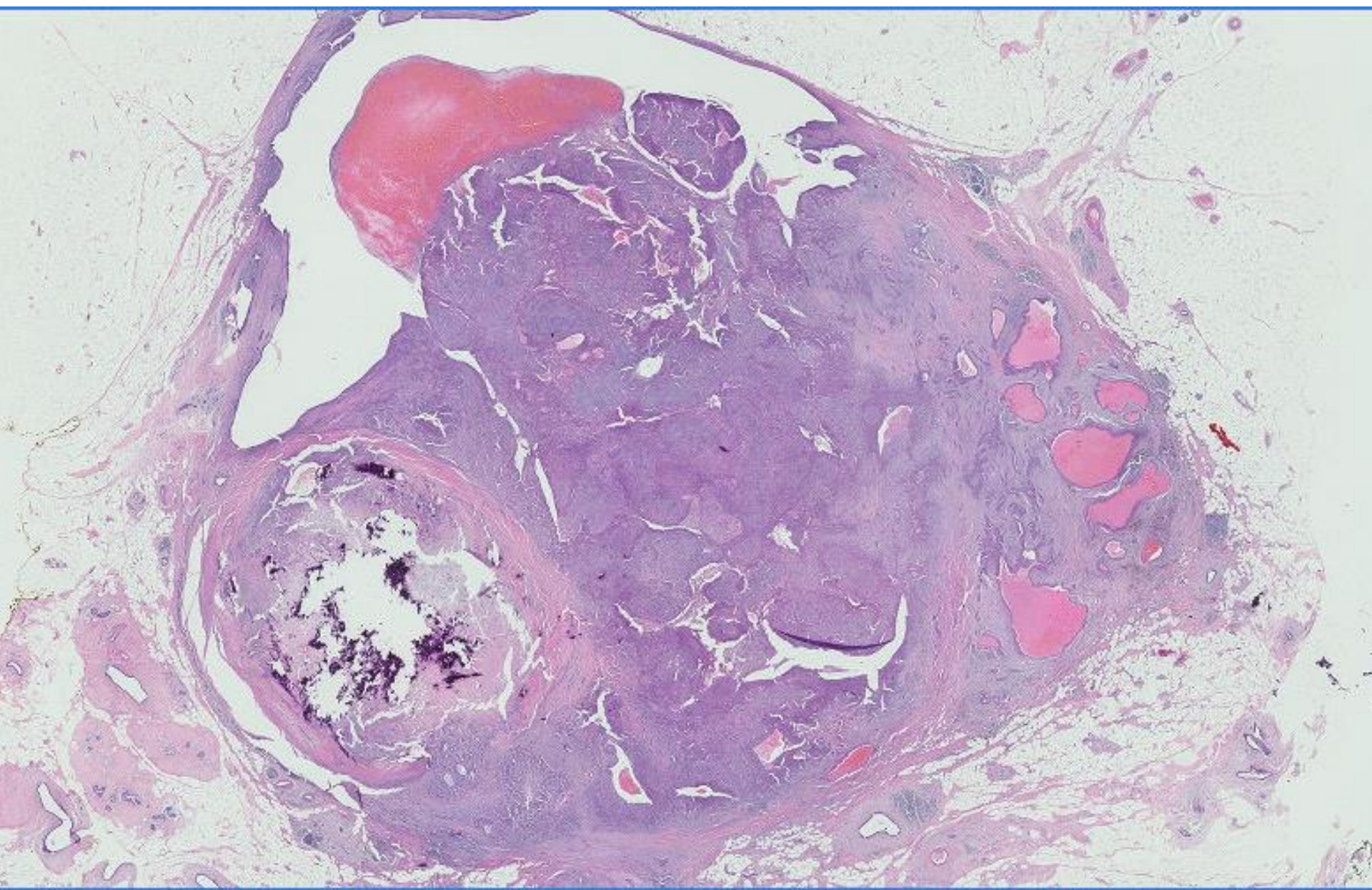
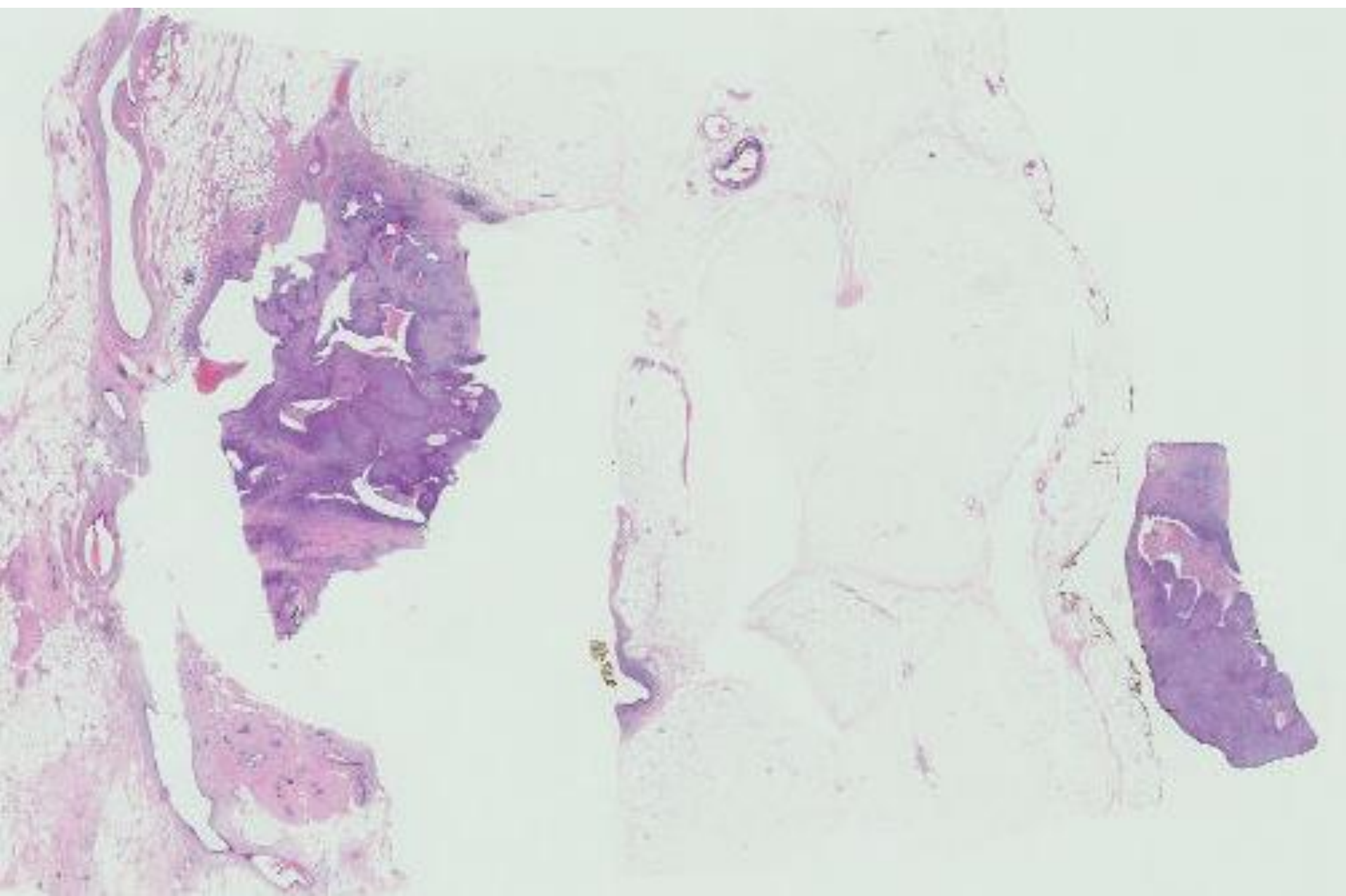


