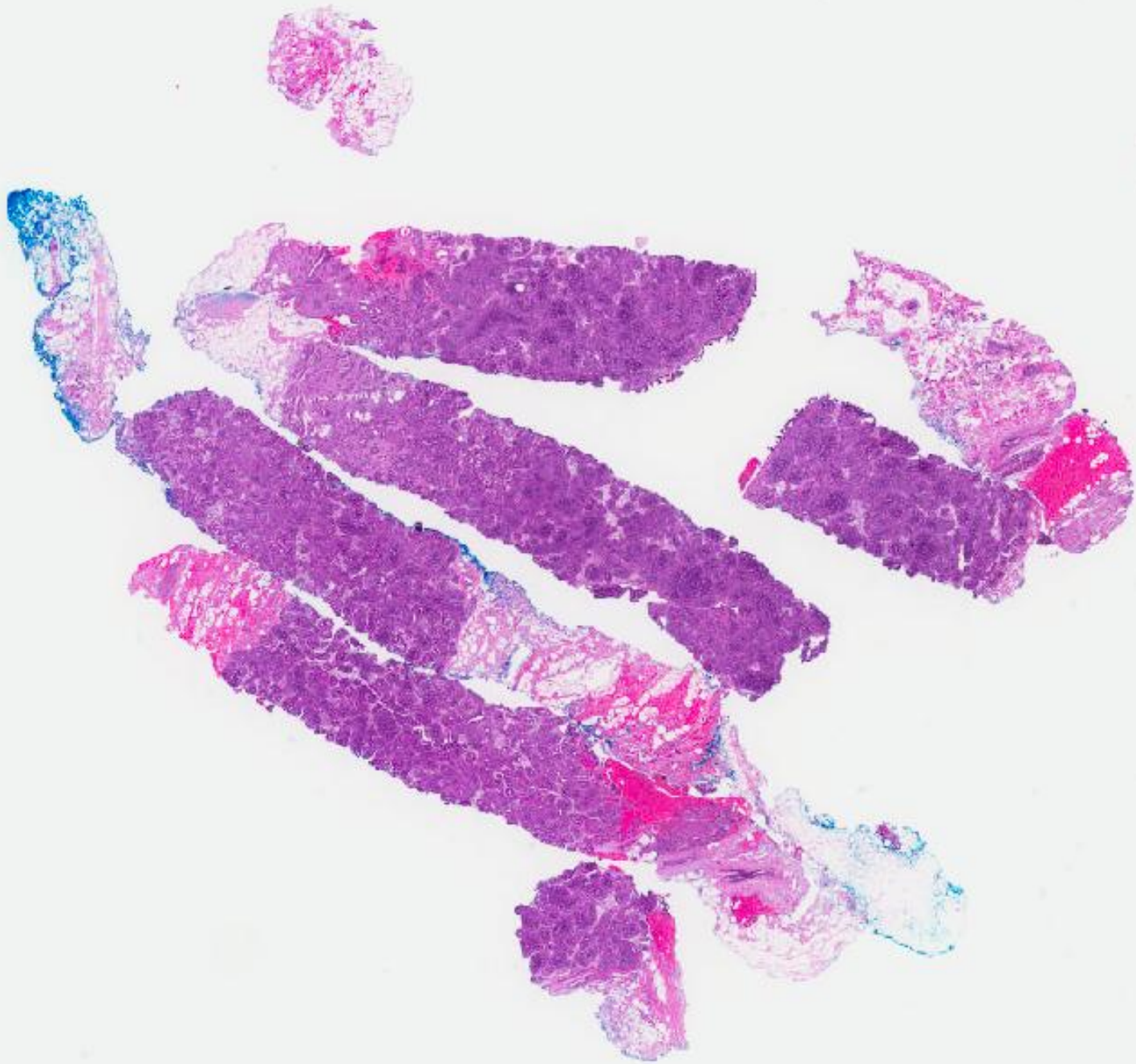
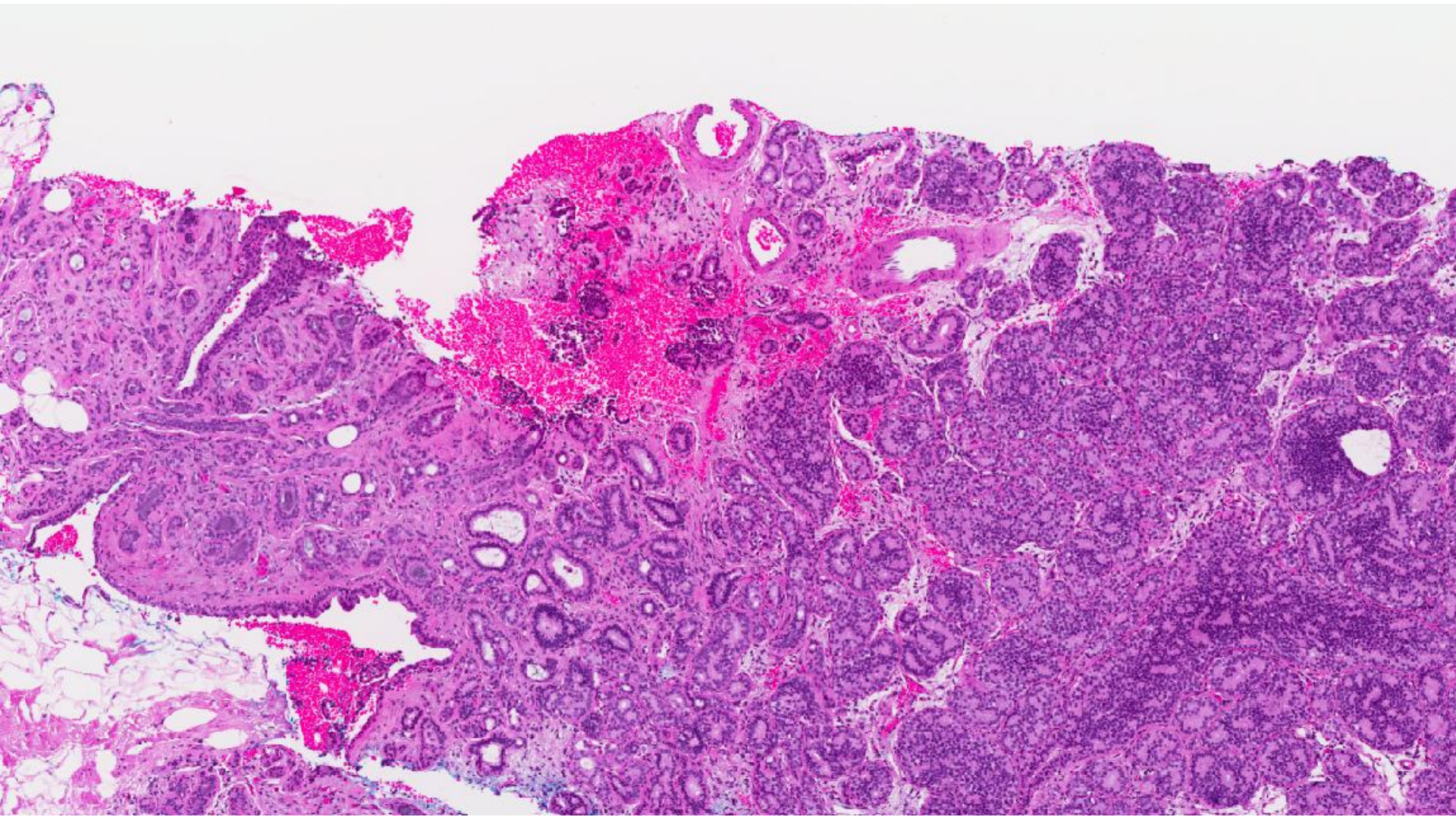


