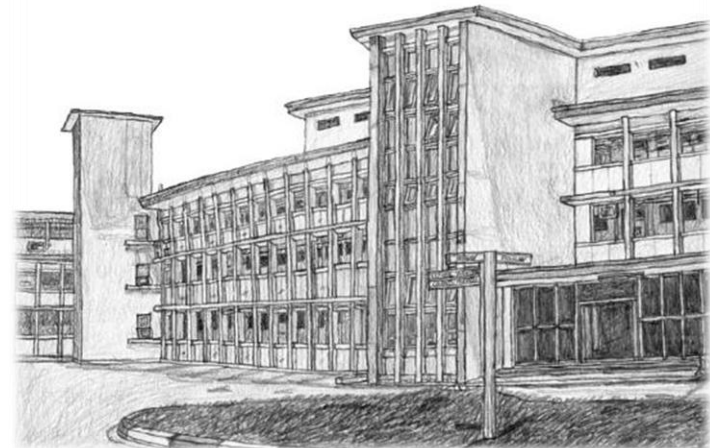
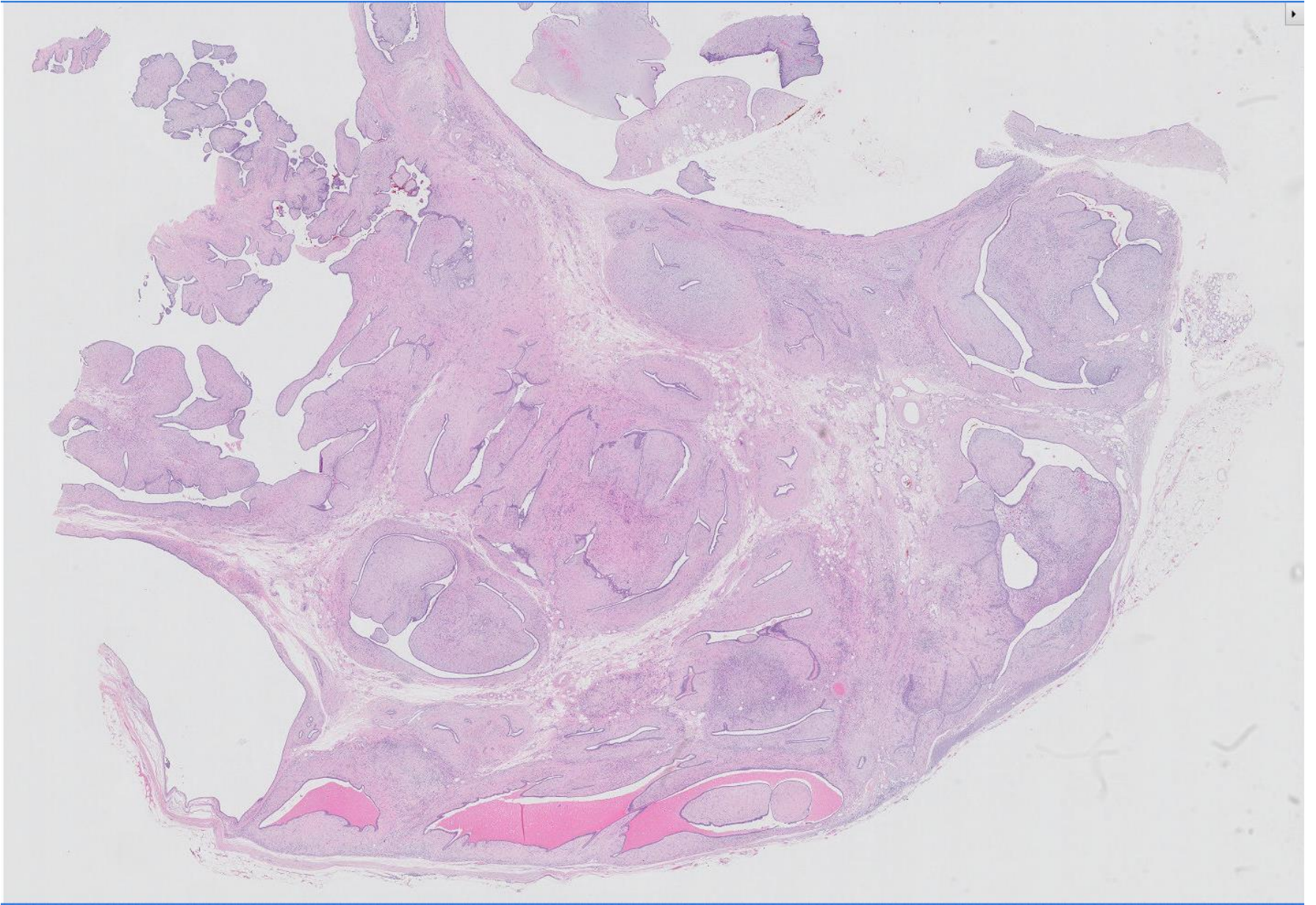


## Case 12

53 year old female.  
Large mass in the left breast.

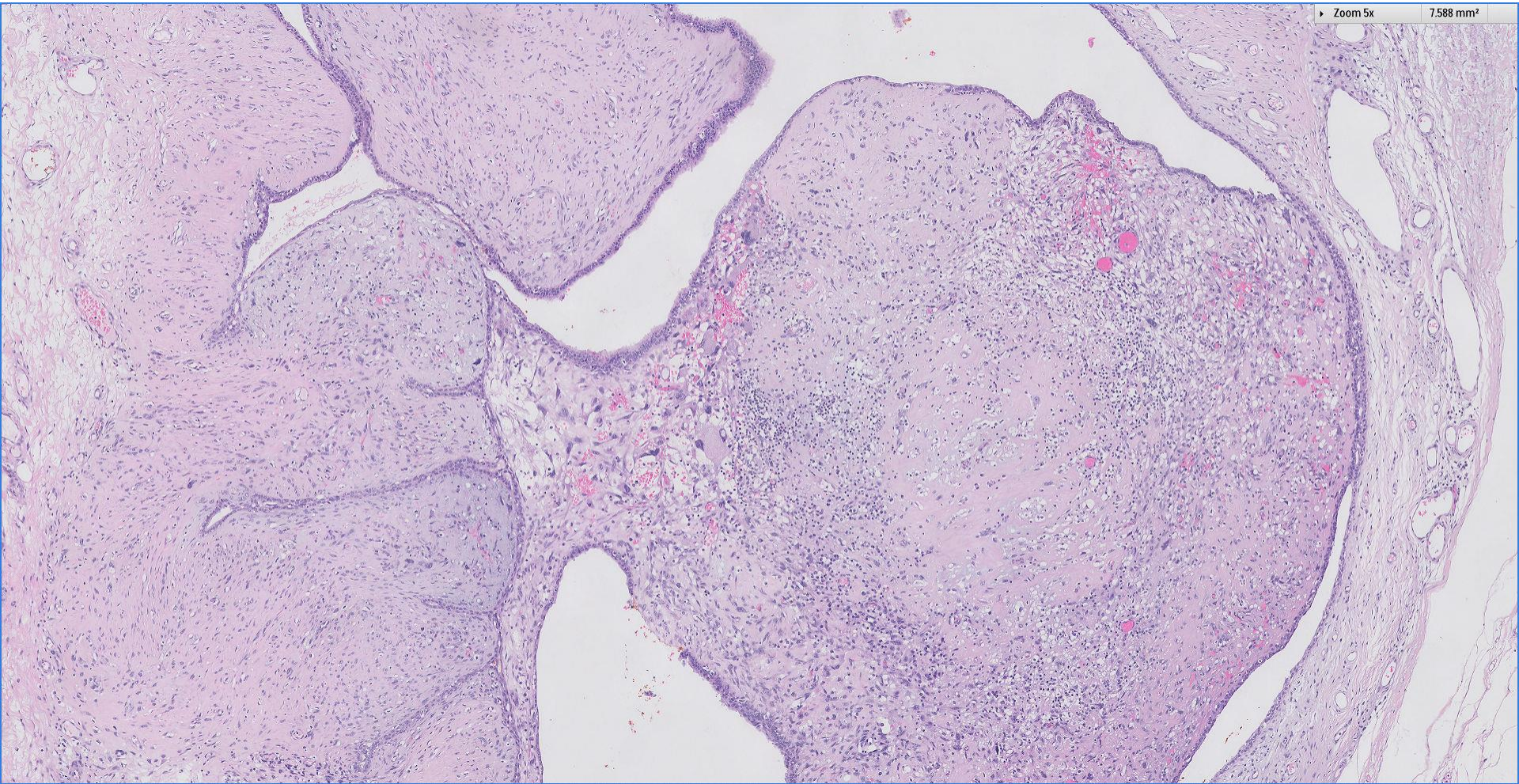
*Case contributed by Dr Mihir Gudi, Singapore*