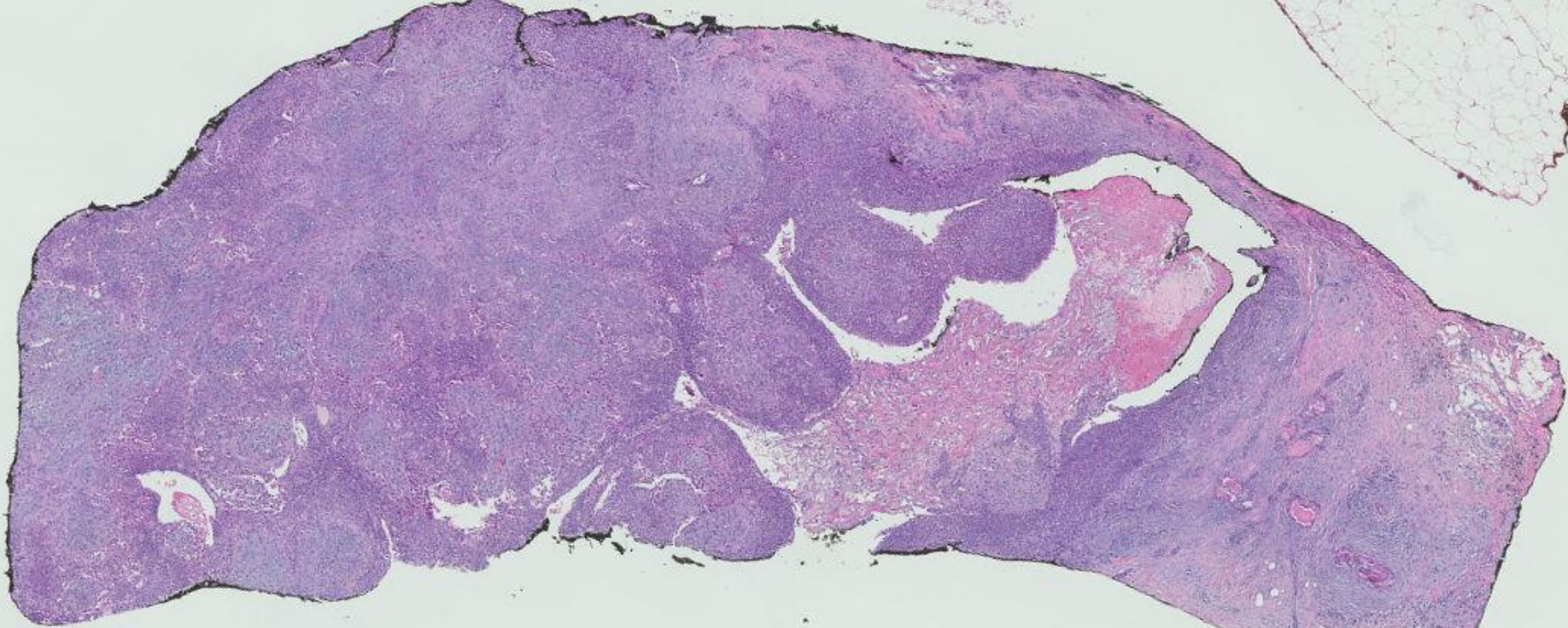
## Case 6

74 year old woman with a breast lump that  
was excised.

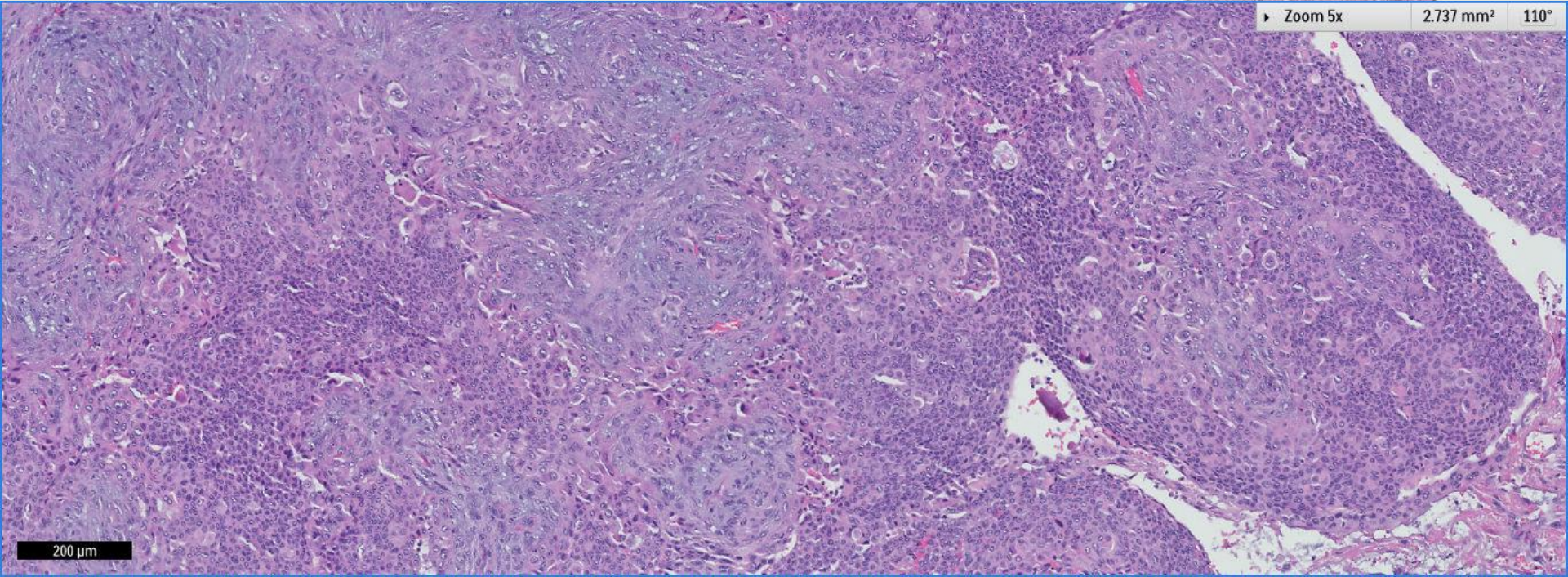
*(Case contributed by Dr Mihir Gudi, KKH)*



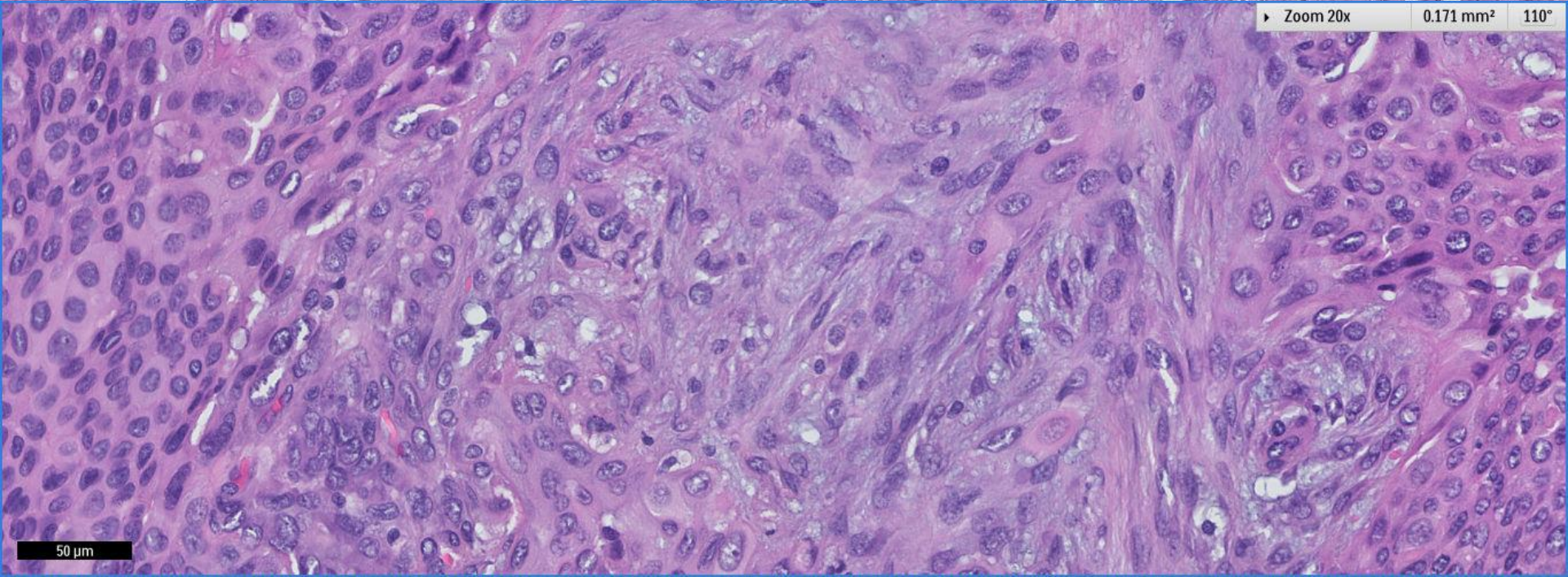
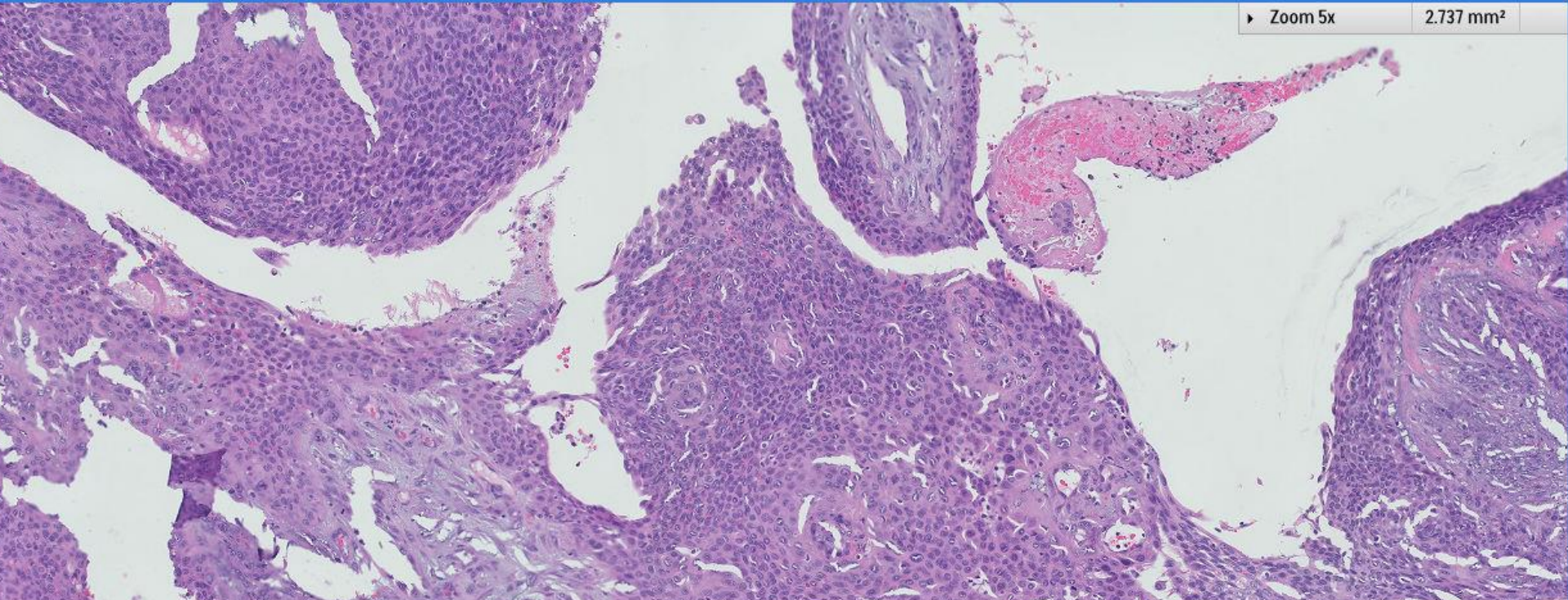




