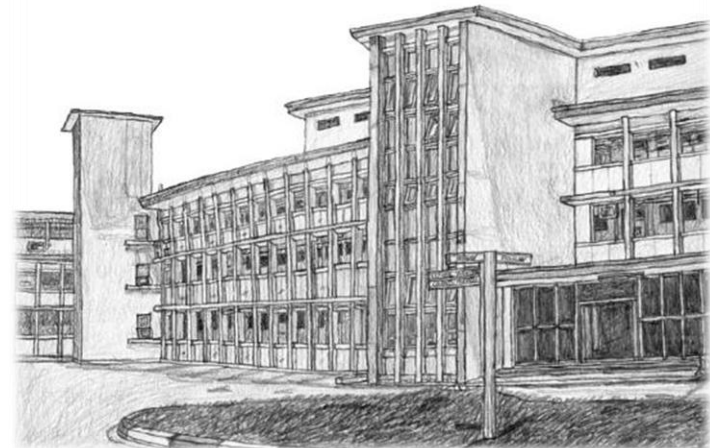
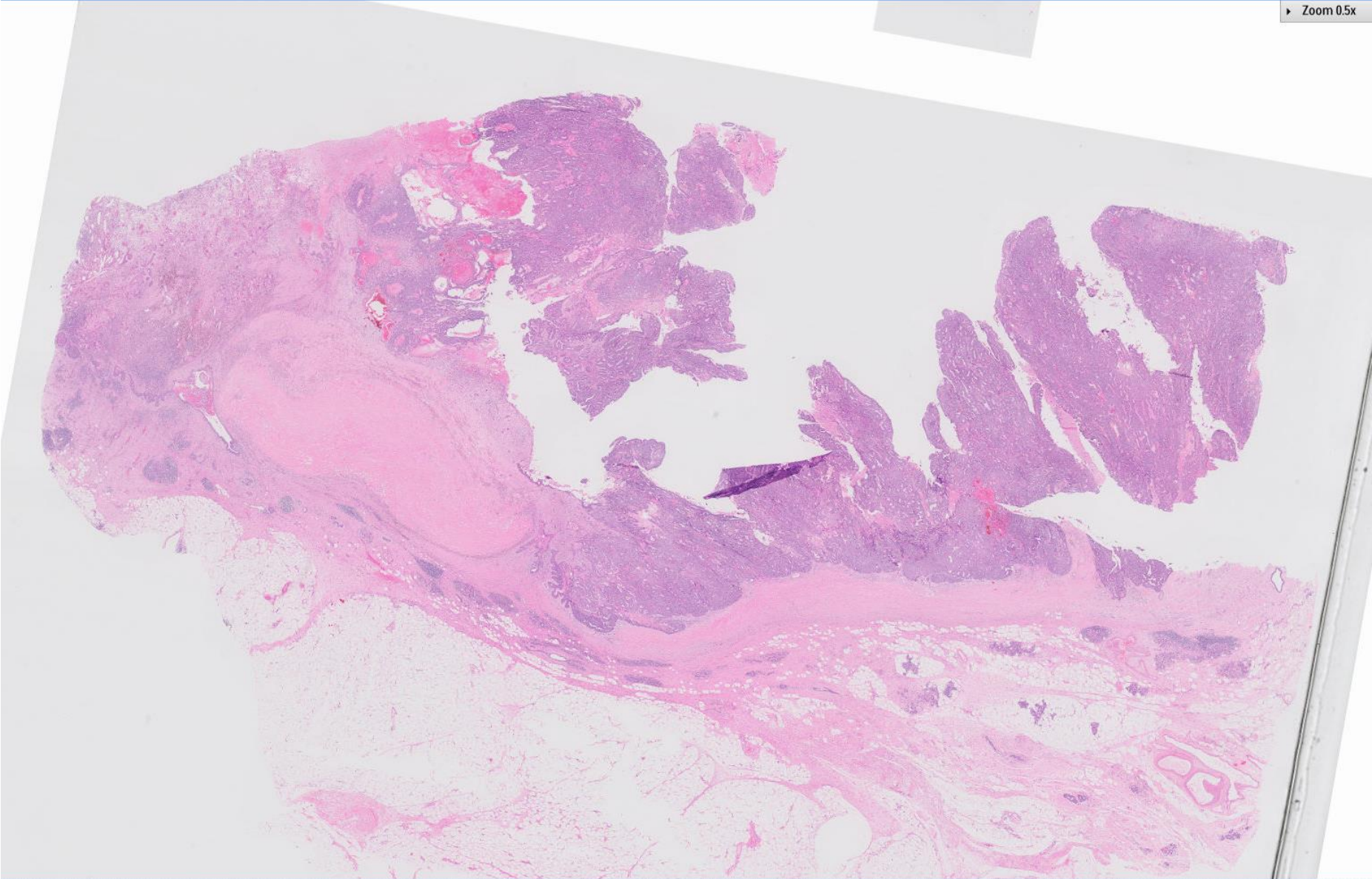


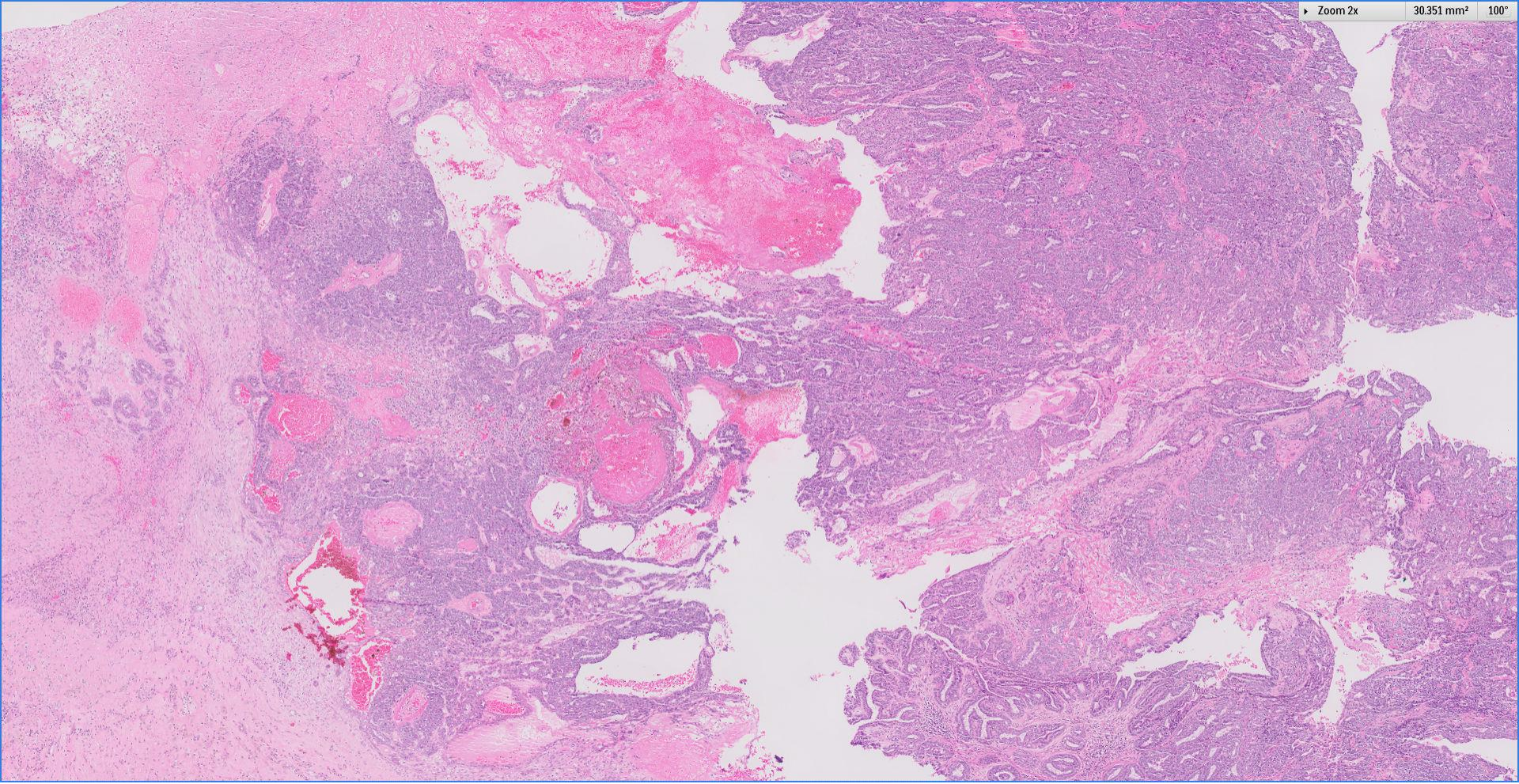
Case 16

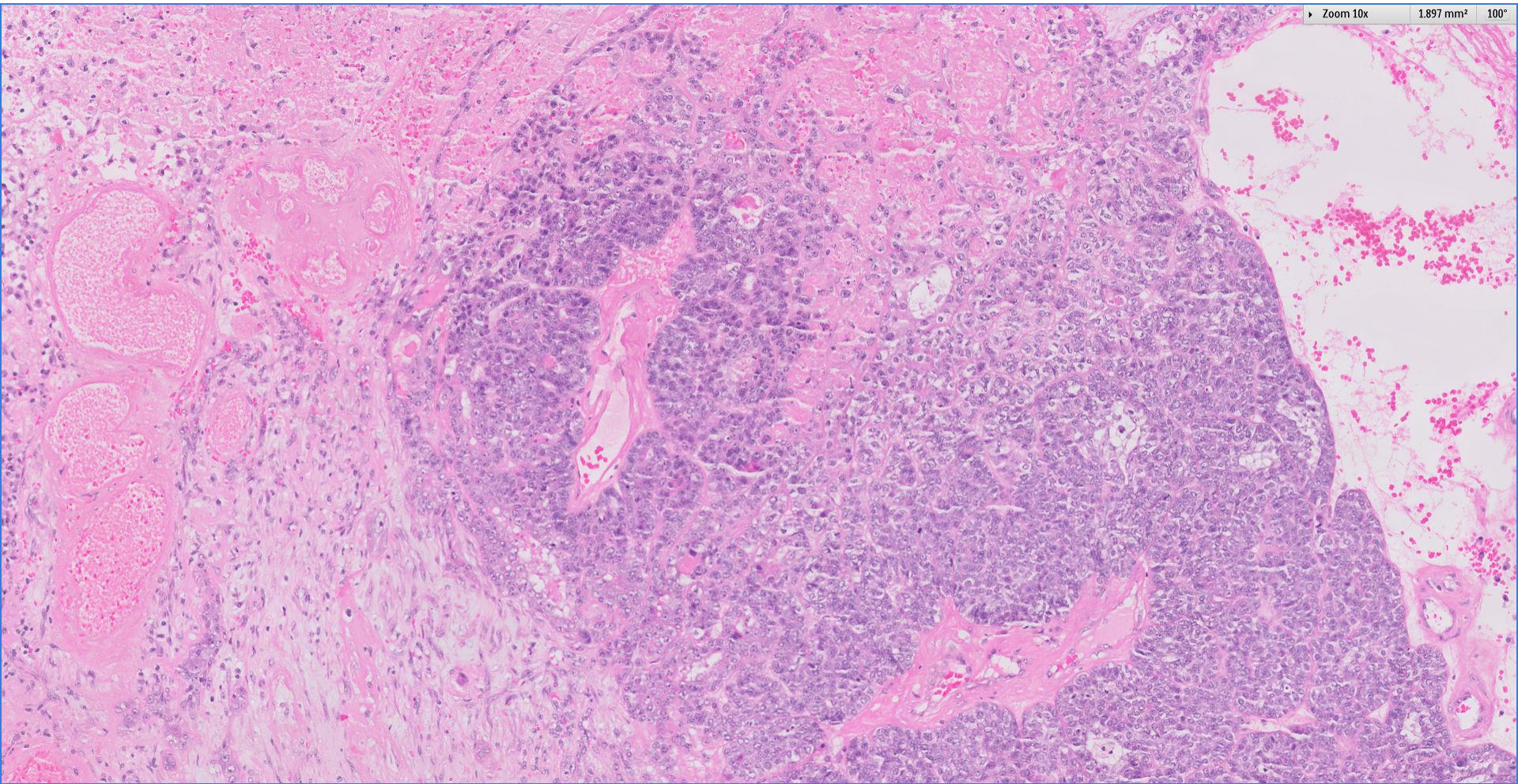
52 year old female.

