

Case 16

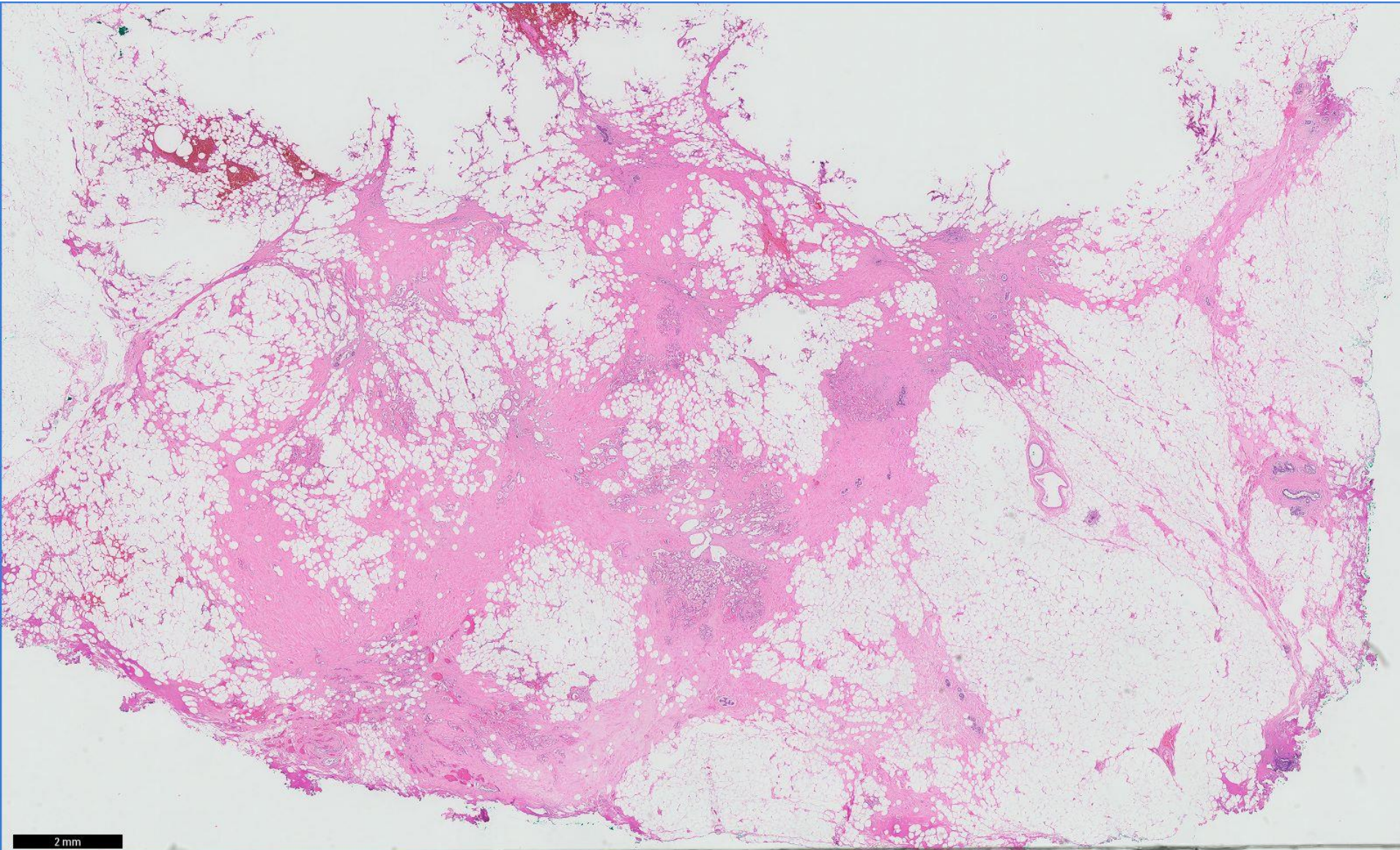
42 year old woman presented with a right breast 2cm lump over the previous surgical site.

There was a past history of right breast wide excision with axillary clearance carried out for an invasive ductal carcinoma grade 3 seven years ago, with postoperative chemoradiation.

Ultrasound during the current episode showed a hyperechoic mass.

An ultrasound guided core biopsy followed by excision was performed.