▶ Zoom 5x 2.737 mm<sup>2</sup> 110°



200 μm

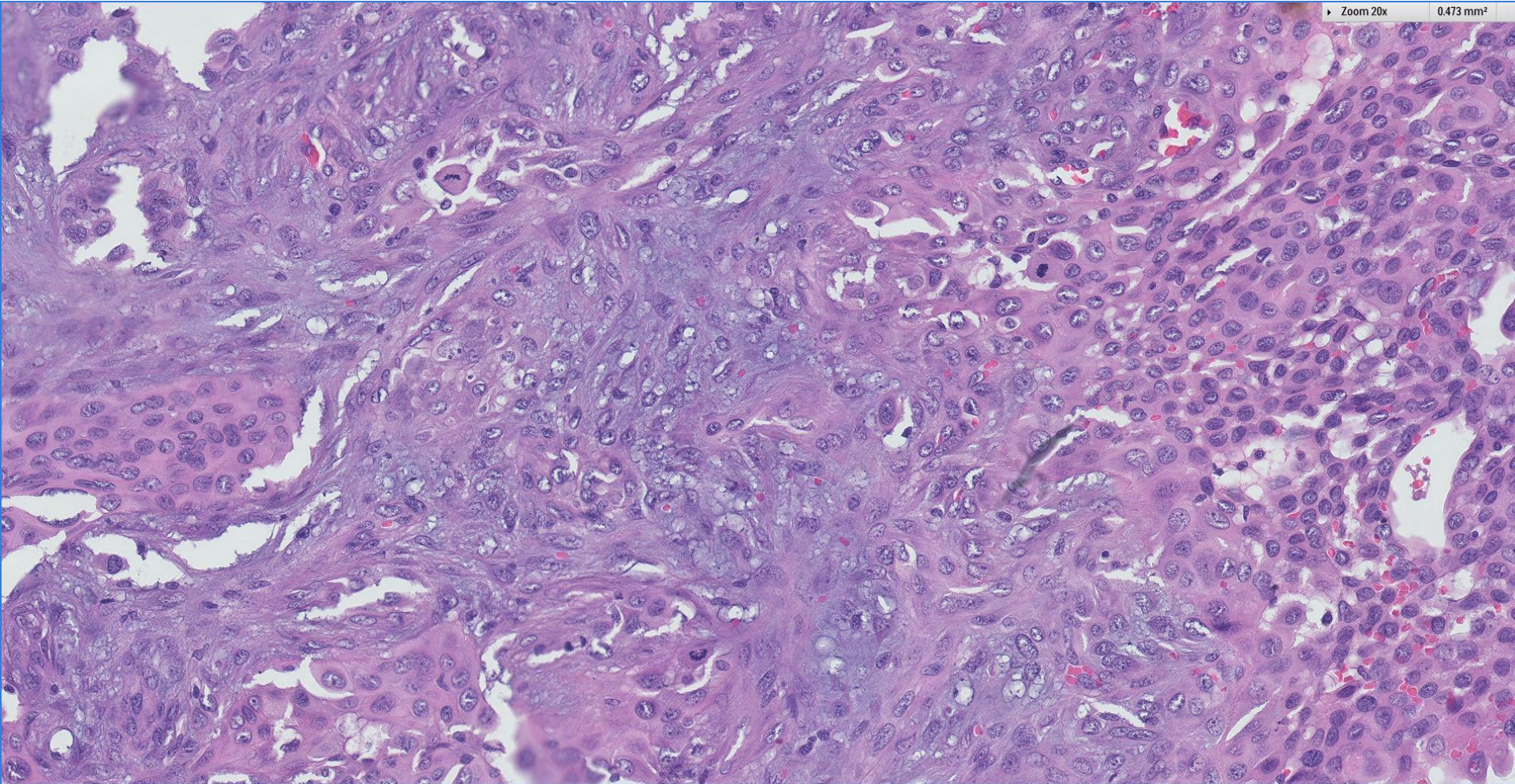


*Singapore ~ view from  
SkyPark@Marina Bay Sands*



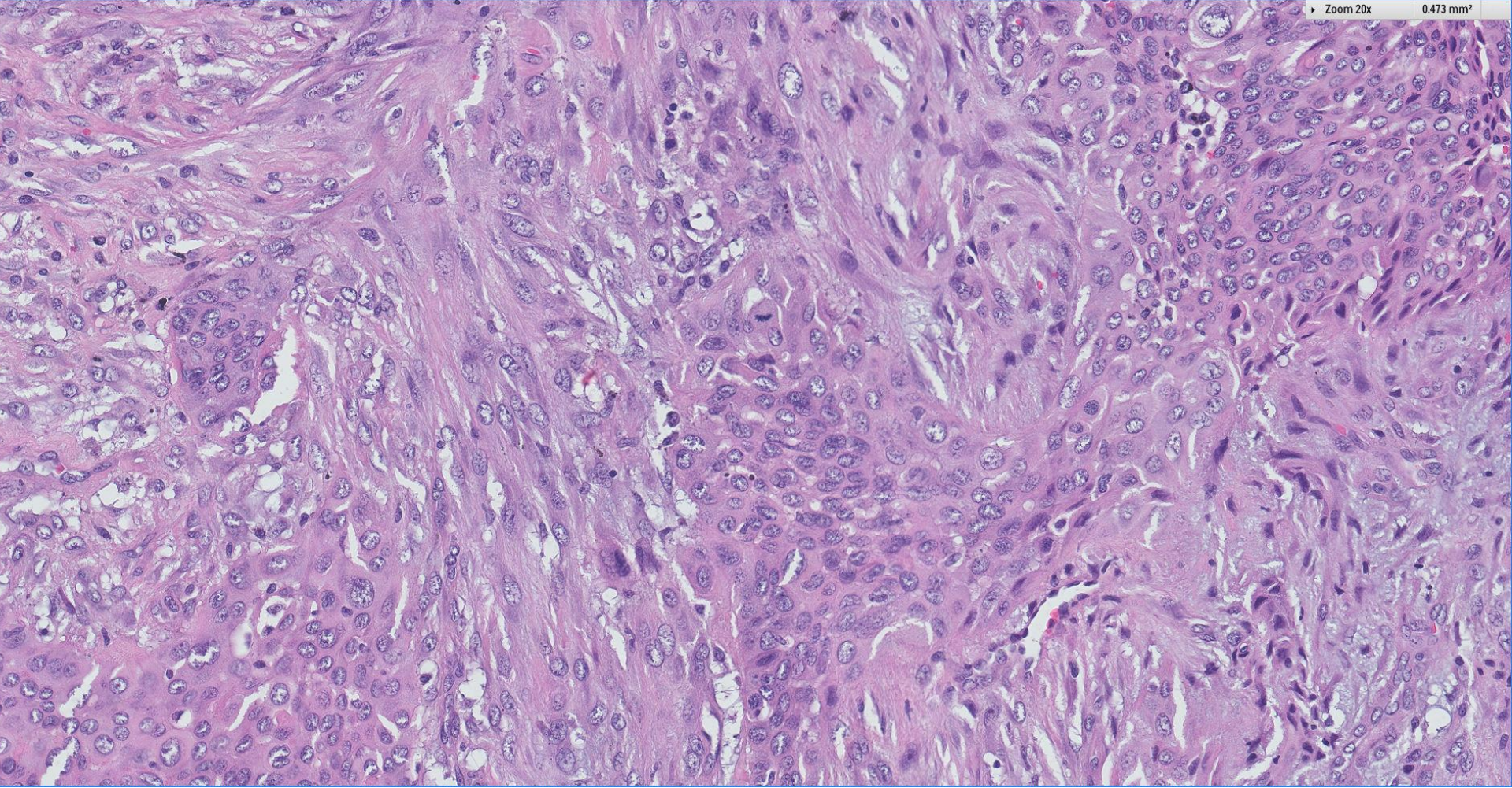
