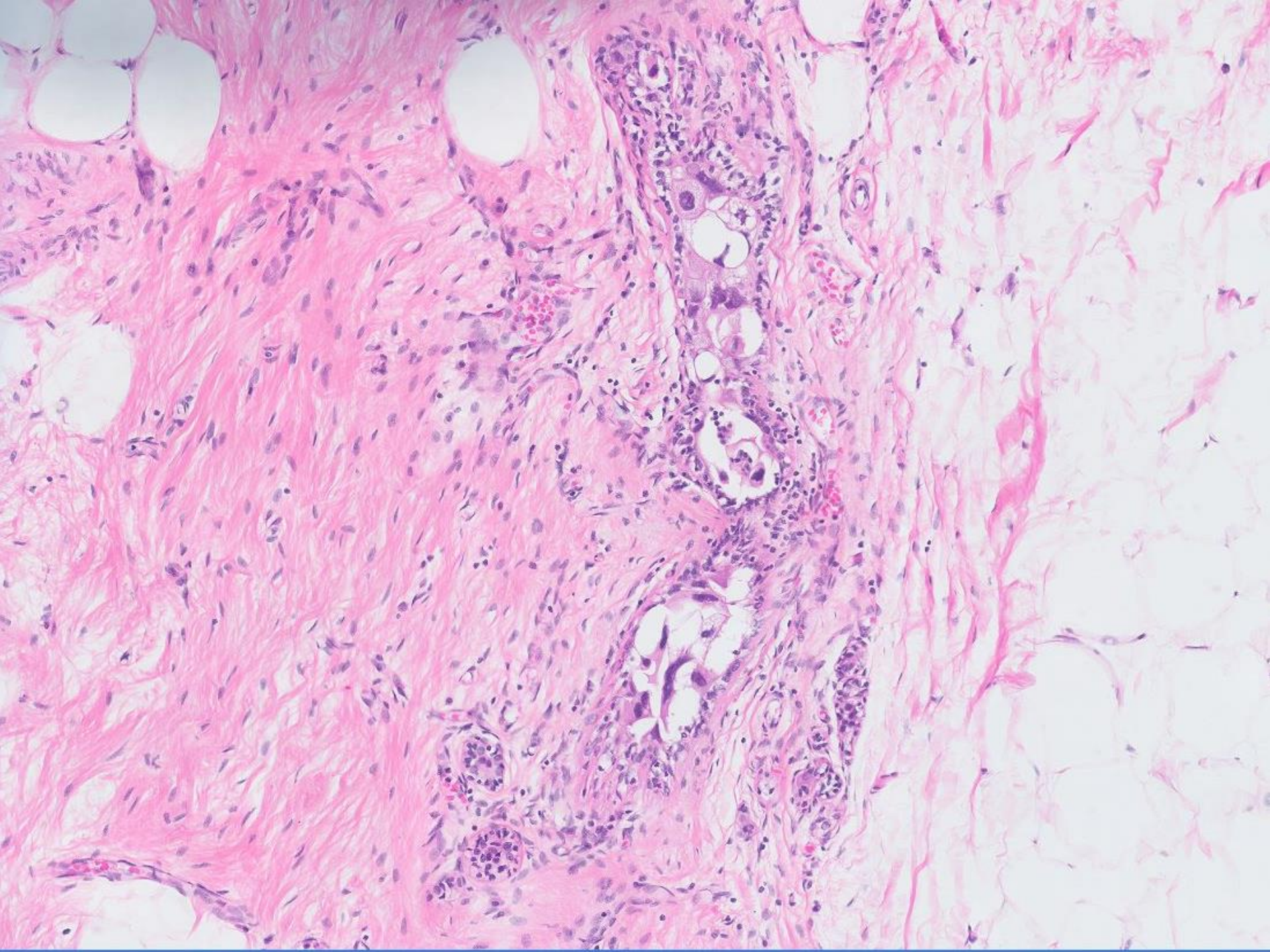
0.472 mm²

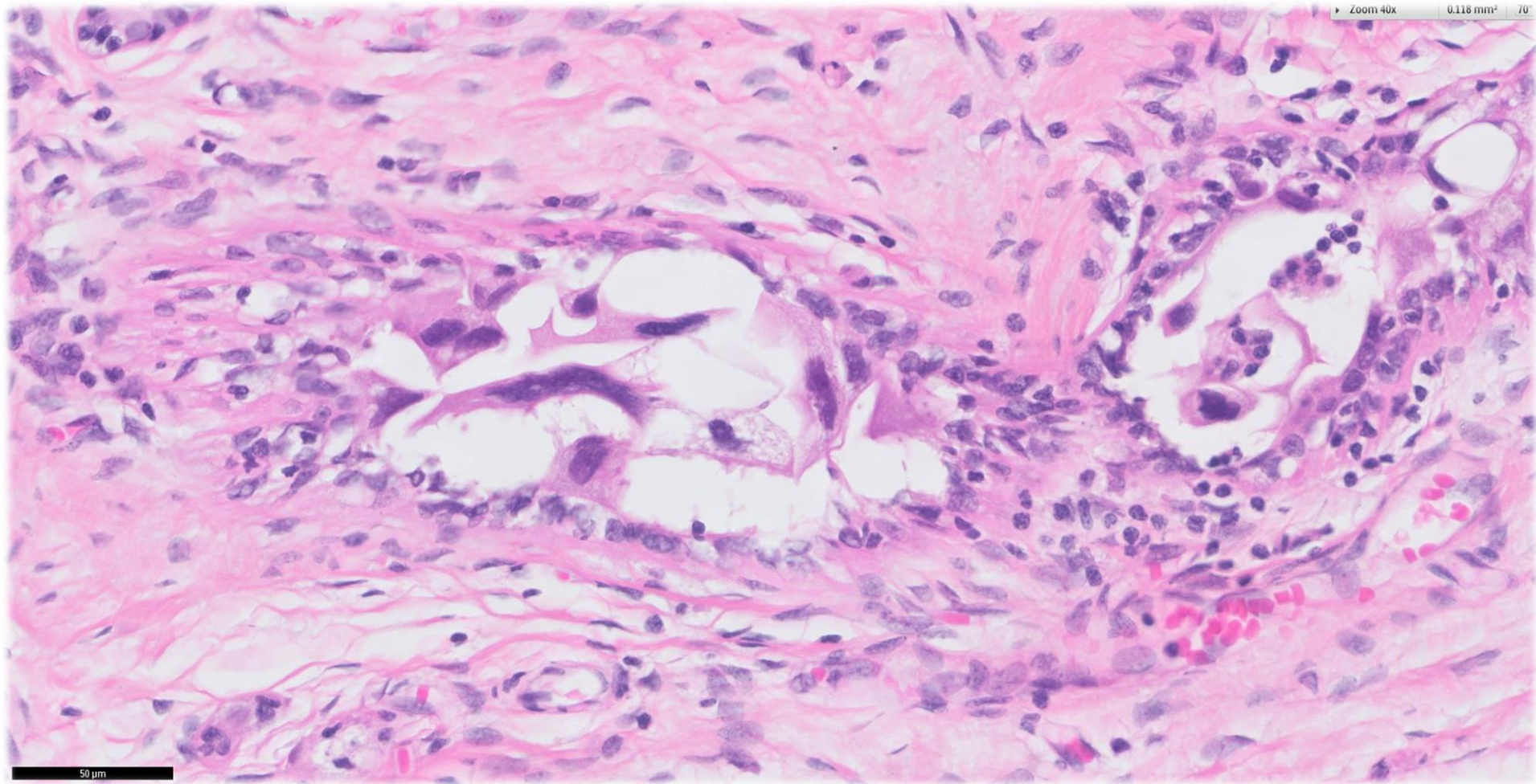


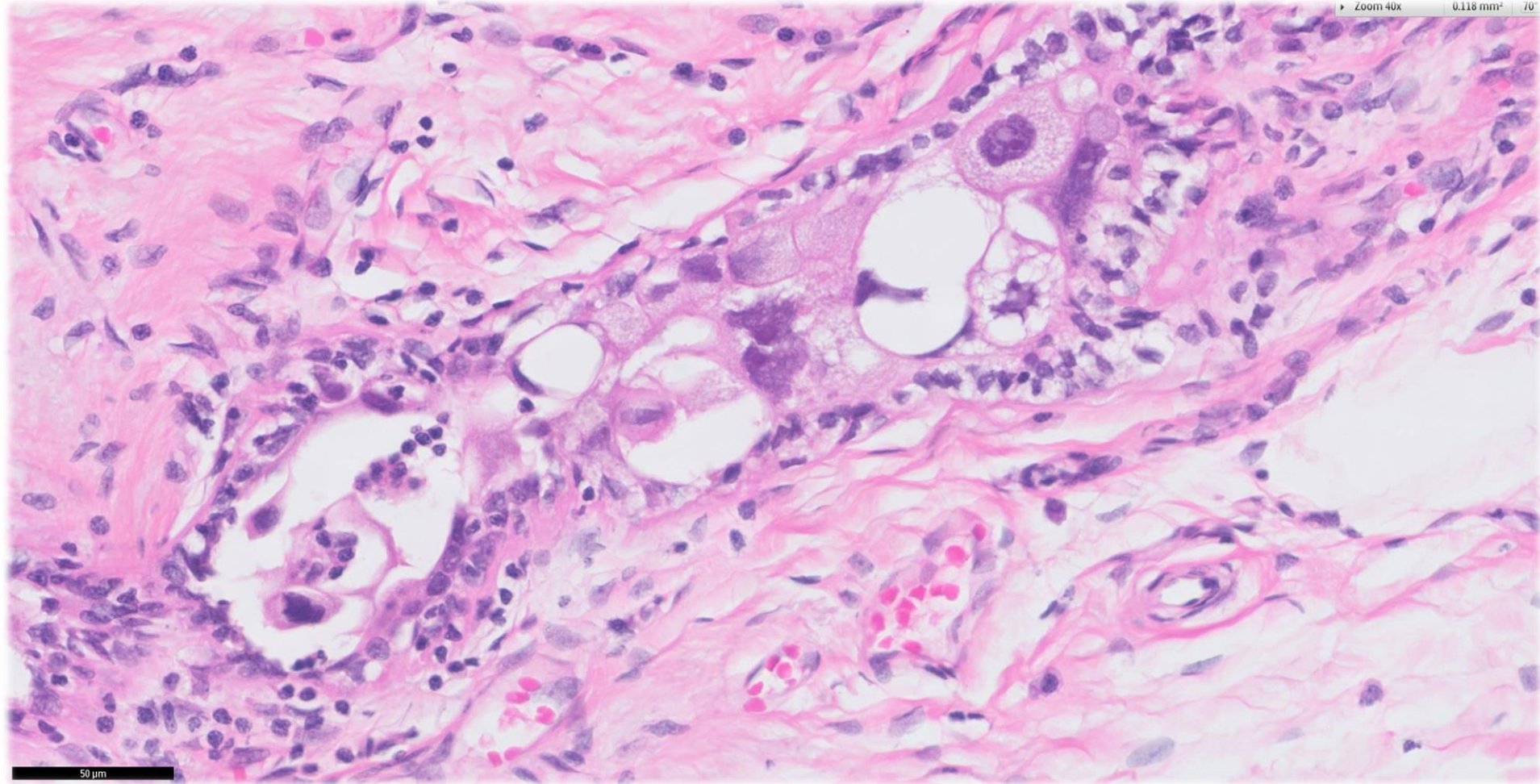
50 μ m

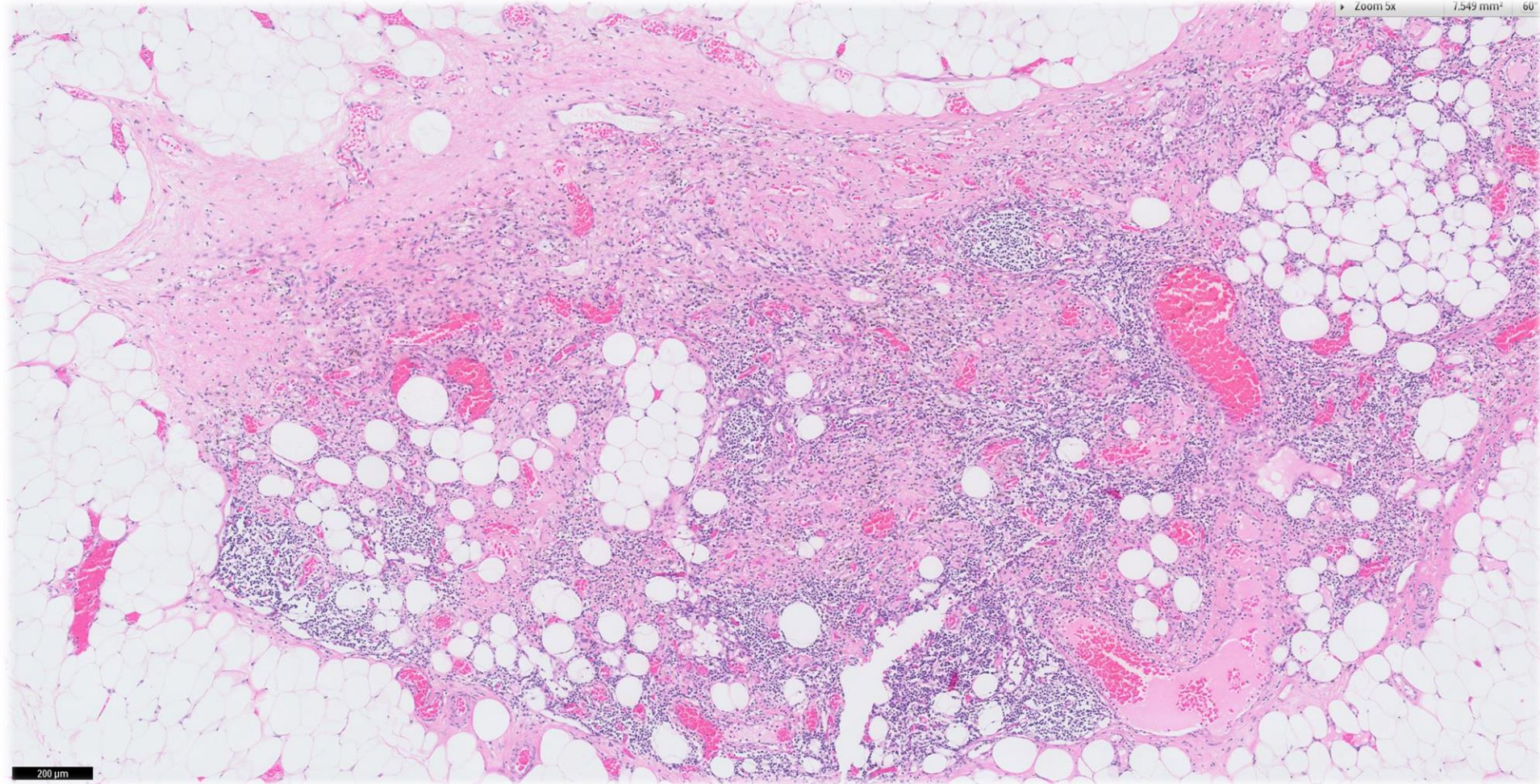


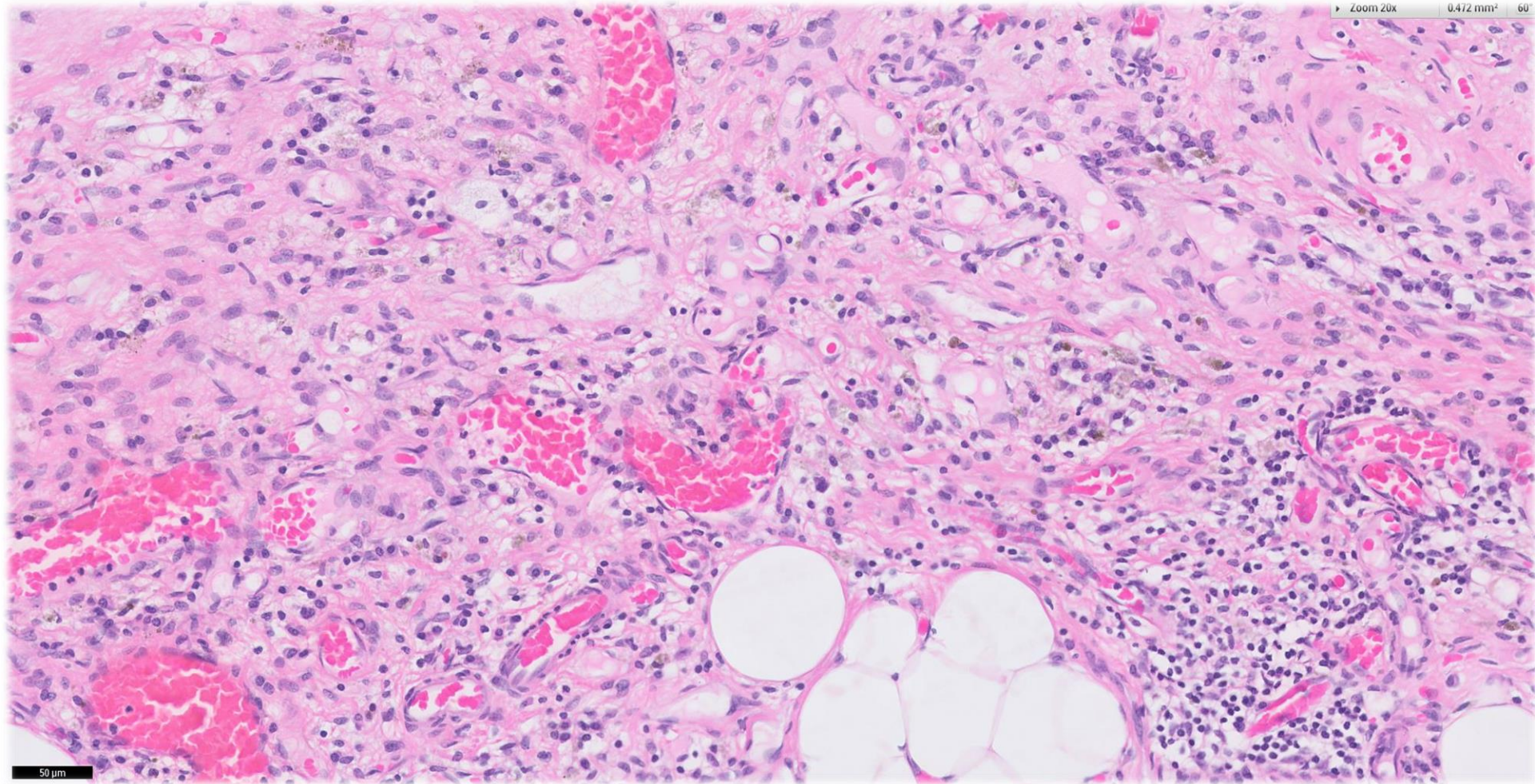
100 μm











Diagnosis

- Core biopsies of right breast mass and axillary lymph node:
 - Invasive carcinoma with ductal features.