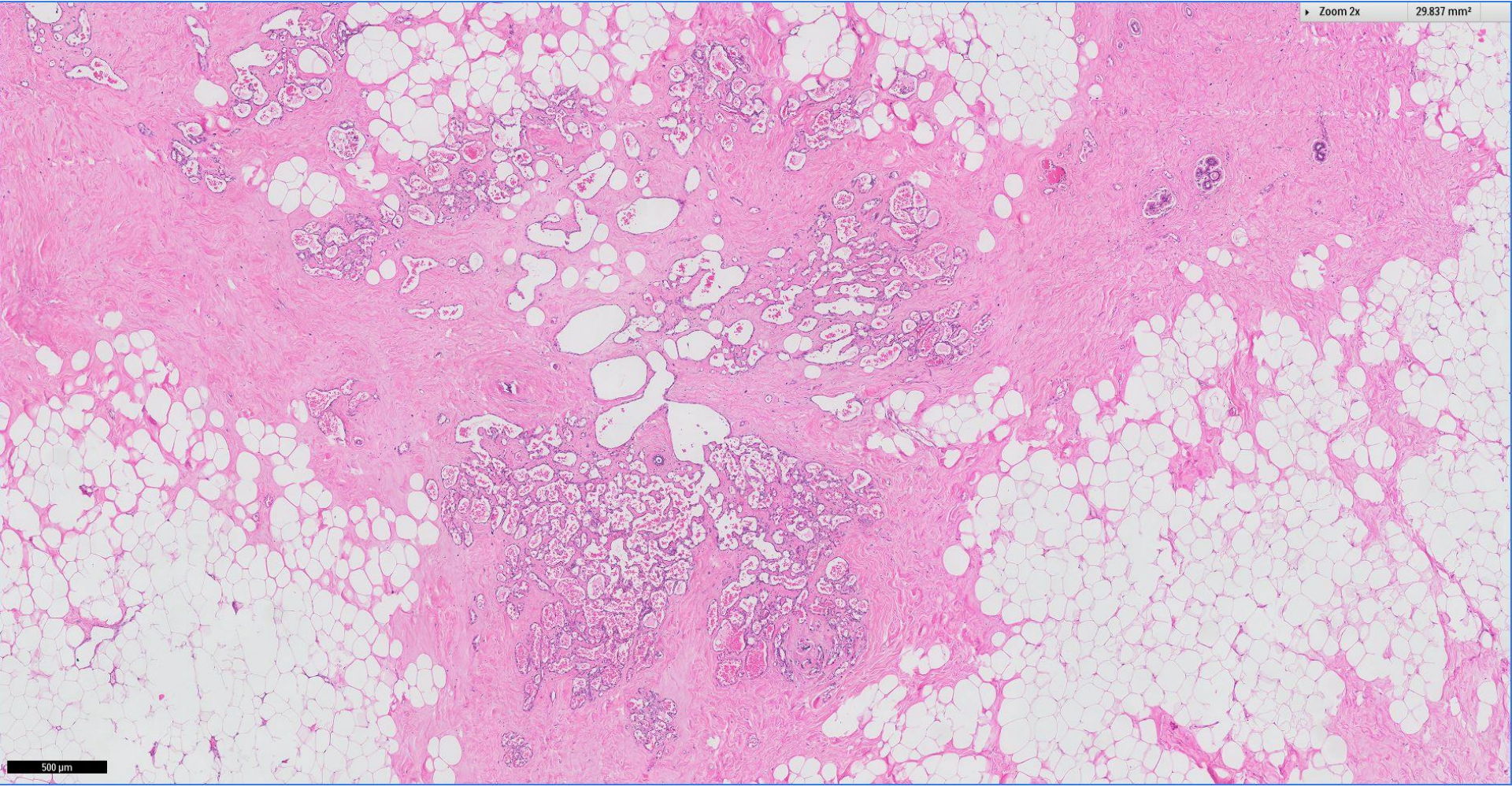




2 mm

Zoom 2x

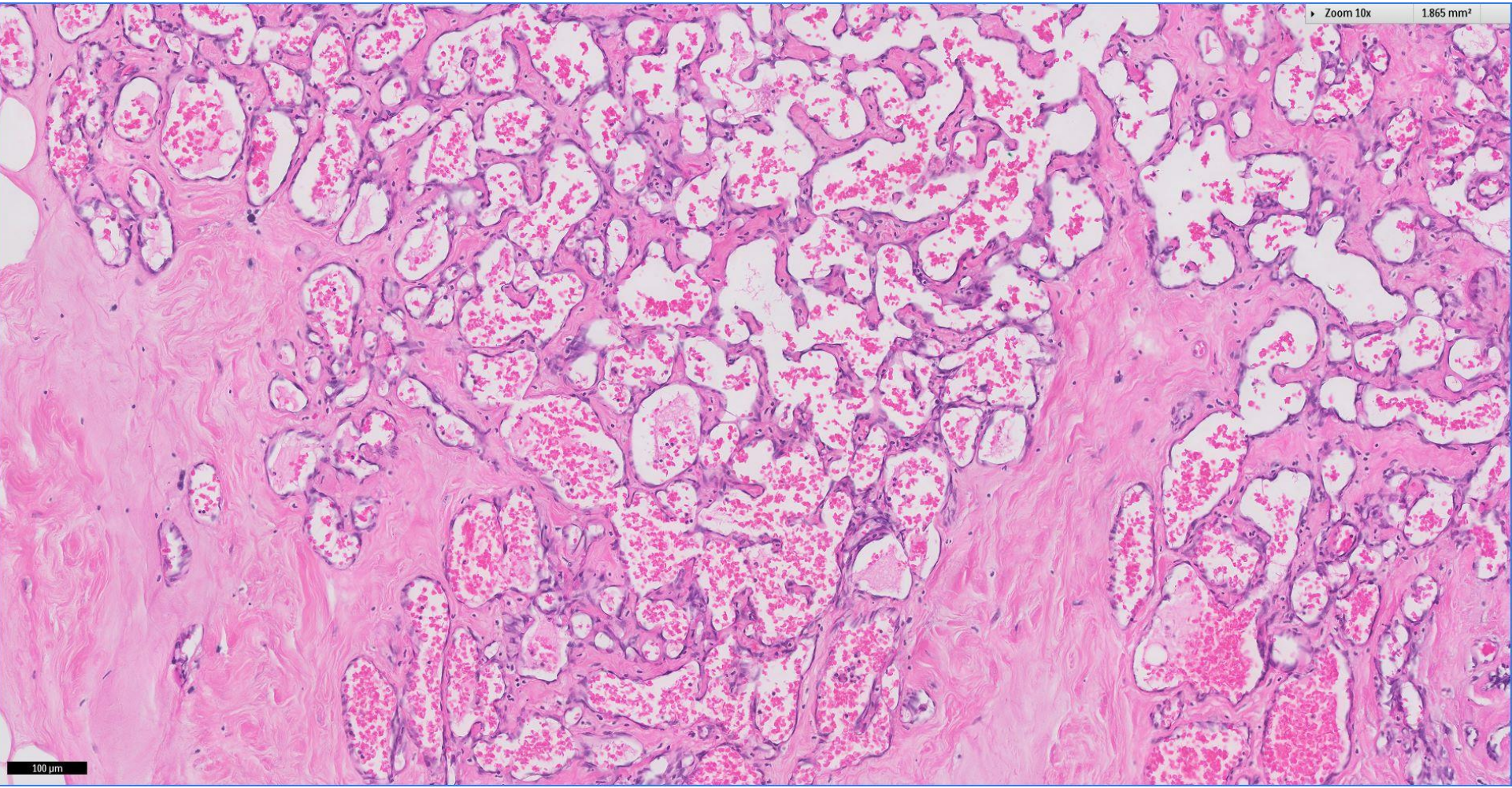