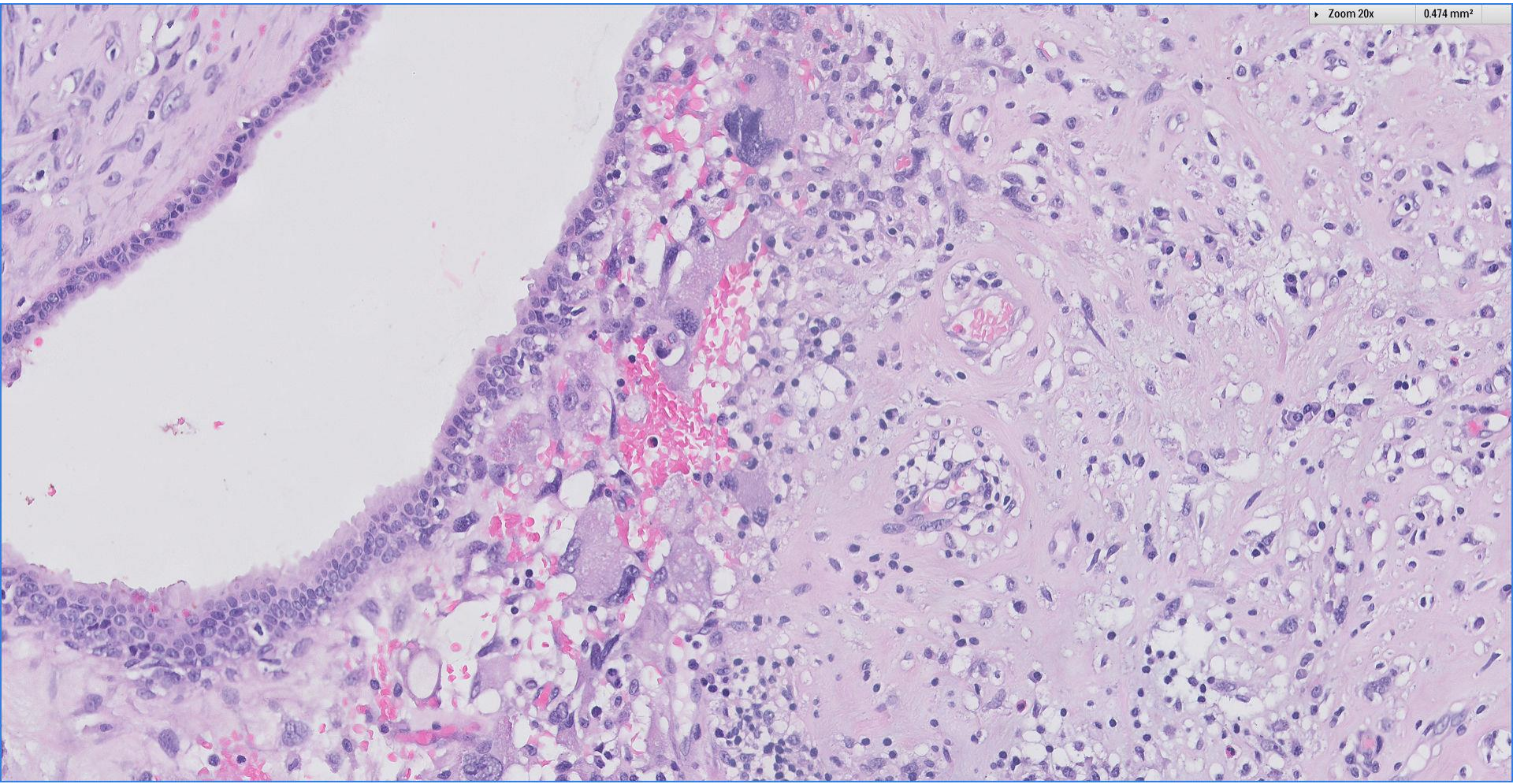
Zoom 5x

7.588 mm<sup>2</sup>



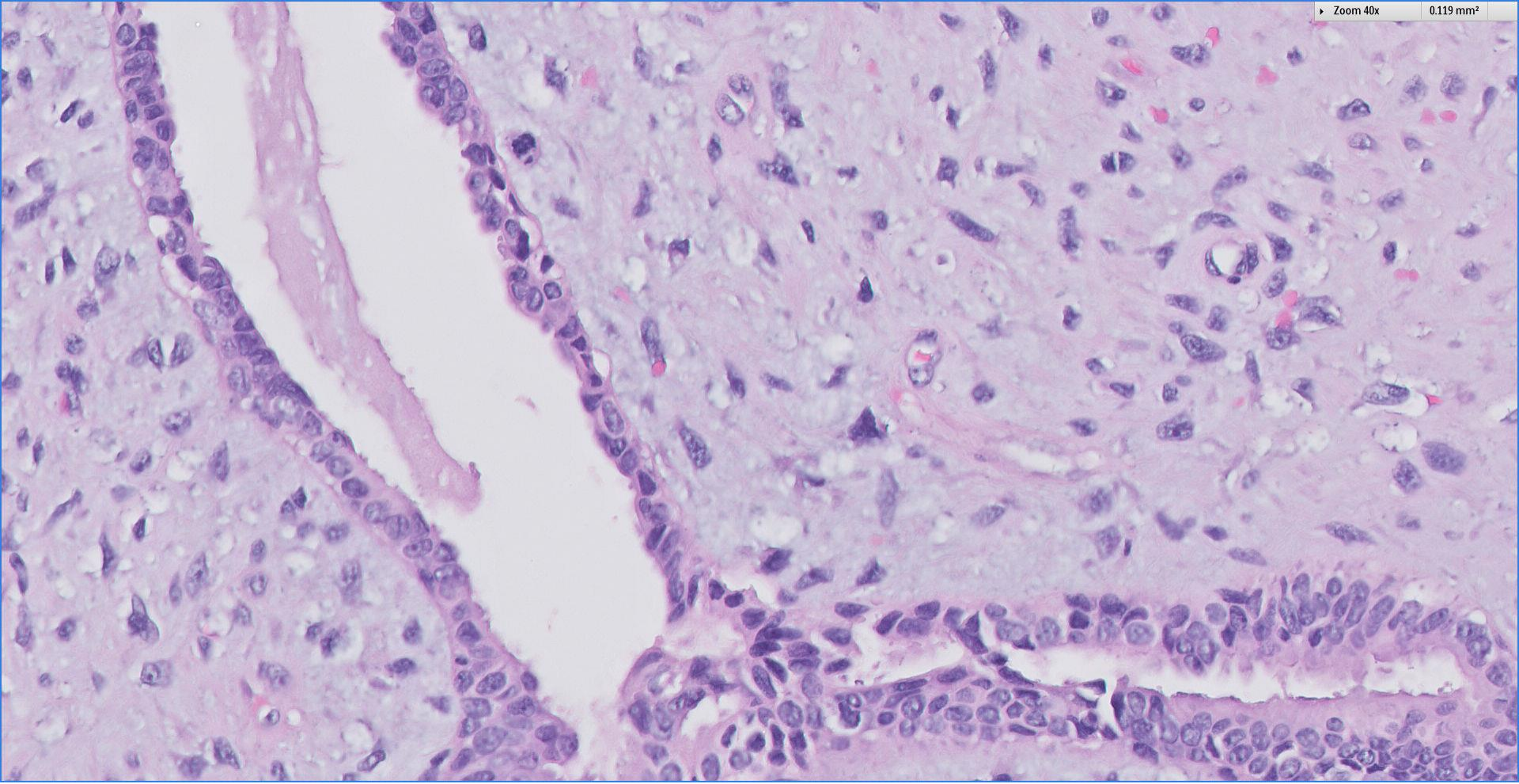
Zoom 20x

0.474 mm<sup>2</sup>



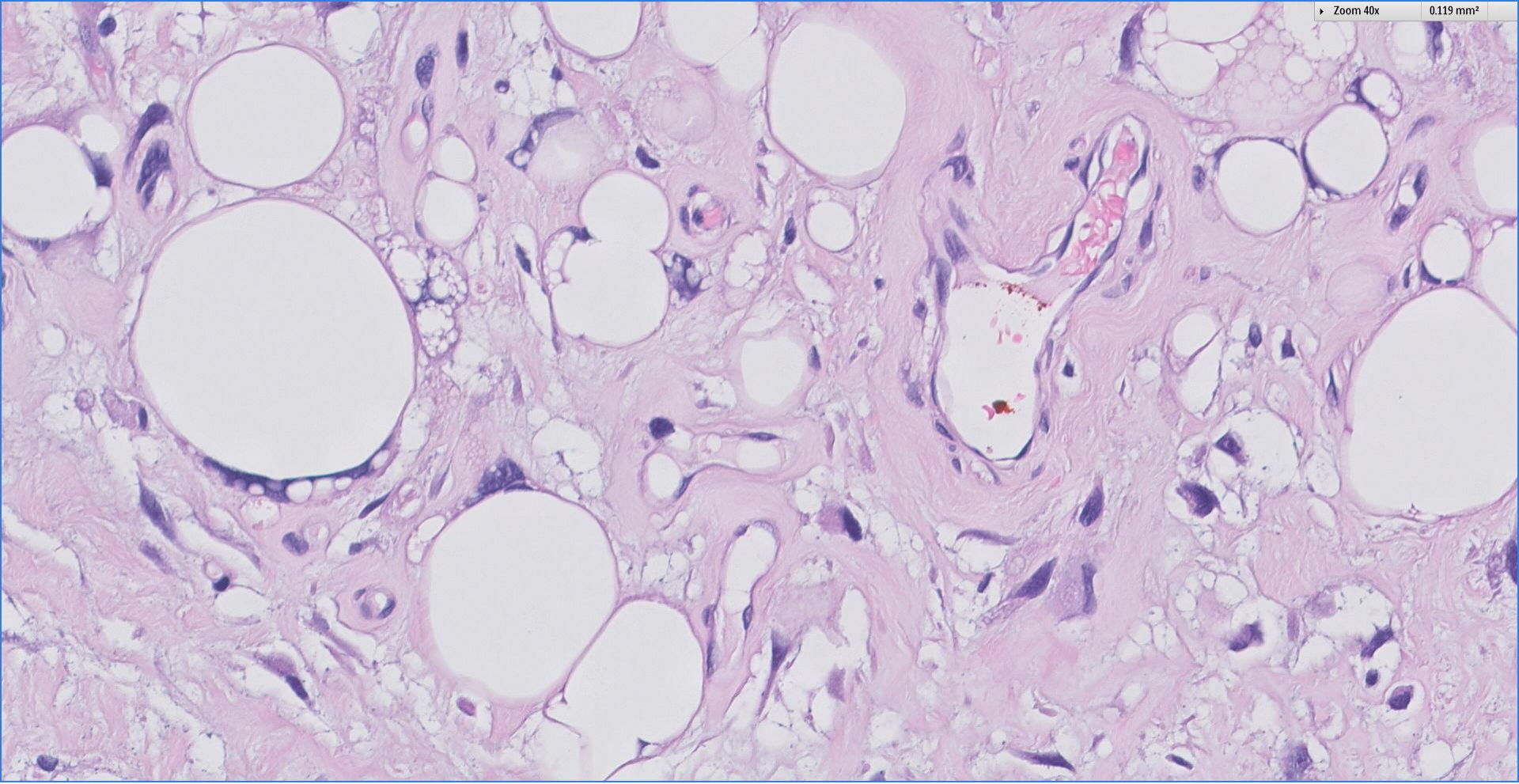
Zoom 40x

0.119 mm<sup>2</sup>

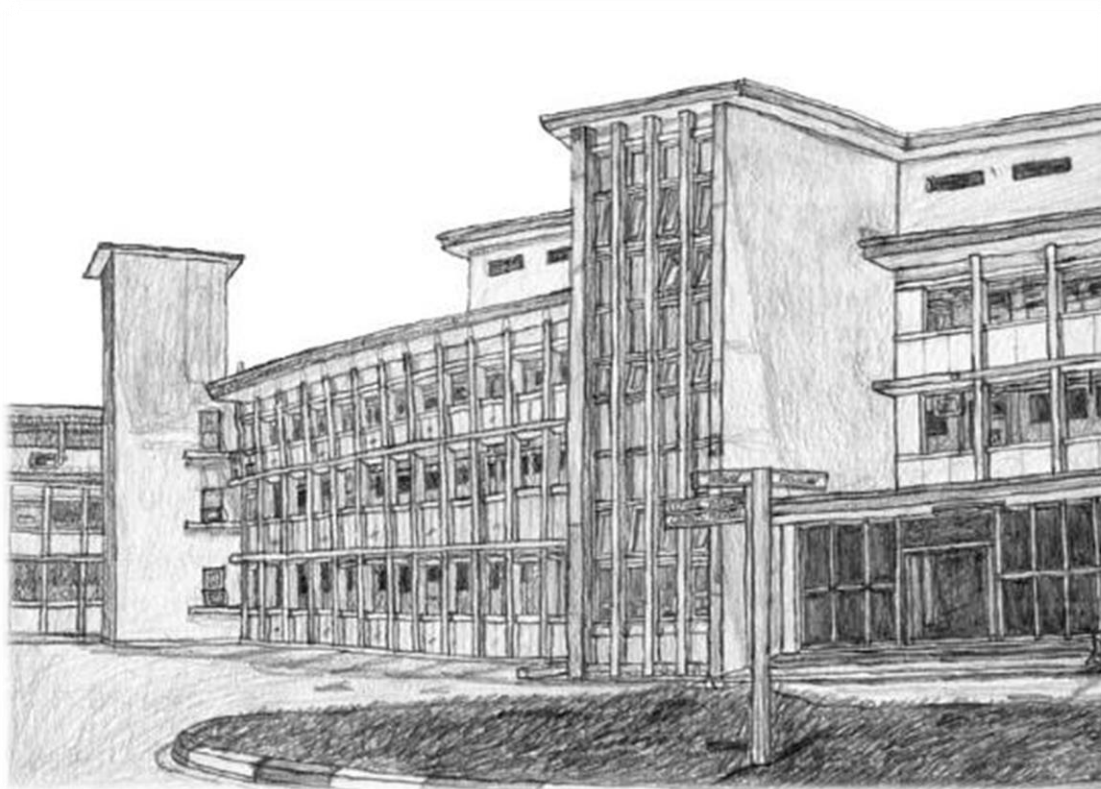


Zoom 40x

0.119 mm<sup>2</sup>



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RS

2D

57%

C 66

P Med

Res

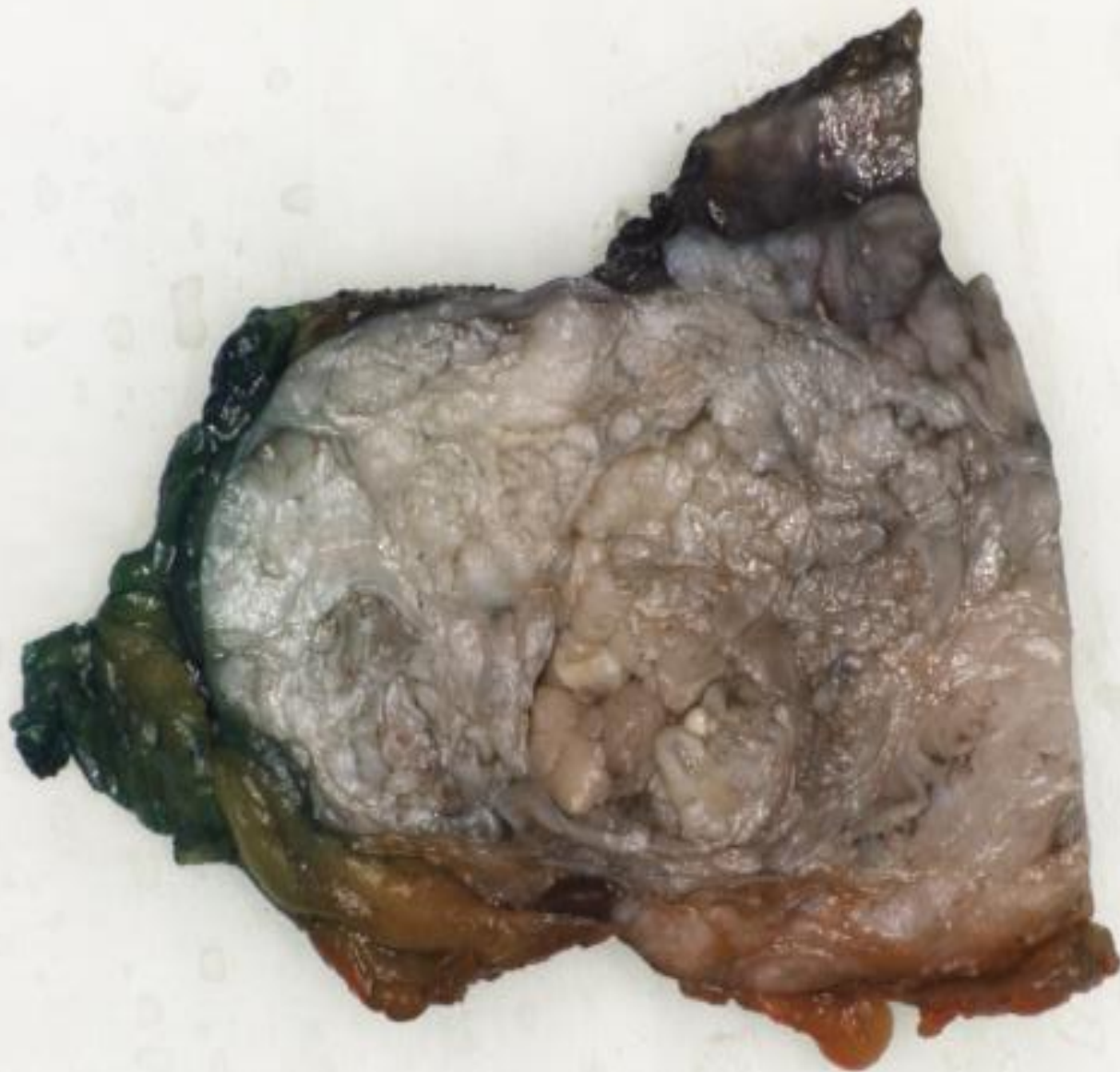
P



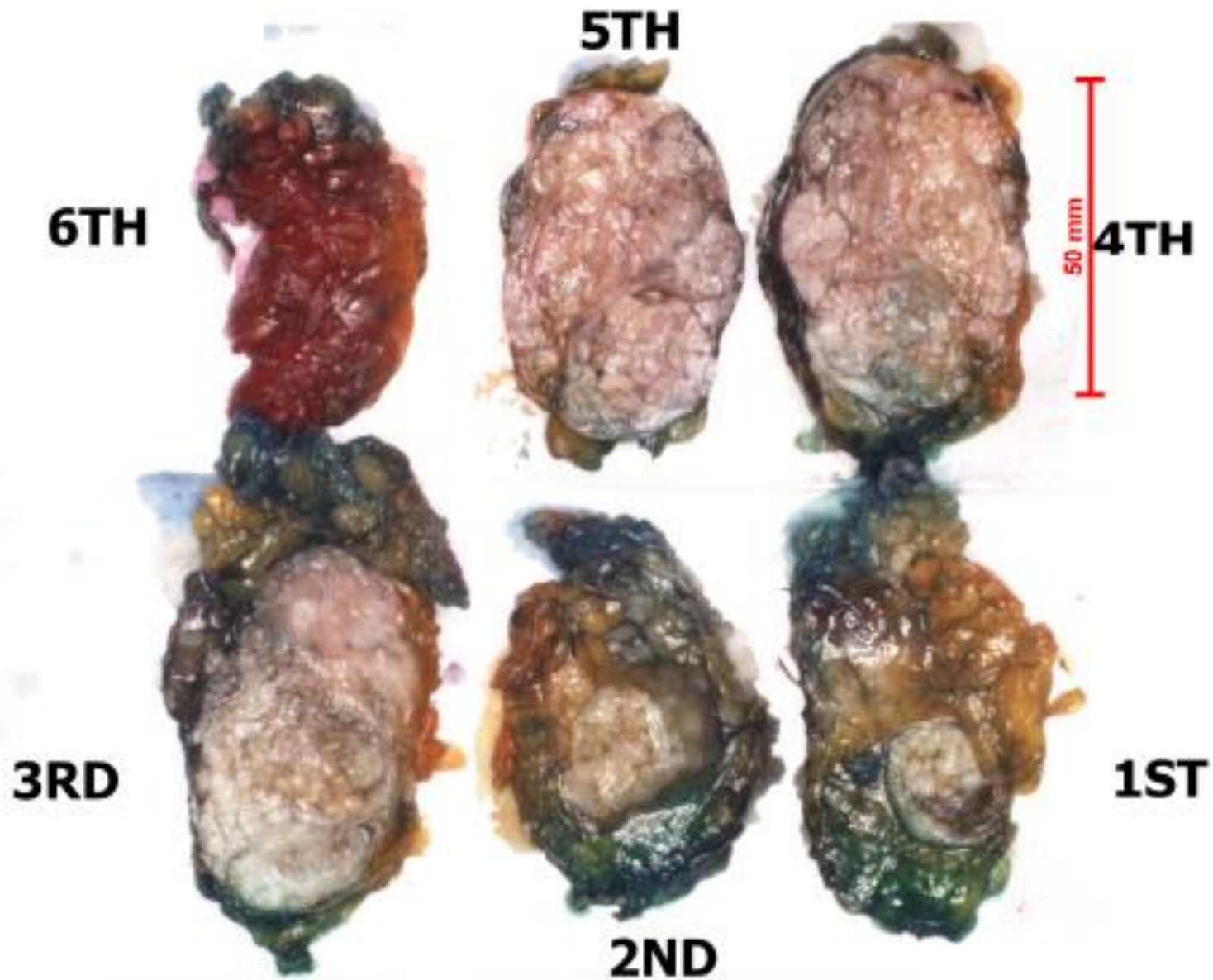
Left Breast 5-8:00 2CMFN

5.0-



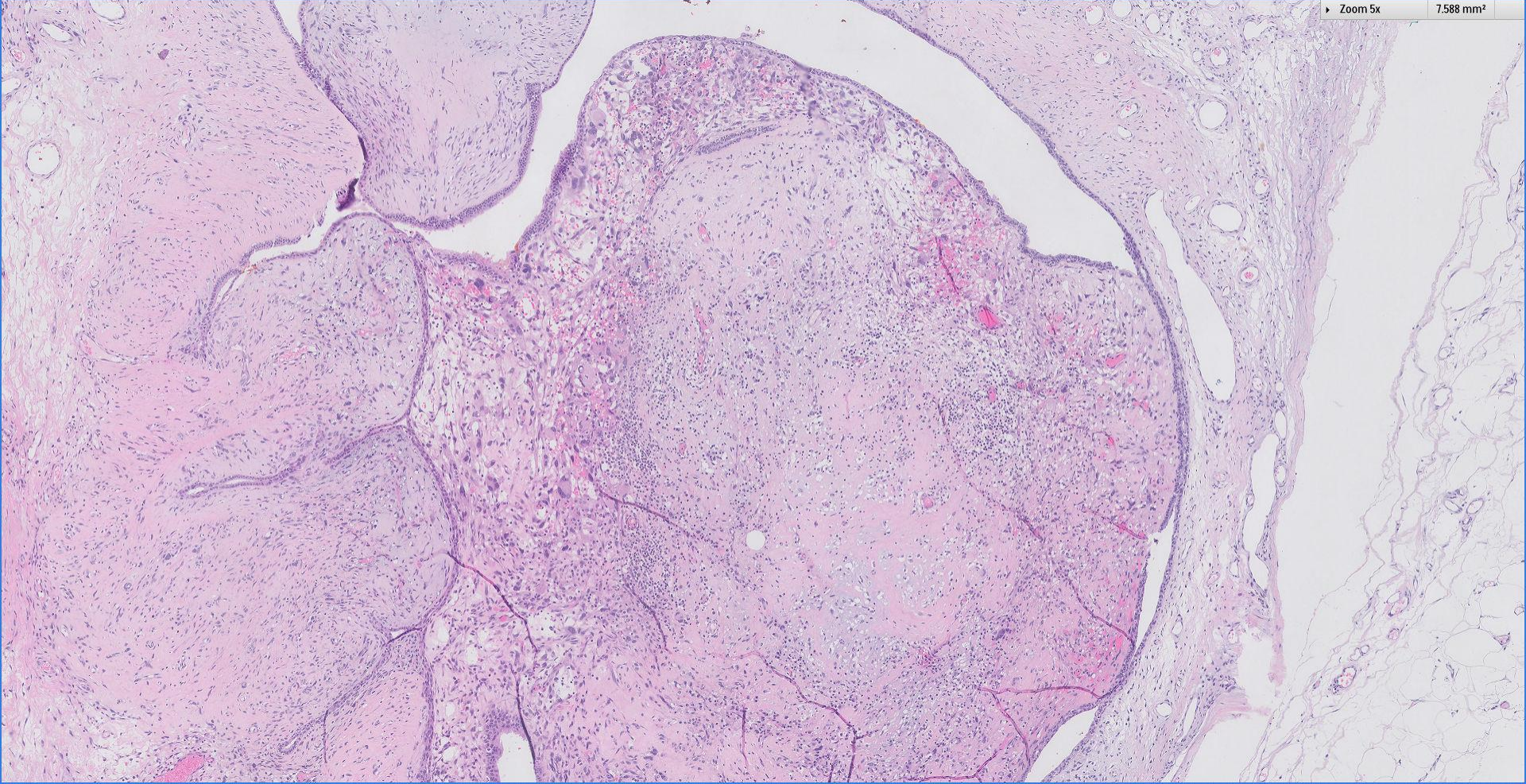


50 mm



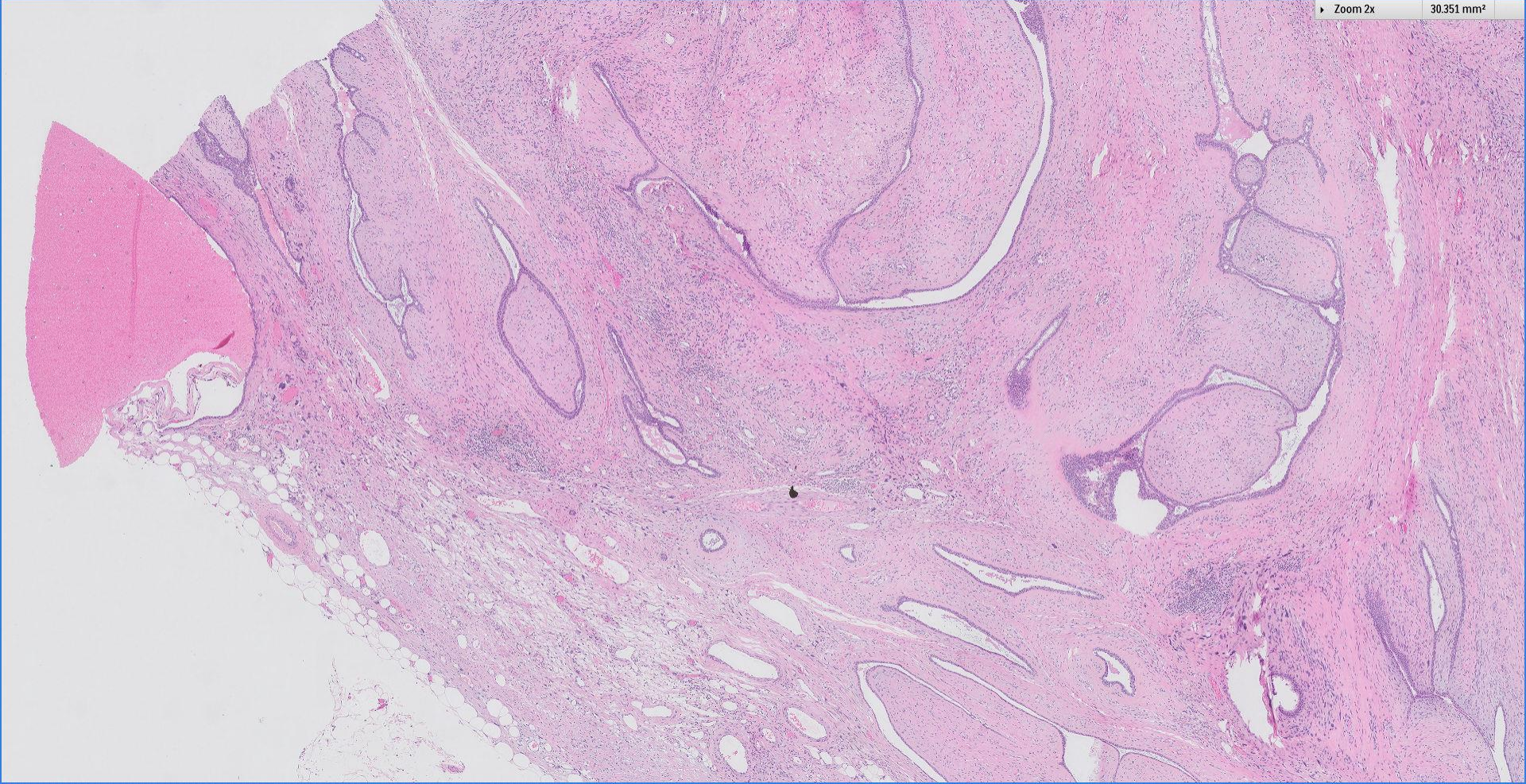
Zoom 5x

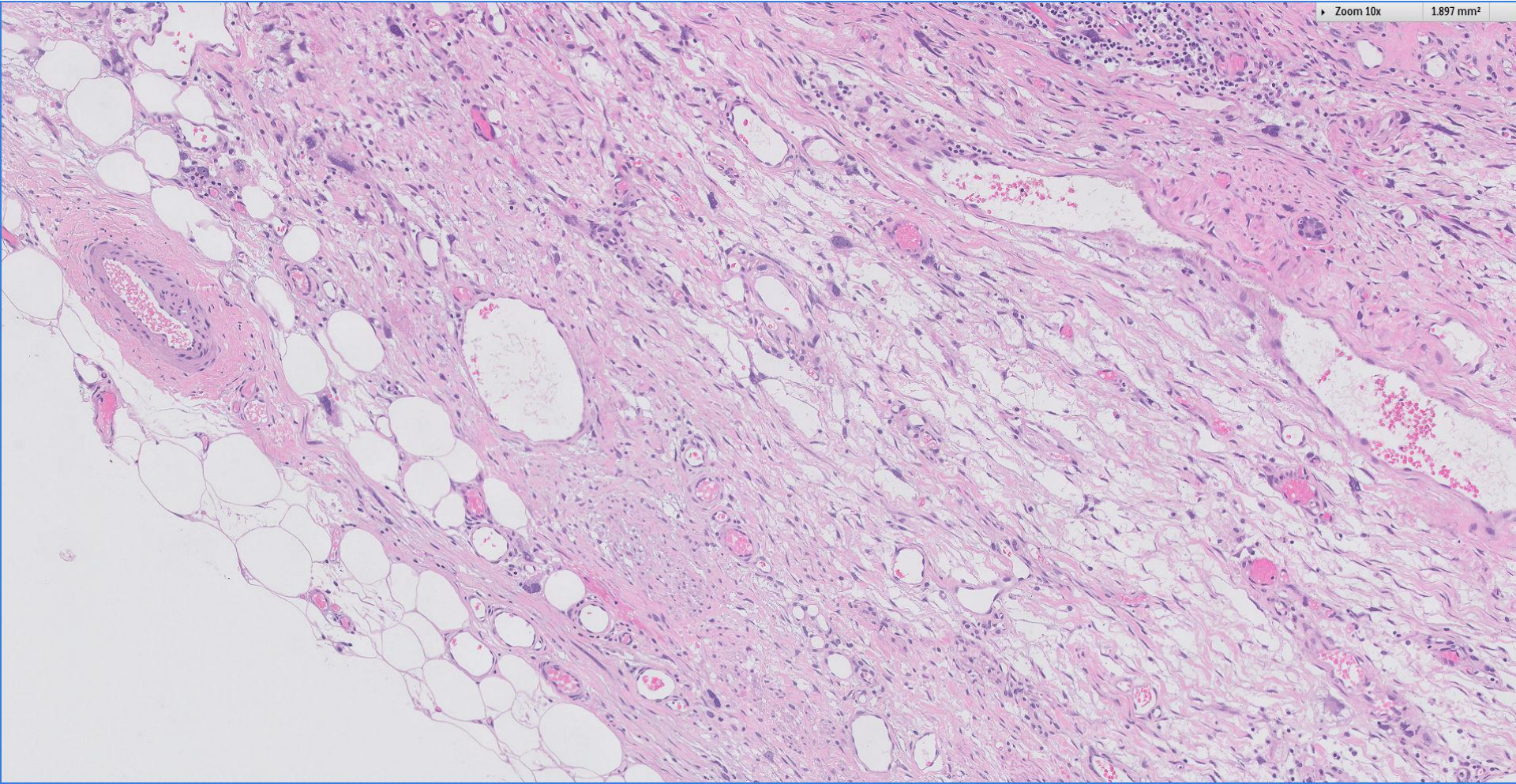