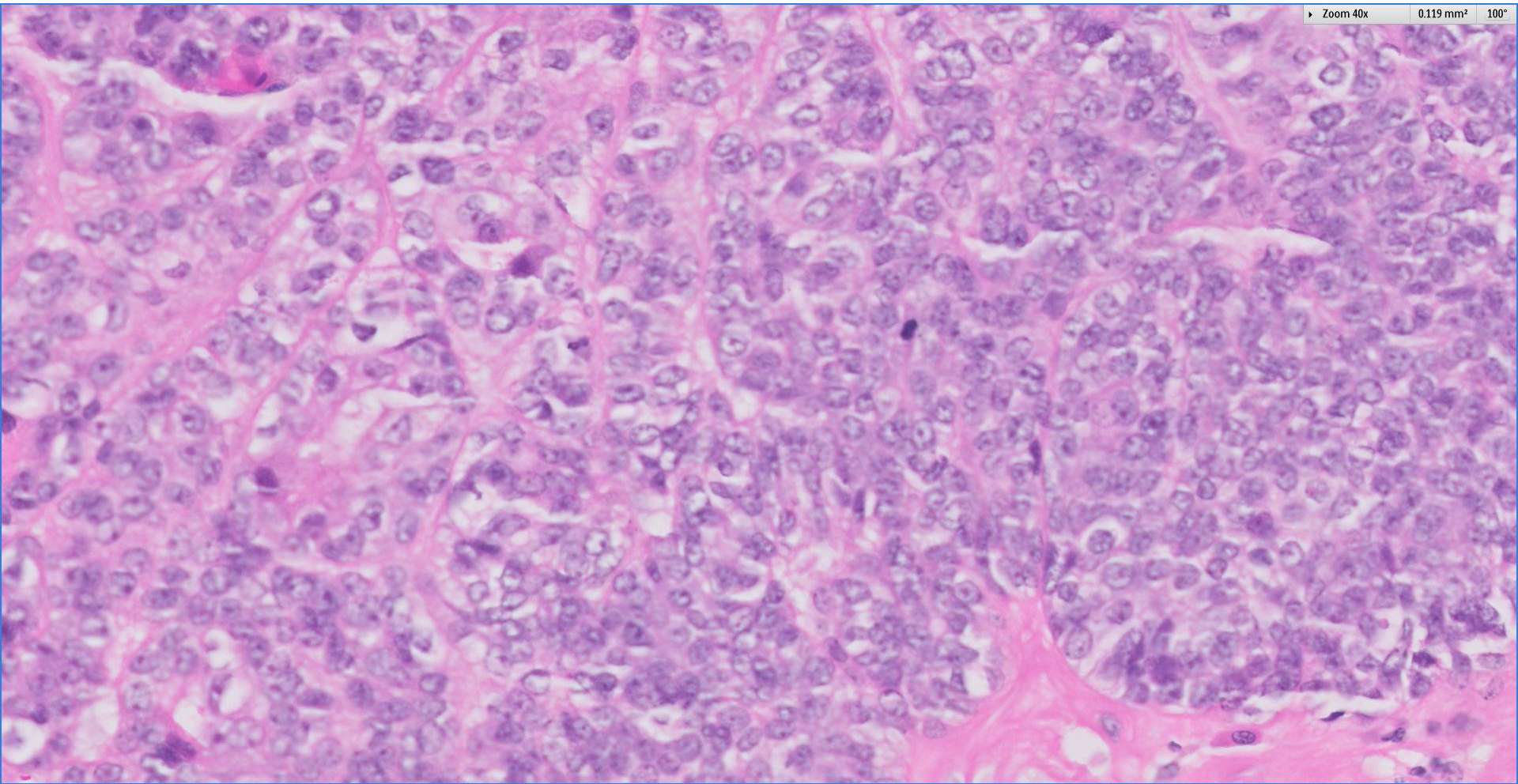
Right breast mass ulcerating through the skin.
Simple mastectomy and sentinel lymph node biopsy
performed.