29.837 mm²



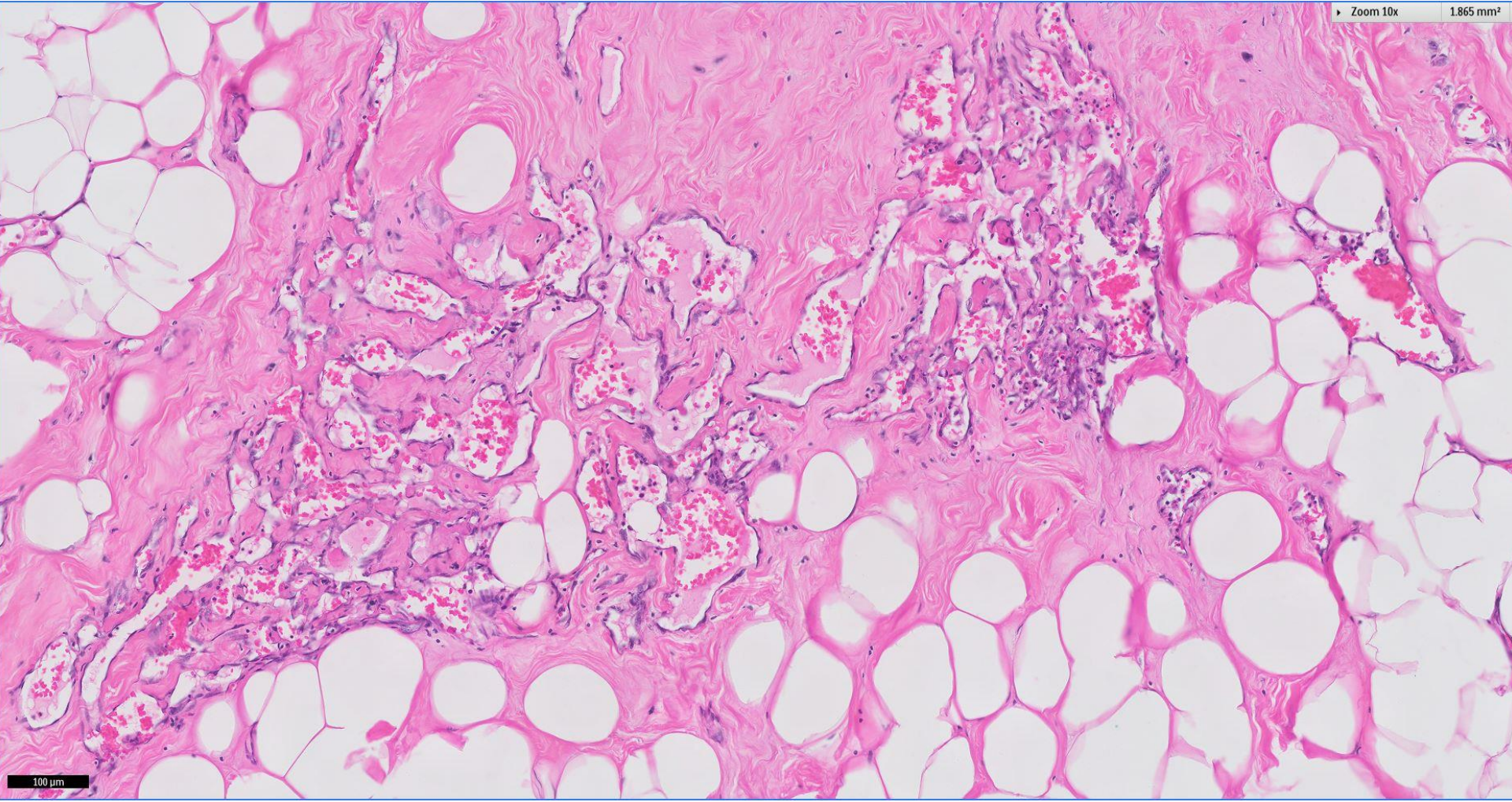
500 μ m

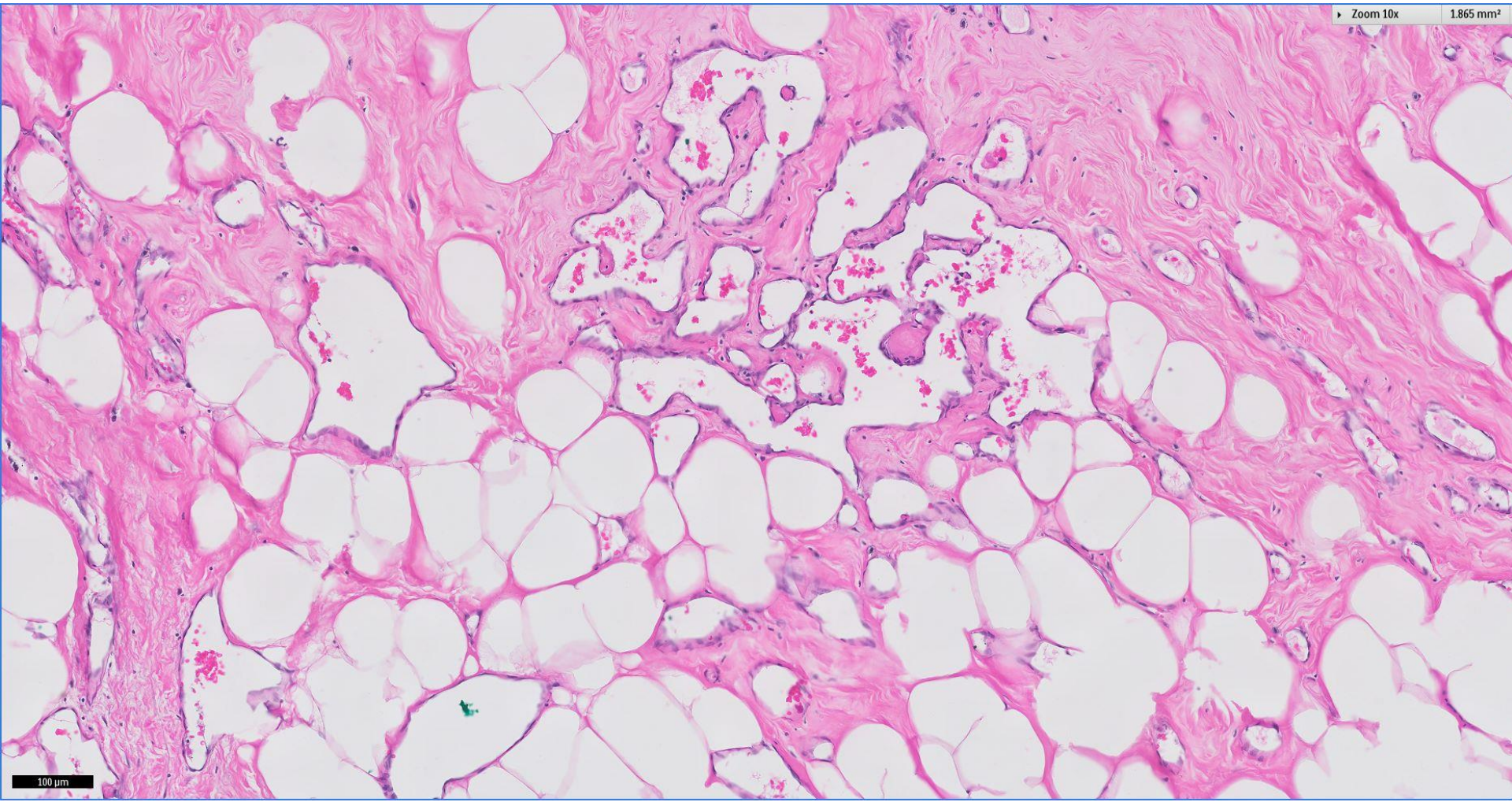
Zoom 10x