 - ER negative, PR negative, cerbB2 positive (3+).
- Right breast, mastectomy with axillary clearance, post-neoadjuvant chemotherapy:
 - No residual invasive carcinoma.
 - Focal cancerised lobules with chemotherapy changes, 4mm.
 - 22 benign lymph nodes.



Neoadjuvant chemotherapy

- Prediction of response ~
 - High nuclear and histological grade
 - Negative oestrogen receptor status
- Patients with complete pathologic response have better 5 year overall and disease free survival rates (89% and 87%) than those with partial response (64% and 58%).

Neoadjuvant chemotherapy

- No residual carcinoma (complete pathologic response) is seen in 6.7% to 10% of cases.
- Histologic clues of prior invasive carcinoma ~
 - Fibrosis
 - Stromal oedema
 - Increased vascularity
 - Chronic inflammatory cell infiltrate
 - Stromal elastosis
- DCIS and lymphovascular emboli are more resistant to chemotherapy.

Neoadjuvant chemotherapy

- Residual DCIS and invasive carcinoma may appear morphologically unaltered.
- More often, there are treatment effects on cancer cells ~
 - Enlarged cells from increased cytoplasmic volume.
 - Cytoplasmic vacuoles.
 - Spaces around tumour cells.
 - Nuclear pleomorphism & hyperchromasia.
 - Multinucleation.
 - Abnormal mitoses.
 - Resemblance to histiocytes.

Neoadjuvant chemotherapy

- Treatment effects on benign breast parenchyma ~
 - More subtle alterations.
 - Diffuse atrophy with decreased lobules and lobular size.
 - Cytological atypia in ductal and lobular epithelial cells.
- Regressive changes in lymphoid tissue of lymph nodes.