7.588 mm<sup>2</sup>



Zoom 2x

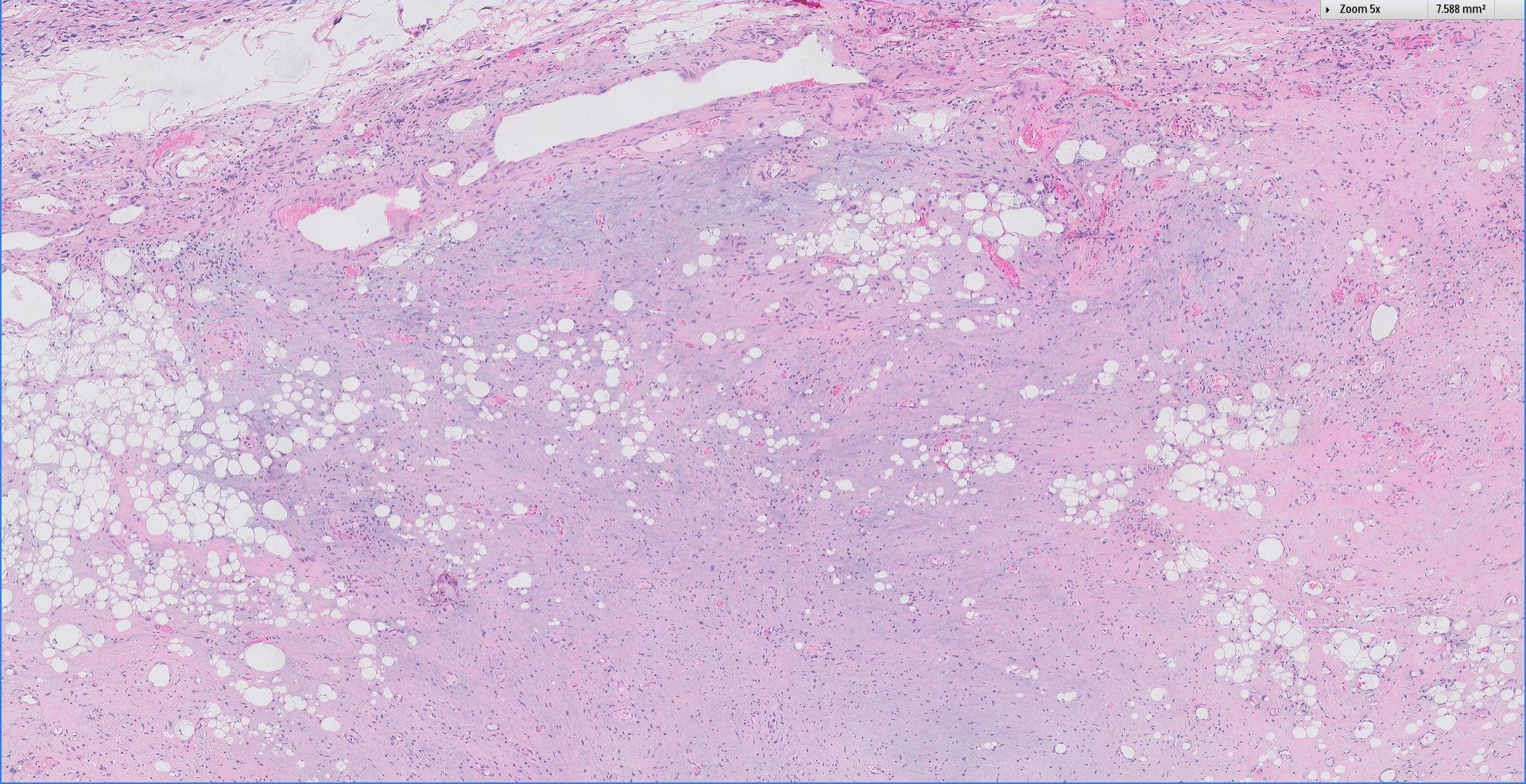
30.351 mm<sup>2</sup>





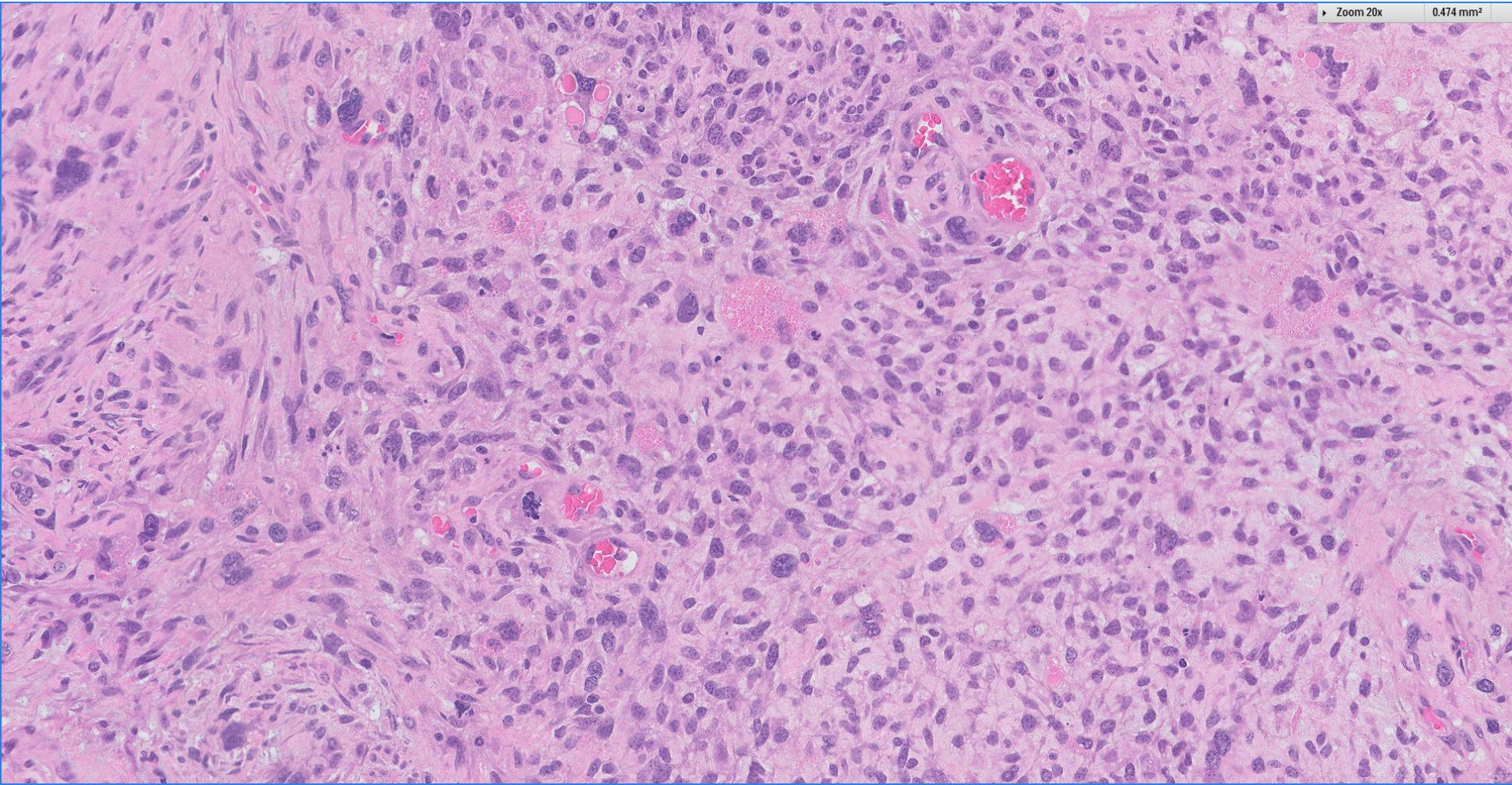
Zoom 5x

7.588 mm<sup>2</sup>



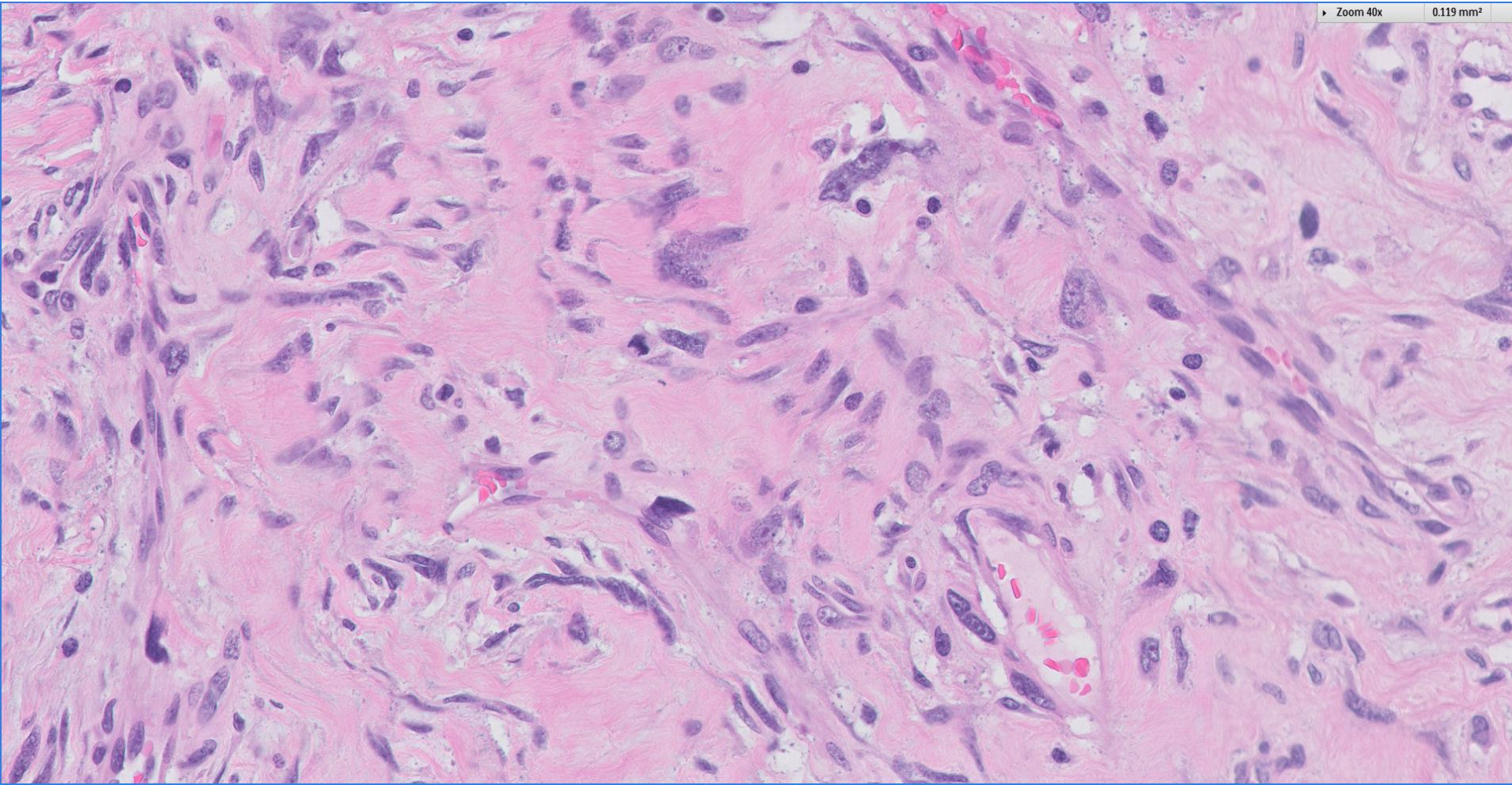
Zoom 20x

0.474 mm<sup>2</sup>



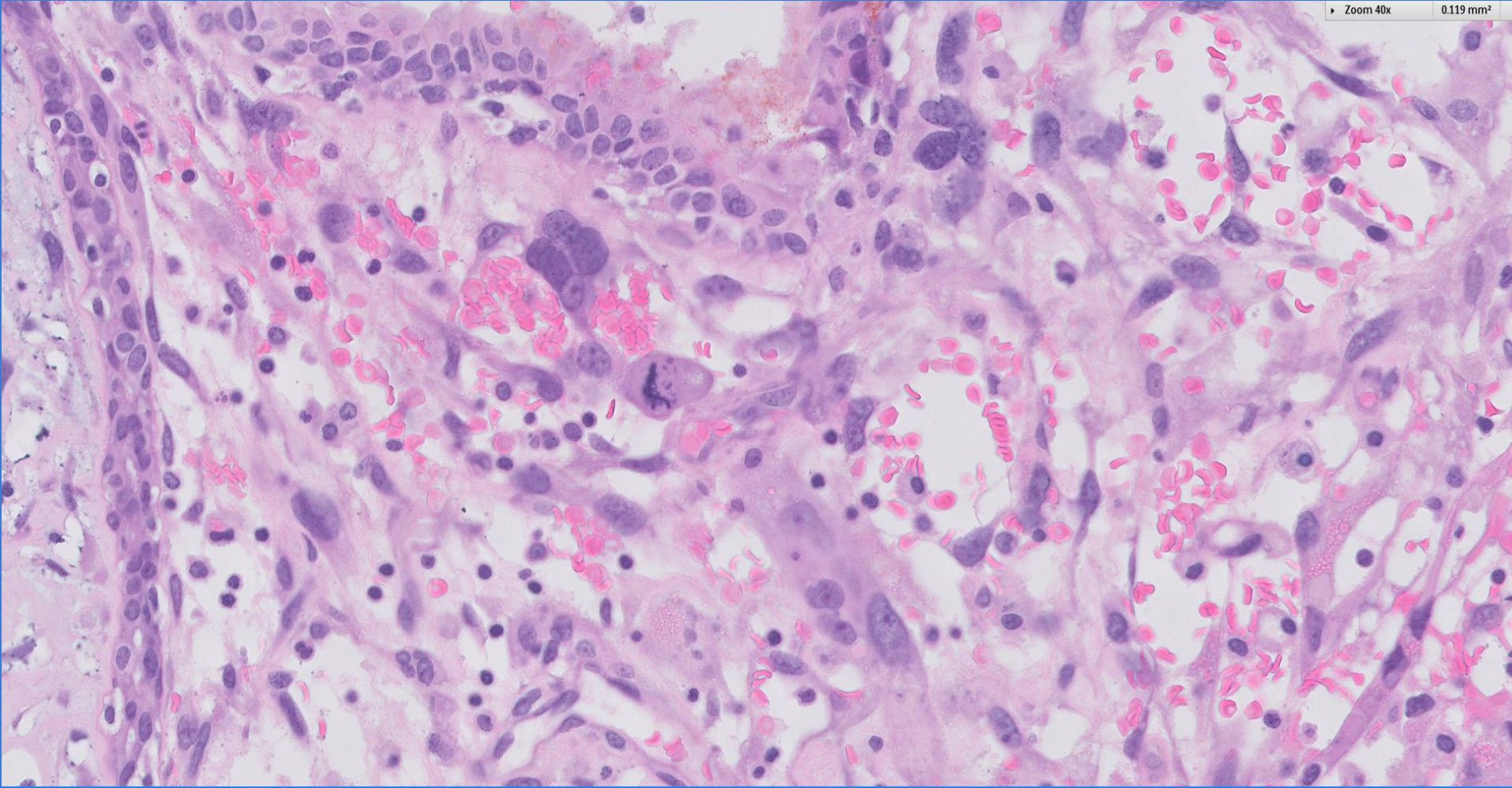
Zoom 40x

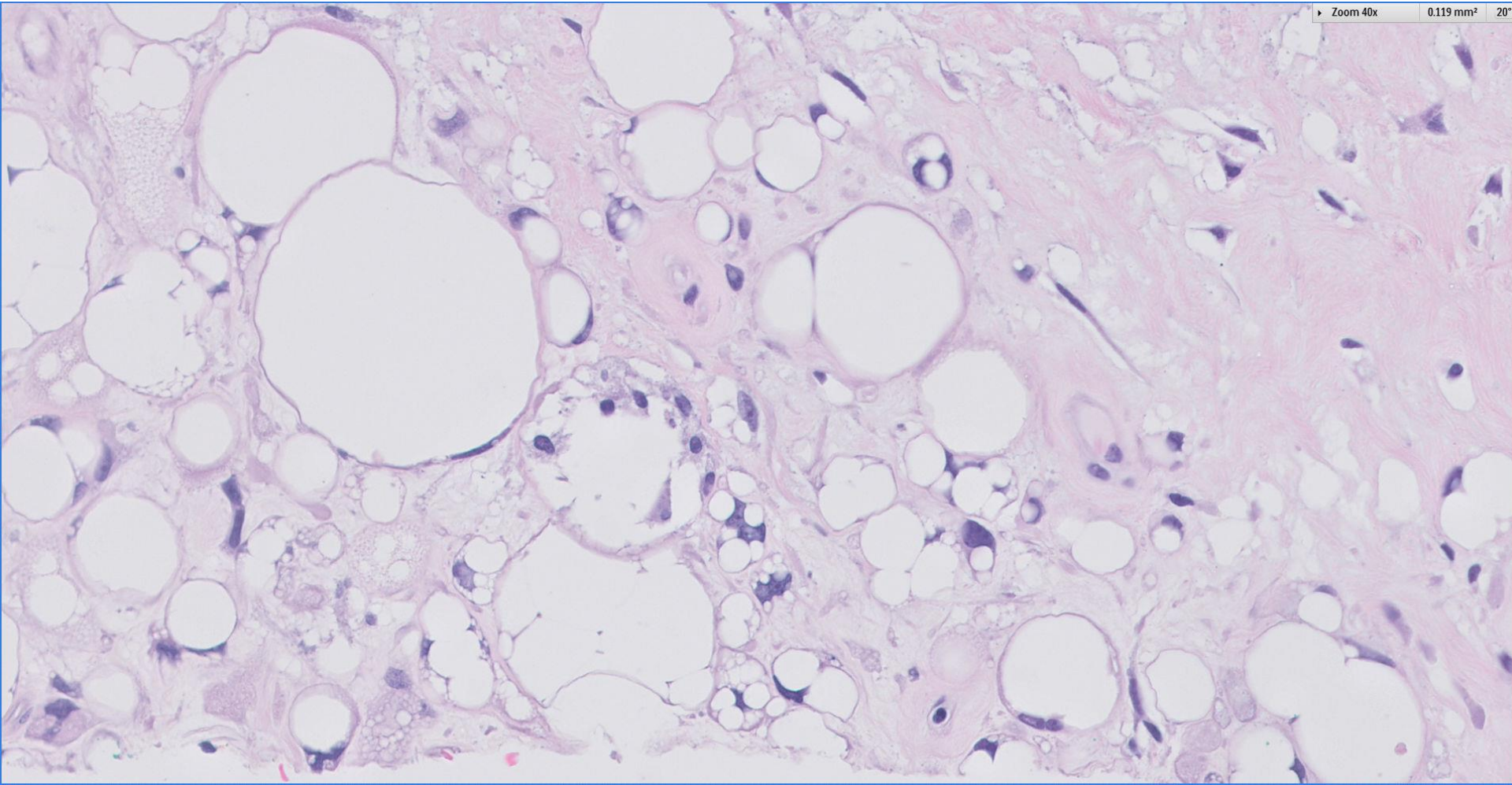
0.119 mm<sup>2</sup>

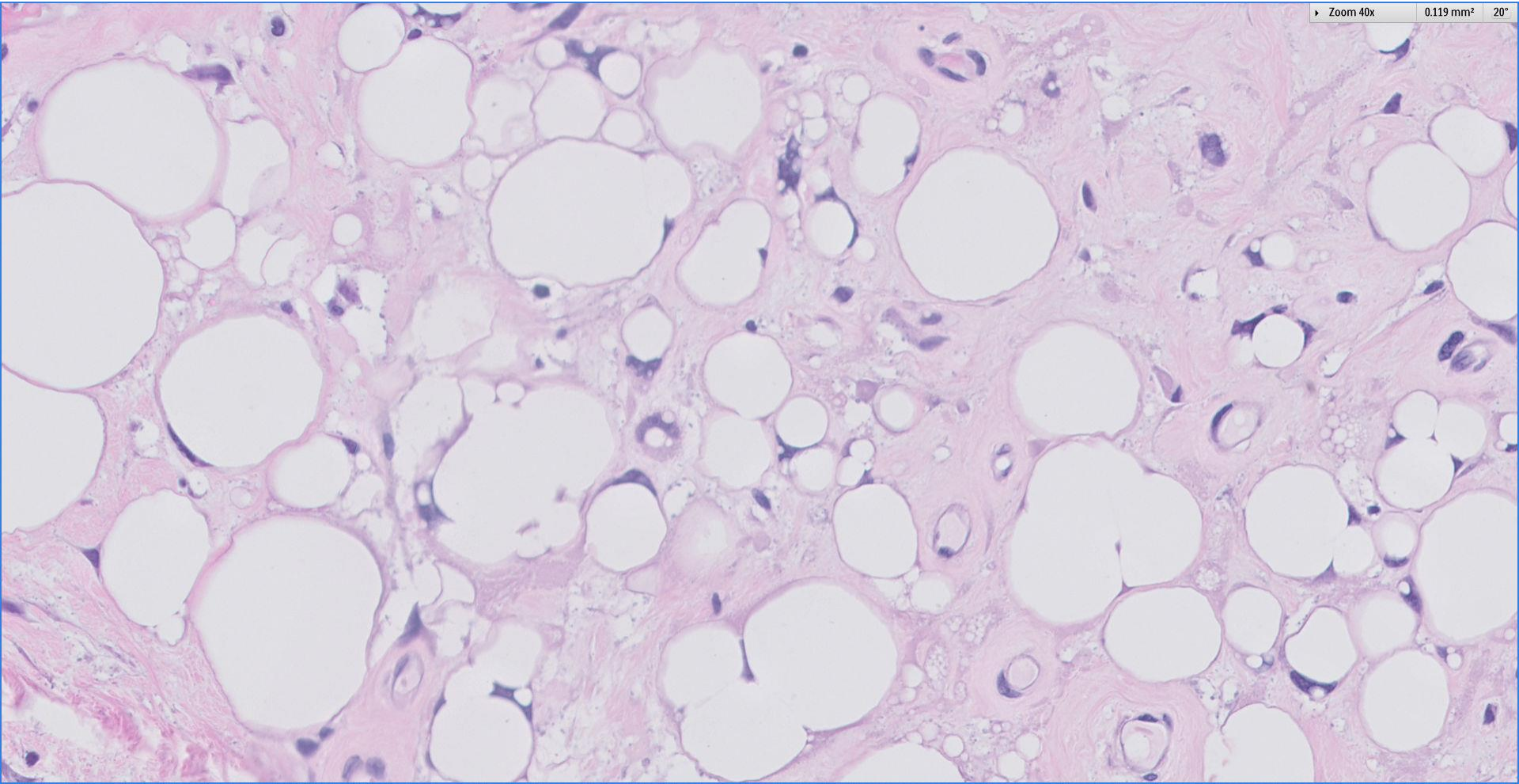




Zoom 40x 0.119 mm<sup>2</sup>



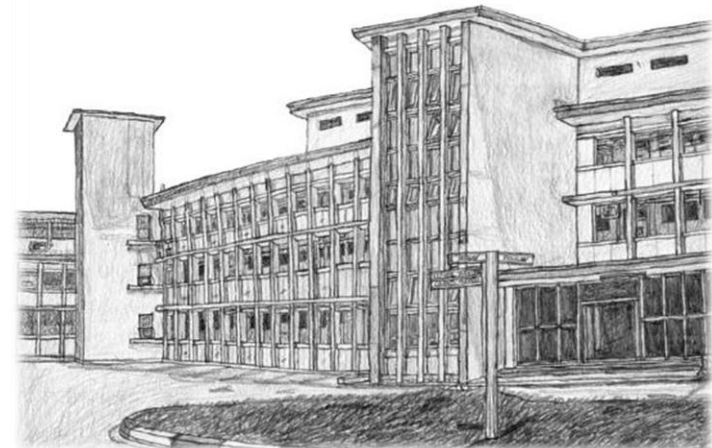




## *Diagnosis*

Large mass in the left breast ~

*Malignant phyllodes tumour, 5.9cm, with liposarcoma.*