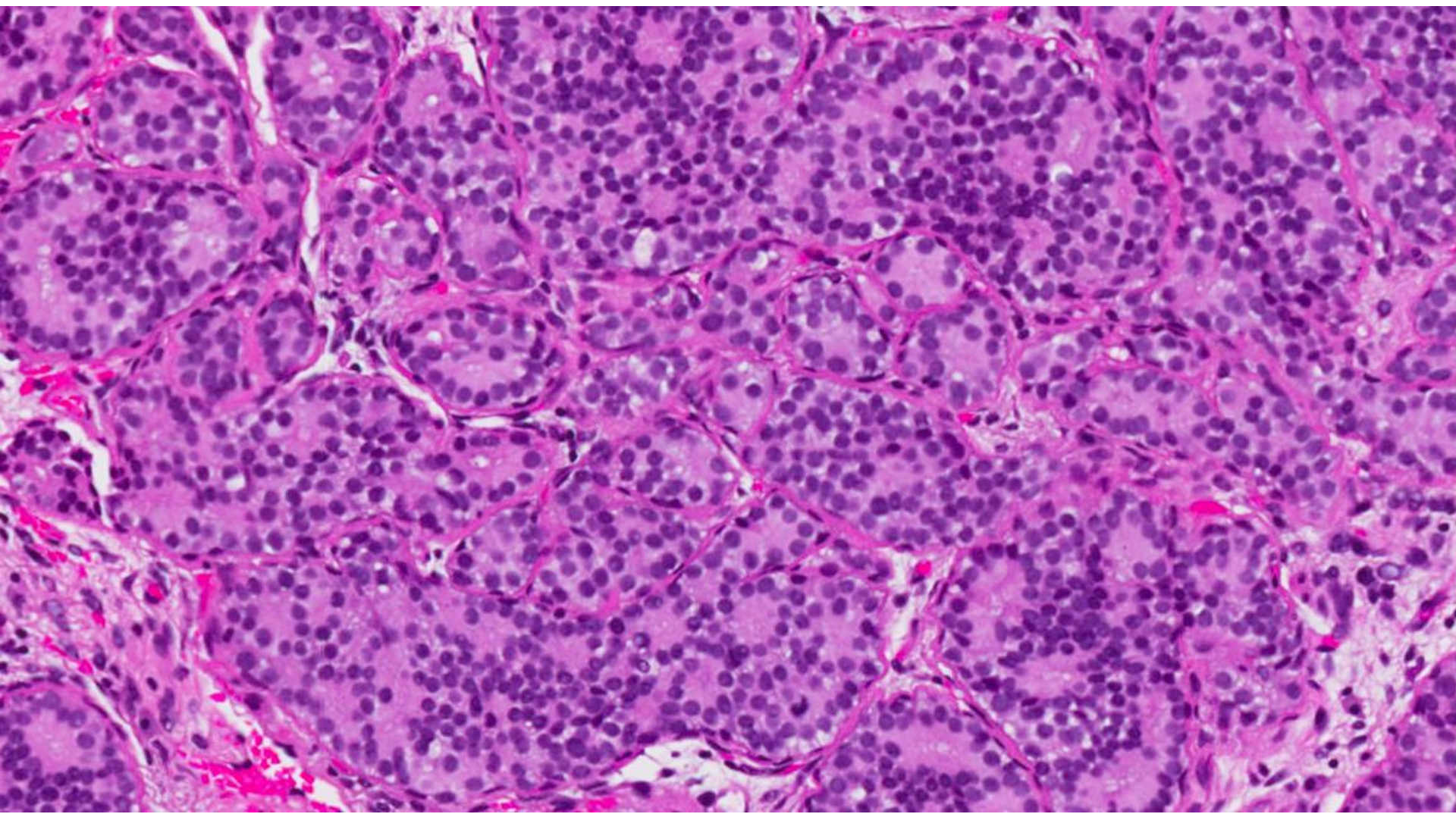
Case 14