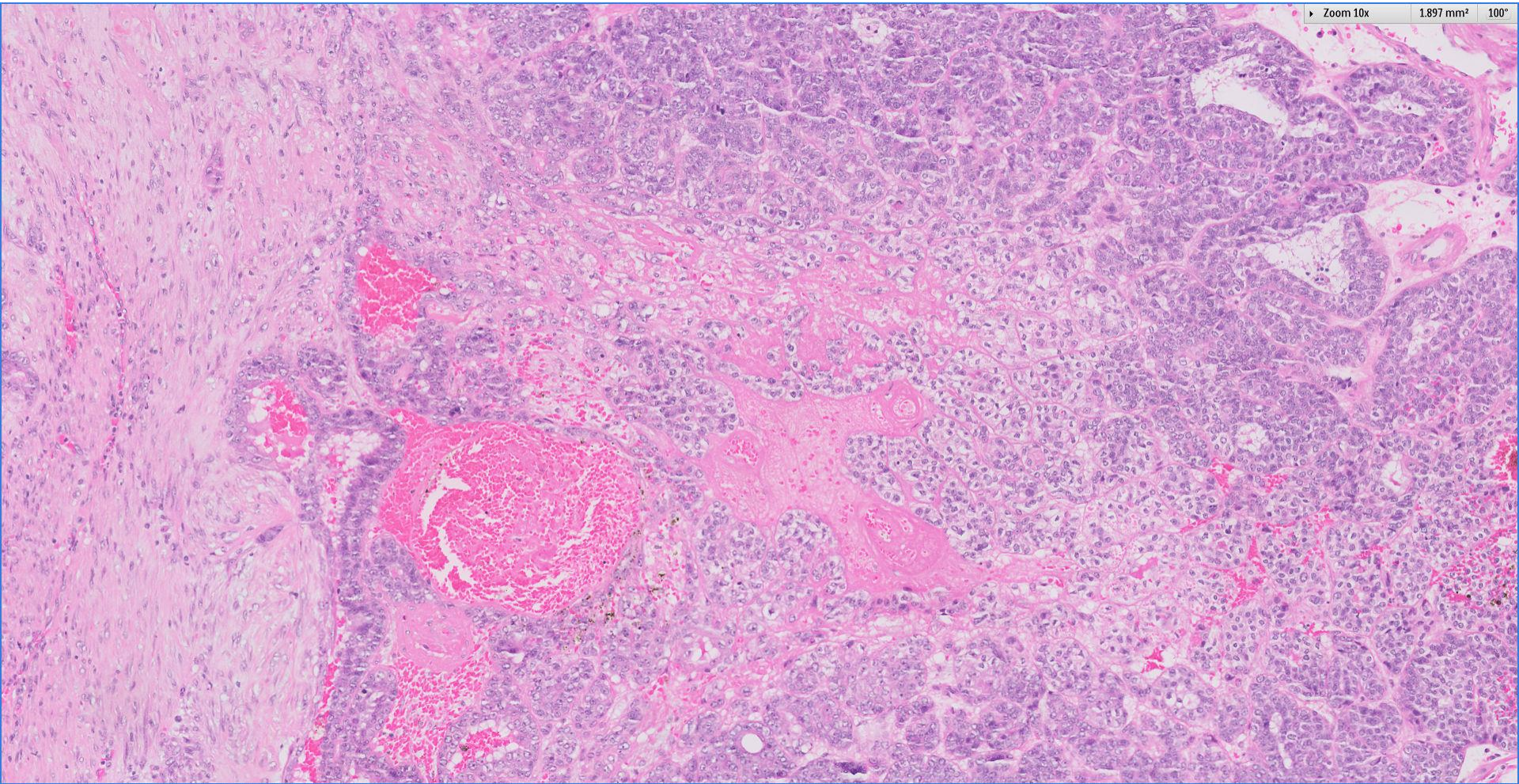




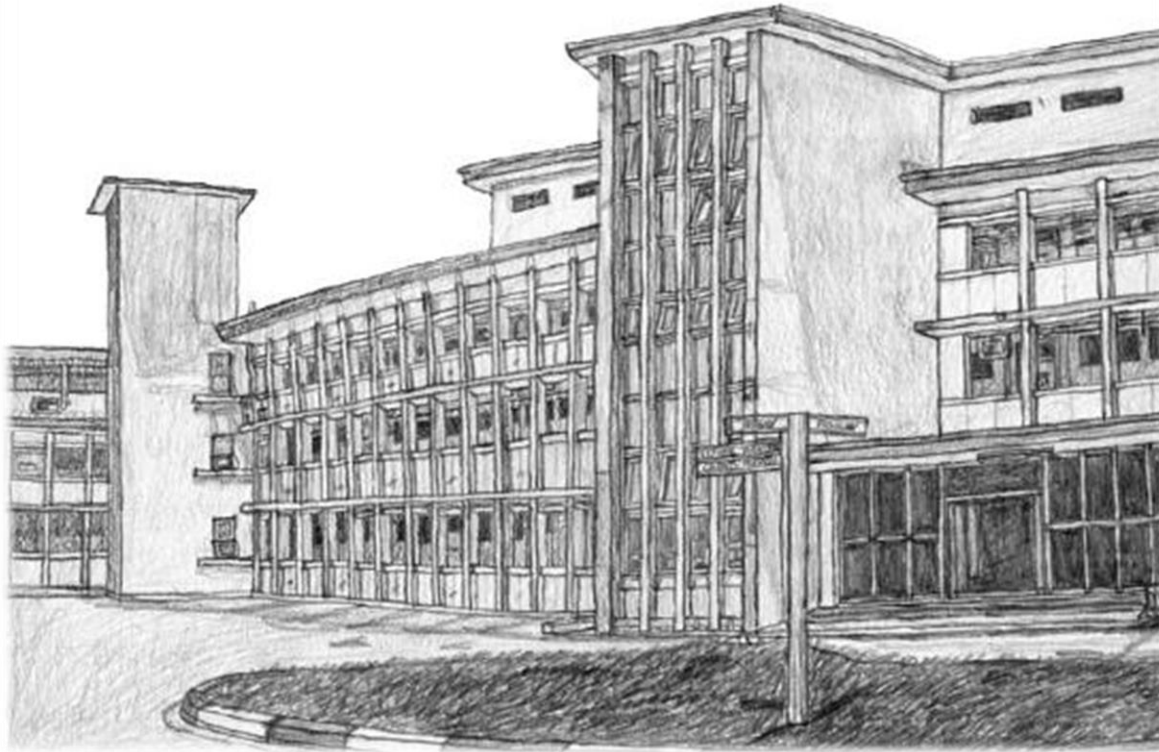








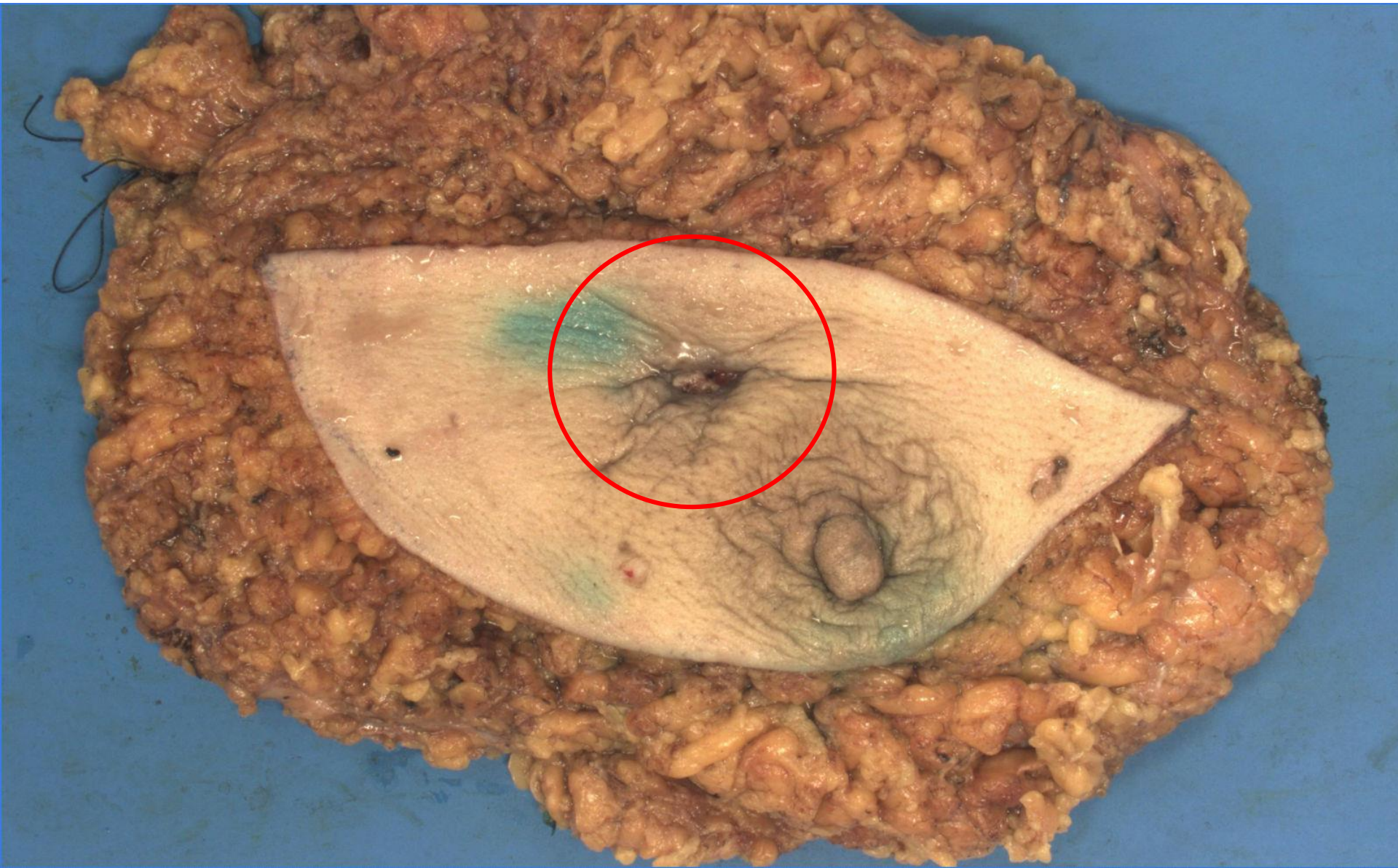
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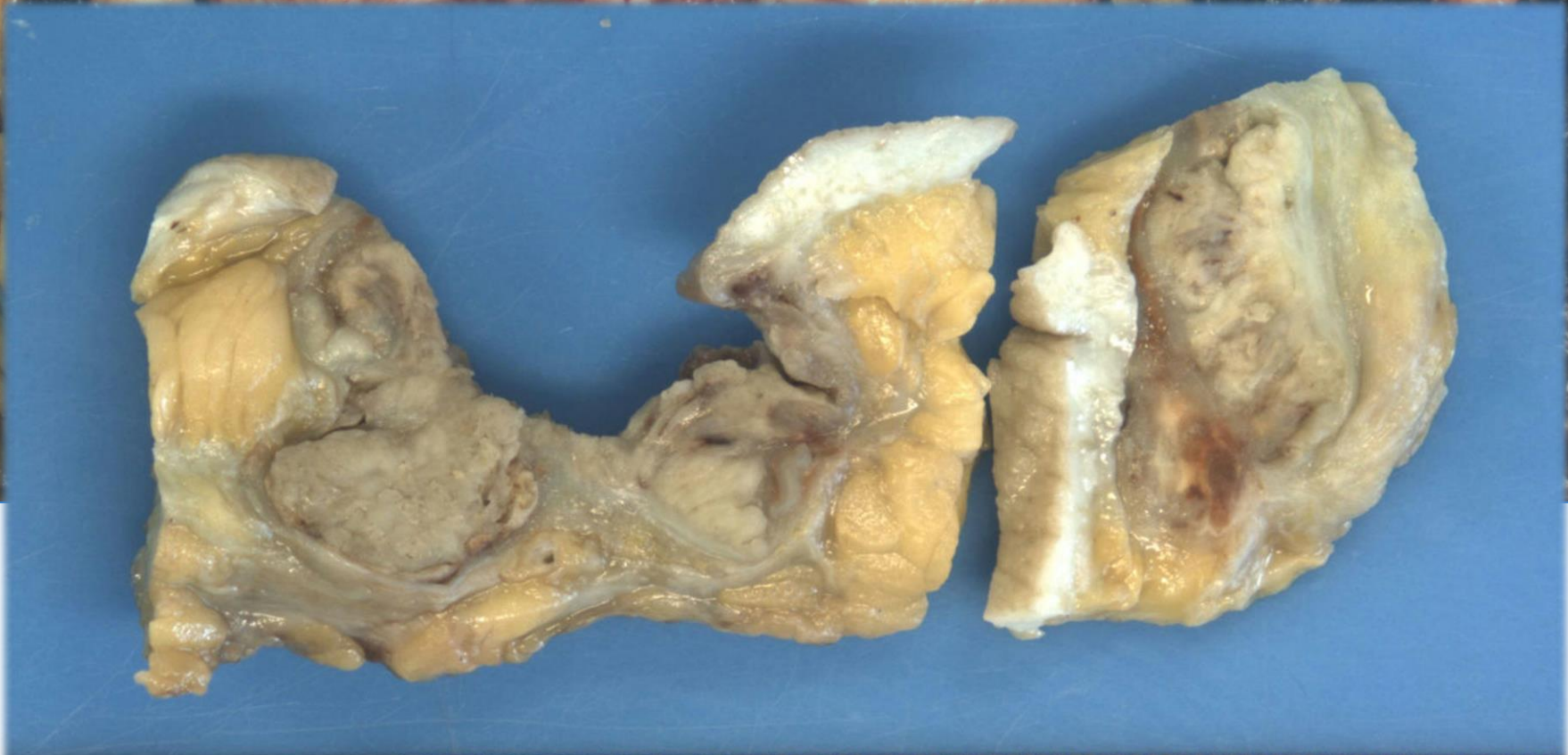


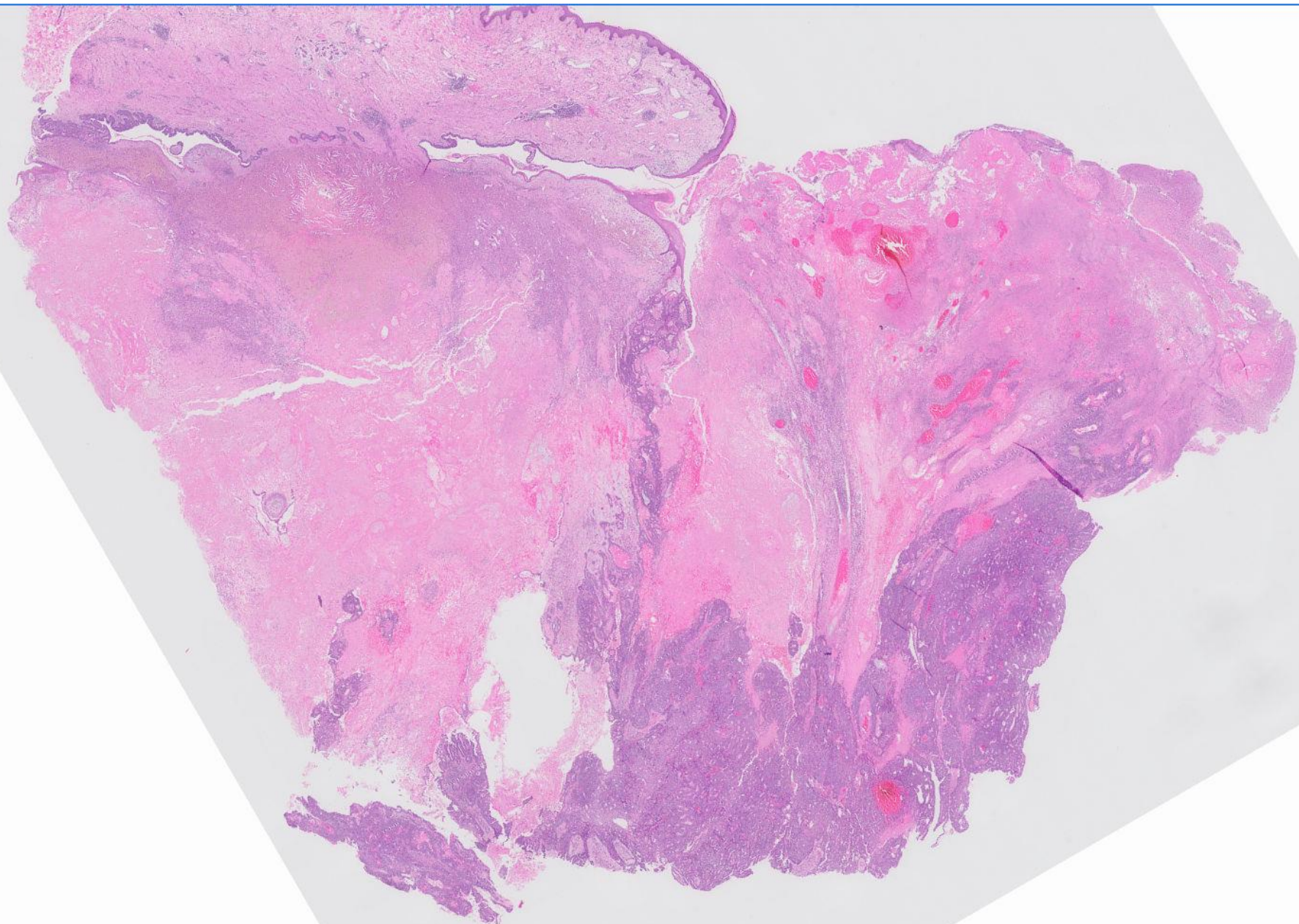
Singapore
General Hospital

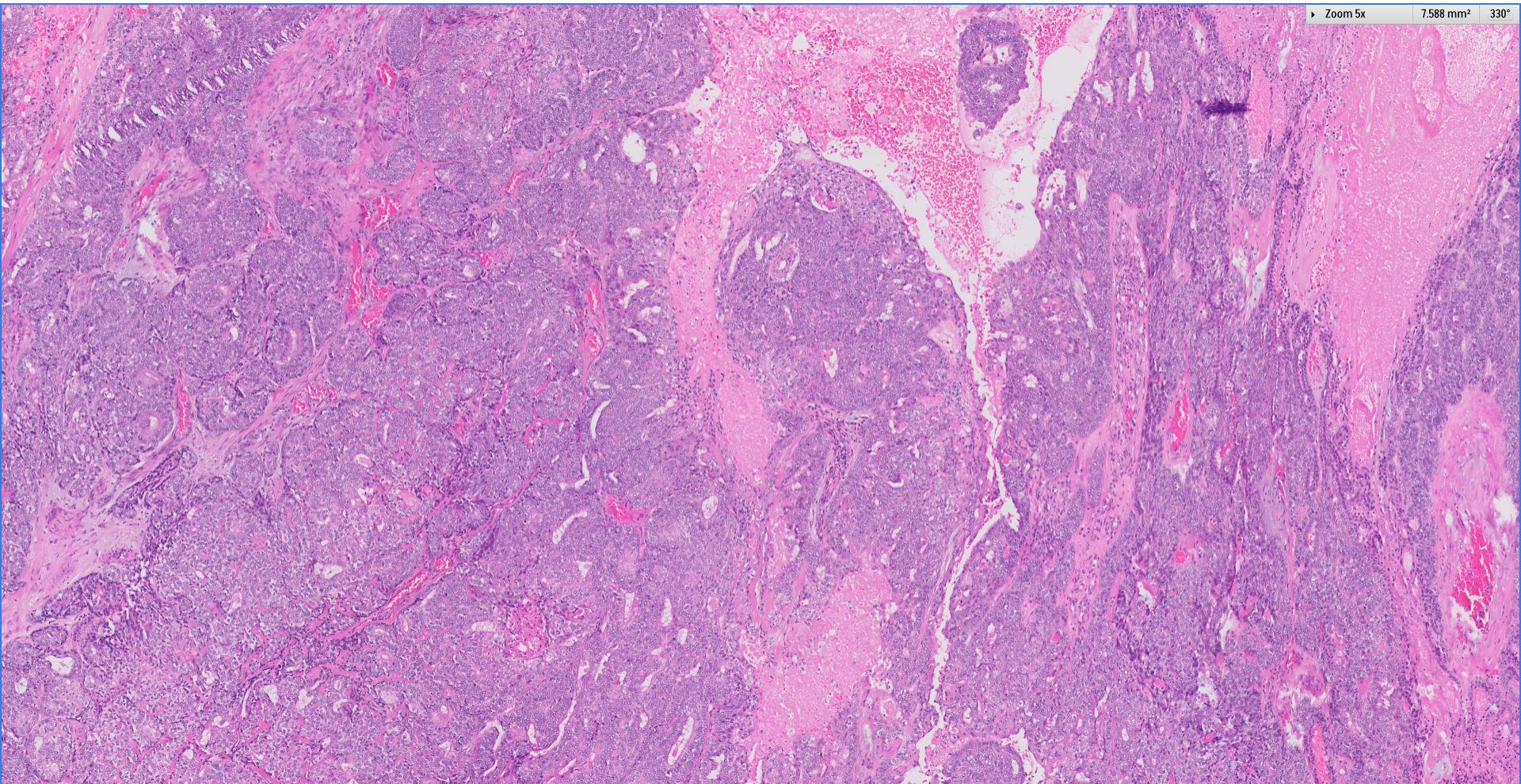
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Division of Pathology