# Malignant phyllodes tumour

- Apart from fulfilling histological criteria of malignancy based on stromal assessment of atypia, mitoses, hypercellularity, overgrowth and permeative borders, diagnosis of malignancy in breast phyllodes is made when there is a malignant heterologous component.
- Malignant heterologous elements include osteosarcoma, chondrosarcoma, rhabdomyosarcoma as well as ***liposarcoma***.



# *Liposarcoma in phyllodes tumours*

- Genomic profiling of malignant phyllodes tumors reveals aberrations in FGFR1 and PI-3 kinase/RAS signaling pathways and provides insights into intratumoral heterogeneity.

*Mod Pathol. 2016 Sep;29(9):1012-27.*

- ❑ 510 cancer related genes.
- ❑ Genetic features specific to liposarcoma, including CDK4/MDM2 amplification, were not identified.
- ❑ More chromosomal aberrations in non-heterologous components compared with liposarcomatous components.



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# *Liposarcoma in phyllodes tumours*

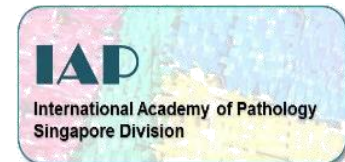
- Heterologous Liposarcomatous Differentiation in Malignant Phyllodes Tumor is Histologically Similar but Immunohistochemically and Molecularly Distinct from Well-differentiated Liposarcoma of Soft Tissue.

*Breast J. 2016 May;22(3):282-6.*

- ❑ 5 cases of malignant phyllodes tumours with well differentiated liposarcoma areas.
