

Case 21

40 year old Chinese lady presented with an enlarged right axillary lymph node.

Clinically, the right breast was indurated.

Radiological findings were ill-defined without a discrete mass lesion.

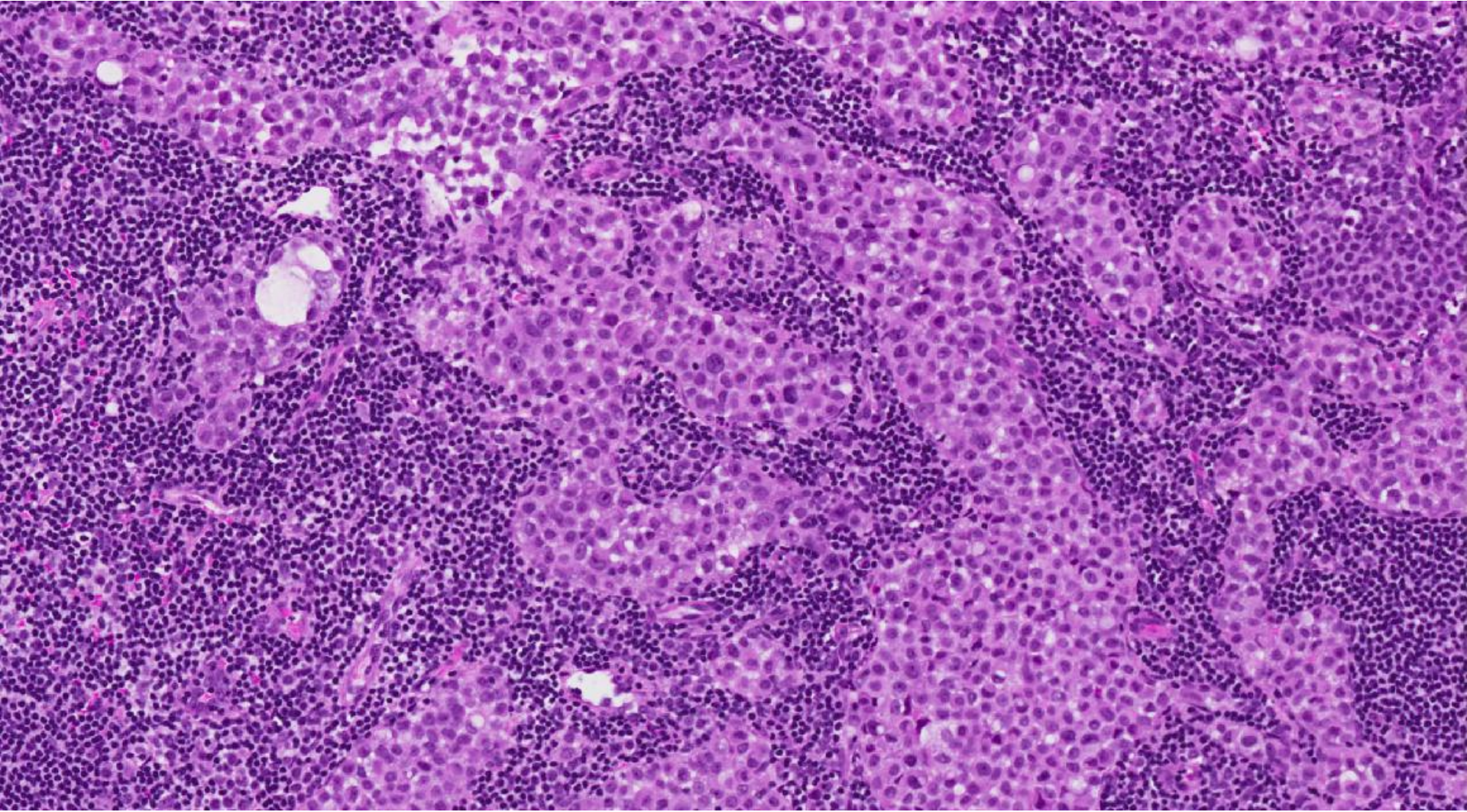
Frozen section evaluation of the right axillary lymph node showed metastatic carcinoma.

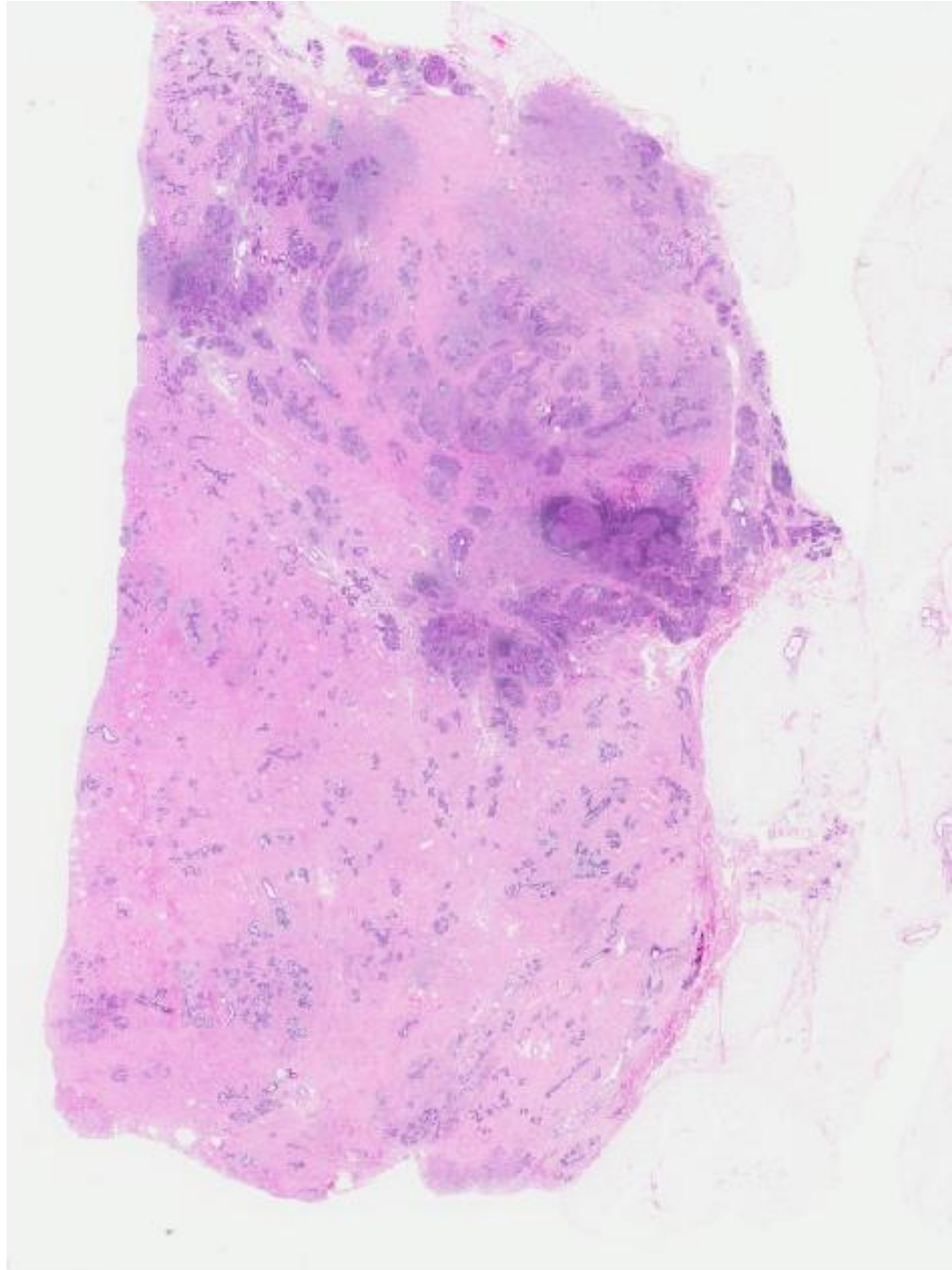
Right mastectomy and axillary clearance were performed.