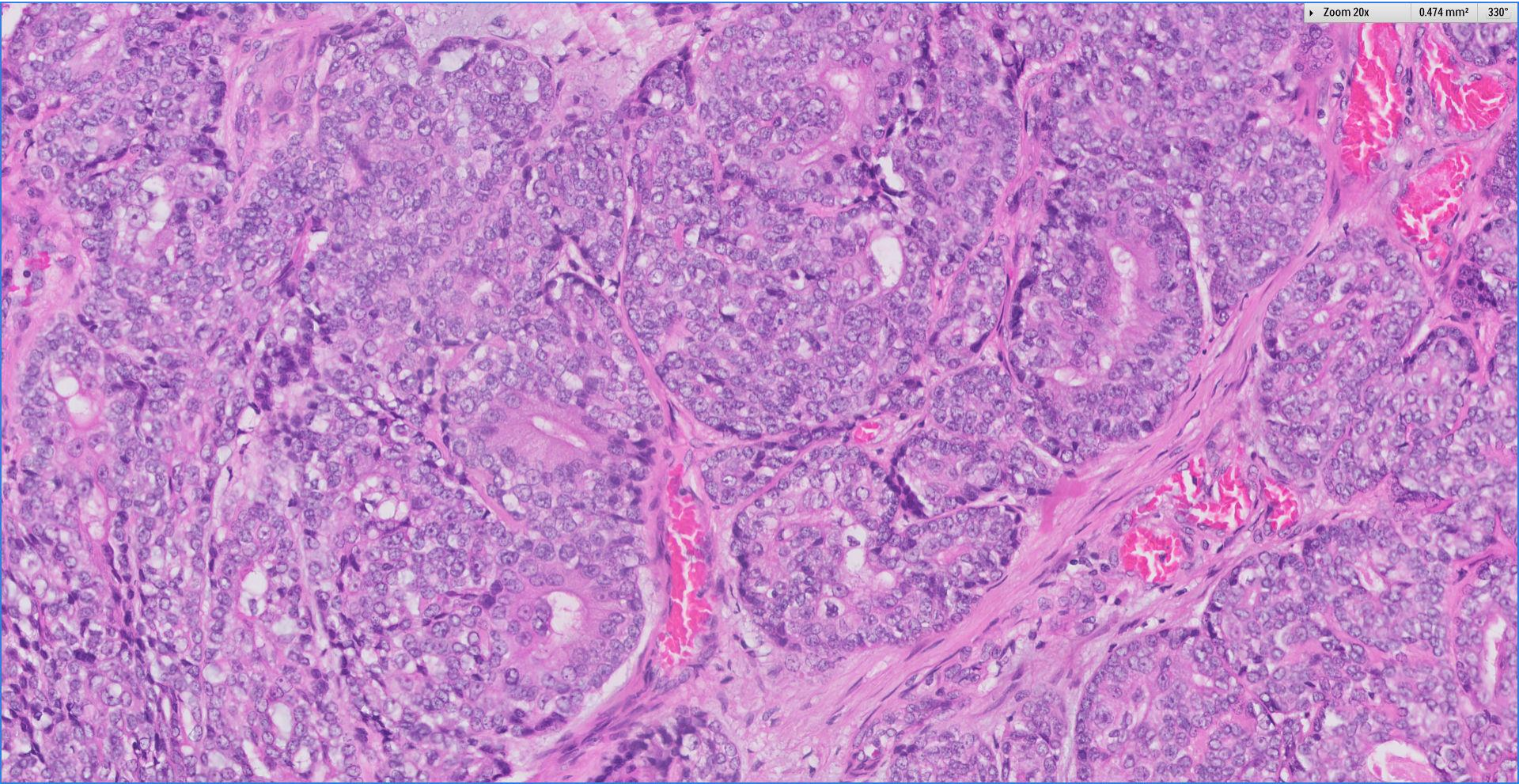


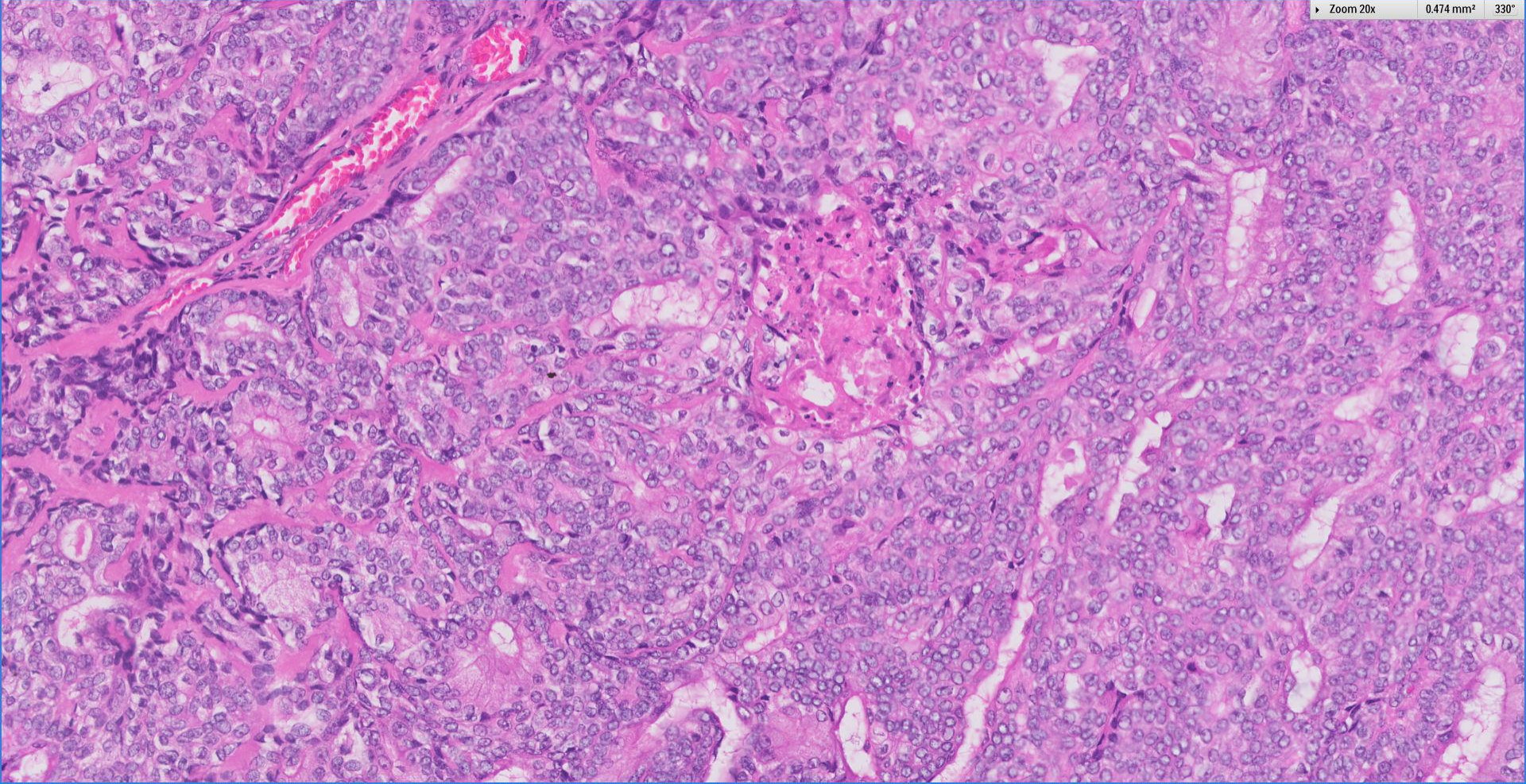


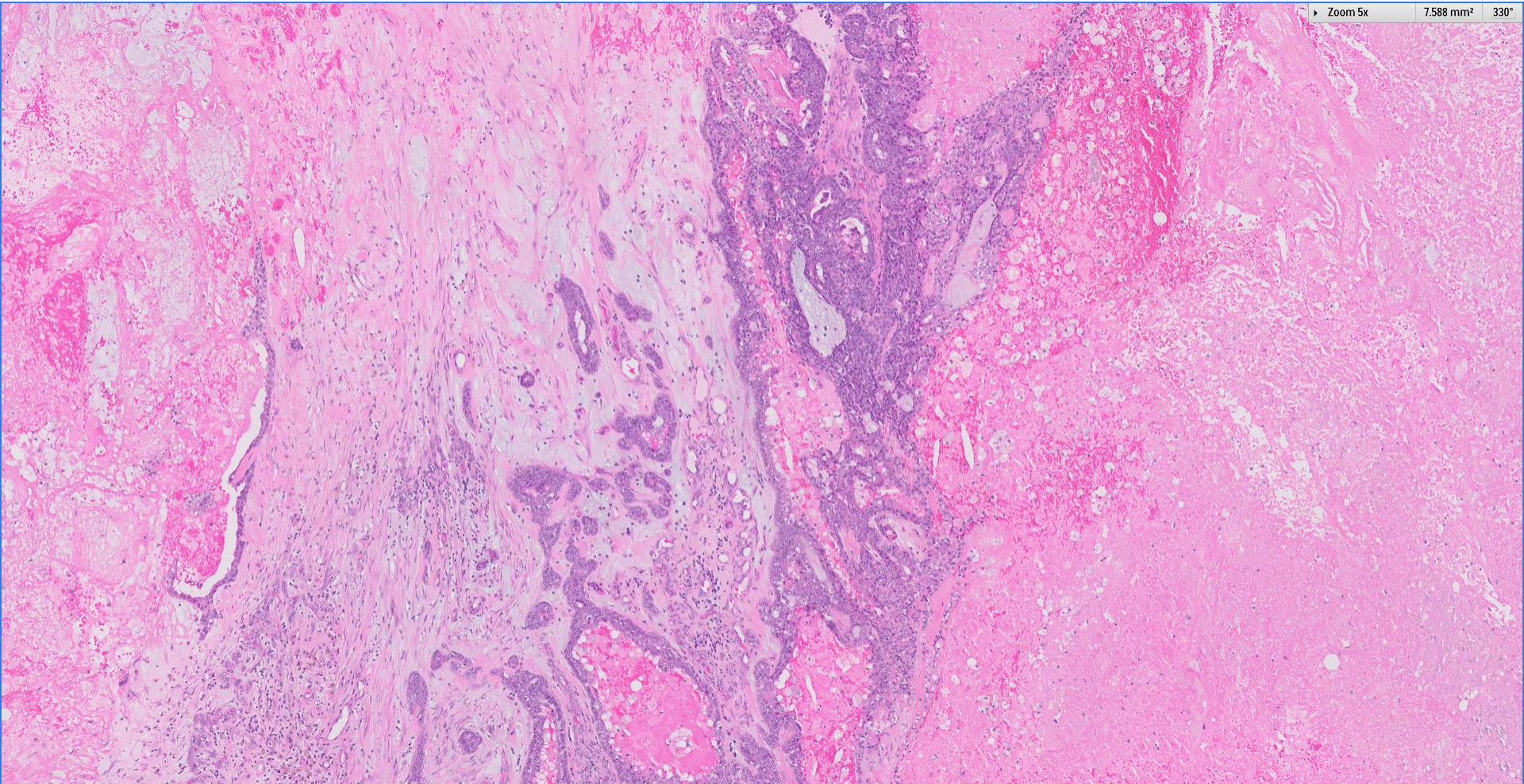






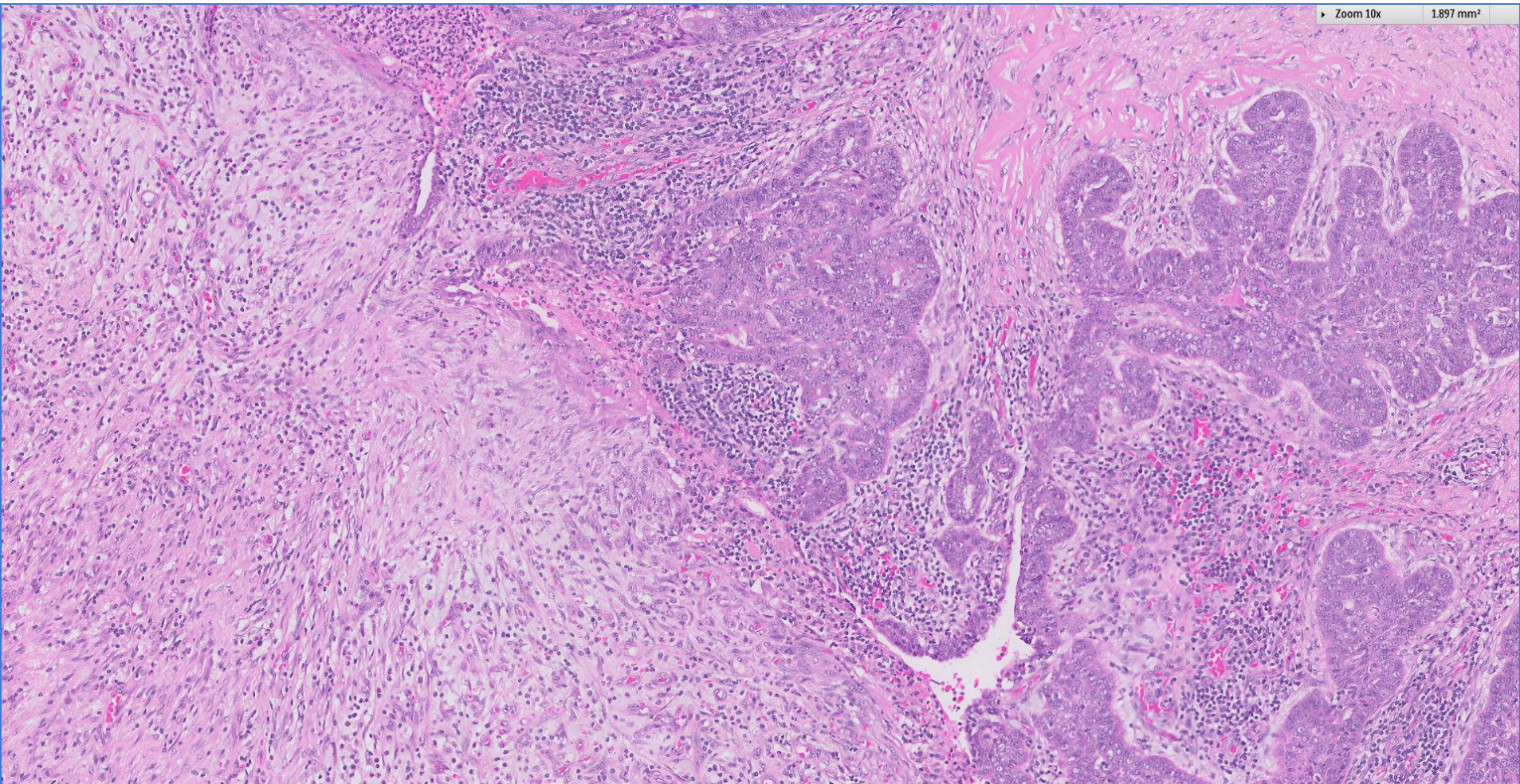


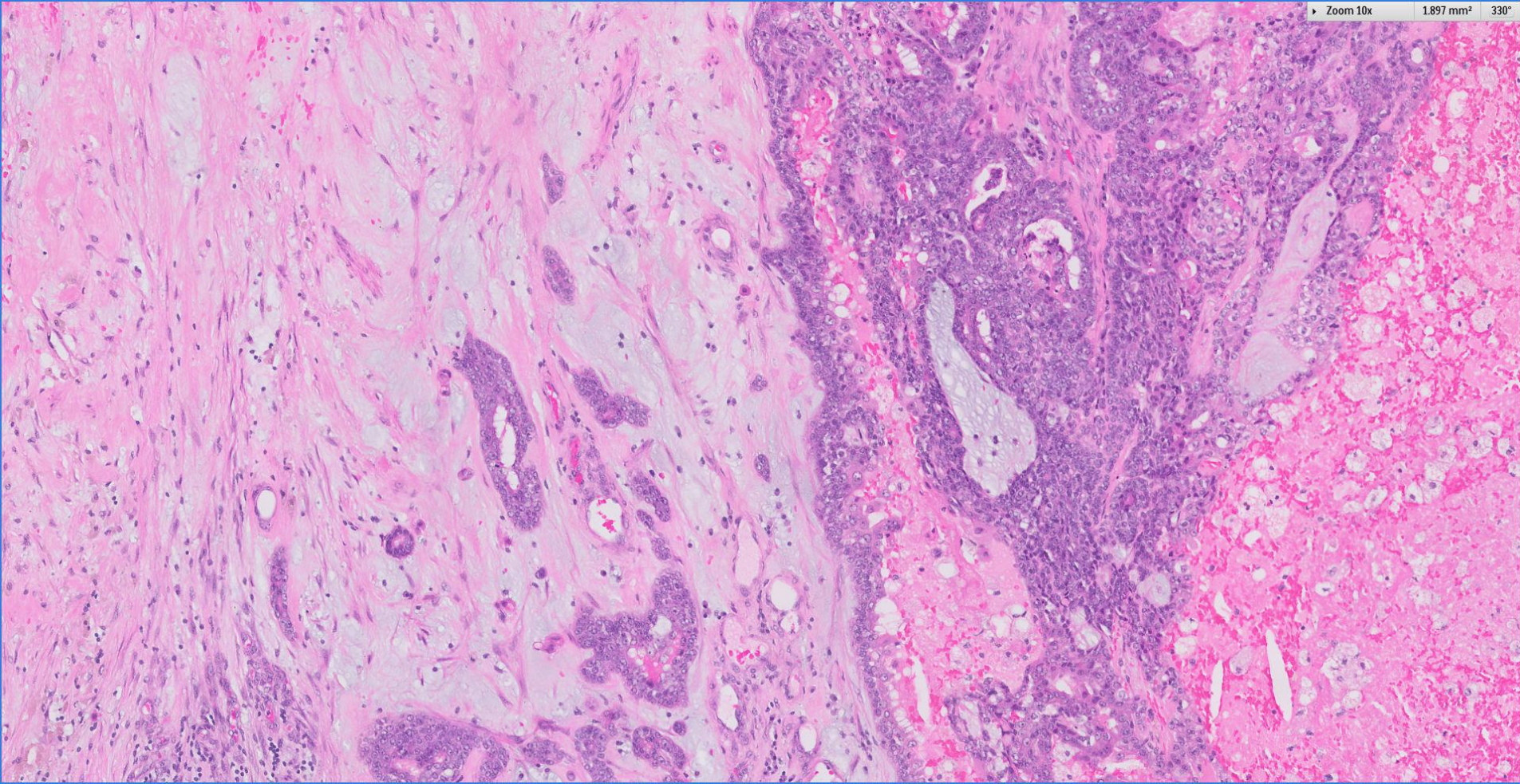


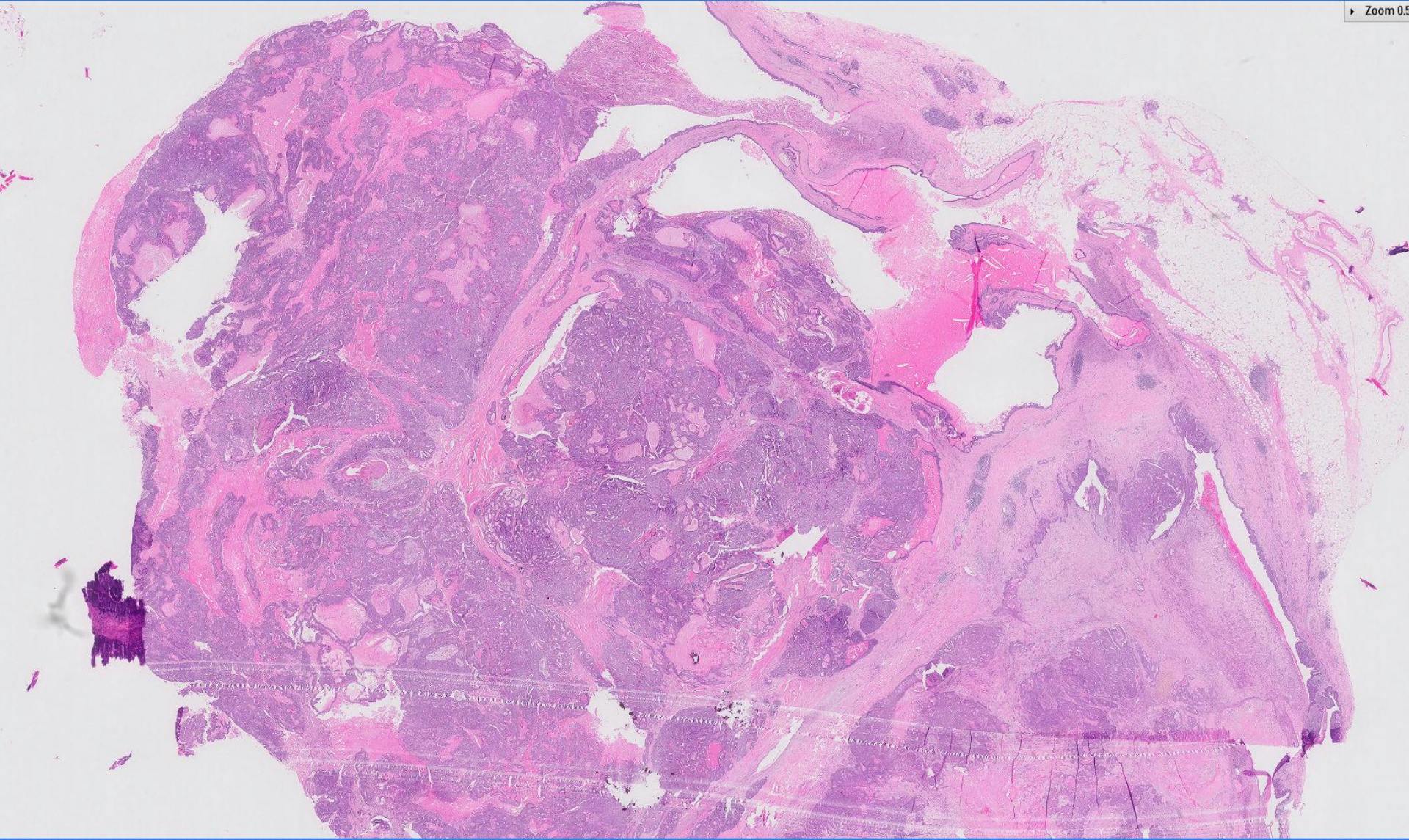


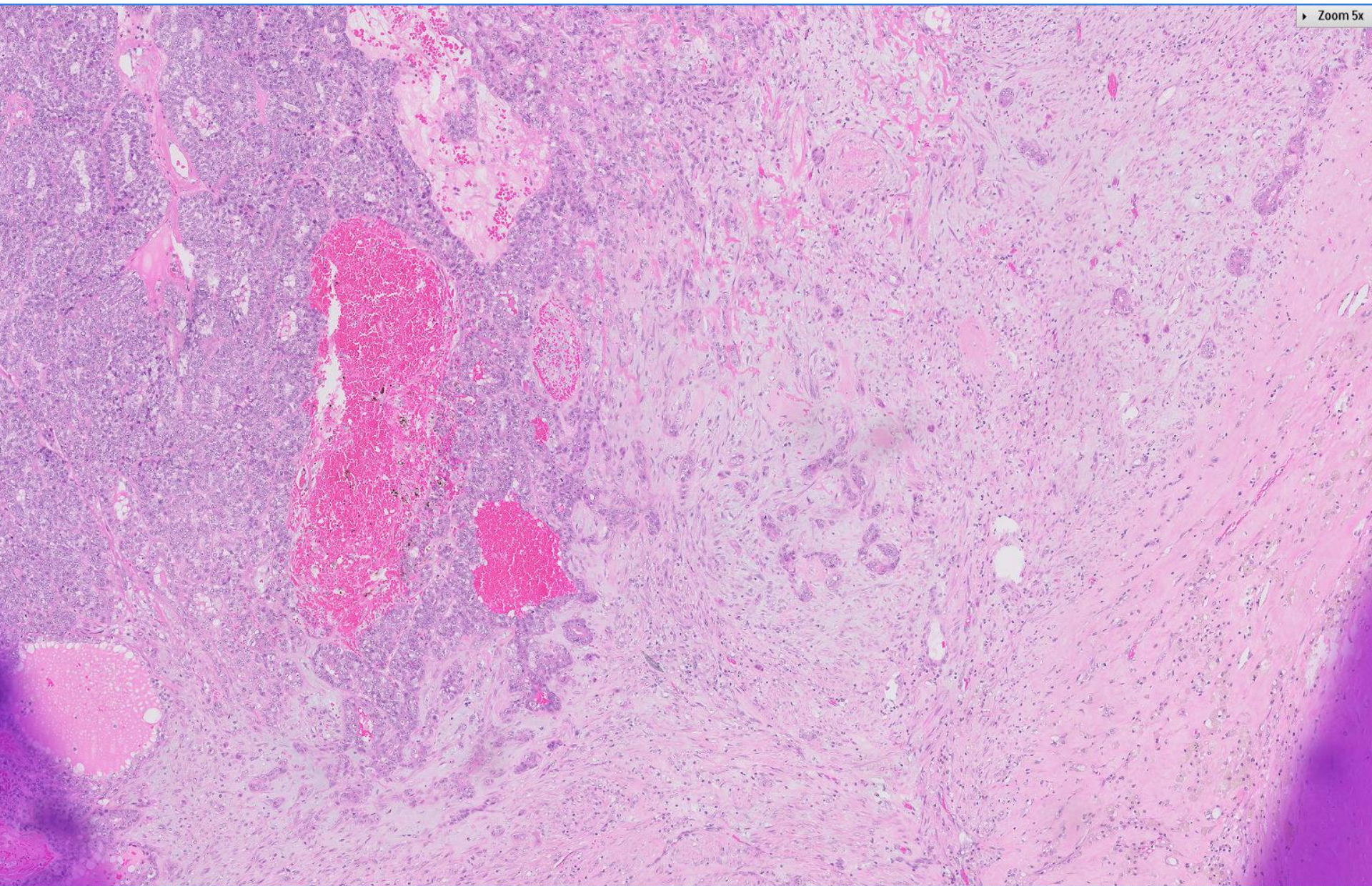
Zoom 10x

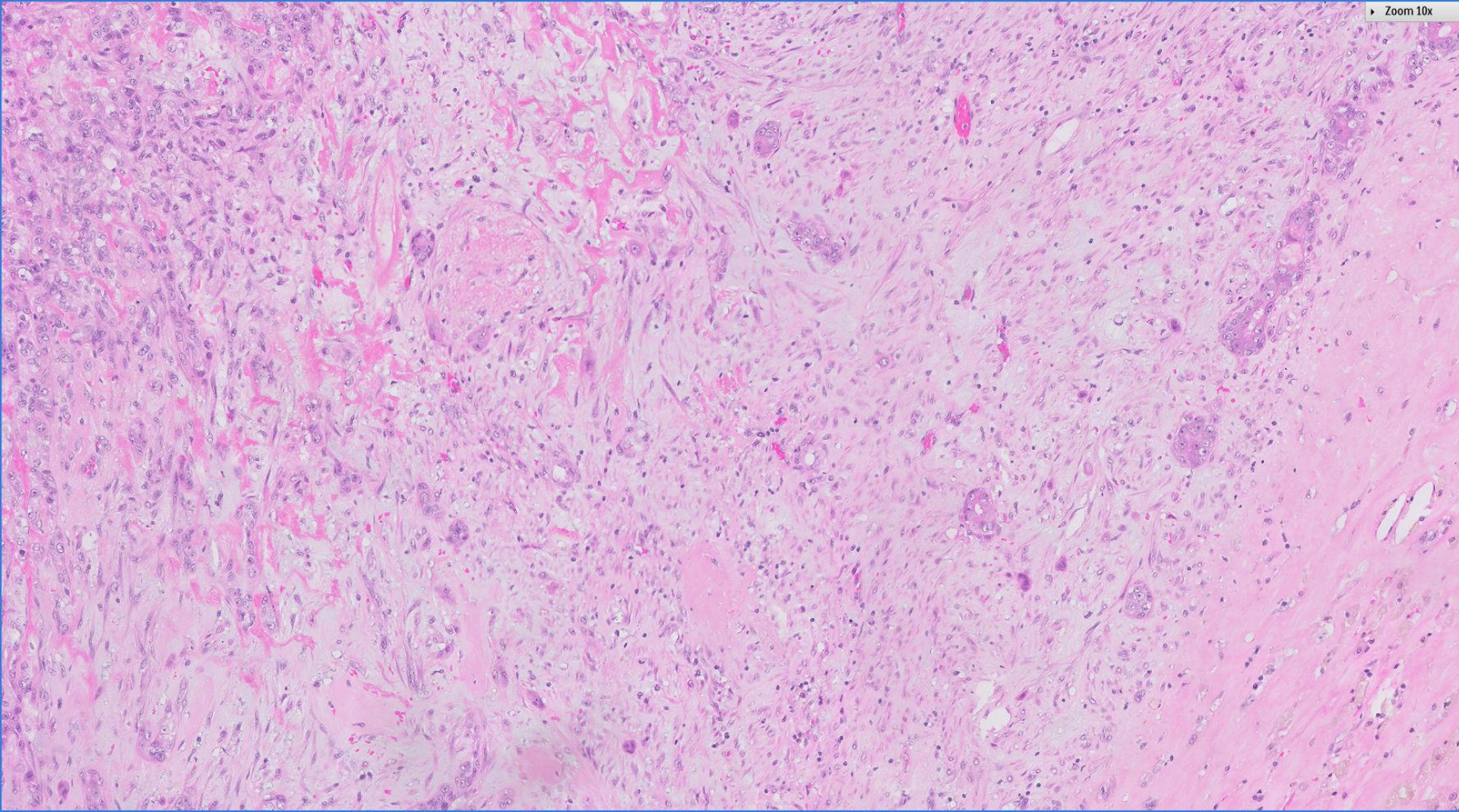
1.897 mm²

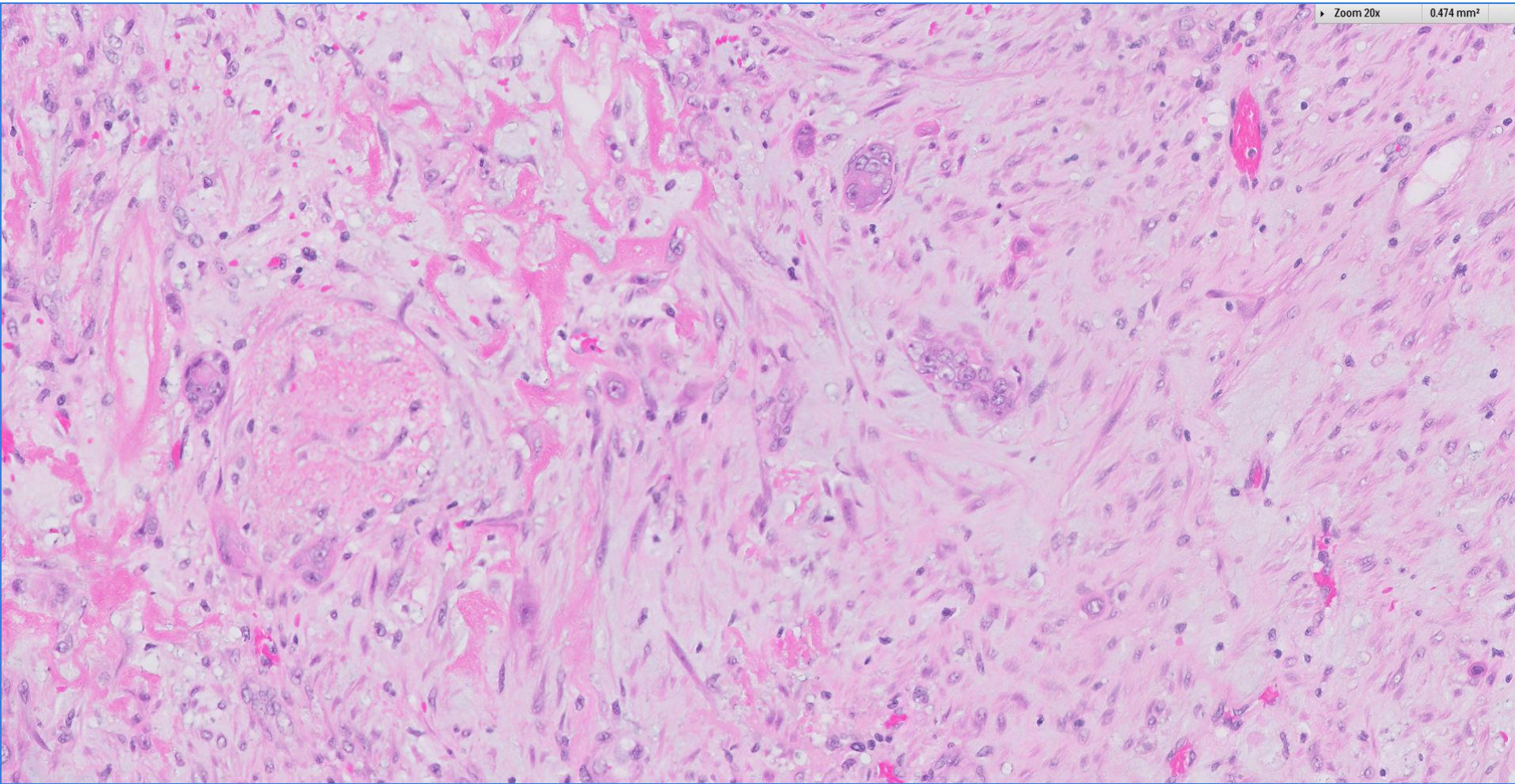




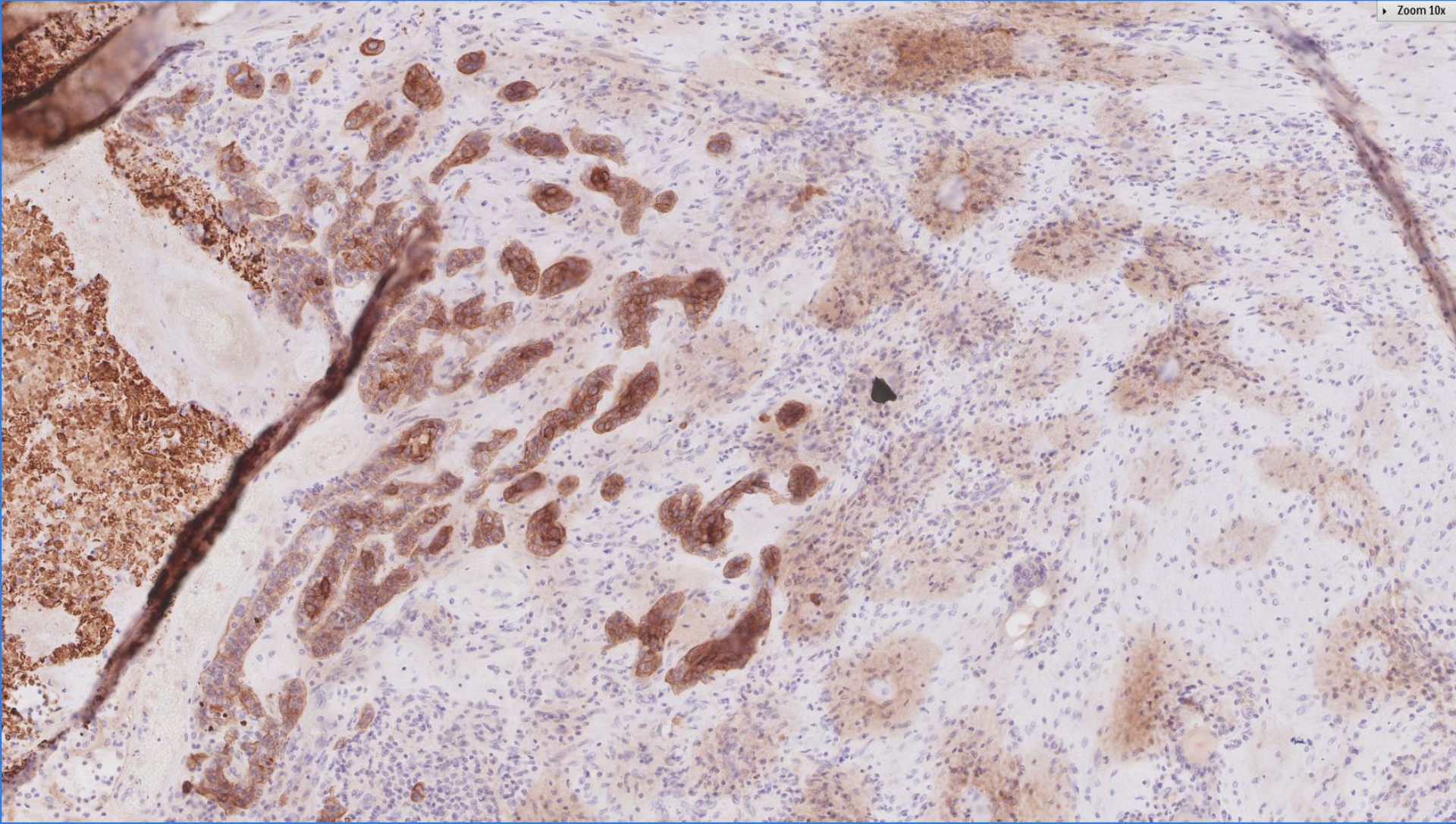




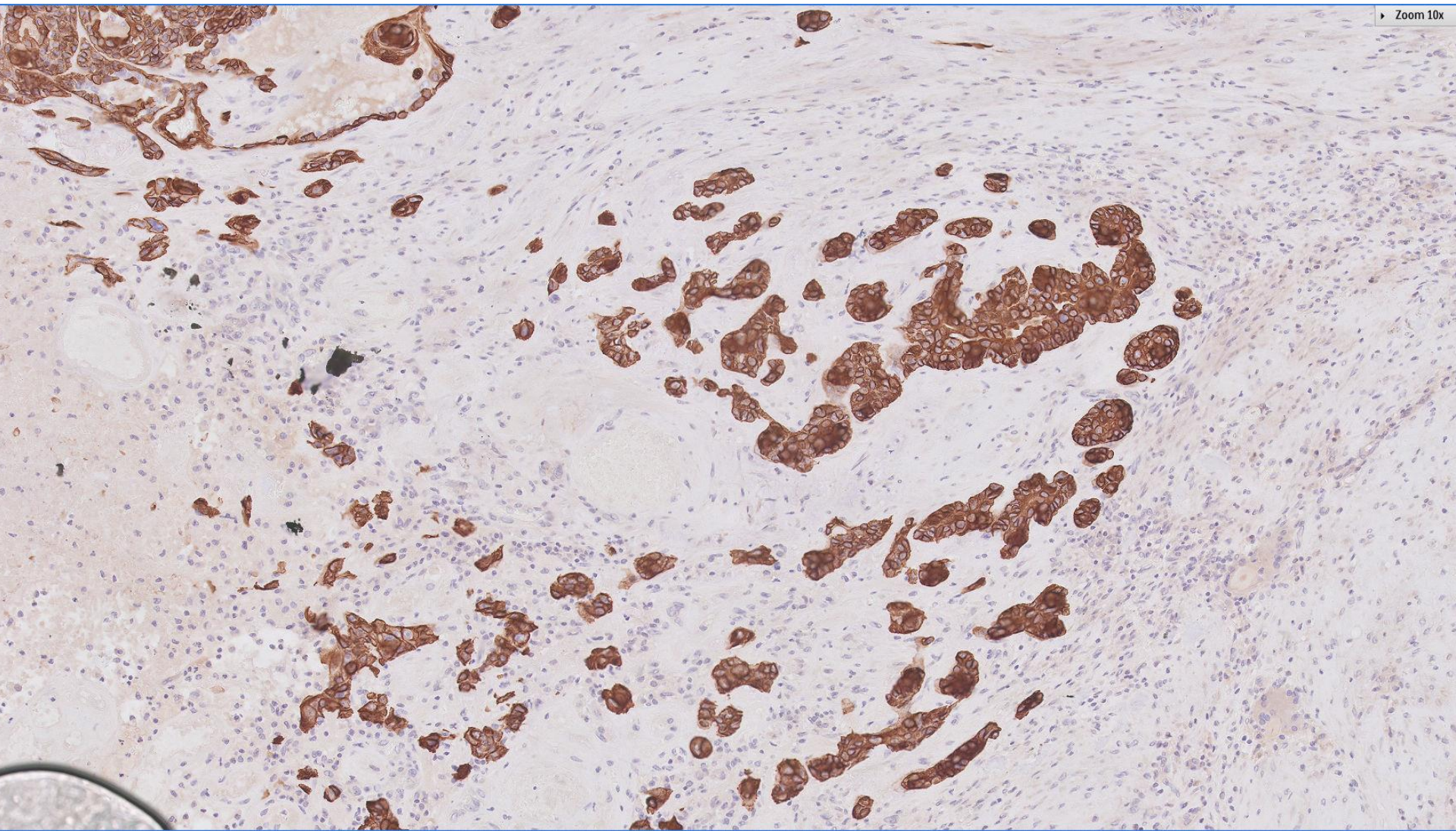




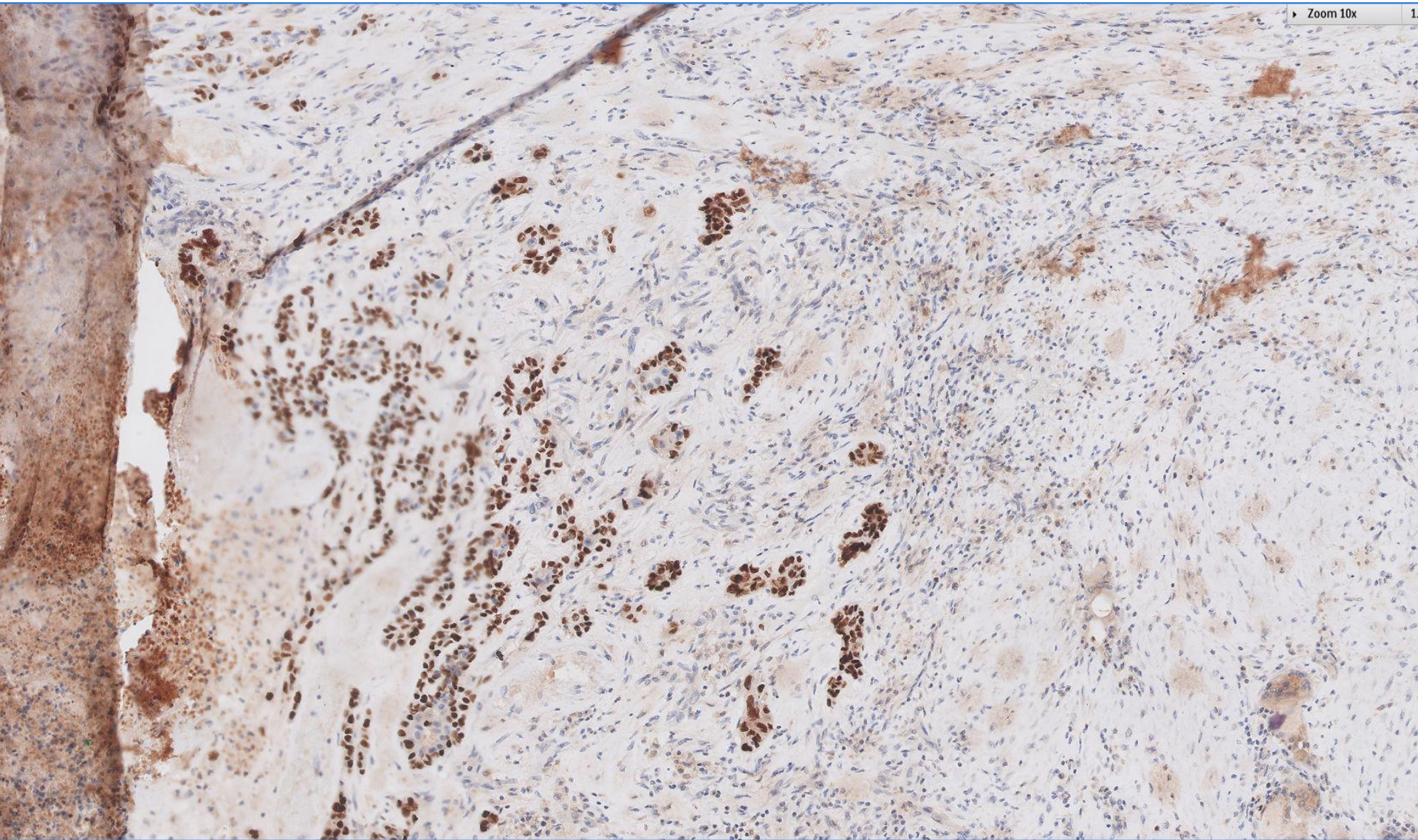
CK5/6



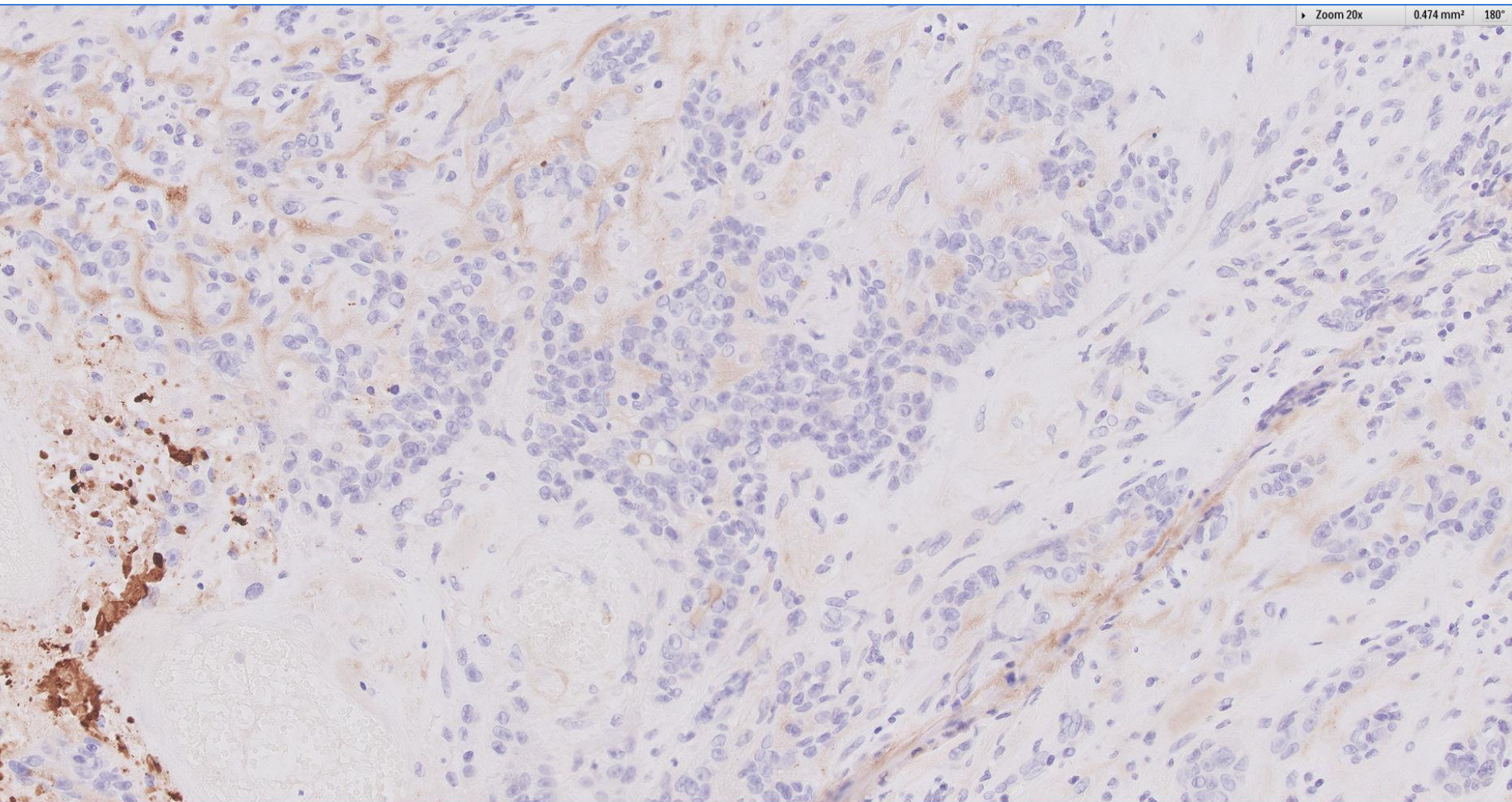
CK14



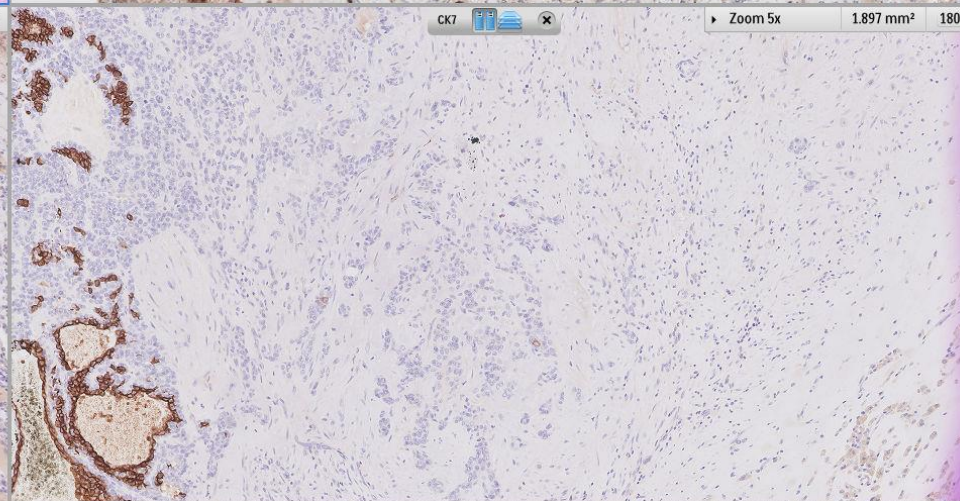
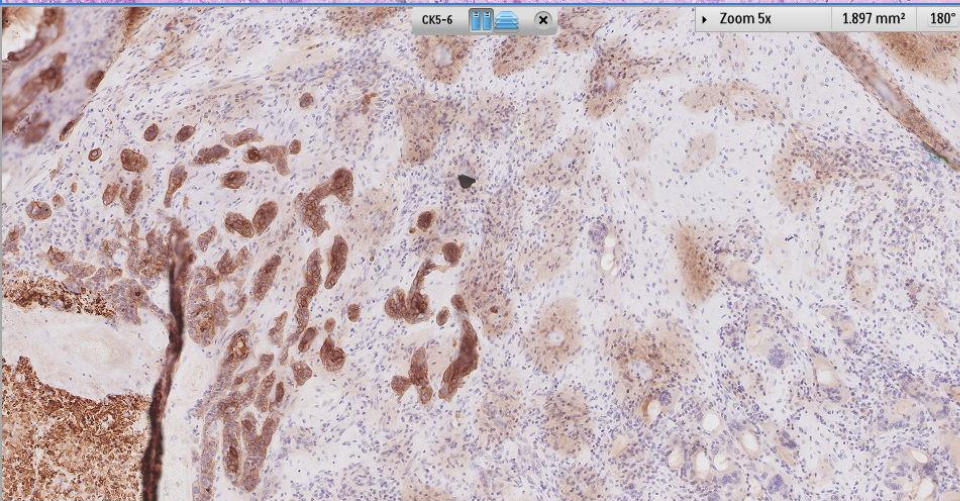
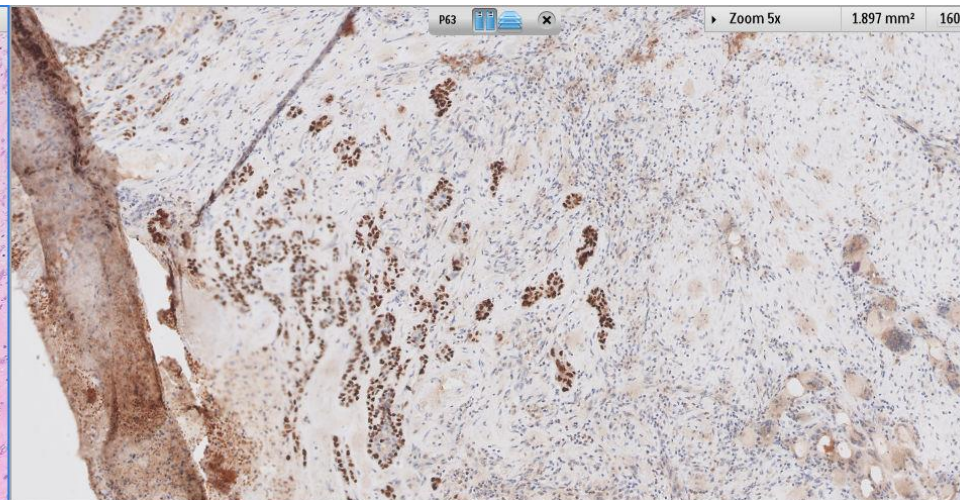
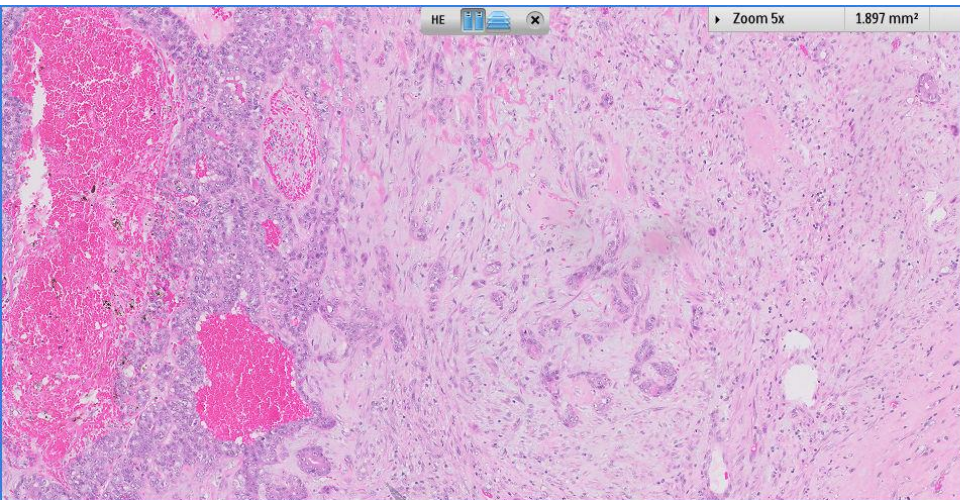
p63



CK7



p63

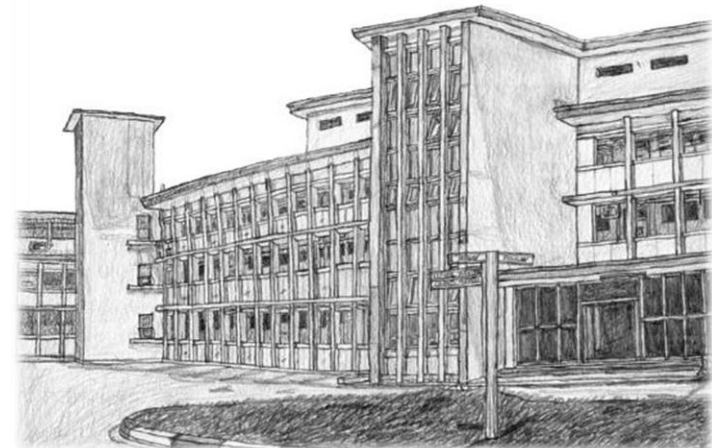


CK5/6

CK7

Diagnosis

Malignant adenomyoepithelioma, with
suggestion of component of
conventional invasive ductal carcinoma,
4mm



Adenomyoepithelioma

- Epithelial-myoepithelial tumour.