- ❑ Despite indistinguishable morphology, all cases of malignant PT with WDLS-like liposarcomatous differentiation were negative for MDM2 and CDK4 IHC and FISH, supporting different underlying pathogenesis.



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# *Liposarcoma in phyllodes tumours*

- Liposarcomatous differentiation in malignant phyllodes tumours is unassociated with MDM2 or CDK4 amplification.

*Histopathology. 2016 Jun;68(7):1040-5.*

- ❑ 38 malignant PTs with liposarcoma.
- ❑ 10 cases studied showed no amplifications of MDM2 or CDK4.
- ❑ Despite histological similarity to well-differentiated liposarcoma of soft tissues, liposarcomatous differentiation in MPT lacks the molecular phenotype characteristic of extramammary well-differentiated liposarcoma.



# *Liposarcoma in phyllodes tumours*

- Is liposarcoma in a phyllodes tumour indicative of malignancy?
  - Genetic information suggests that liposarcoma in PT differs from extramammary soft tissue liposarcoma.
  - Scant data on biological behaviour of PT with liposarcoma, in comparison to malignant phyllodes without liposarcoma, and those with other forms of malignant heterologous elements.
  - There is a view that liposarcoma in PT is unlikely to possess metastatic potential.



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# *Liposarcoma in phyllodes tumours*