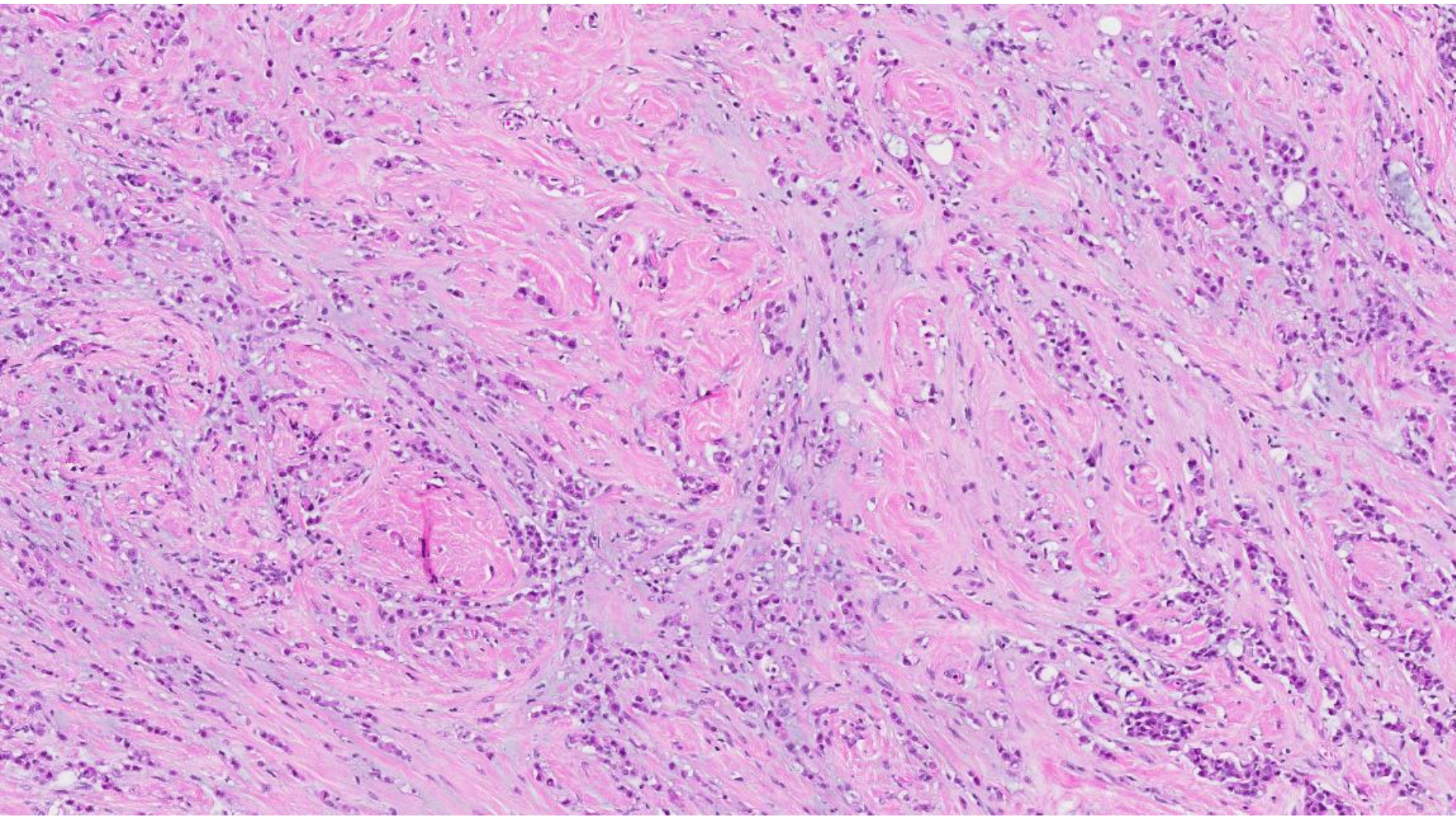
Right axillary lymph node



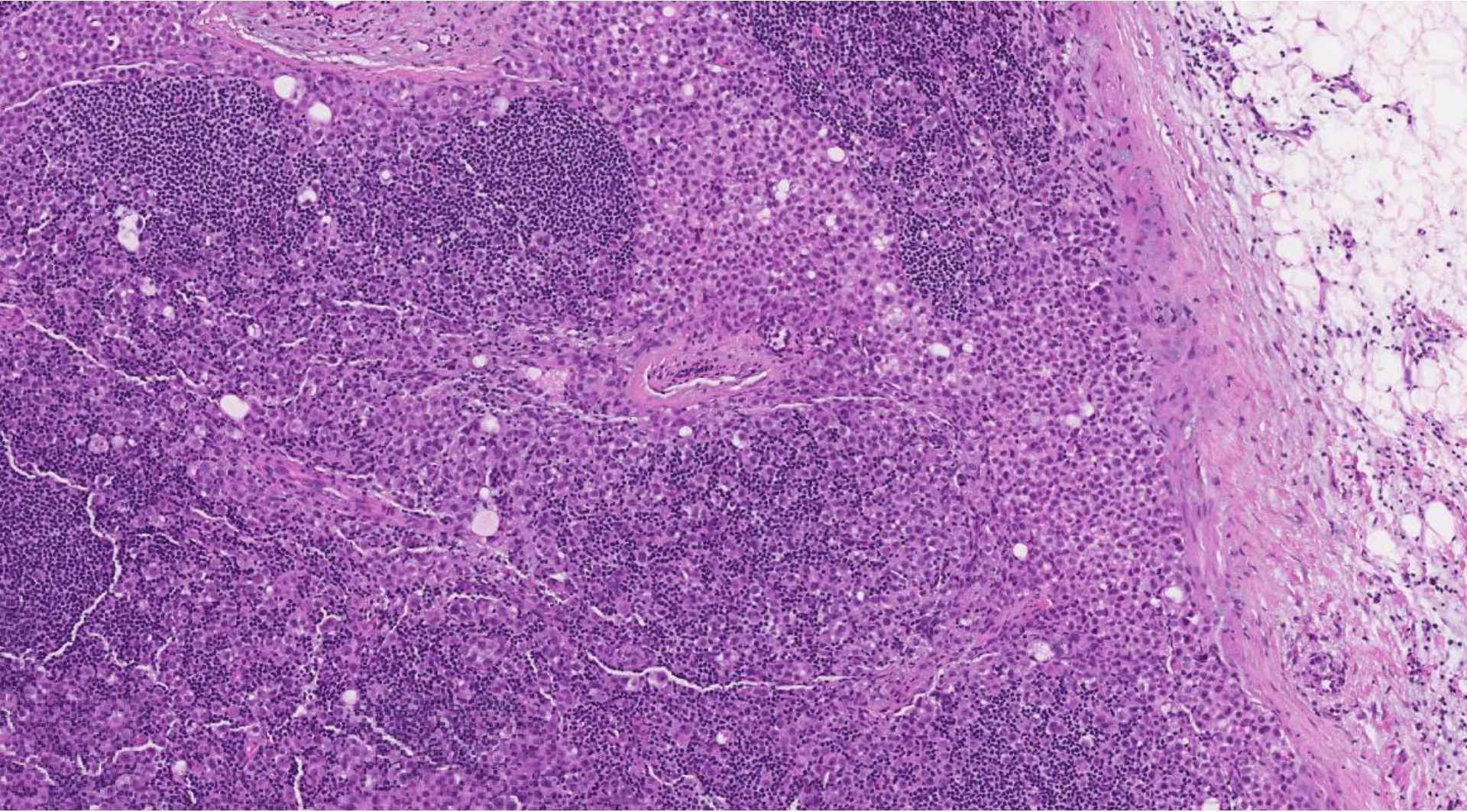
Right axillary lymph node



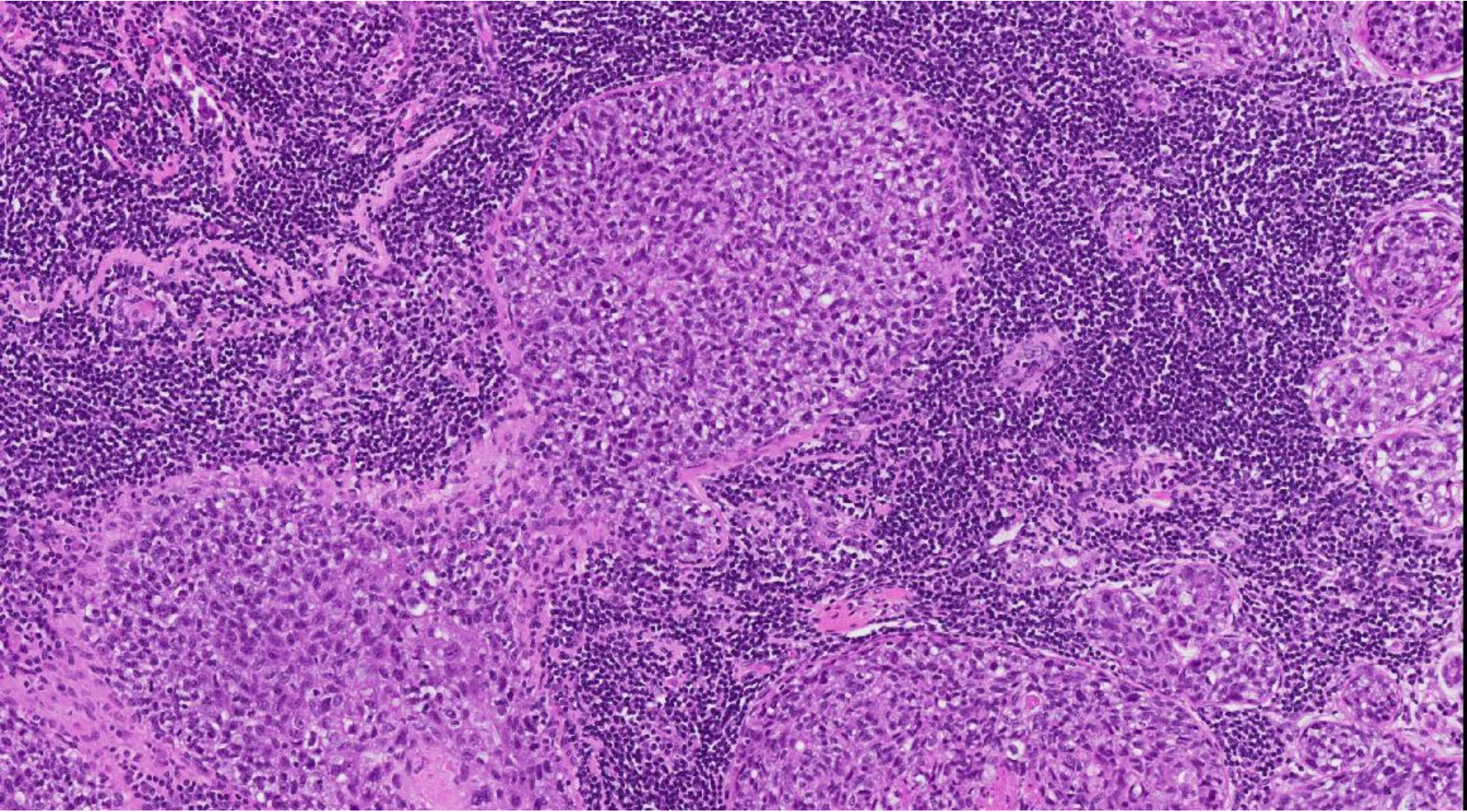


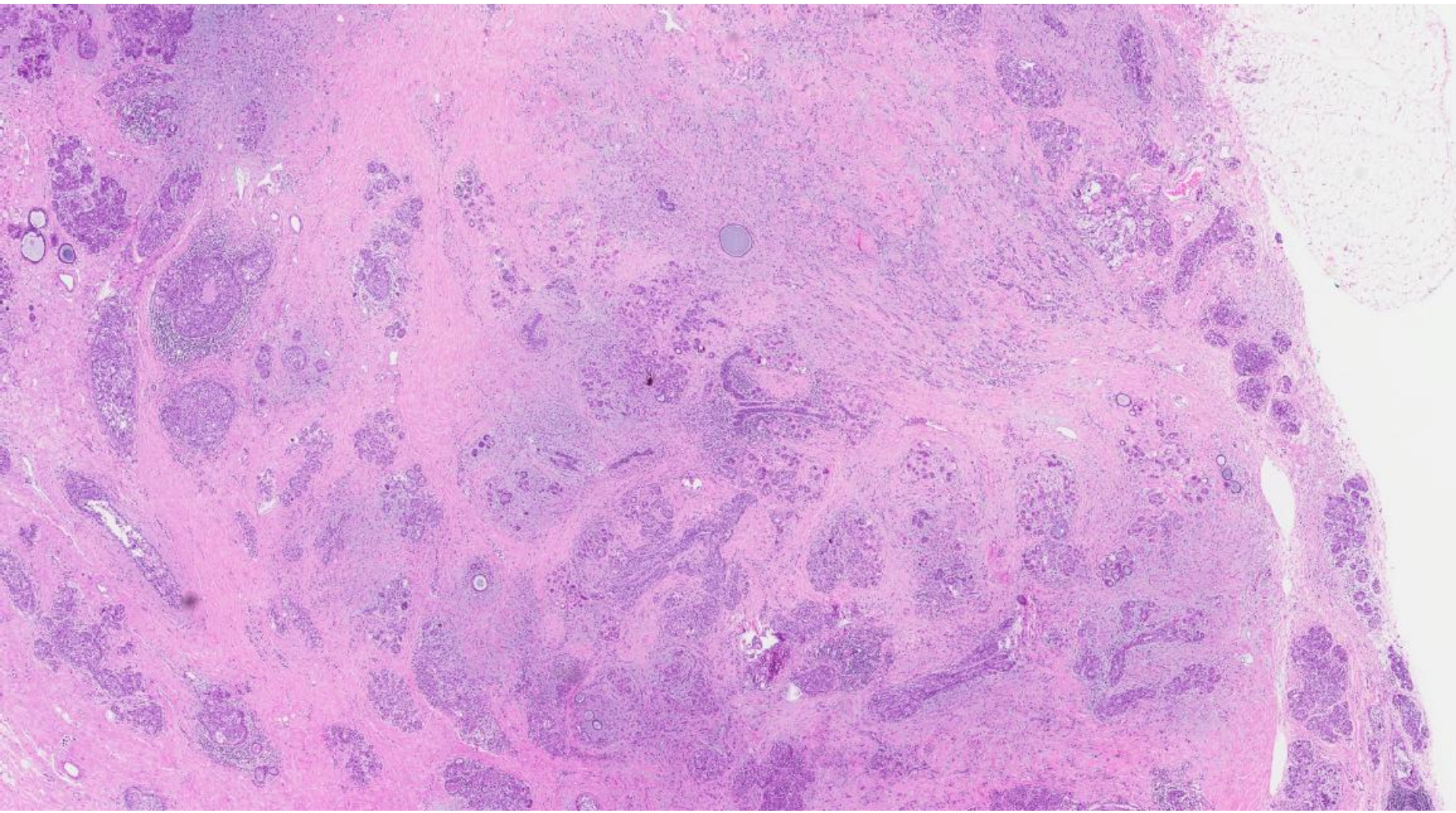


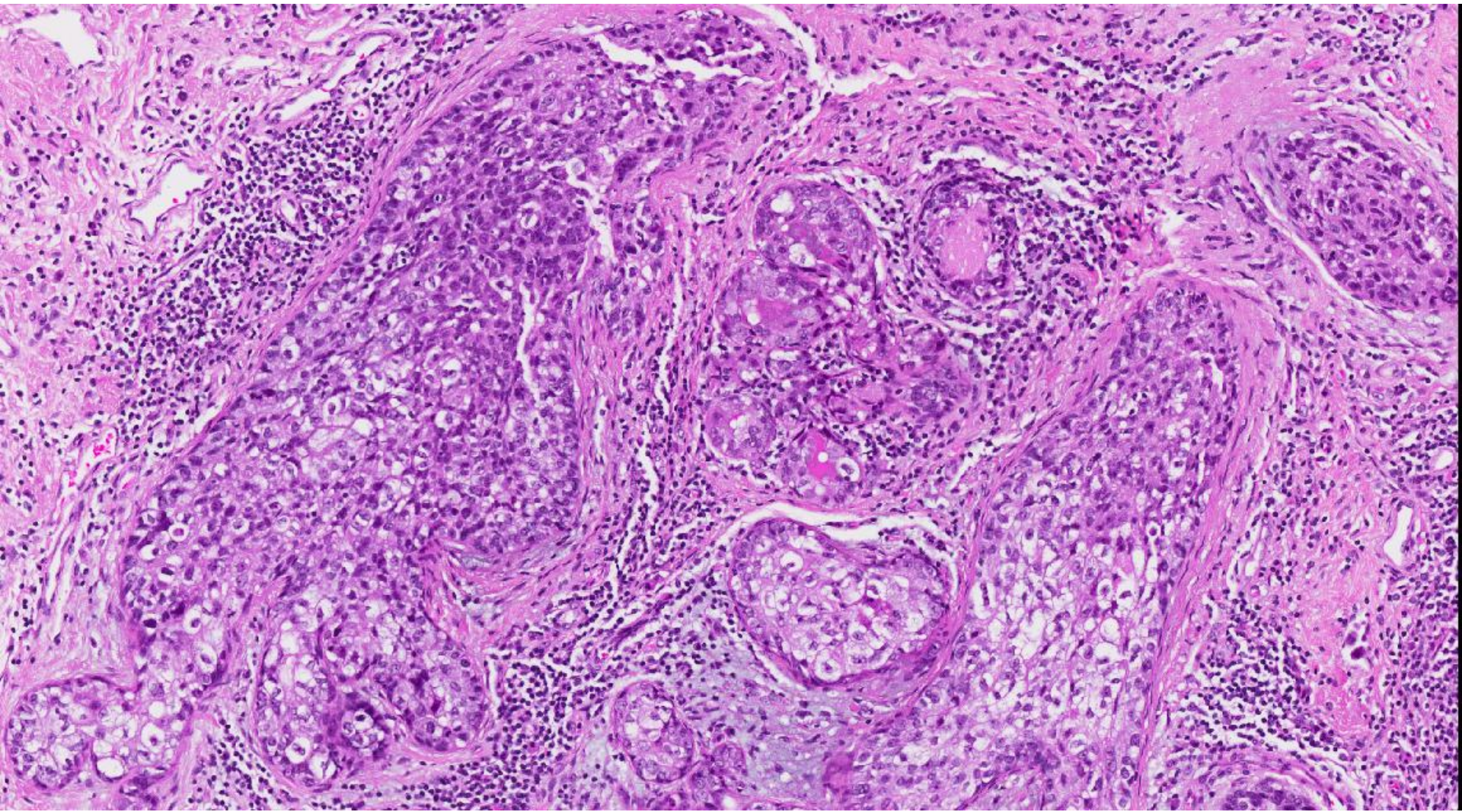
Right axillary lymph node

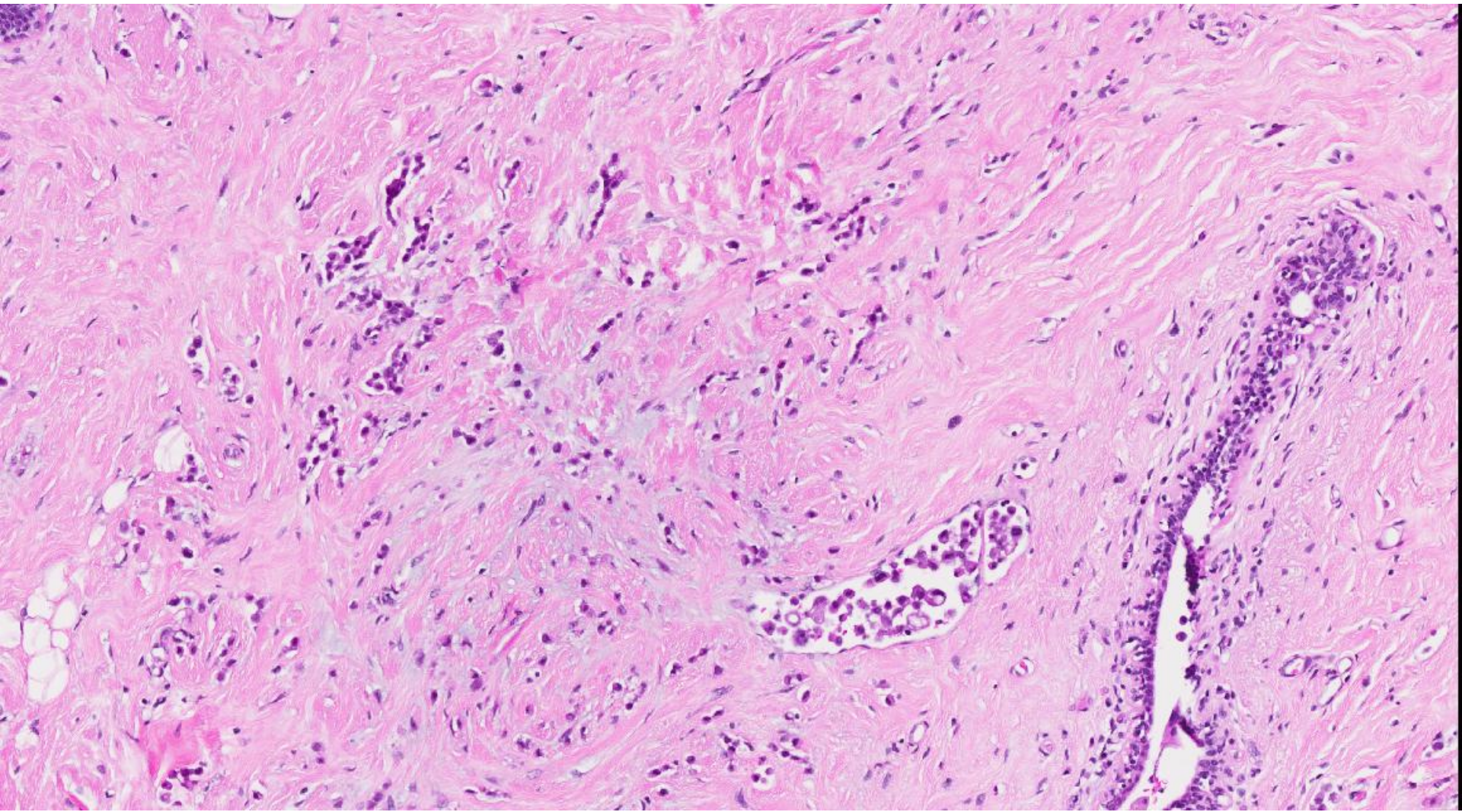


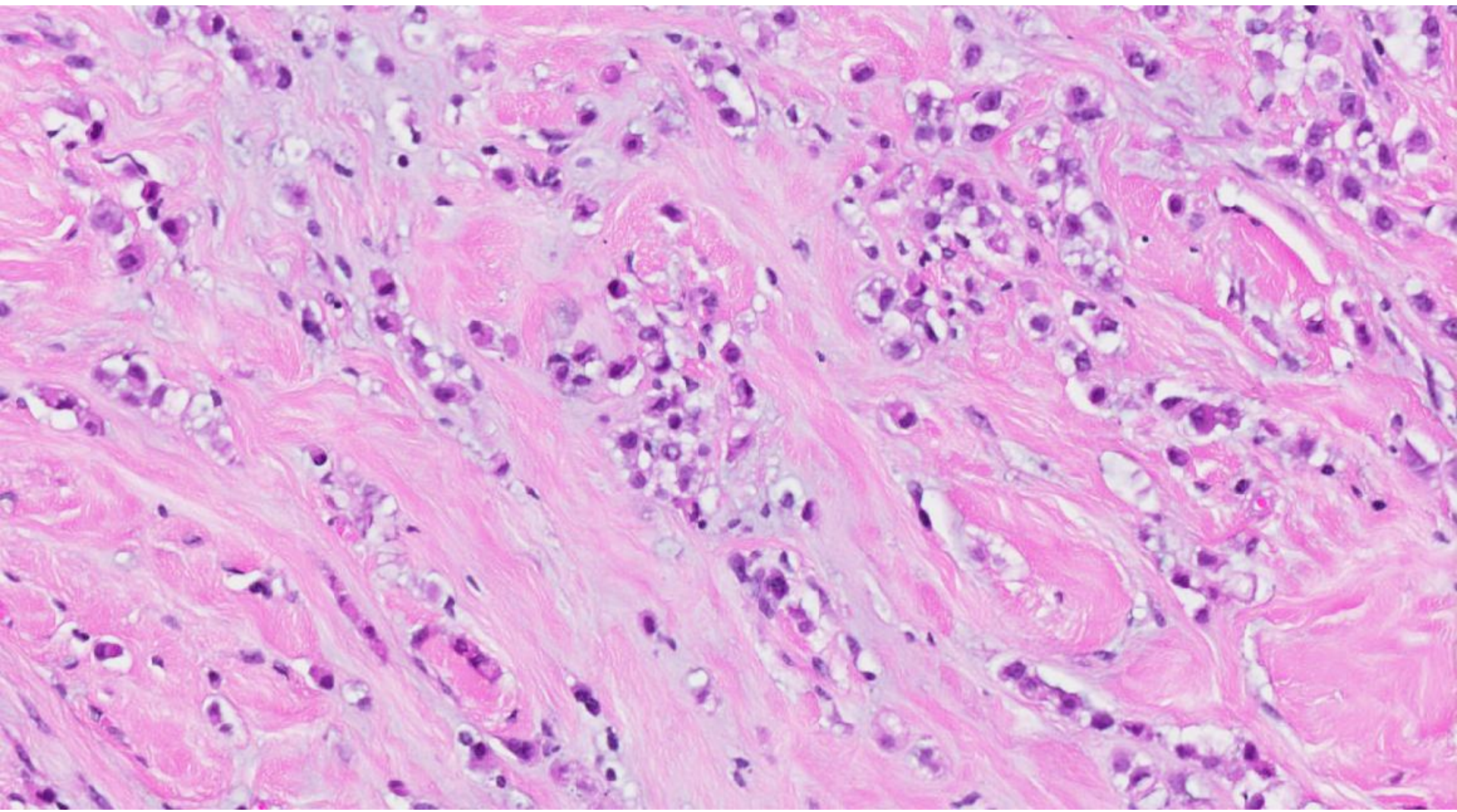
Right axillary lymph node



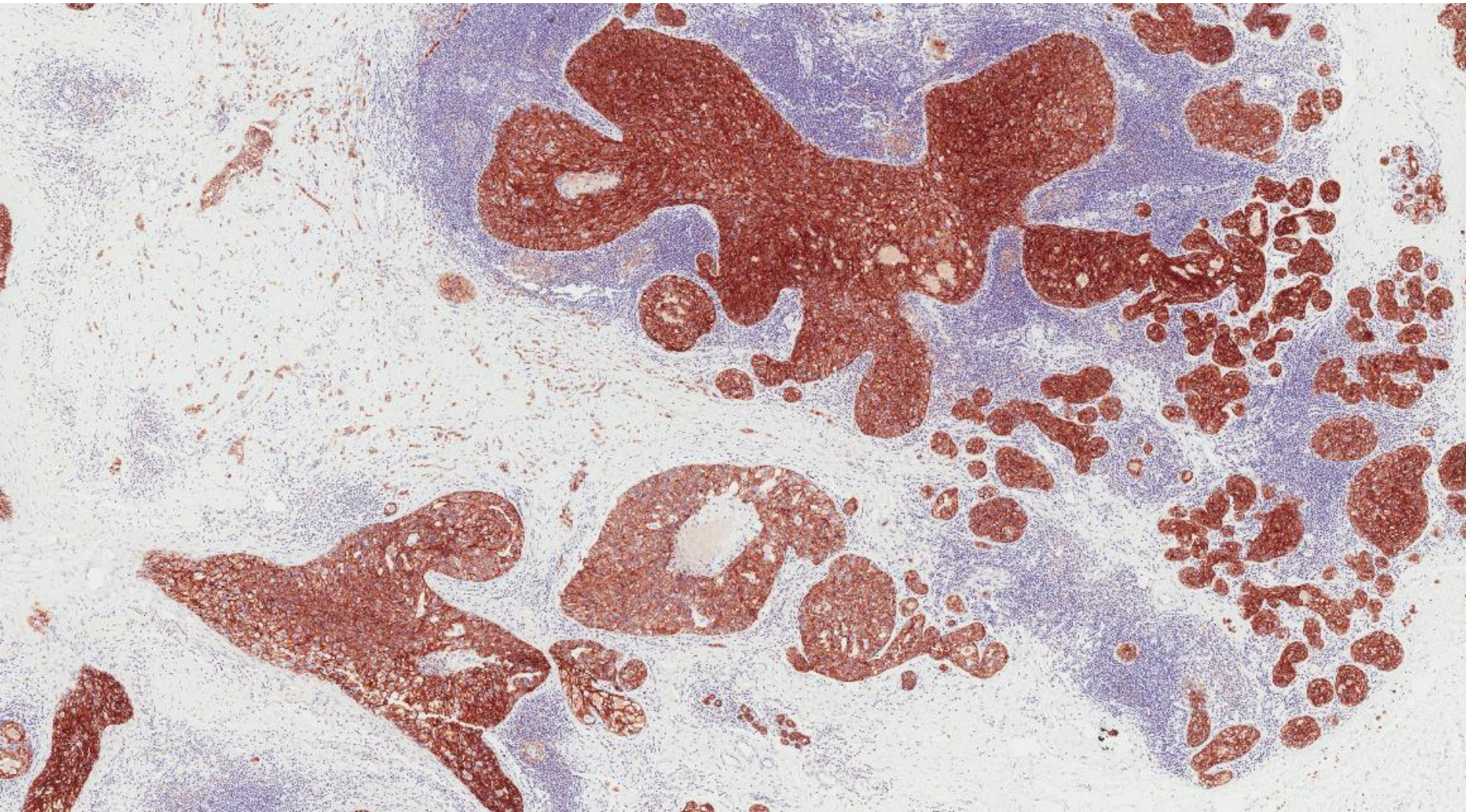




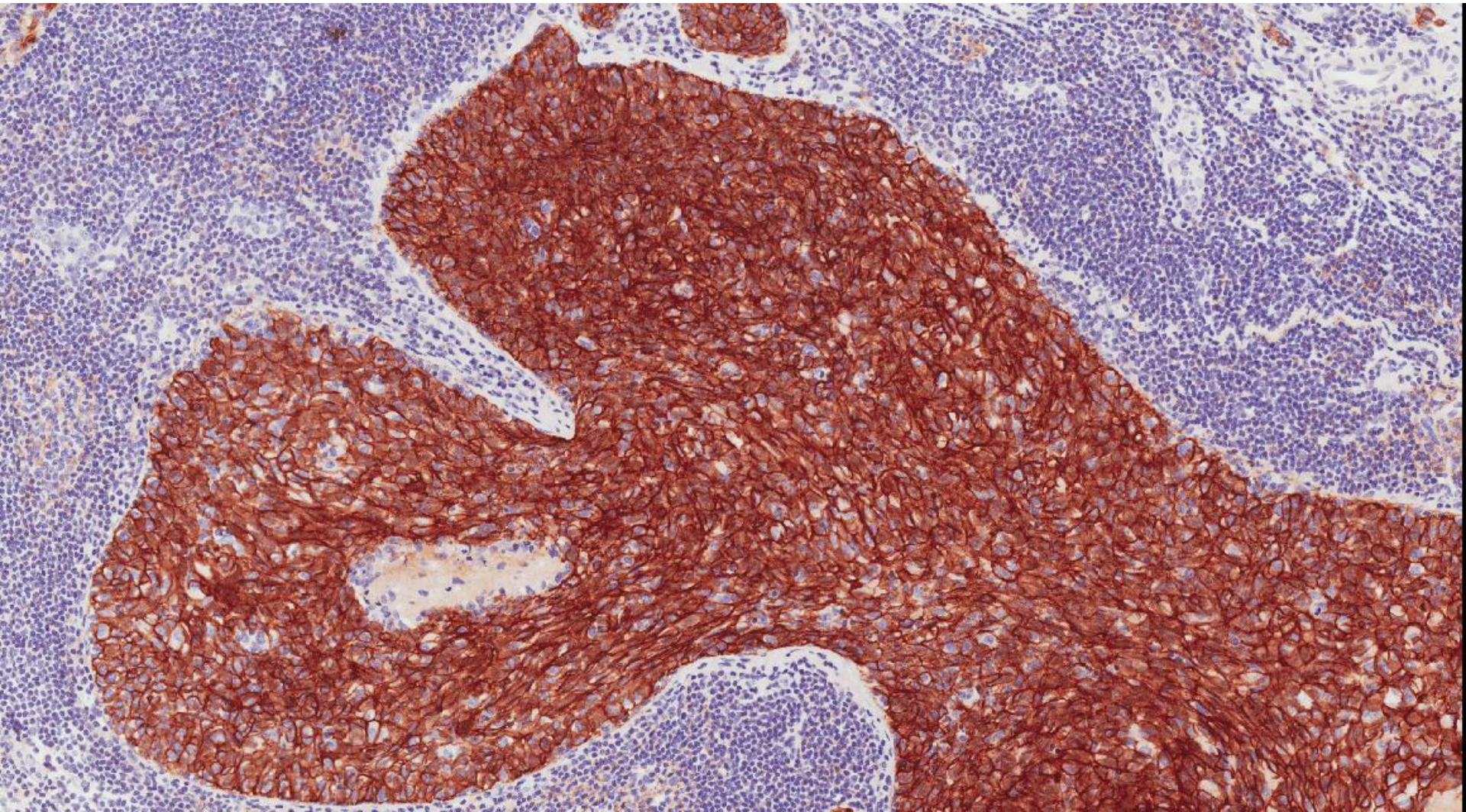




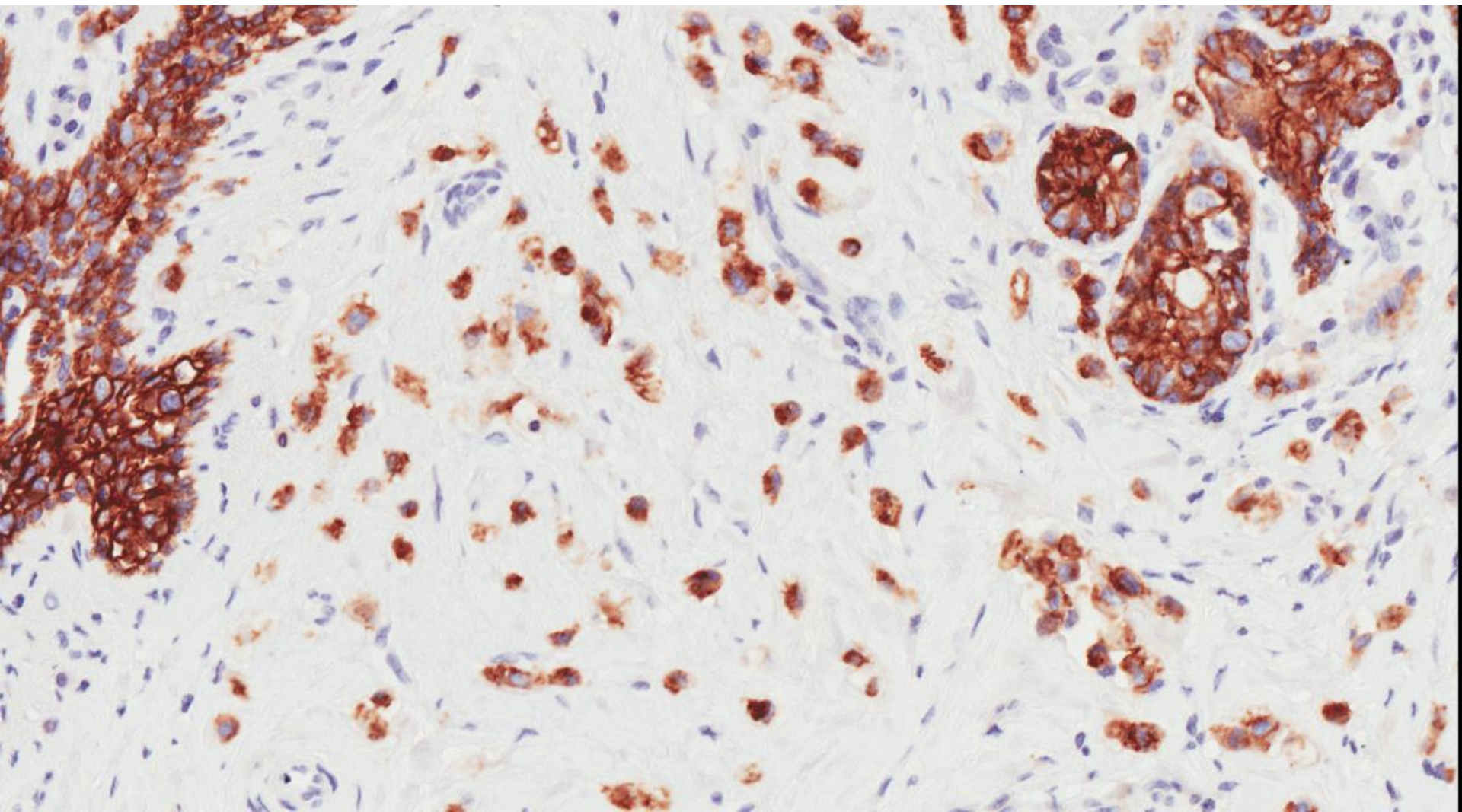
E-cadherin



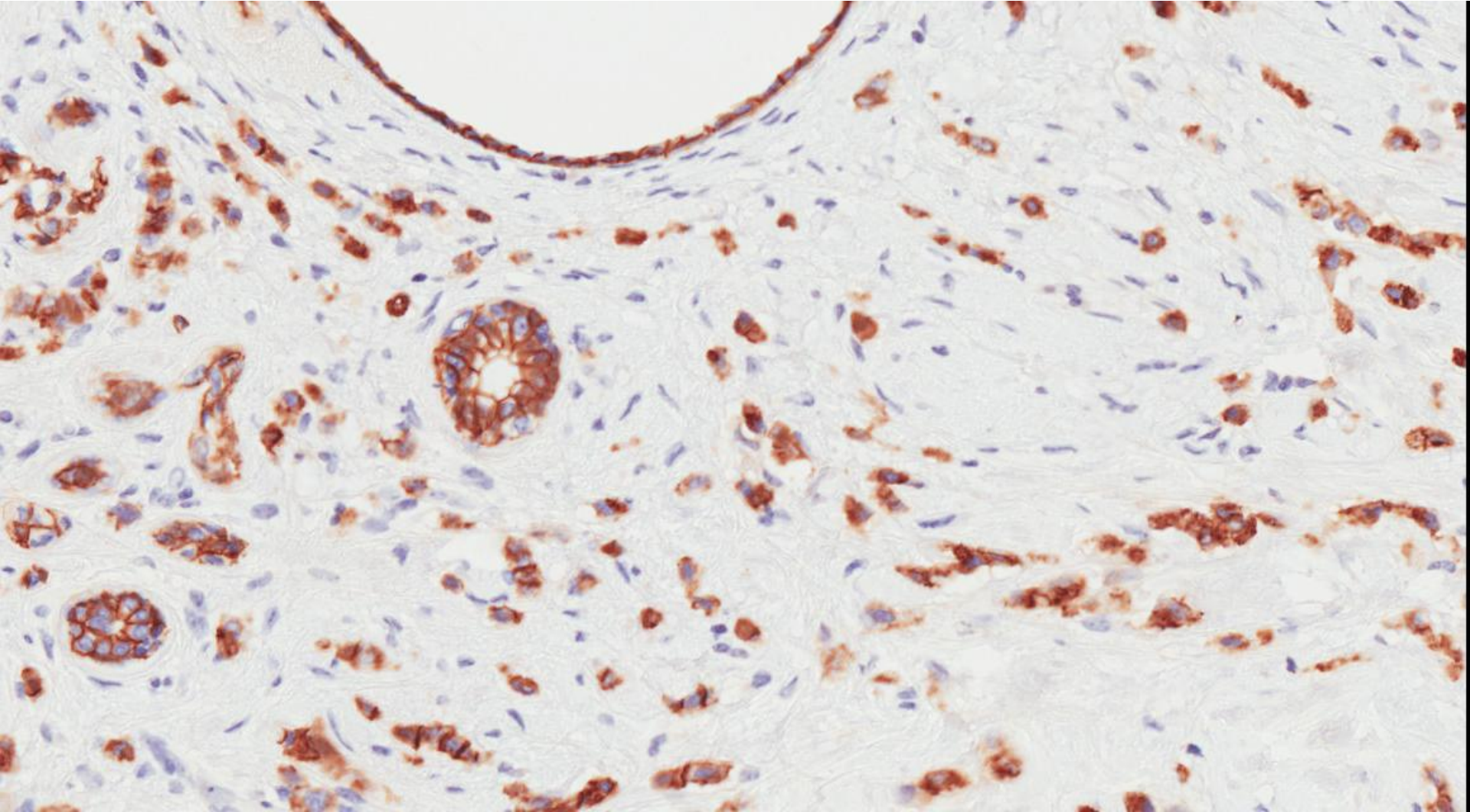
E-cadherin