1.865 mm²



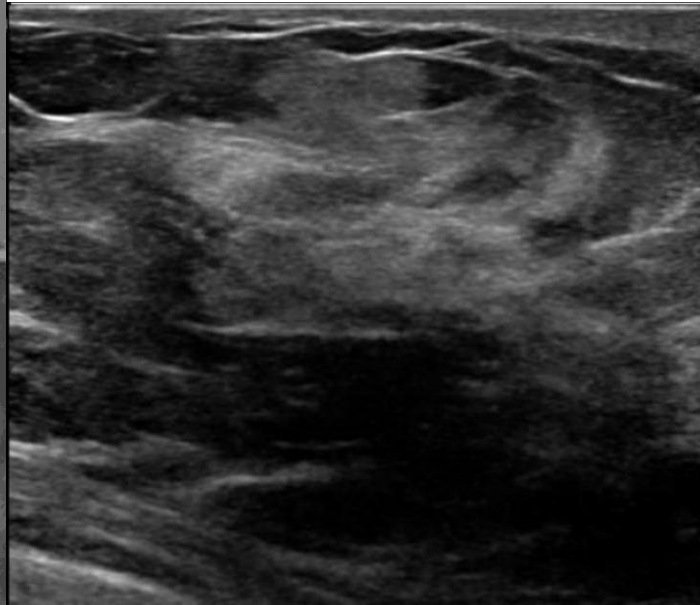
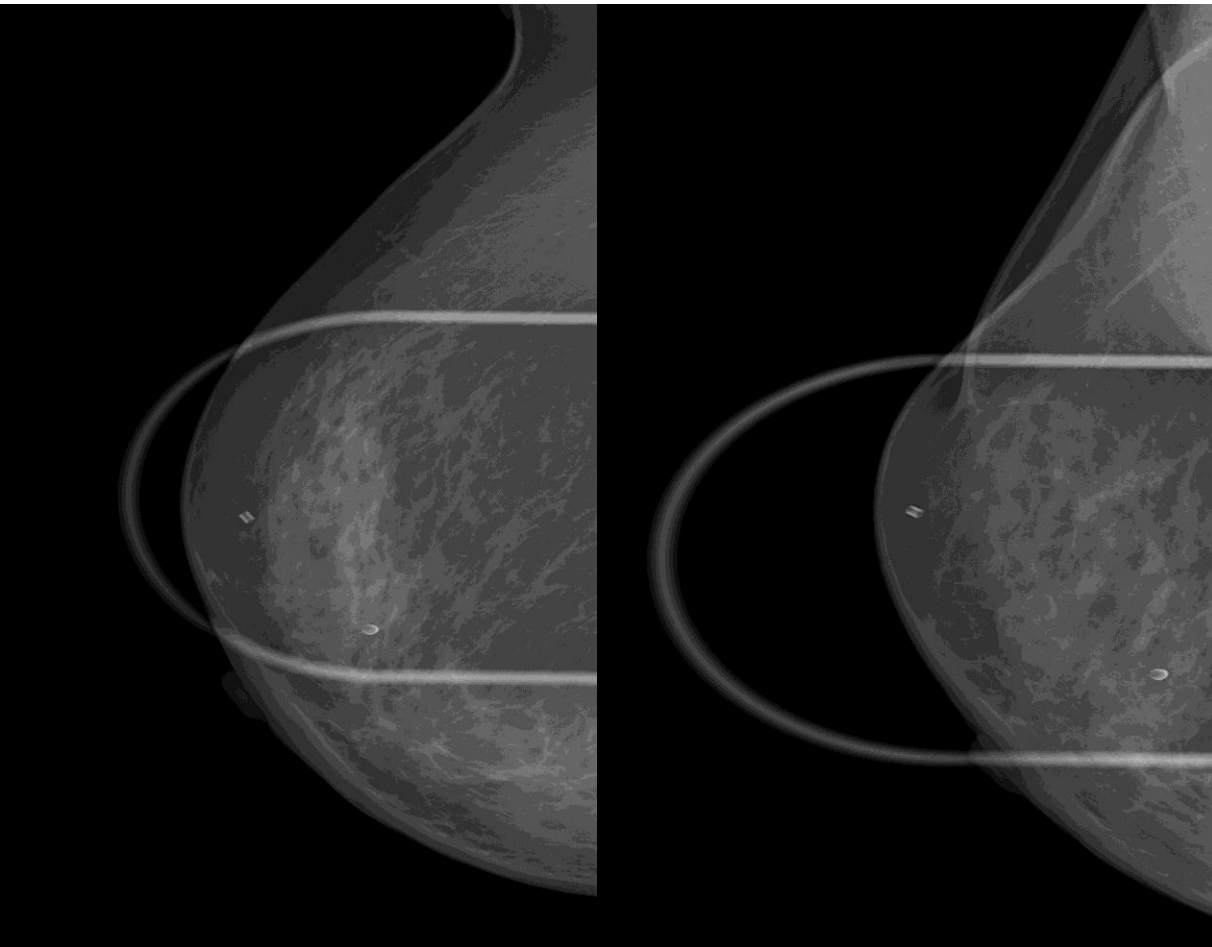
100 μ m