Zoom 20x

0.473 mm<sup>2</sup>



Zoom 20x

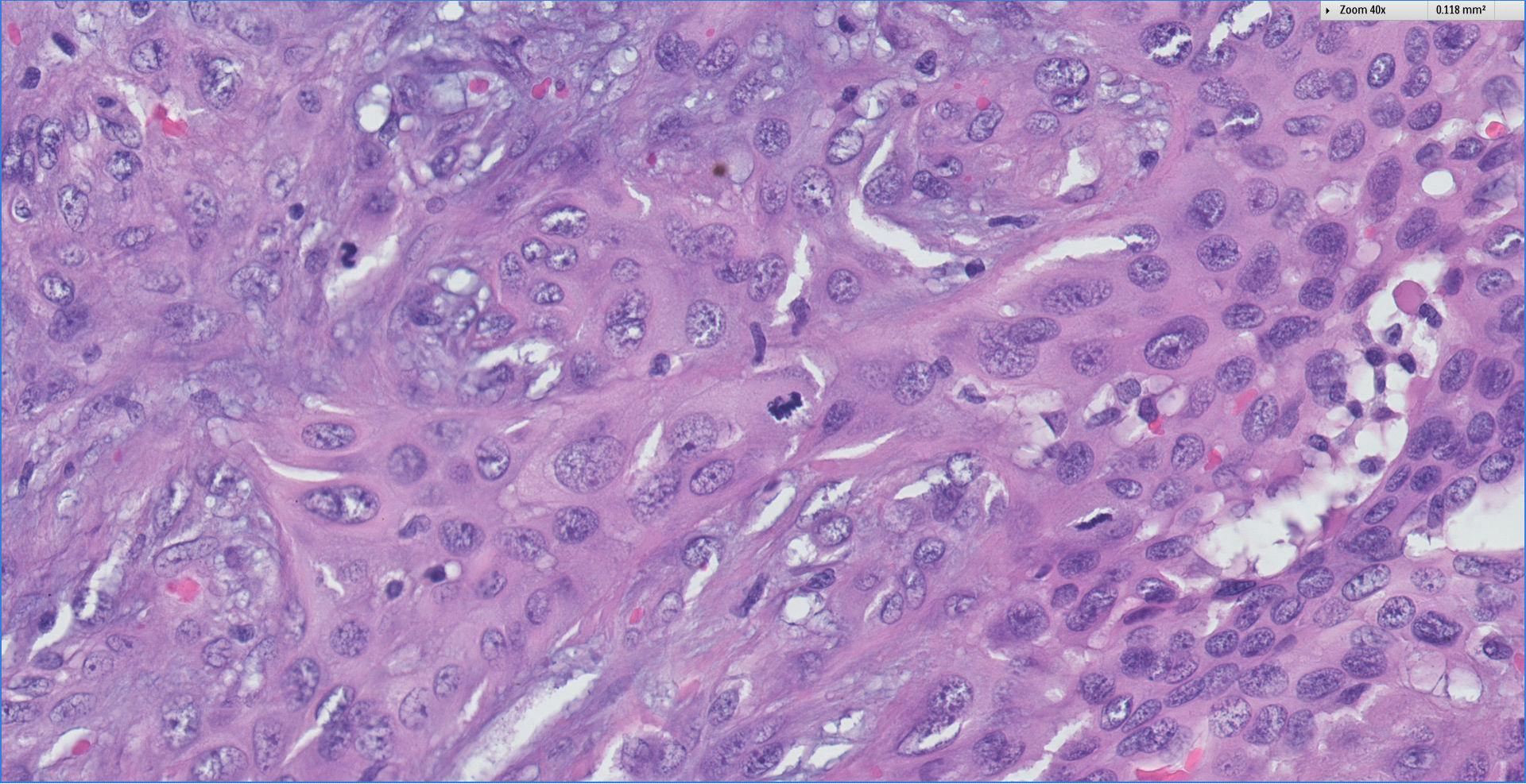
0.473 mm<sup>2</sup>





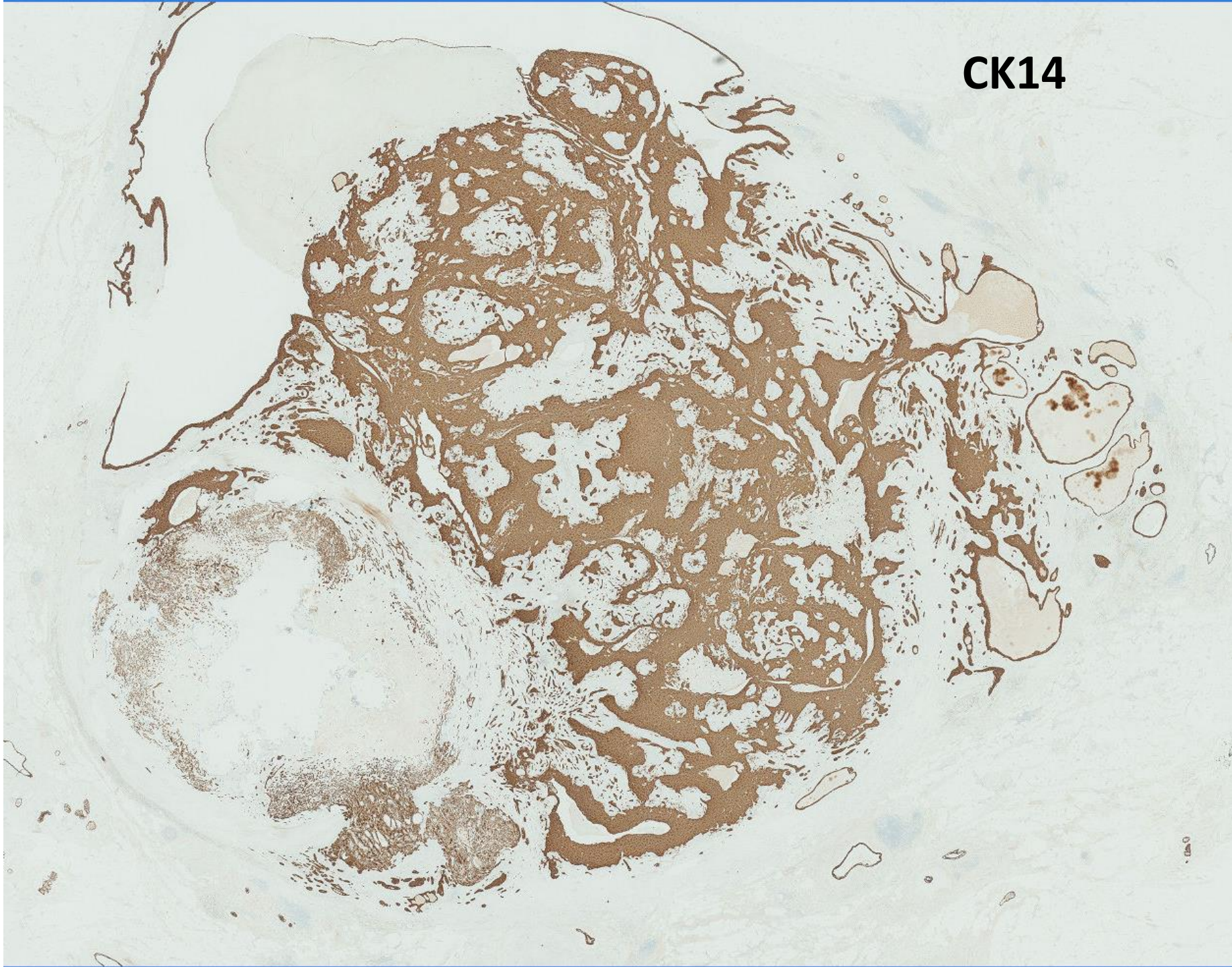
Zoom 40x