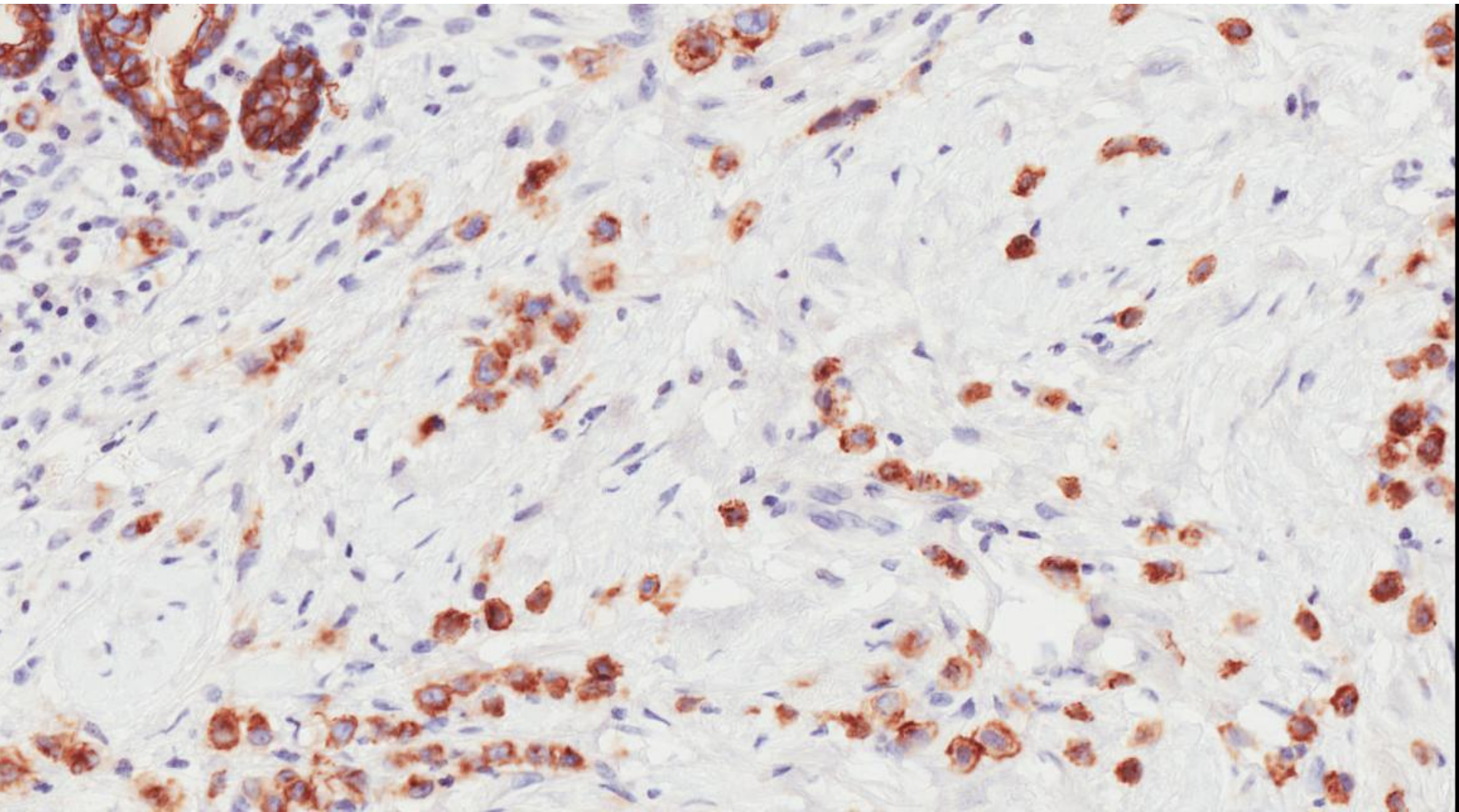
E-cadherin



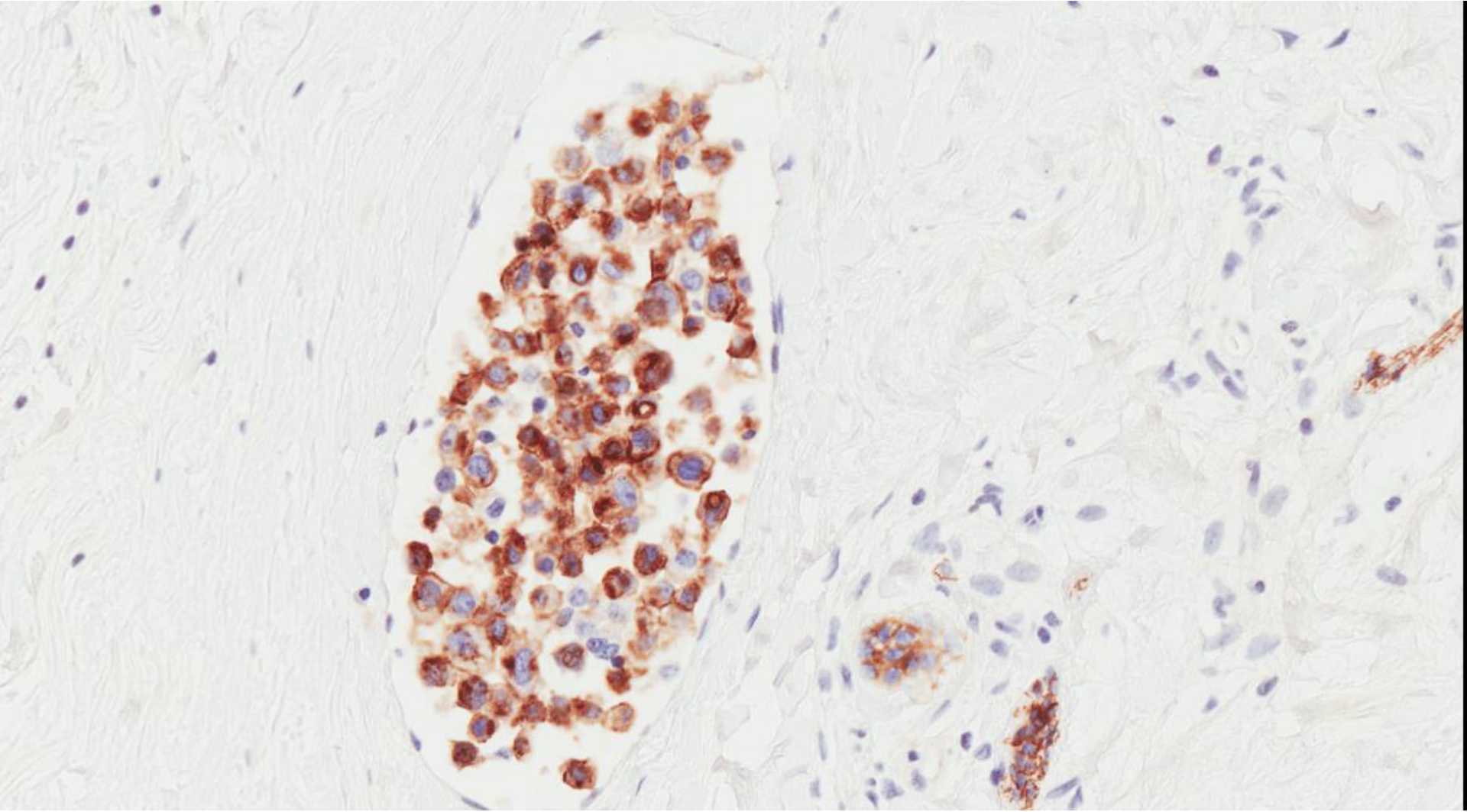
E-cadherin



E-cadherin



E-cadherin



Diagnosis

Right axillary lymph node: Metastatic lobular carcinoma

Right breast: Invasive lobular carcinoma with pleomorphic features, grade 2, estimated size more than 100 mm

ER negative, PR negative, cerbB2 negative

Ductal carcinoma in situ, high nuclear grade, with necrosis

Multiple lymphovascular emboli

15 of 19 additional axillary lymph nodes positive for metastases

Invasive lobular carcinoma

- Invasive carcinoma composed of non-cohesive cells individually dispersed or arranged in a single-file linear pattern in a fibrous stroma.