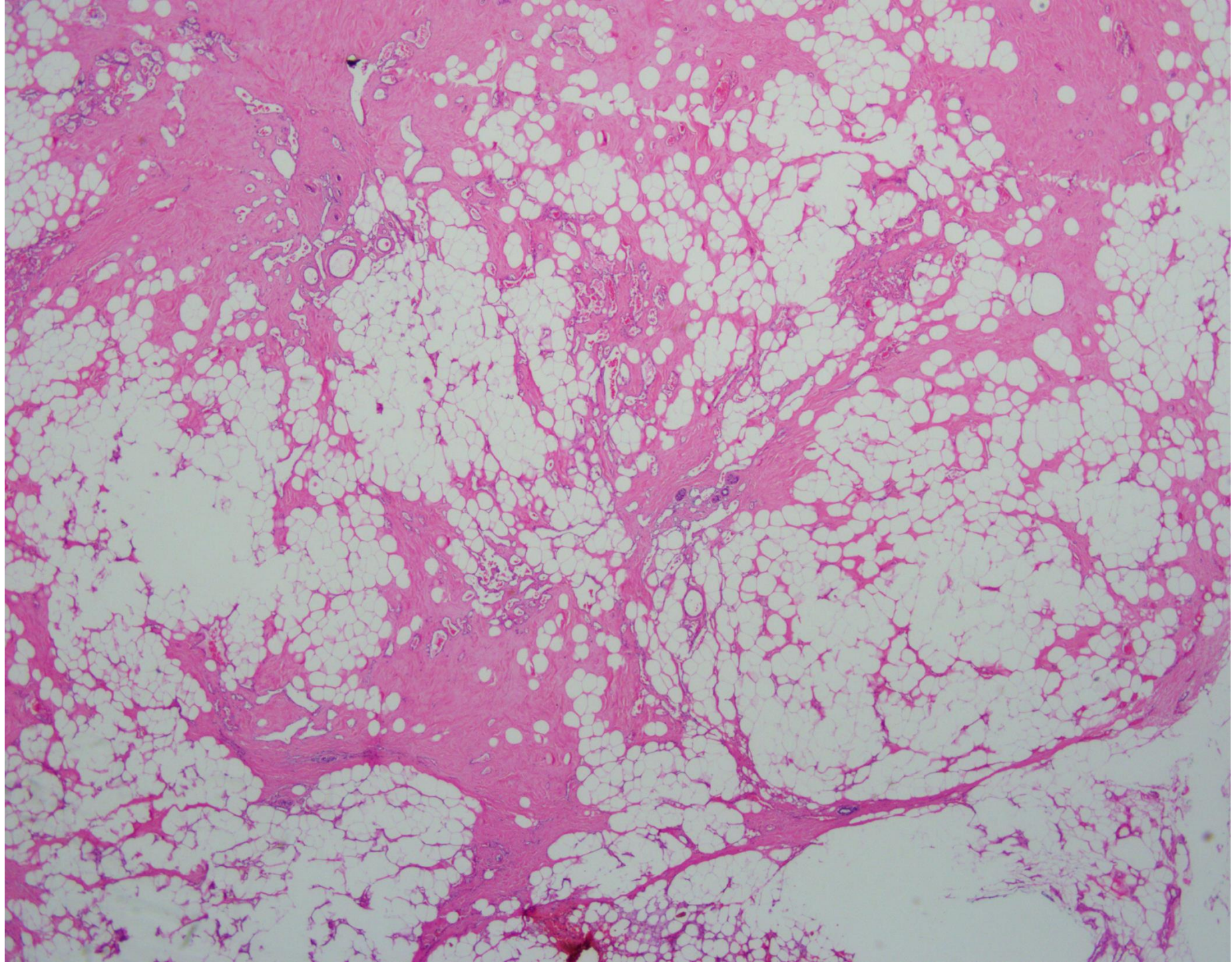


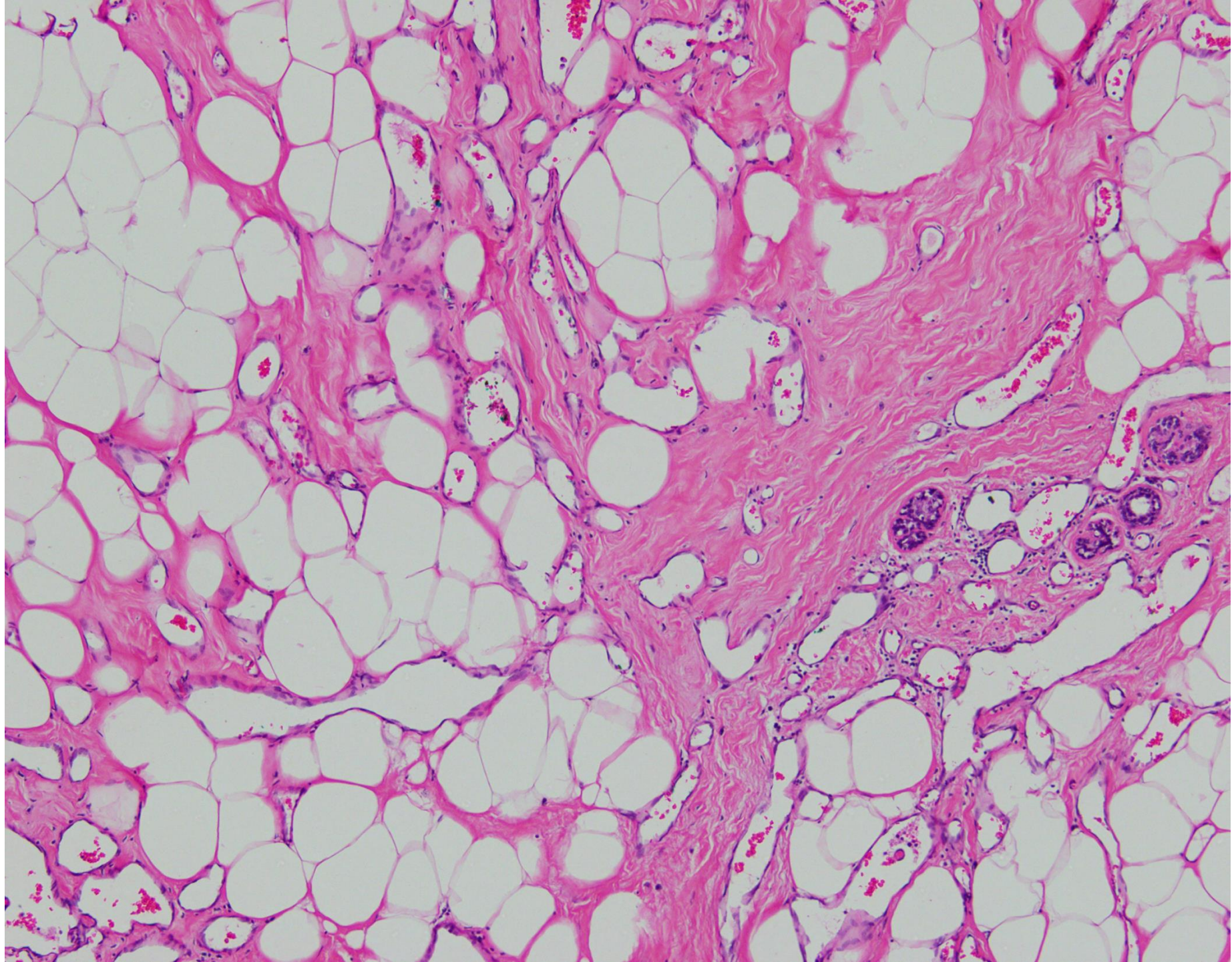


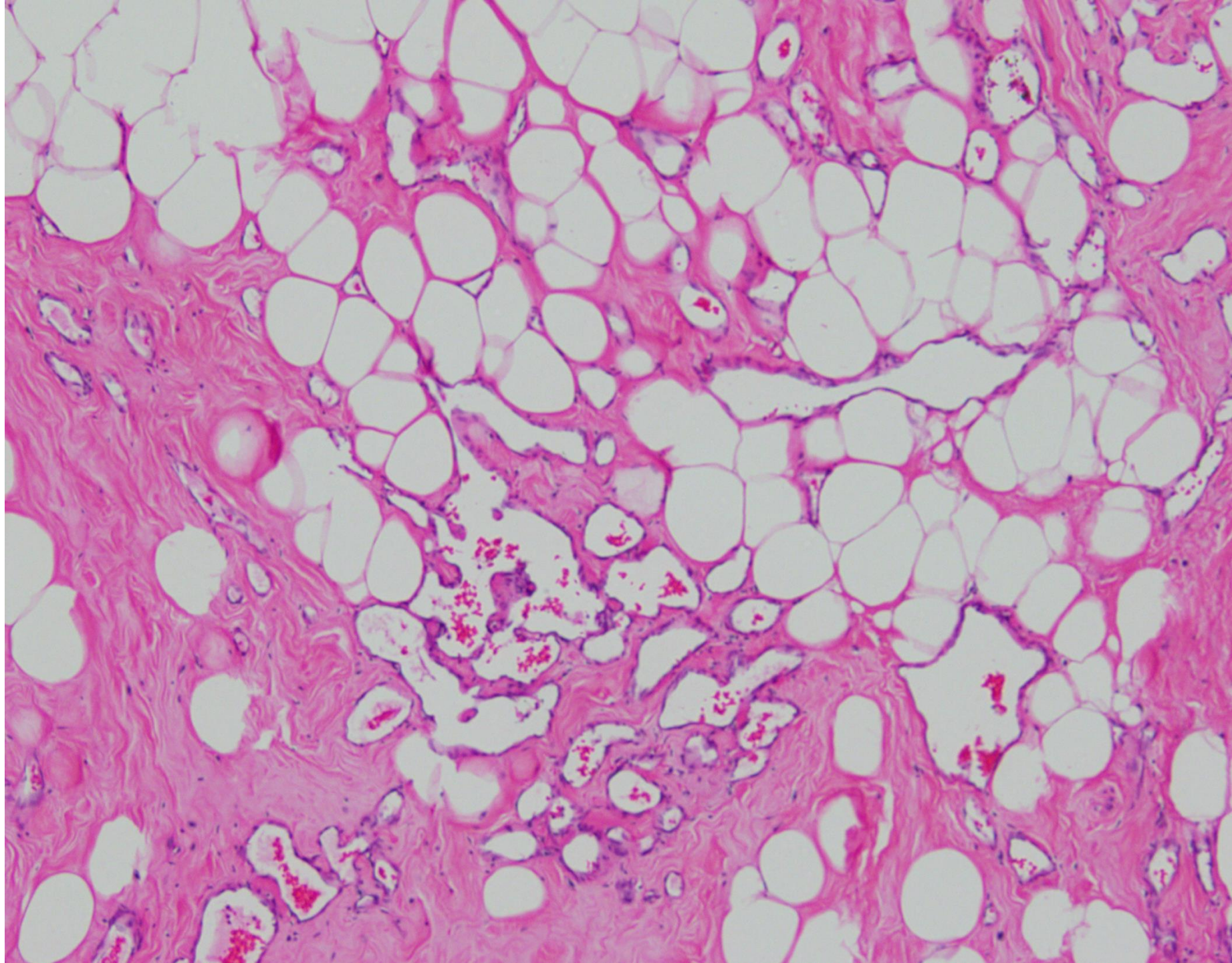


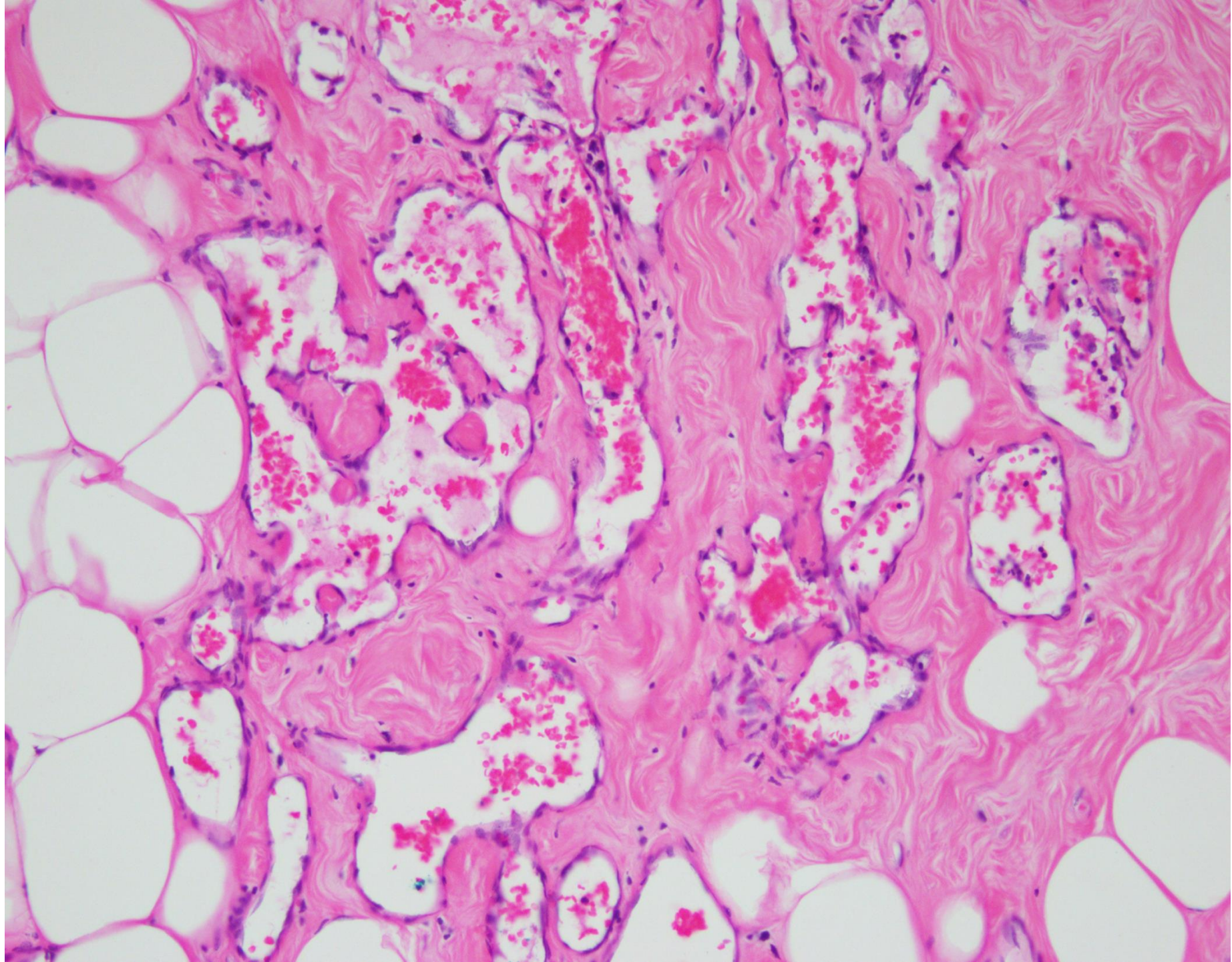
Department of Pathology SGH 1958-2013



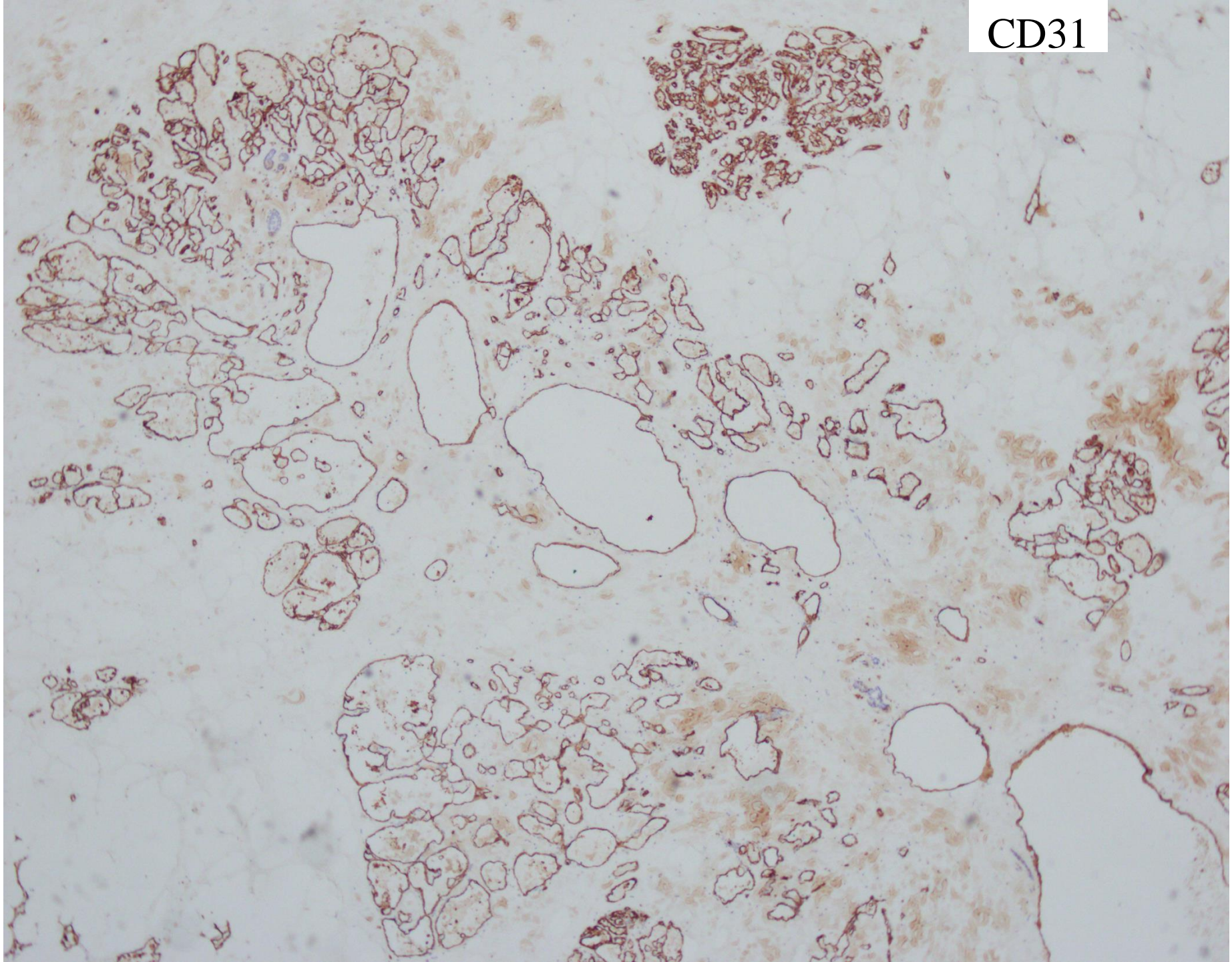








CD31



Right breast lump, excision:

Angiosarcoma, well differentiated



Differential diagnosis

- Angiomas
- Atypical vascular lesion
- Well differentiated angiosarcoma



Angiomatosis

- Diffuse proliferation of benign vessels infiltrating the breast tissue in a contiguous fashion.
- Rare, affects any age group.
- Proliferation of variably-sized anastomosing vascular structures infiltrating the breast interlobular stroma displacing, but not disrupting, lobular structures, important feature differentiating these lesions from well differentiated angiosarcoma.
- No atypical endothelial nuclear features or mitoses.
- Lumina may be filled with erythrocytes or may be empty.
- Vascular structures are evenly distributed throughout the lesion.