- Proliferation of myoepithelial cells surrounding small epithelium-lined spaces.
- Rarely, one or both components of adenomyoepithelioma (AME) become malignant (AME with carcinoma/malignant adenomyoepithelioma).
- Term epithelial-myoepithelial carcinoma can be applied to AME in which both components are malignant.

Adenomyoepithelioma with carcinoma

- Rare tumour, usually in postmenopausal women.
- Often preceded by a longstanding stable mass that subsequently undergoes rapid growth.
- When malignant transformation differentiates along both epithelial and myoepithelial cell lineages, the tumour can resemble poorly differentiated epithelial–myoepithelial carcinoma (EMEC) of the salivary gland.
- Aneuploidy and p53 mutations are reported.

Adenomyoepithelioma with carcinoma

- Can recur locally, with significant metastatic potential, probably related to the grade of the transformed component and the tumour size.
- Metastases typically occur in patients who have high-grade malignant transformation and with tumours ≥ 2 cm.
- Up to 40% of cases of AME with carcinoma reported in the literature have metastasized, but this is probably an overestimate due to selection bias.
- Most metastases are to the lungs.
- Other metastatic sites \sim liver, bone, brain.
- Axillary lymph-node dissection is not indicated for these lesions unless there is clinically detected lymphadenopathy, as metastasis to axillary nodes is unusual.
- Scant evidence to support a role for radiotherapy or chemotherapy in the management.

Table 9.01 Classification of myoepithelial and epithelial–myoepithelial lesions

	Myoepithelial lesions	Epithelial–myoepithelial lesions
Benign	Myoepithelial hyperplasia Collagenous spherulosis	Pleomorphic adenoma Adenomyoepithelioma
Malignant	Myoepithelial carcinoma ^a	Adenomyoepithelioma with carcinoma - Carcinoma derived from luminal epithelium - Carcinoma derived from myoepithelium - Epithelial–myoepithelial carcinoma (carcinoma derived from both luminal epithelium and myoepithelium) Adenoid cystic carcinoma

^a Myoepithelial carcinoma (malignant myoepithelioma) is classified under metaplastic carcinoma.