0.118 mm<sup>2</sup>

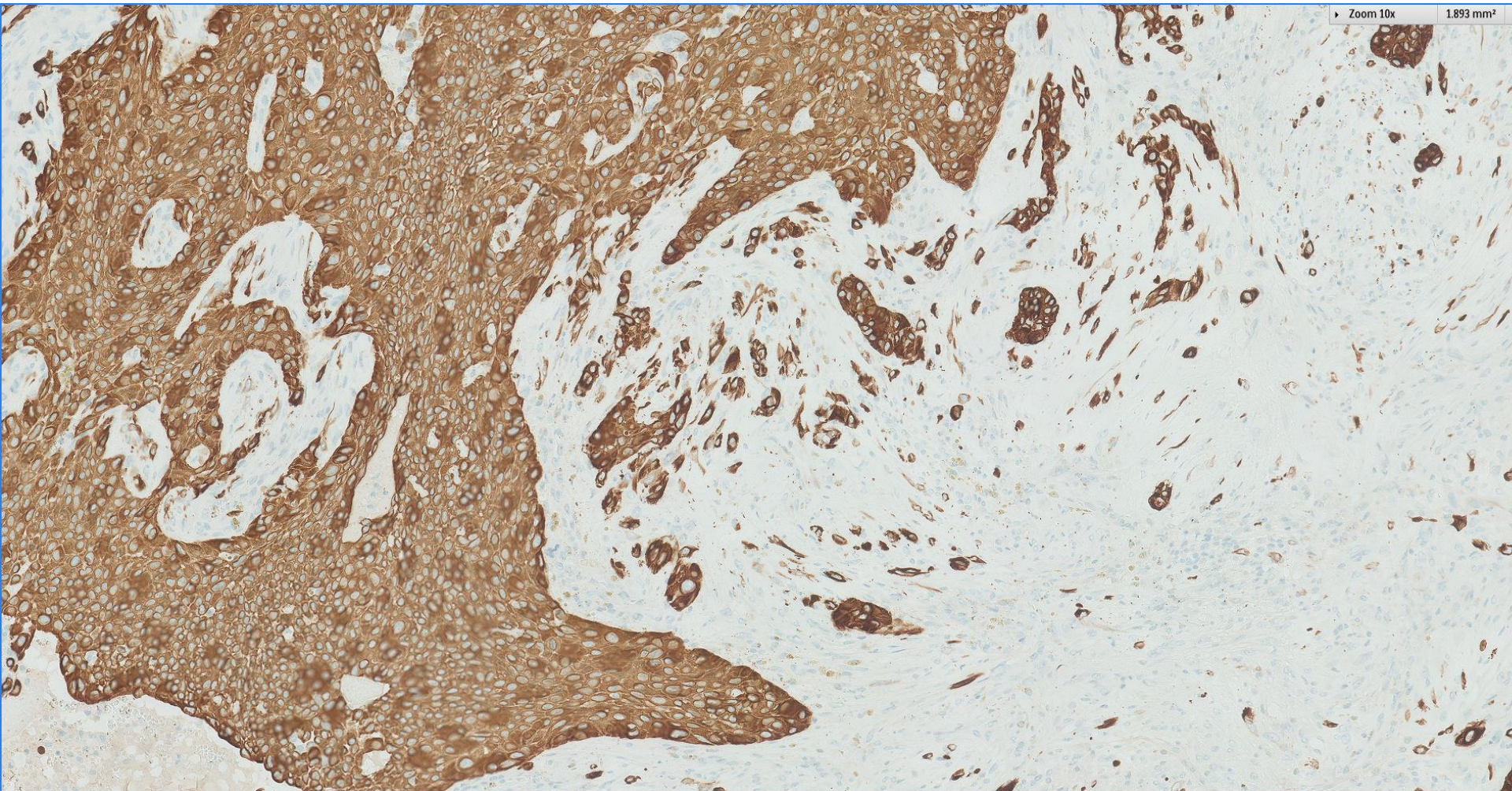


*ER, PR, cerbB2 negative*

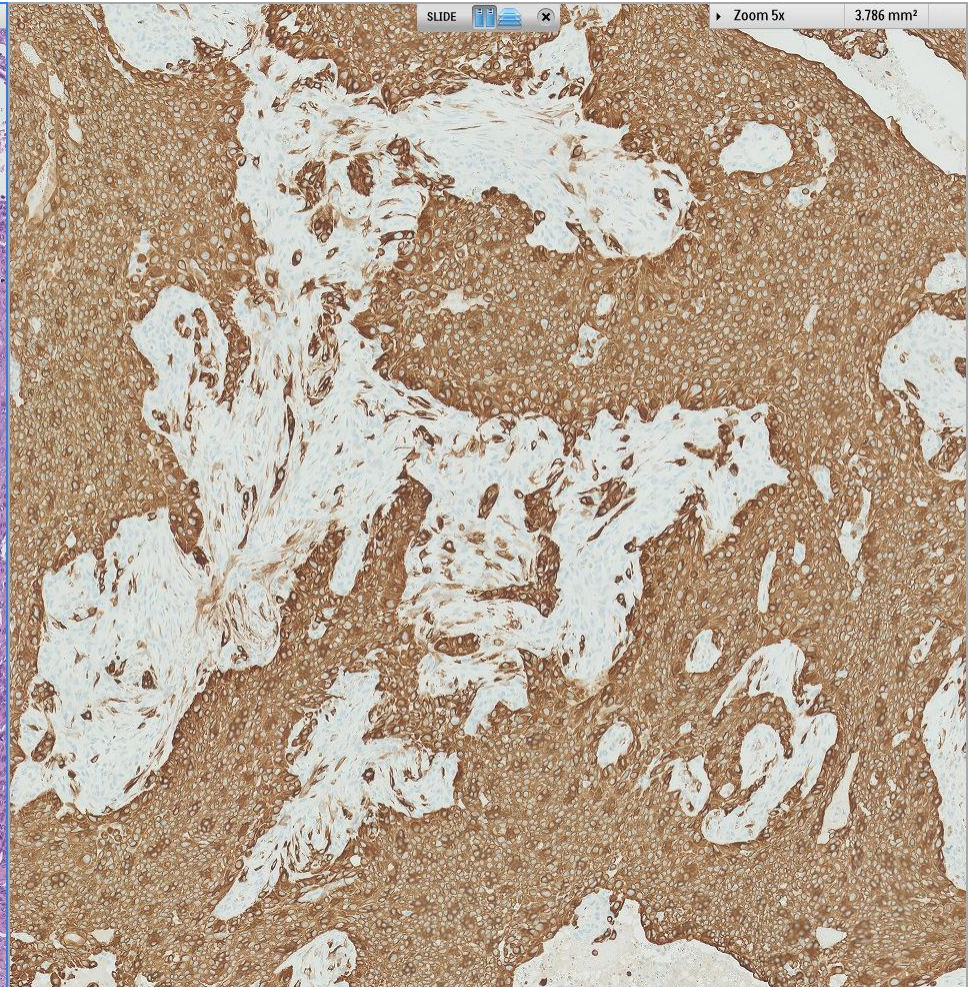
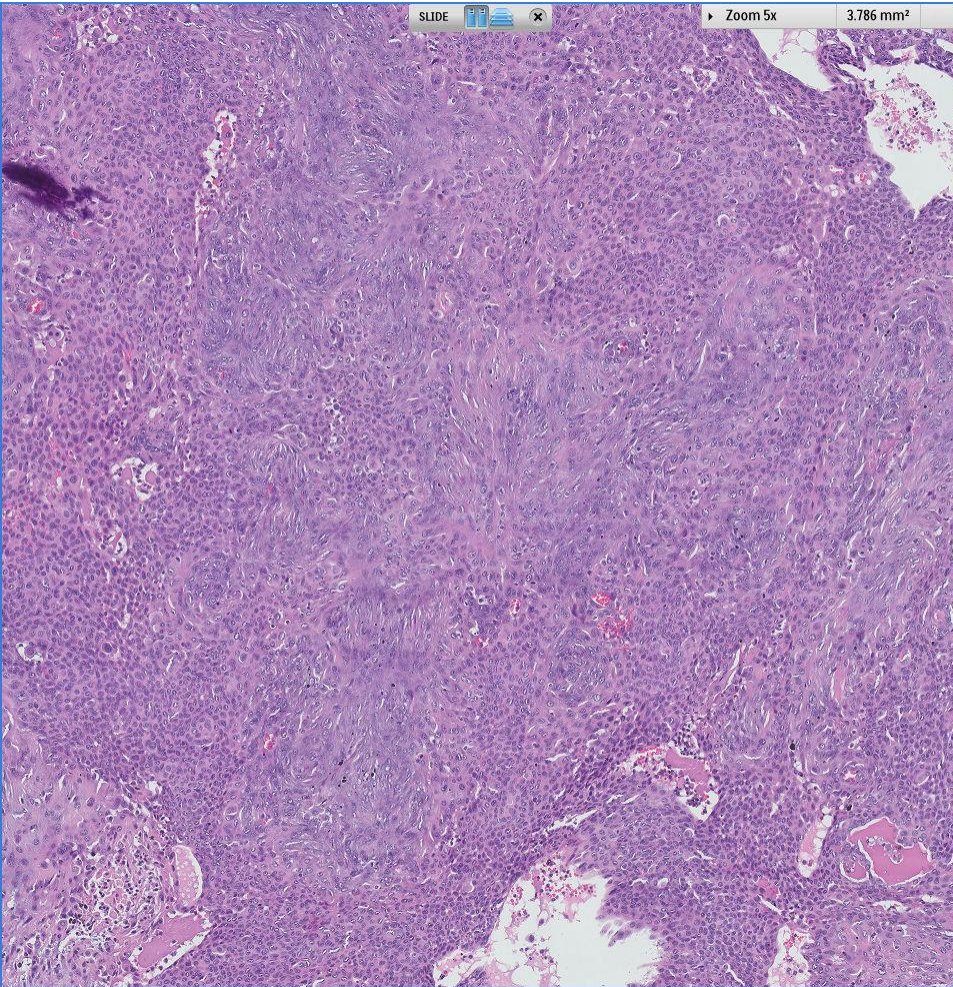
**CK14**