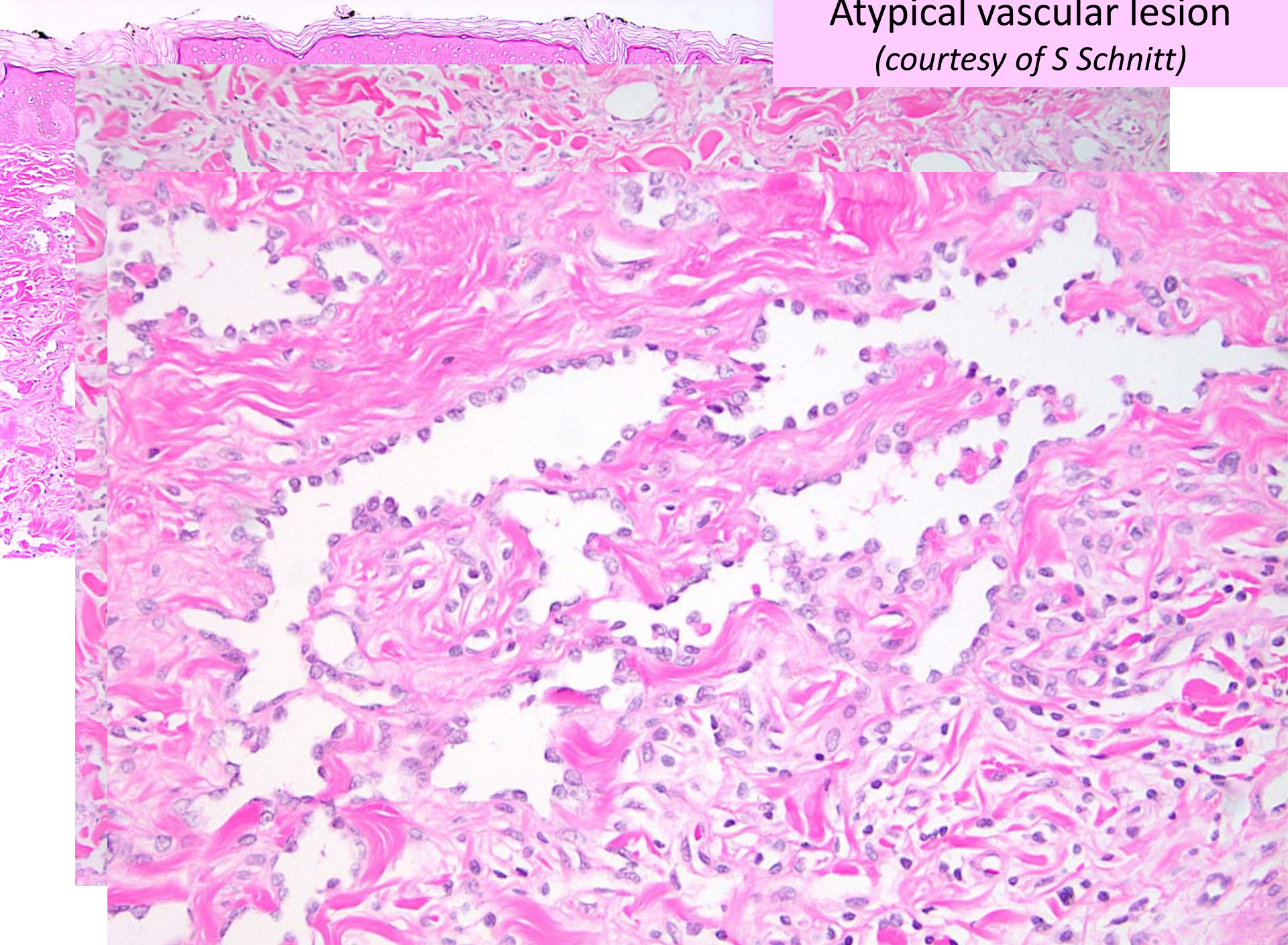


Atypical vascular lesions

- Angioformative proliferations that develop in the skin after breast conserving surgery and radiotherapy for breast carcinoma.
- May be precursor to angiosarcoma.
- Clinical features:
 - Flesh-coloured, brown or erythematous patches and papules occurring in radiation field, usually after about 6 years post-therapy.
- Histological features:
 - Variably sized and dilated vessels that may anastomose and have complex branching architecture, involving superficial and deep dermis.
 - Endothelial cells plump with prominent nuclei.
- Usually benign course; may recur or develop angiosarcoma.



Atypical vascular lesion
(courtesy of S Schnitt)



Angiosarcoma

- Commonest primary sarcoma in the breast, after malignant phyllodes tumour.
- Accounts for 0.05% of all primary breast malignancies.
- Classification:
 - Primary: arises in breast parenchyma.
 - Secondary: develops in the skin, chest wall or breast parenchyma after surgery and postoperative radiation for breast cancer (commonest radiation associated sarcoma).



Angiosarcoma

Primary

- Almost exclusively female.
- Median age 40 years.
- Clinical features:
 - Painless mass.
 - Diffuse breast enlargement.
 - May be bilateral.

Secondary

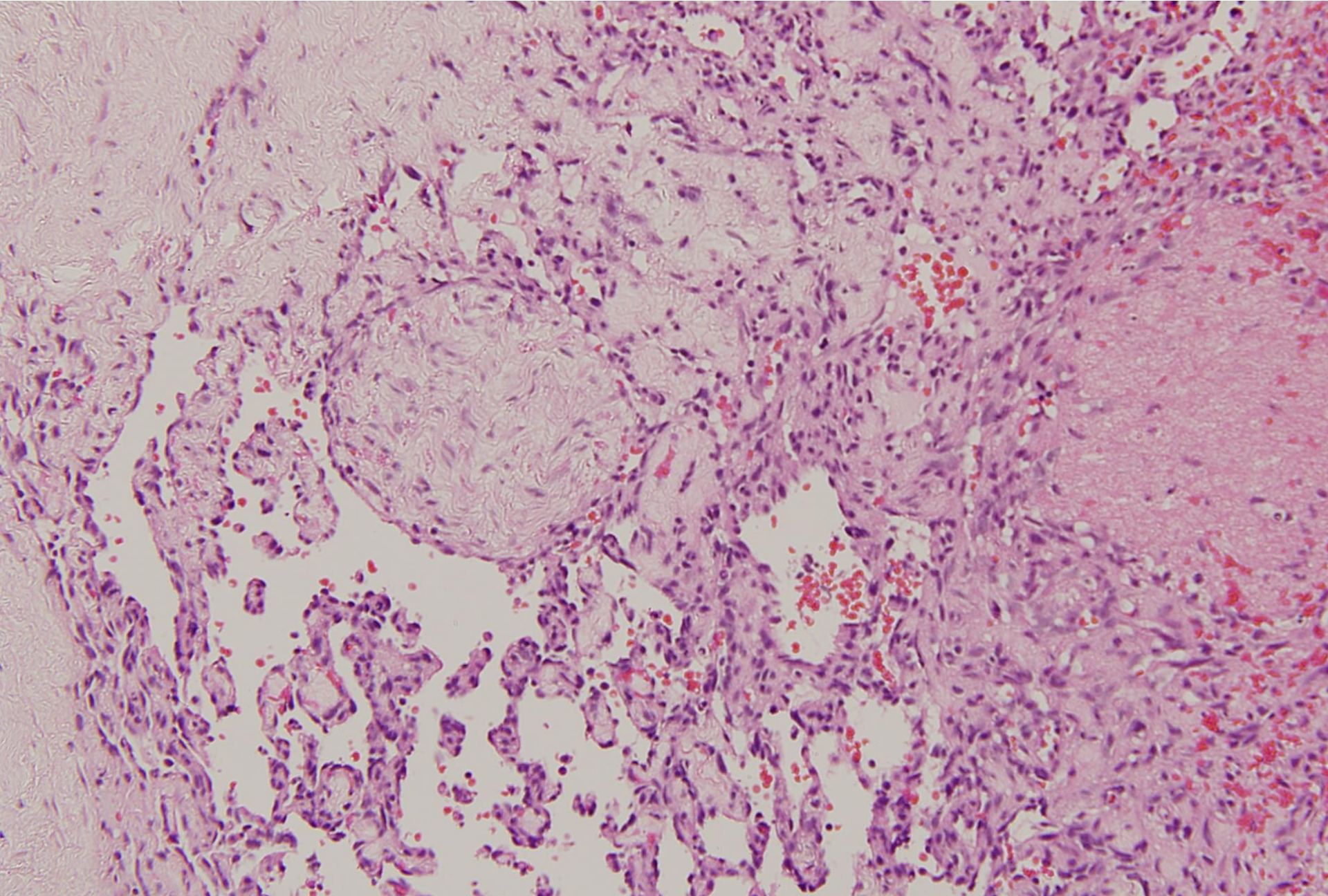
- 2 clinical settings:
 - Chest wall post-mastectomy and radiotherapy (latent period 7-10 years), older patients (60-80 years).
 - Tumour within the breast post lumpectomy and radiotherapy (latent period 5-6 years), broad age range.
- Usually involves skin, may occur in breast parenchyma.
- Often multifocal.
- Preceding or concurrent atypical vascular lesions.