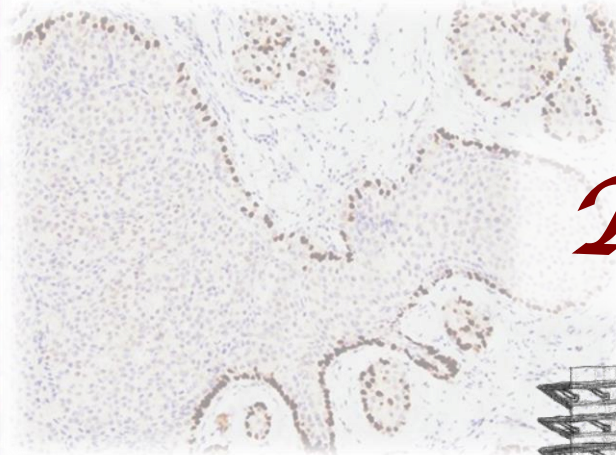
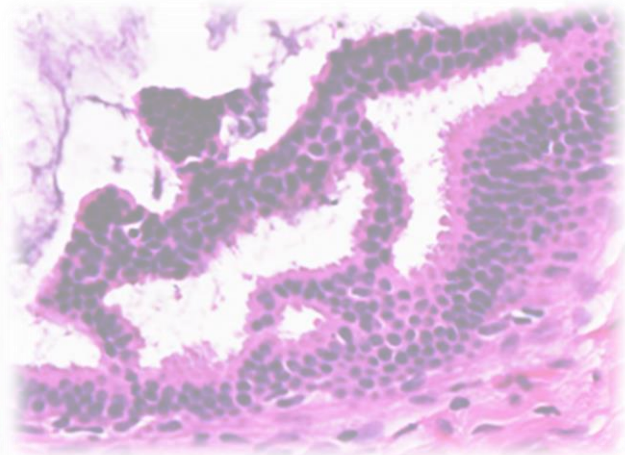
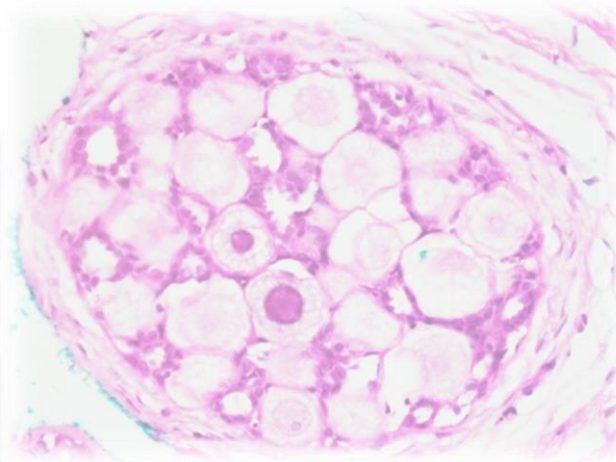
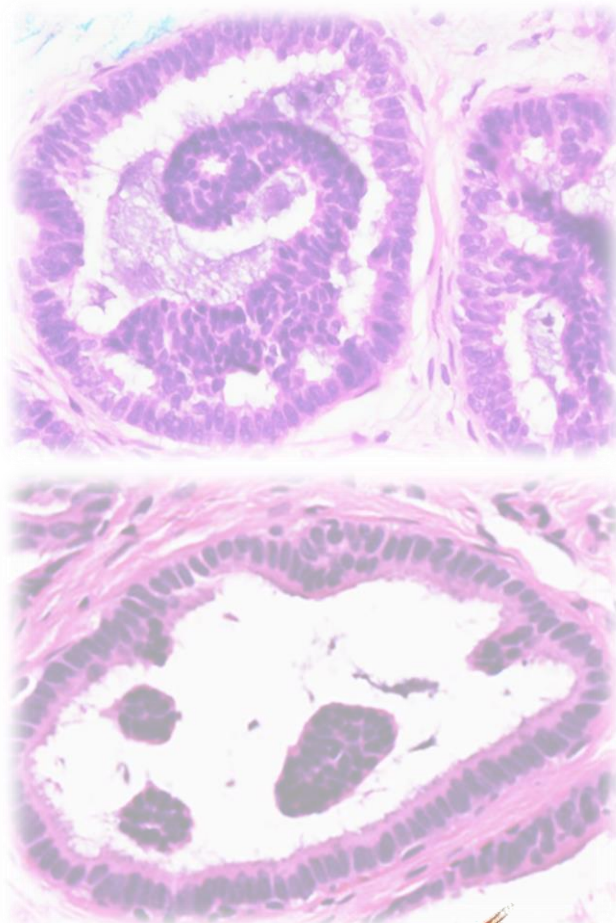
- Assess other histological parameters in the phyllodes tumour, which usually displays features of malignancy as well.
- Beware of diagnosing liposarcoma in phyllodes tumours when lipoblast-like cells are focal and few, in the absence of other supportive histological features.
- Await more data on clinical outcomes on phyllodes tumours with liposarcoma, in relation to other malignant PTs.



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*Thank you!*