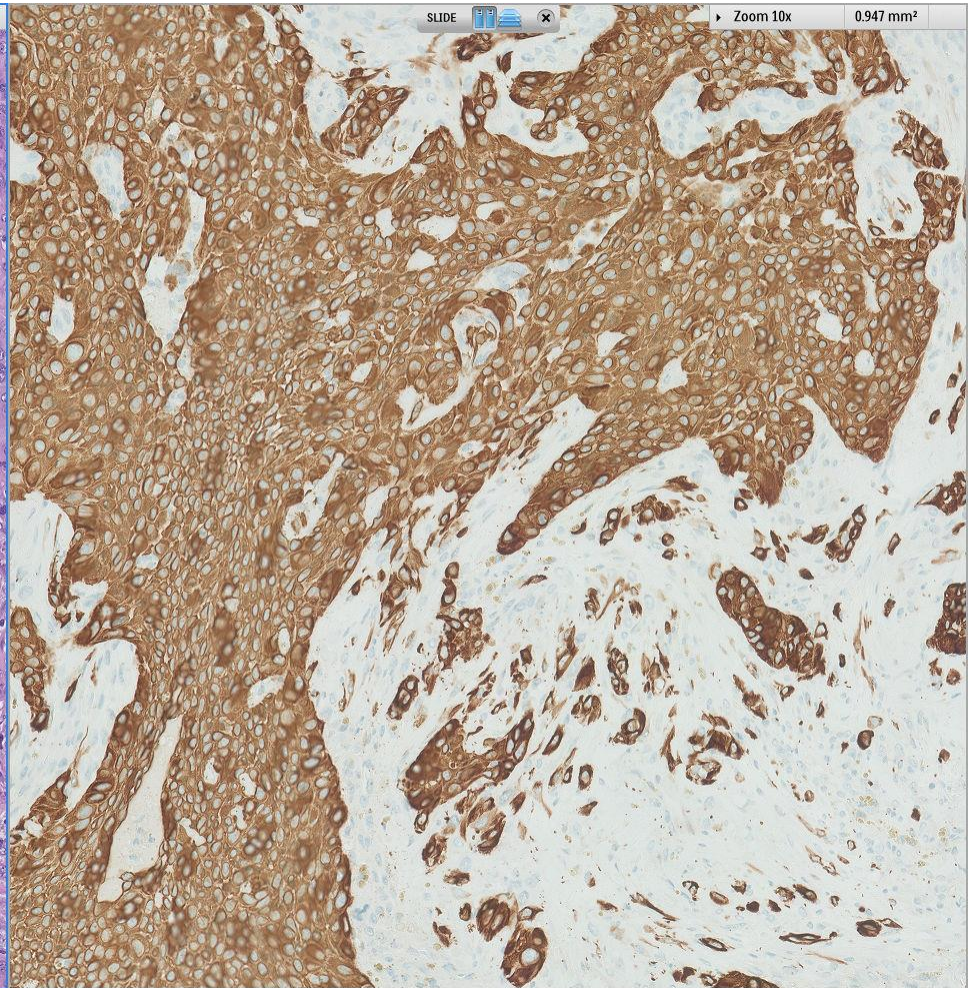
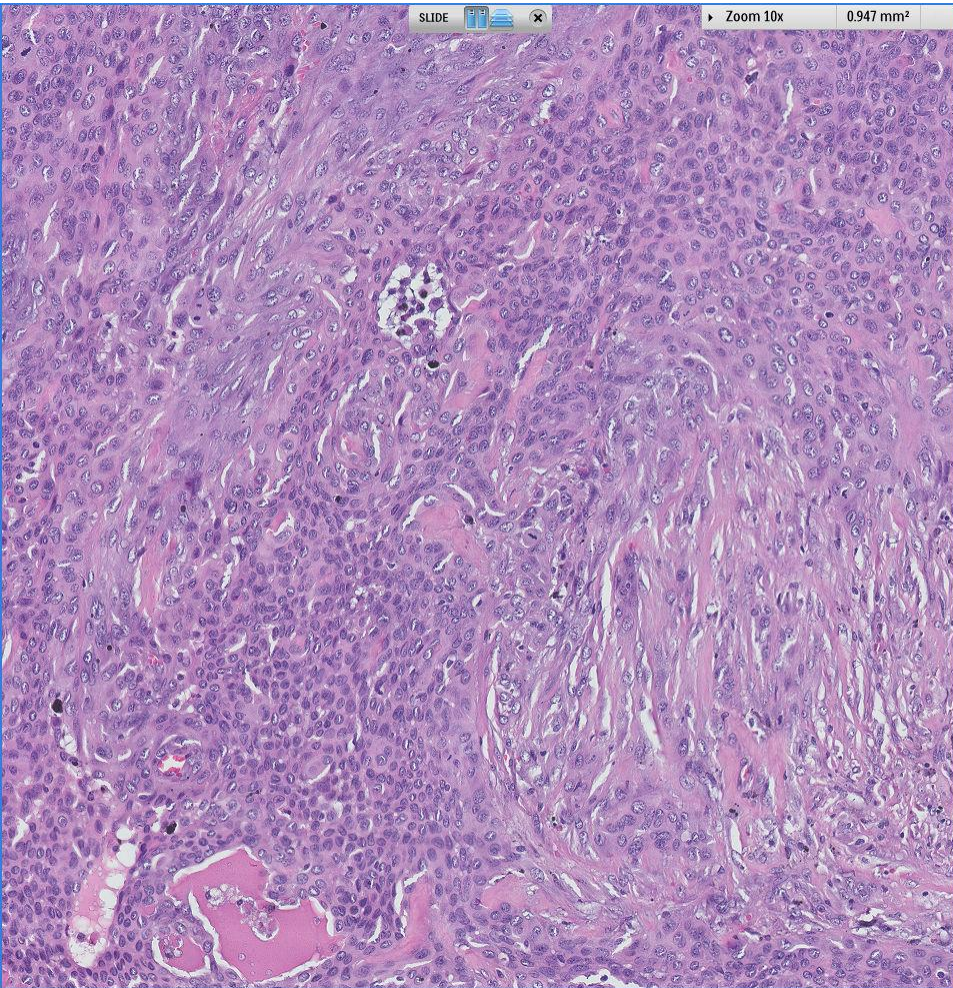
# CK14