- Usually associated with lobular carcinoma in situ.
- Constitutes 5-15% of invasive breast tumours.
- Incidence has increased relative to invasive carcinoma of no special type, attributed in part to increased use of hormone replacement therapy and alcohol consumption.
- Mean age 57-65 years.

Invasive lobular carcinoma

- Clinically presents as an ill-defined palpable mass.
- Radiologically seen as a spiculated mass or architectural distortion.
- Mammography has reduced sensitivity for detecting invasive lobular carcinoma, with high false negative rates of up to 19%
- MRI is more helpful in diagnosing ILC, esp multifocal lesions, although it can lead to false positives and overestimation of tumour size.

Invasive lobular carcinoma

- Some studies report high rate of multicentricity.
- 5-19% incidence of contralateral tumours.
- Macroscopy:
 - Irregular and poorly delimited.
 - Size is difficult to assess.
- Histopathology:
 - Proliferation of discohesive cells which appear individually disposed in single files or linear cords.
 - Targetoid concentric pattern of infiltration around resident ducts.
 - Minimal host reaction.
 - Notched ovoid nuclei with thin cytoplasmic rims.
 - Mitoses infrequent in the classic variety.
 - Lobular neoplasia in 58-96% of cases.

Invasive lobular carcinoma

- Histological variants:
 - Solid
 - Alveolar
 - Pleomorphic
 - Tubulolobular
 - Mixed
- Grading is controversial with some studies reporting limited prognostic value while others describe grade as an independent predictor of outcome.
- Most classic ILC belong to grade 2.

Invasive lobular carcinoma

- 80-95% ER positive:
 - Classic ILC almost invariably ER positive.
 - Alveolar subtype 100% positive.
 - Pleomorphic subtype 10% positive.
- 60-70% PR positive.
- HER2 amplification is rare:
 - May be present in pleomorphic subtype.
- Basal marker expression is rare.
- Proliferation rate is usually low, can be higher in variants.

Invasive lobular carcinoma

- Loss of expression of E-cadherin is a consistent molecular alteration, which contributes to the discohesive nature of lobular carcinoma cells.
- Altered integrity of E-cadherin complex molecules with loss of alpha-, beta, and gamma-catenins, mislocalisation of p120 catenin from the cell membrane.
- E-cadherin and p120 catenin expression can be used to distinguish invasive lobular from ductal carcinoma.
- About 15% express E-cadherin.

Invasive lobular carcinoma

- ILC has better or similar outcome to IDC in the first 10 years after diagnosis.
- Long term outcome for ILC is worse than IDC, with higher incidence of distant metastases, recurrences and mortality for ILC.
- Among the variants, classic ILC has a more favourable outcome than for pleomorphic and solid subtypes.
- Metastasis to bone, GIT, uterus, meninges, ovary and serosa.

Invasive lobular carcinoma

- E-cadherin immunohistochemistry:
 - Absent
 - Aberrant: cytoplasmic granular/globular, incomplete/diminished membrane staining.
 - Positive