Angiosarcoma

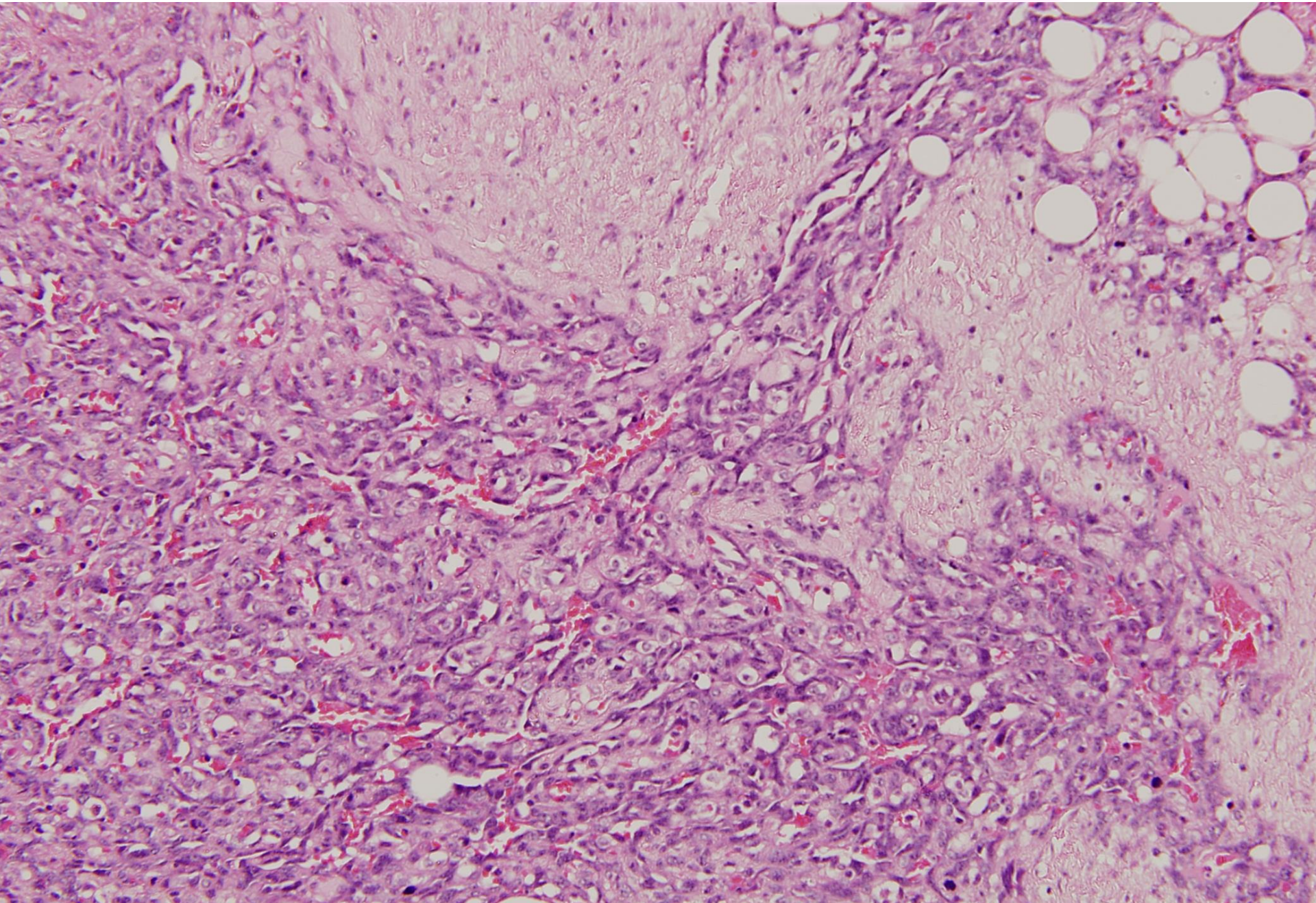
- Histopathology:
 - Well, intermediate and poorly differentiated.
(based on size of vascular channels, endothelial atypia, mitoses, multilayering)
- Differential diagnosis:
 - PASH, angiolipoma, benign vascular lesions, papillary endothelial hyperplasia, spindle cell carcinoma, other sarcomas.
 - Panel immunohistochemistry.
- Genetics:
 - Activating mutations in tyrosine kinase receptor.
 - Myc amplification in radiation induced angiosarcoma.
- ***Grade is of no prognostic value (AJSP 2008;32:1896-1904).***
- OS < 6 years.



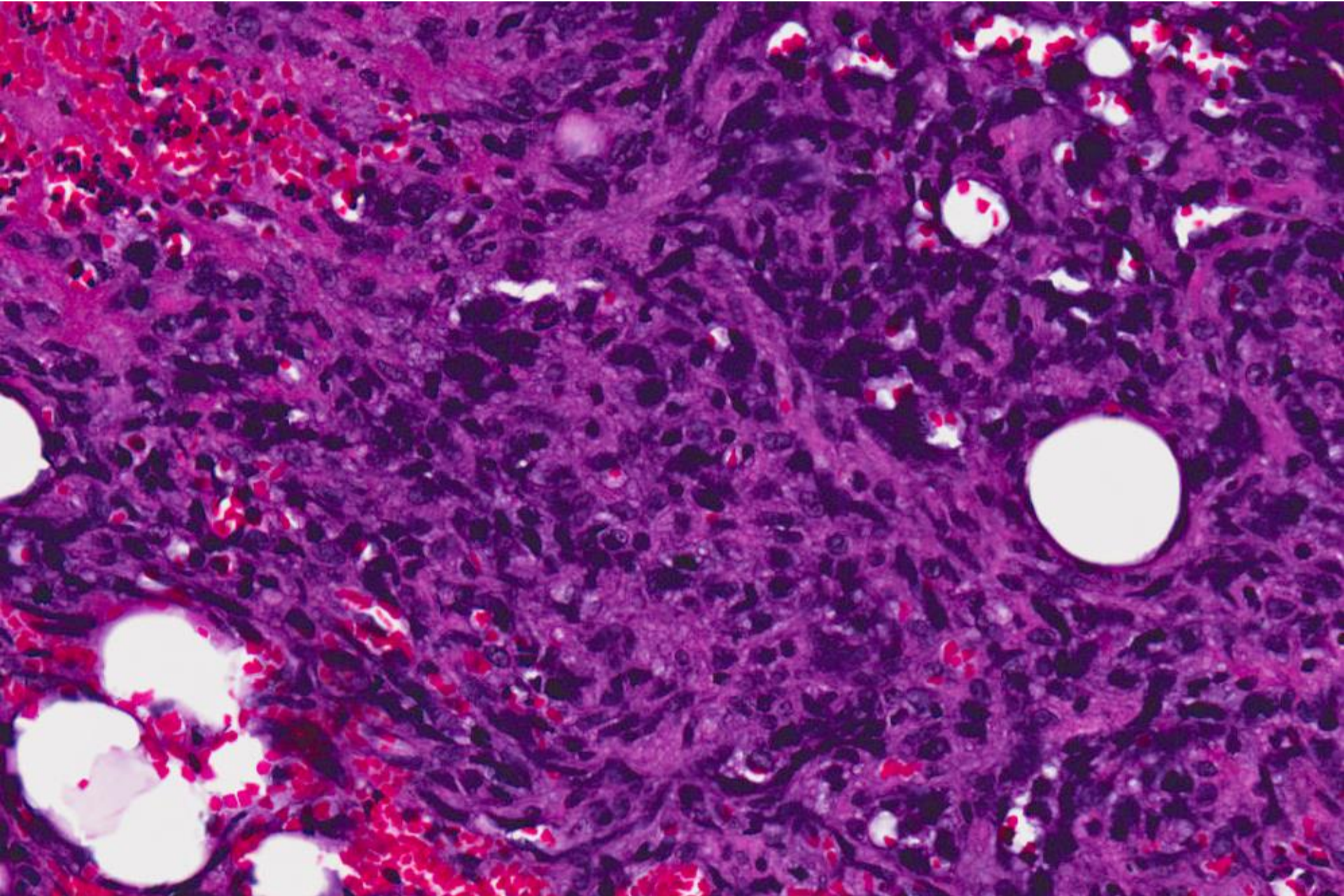
Well differentiated angiosarcoma



Moderately differentiated angiosarcoma



Poorly differentiated angiosarcoma



Diagnosis (*case 16*)

- Angiosarcoma, well differentiated:
 - Prior radiation therapy.
 - Permeative, infiltrative vessels.
 - Ill-circumscribed.
 - Vascular architectural atypia with proliferative scaffolds of endothelial cells.



 Breast
Pathology
Course 2014