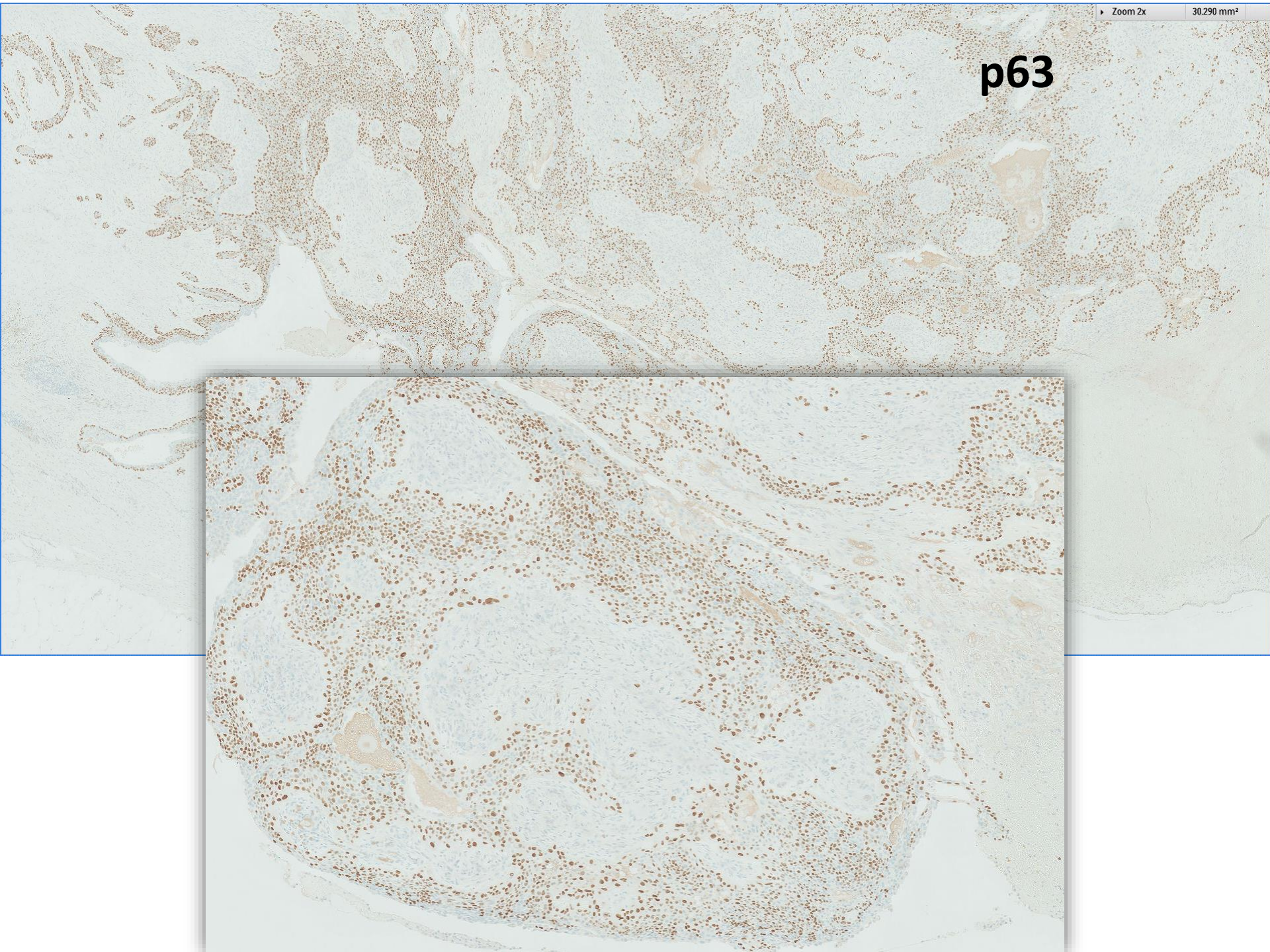
# CK14



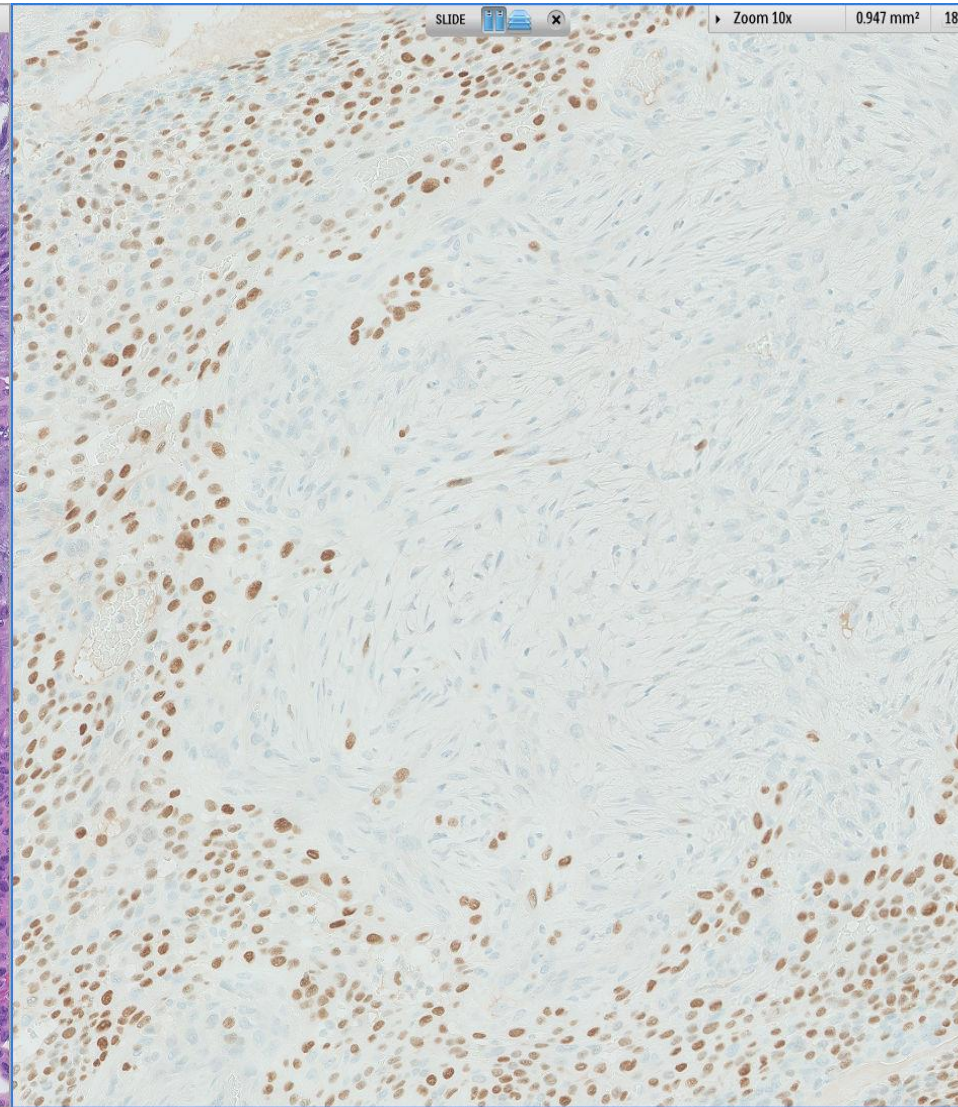
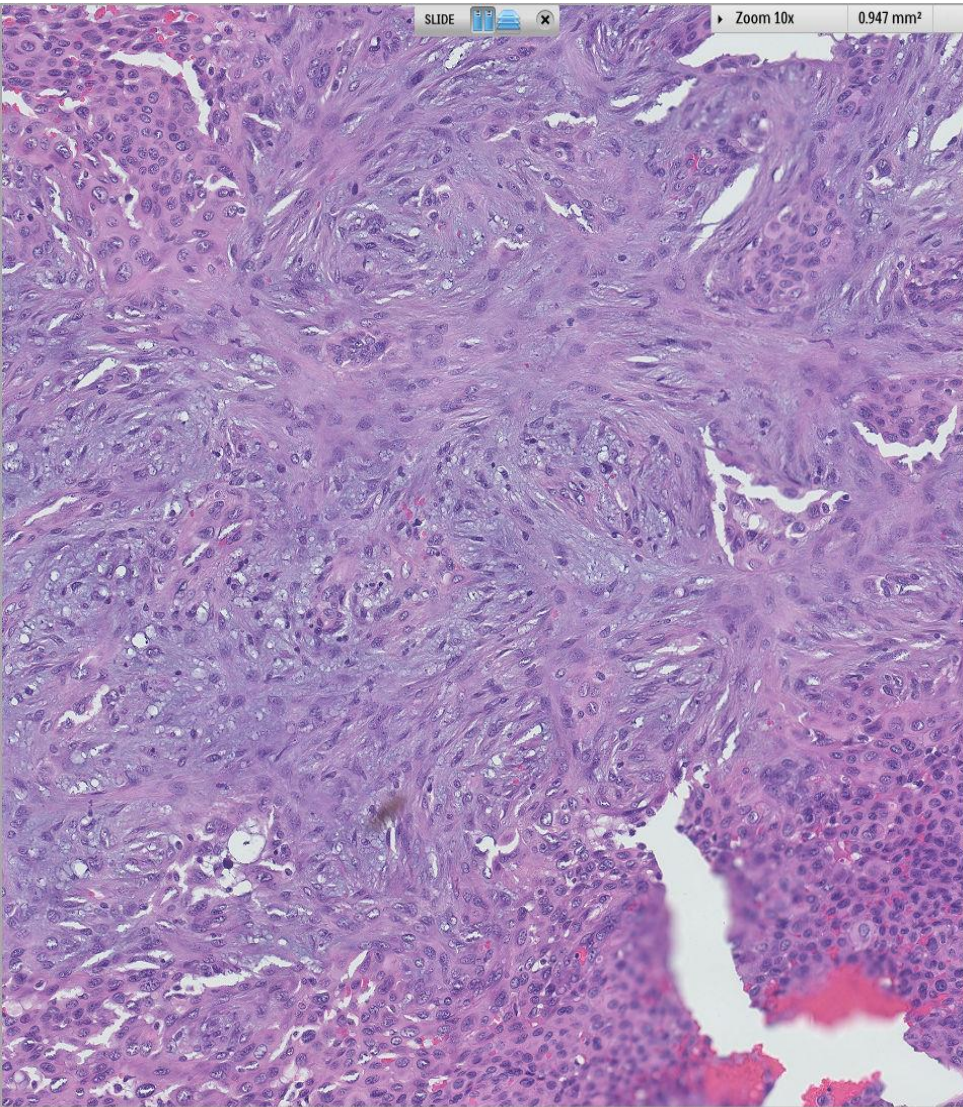
# CK14



**p63**



p63





# Diagnosis

***Metaplastic carcinoma, grade 2, 22mm.  
Triple negative.***

# Metaplastic carcinoma

- Breast carcinoma with metaplasia to squamous or mesenchymal-like elements.
- May show both conventional carcinoma and metaplastic components, or may consist entirely of metaplastic elements.
- Synonyms:
  - Carcinosarcoma.
  - Sarcomatoid carcinoma.
  - Carcinoma with pseudosarcomatous metaplasia.
  - Carcinoma with pseudosarcomatous stroma.
  - Biphasic carcinoma.
  - Spindle cell carcinoma.
  - Spindle cell metaplastic tumour.
  - Matrix producing carcinoma.
  - Adenosquamous carcinoma, etc

# Metaplastic carcinoma

- 0.3% to 5% of all invasive breast cancers.
- Heterogeneous group of tumours.
- Classification:
  - Low-grade adenosquamous carcinoma
  - Fibromatosis-like metaplastic carcinoma
  - Squamous cell carcinoma
  - Spindle cell carcinoma
  - Carcinoma with mesenchymal differentiation
    - Chondroid differentiation
    - Osseous differentiation
    - Other types of mesenchymal differentiation
  - Mixed

# Metaplastic carcinoma

- Various components observed should be provided in the report of a metaplastic carcinoma.
- > 90% are triple negative.
- CK5/6, CK14 and EGFR positive (basal expression).
- > 90% are p63 positive.

# Differential diagnosis

- Malignant phyllodes tumour with sarcomatous overgrowth.
- Primary breast sarcoma.

# *In this case*

- Fibroepithelial architecture with fronds ~  
metaplastic carcinoma arising in a background of a  
fibroepithelial neoplasm?