Molecular genetics

- Recurrent hotspot mutations in HRAS Q61 and PI3K-AKT pathway genes as drivers of breast adenomyoepitheliomas.

Geyer et al. Nat Commun. 2018 May 8;9(1):1816.

- Whole-exome and targeted massively parallel sequencing analysis.
- ER-positive adenomyoepitheliomas display PIK3CA or AKT1 activating mutations
- ER-negative adenomyoepitheliomas harbour highly recurrent codon Q61 HRAS hotspot mutations, which co-occur with PIK3CA or PIK3R1 mutations.
- Adenomyoepitheliomas are genetically heterogeneous.

Recent literature

CORRESPONDENCE

Pathology (2017), 49(3), April

Jones et al

Malignant adenomyoepithelioma of the breast



Two forms ~

- Malignant transformation in an otherwise typical adenomyoepithelioma.
- Typical adenomyoepithelioma on low power, with cellular atypia and increased mitoses on higher magnification.

Recent literature

The Breast Journal

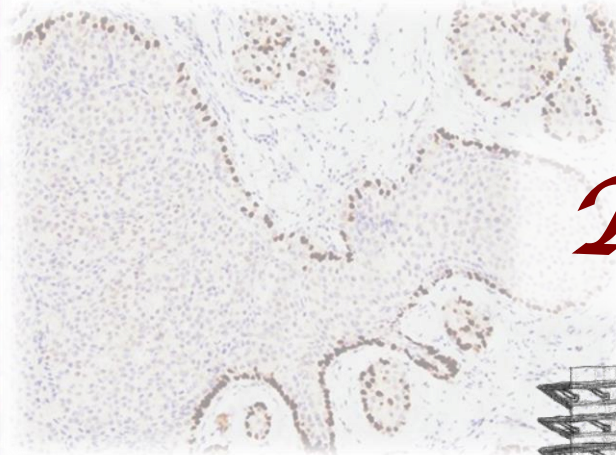
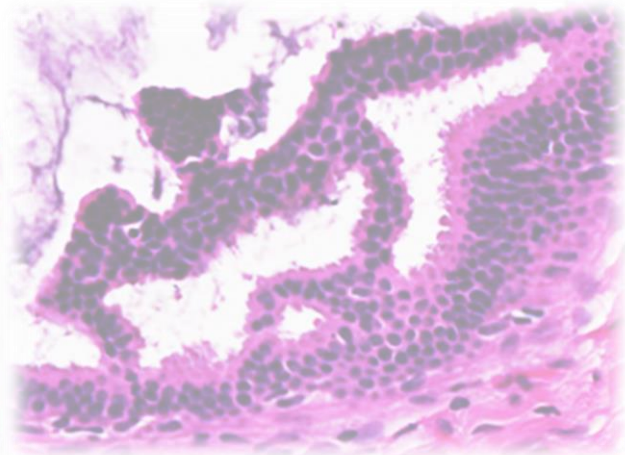
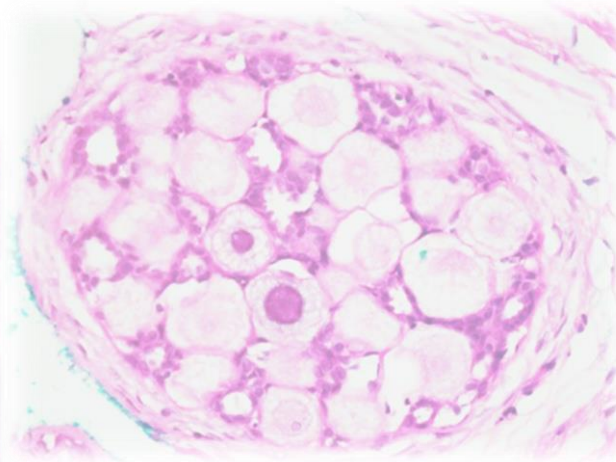