# Breast carcinoma and phyllodes tumour: a case series

Eliza I-Lin Sin,<sup>1</sup> Chow Yin Wong,<sup>2,3</sup> Wei Sean Yong,<sup>2,3</sup> Kong Wee Ong,<sup>2,3</sup>  
Preetha Madhukumar,<sup>2,3</sup> Veronique Kiak Mien Tan,<sup>2,3</sup> Aye Aye Thike,<sup>4</sup>  
Puay Hoon Tan,<sup>4</sup> Benita Kiat Tee Tan<sup>2,3</sup>

*J Clin Pathol.* 2016  
*Apr*;69(4):364-9.

**Table 1** Characteristics of patients in our cohort

No.	Age	Clinical presentation	History	Radiological findings	Core biopsy	Histology on biopsy or initial surgery	PT type	Size of PT (mm)	Associated carcinoma	Surgery	Adjuvant therapy
<i>Carcinoma within the PT</i>											
1	43	Right breast lump of 1 month	Nil	Not available	Yes	Fibroepithelial lesion with epithelial hyperplasia	Borderline	50	DCIS with a small focus of IDC (4 mm in total)	Mastectomy and axillary clearance	Tamoxifen
2	45	Recurrent left breast lump of 1 month	Right breast IDC at age 32 Left BDPT at age 42	Well-defined and lobulated mass at previous scar	No	Recurrent BDPT with DCIS	Borderline	50	DCIS (5 mm)	Mastectomy, axillary sampling with breast reconstruction	None
3	46	Recurrent left breast lump at old scar for 1 year	Left breast BPT at age 39	Lobulated mass with increased vascularity at previous scar	No	Recurrent BDPT with IDC, DCIS and LCIS	Borderline	70	Multiple foci of IDC (largest 3 mm) Multiple foci of DCIS and LCIS (figure 3)	Mastectomy and sentinel lymph node biopsy	Tamoxifen
4	44	Left breast lump of 1 month	Nil	Ill-defined opacity with spiculated posterior margin	Yes	Fibroepithelial lesion favouring a fibroadenoma	Borderline	30	LCIS and ADH	Excision biopsy*	None
5	45	Increase in size of a left breast lump of 23 years	Nil	Not available	No	–	Malignant	120	DCIS (6 mm)	Mastectomy	None
6	48	Left breast lump of 3 months	Nil	Well defined nodule with increased vascularity	No	MPT with LCIS	Malignant	50	LCIS	Wide excision	None
<i>Carcinoma and PT coexisting as separate lesions</i>											
7	63	Right breast lump of 1 month	Nil	Well-marginated heterogeneous mass with calcifications Two incidental irregular solid masses with ill-defined margins	Yes	Fibroepithelial lesion favouring BPT DCIS	Benign	30	DCIS (30 mm)	Mastectomy and sentinel lymph node biopsy	None
8	53	Left breast lump of 2 months	Nil	Two nodular masses and a separate cluster of micro-calcifications (figures 1 and 2)	Yes	Fibroepithelial lesion and lobular neoplasia	Benign	23	Pleomorphic LCIS (figure 4)	Mastectomy and sentinel lymph node biopsy	None
9	72	Right: Increase in size of a lump of 10 years Left: bloody nipple discharge	Nil	Right: large ill-defined mass occupying entire breast with dystrophic calcification Left: Small spiculated nodules	Yes	Right: breast tissue with cellular stroma Left: IDC	Borderline	100	ILC (1 mm) associated with a FA; LCIS (3 mm) Left: IDC (15 mm)	Bilateral mastectomy and sentinel lymph node biopsy	None
10	65	Left breast lump of 2 months	Nil	Macrolobulated and heterogeneous mass with ill-defined margins; enlarged axillary lymph nodes	Yes	Breast: Fibroepithelial lesion Axilla: Atypical apocrine cells	Borderline	50	Axillary apocrine carcinoma	Breast wide excision axillary clearance	None

\*Patient declined further surgery.

ADH, atypical ductal hyperplasia; BDPT, borderline phyllodes tumour; BPT, benign phyllodes tumour; DCIS, ductal carcinoma in situ; FA, fibroadenoma; IDC, invasive ductal carcinoma; ILC, invasive lobular carcinoma; LCIS, lobular carcinoma in situ; MPT, malignant phyllodes tumour; PT, phyllodes tumour.

Hum Pathol. 2015 Feb;46(2):327-33. Epub 2014 Nov 4.

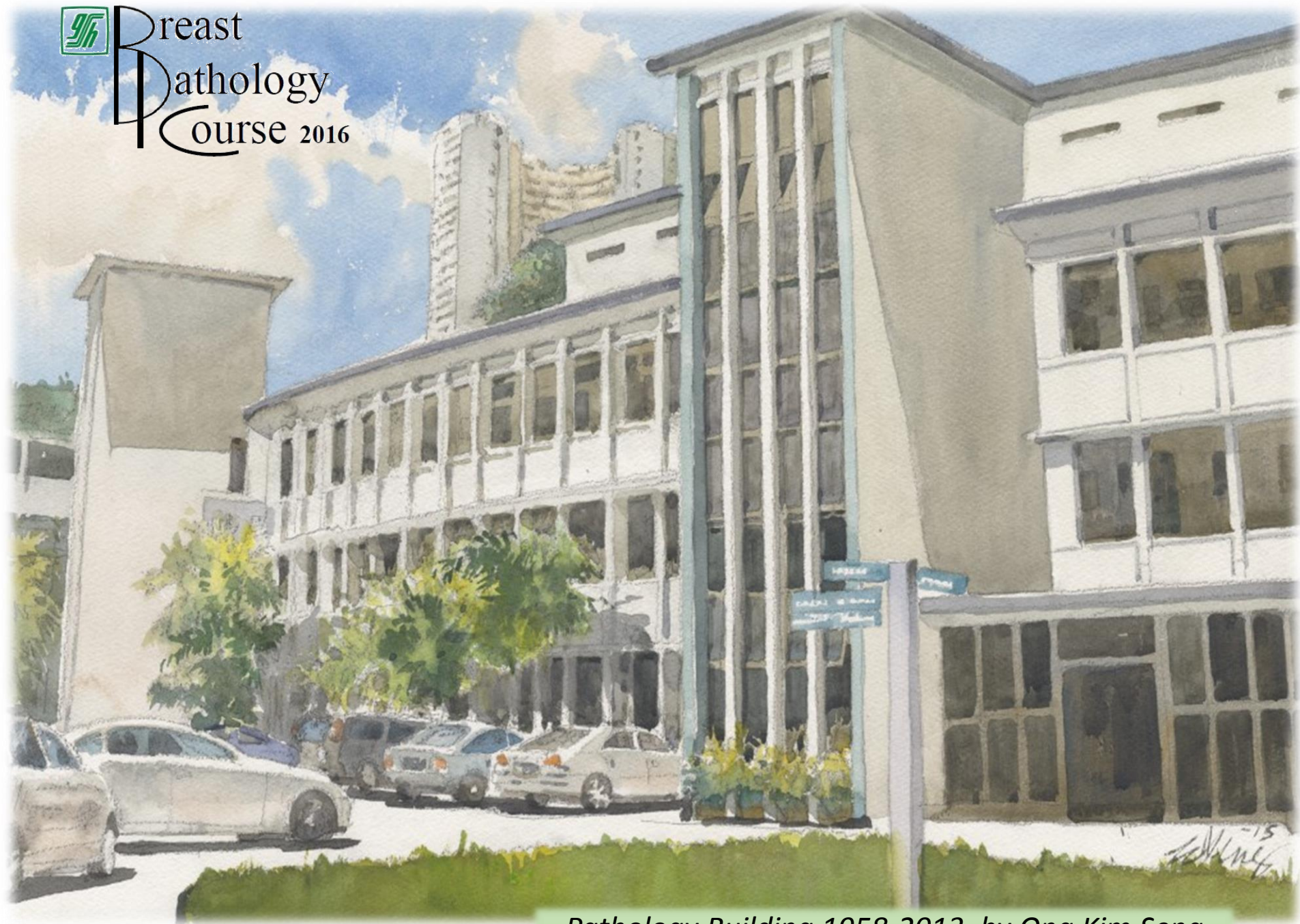
***Benign phyllodes tumor of the breast recurring as a malignant phyllodes tumor and spindle cell metaplastic carcinoma.***

Muller KE, Tafe LJ, de Abreu FB, Peterson JD, Wells WA, Barth RJ, Marotti JD.

We report a unique case of a 59-year-old woman diagnosed with a benign phyllodes tumor (PT), which recurred twice in the same location over a 7-year period: first as a malignant PT and then as a malignant PT with coexisting spindle cell metaplastic breast carcinoma (MBC). The MBC was differentiated from the malignant PT by expression of cytokeratins (CKs) AE1/AE3, CK MNF-116, CK 5/6, and p63. Somatic mutation analysis using a next-generation sequencing platform revealed a shared mutation in F-box and WD repeat domain containing 7, a tumor suppressor gene that encodes a ubiquitin ligase-associated protein, in the original benign PT and the first recurrent malignant PT. Chromosomal microarray analysis showed shared genetic gains and losses between the malignant PT and MBC. This case highlights the utility of immunohistochemistry to differentiate malignant PT from spindle cell MBC, describes a novel mutation in PT, and demonstrates a biologic relationship between these 2 entities.



 Breast  
Pathology  
Course 2016



*Pathology Building 1958-2013, by Ong Kim Seng*