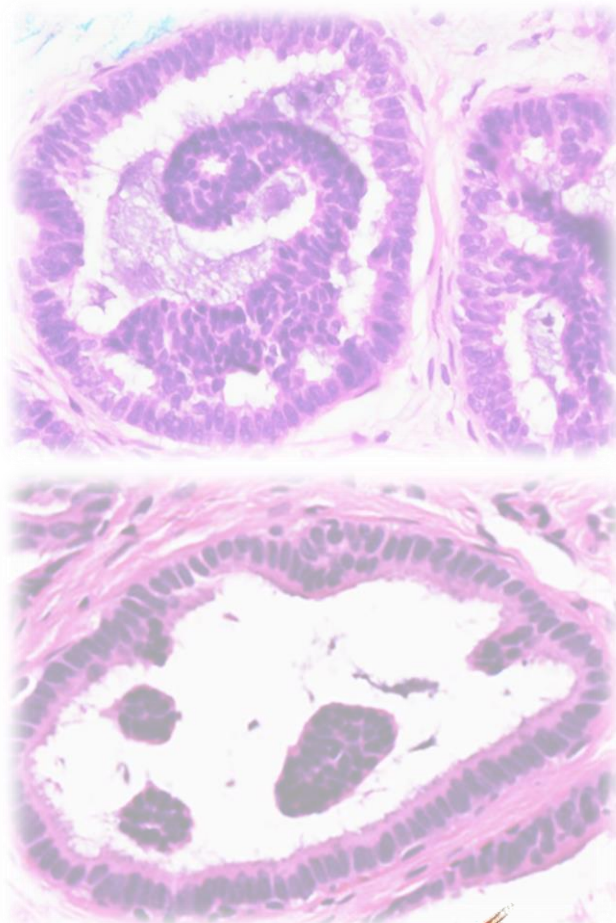
SHORT COMMUNICATION

Malignant Adenomyoepithelioma of the Breast: A Review

Ahmadi et al. The Breast Journal, 2015; 21: 291-296

■ **Abstract:** Malignant adenomyoepithelioma (MAME) of the breast is a rare lesion characterized by dual population of epithelial and myoepithelial cells which one or both components show malignant features. We report a case of MAME of the breast in a 46-year-old woman diagnosed by fine-needle aspiration with extensive review of the literature. Classification, clinical presentation, cyto-pathologic, and immunohistochemical features are described. This lesion showed both malignant components of epithelial and myoepithelial cells in cytology and histology. The malignancy was convincingly supported by high mitotic figures, pleomorphism, and invasion in tissue sections. This review of MAMEs showed that cyto-histologic diagnosis is difficult and should be supported by immunohistochemical study. ■

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Thank you!