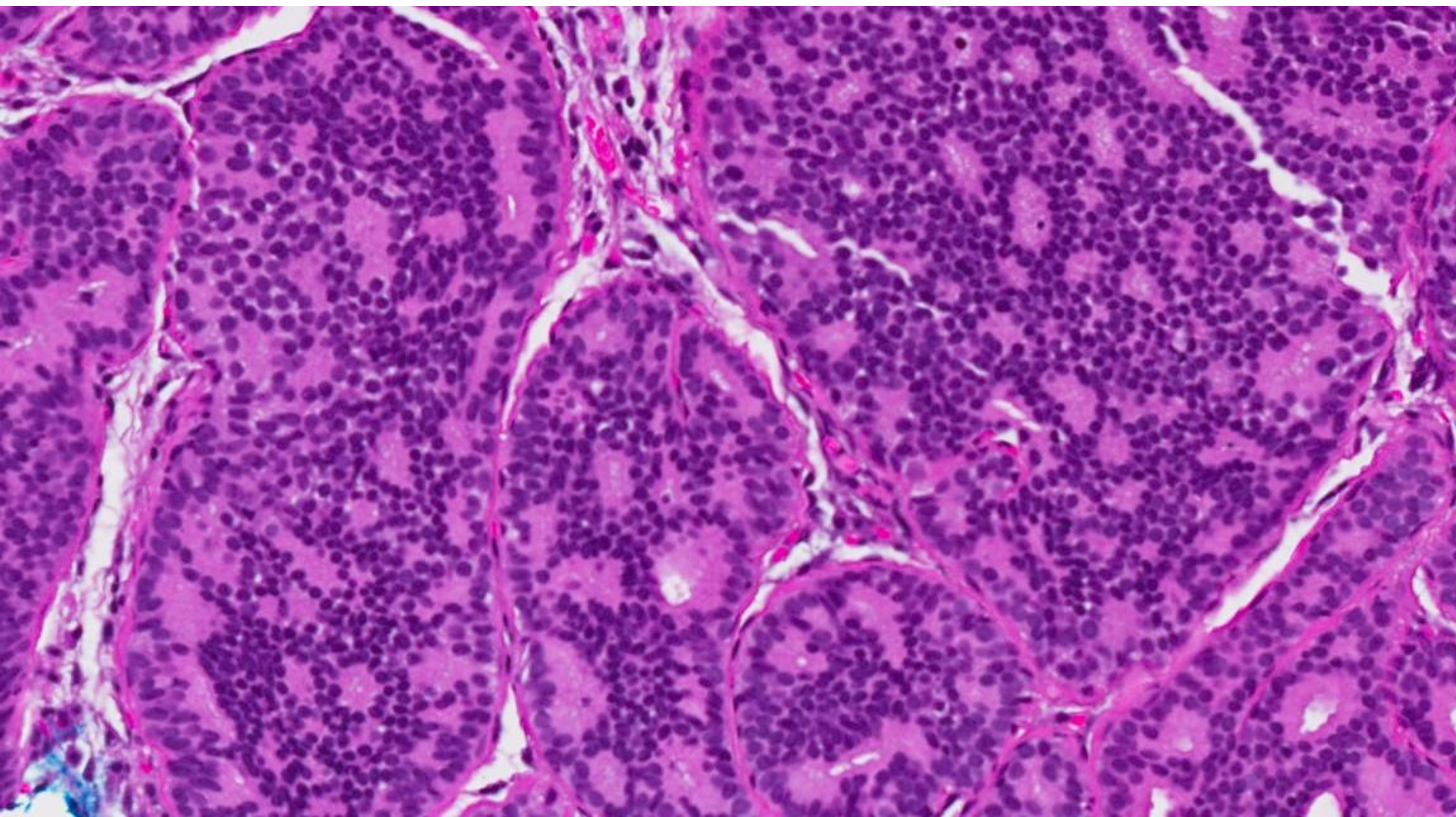
49 year old Chinese lady was discovered to have a left breast LIQ nodule on screening mammography.

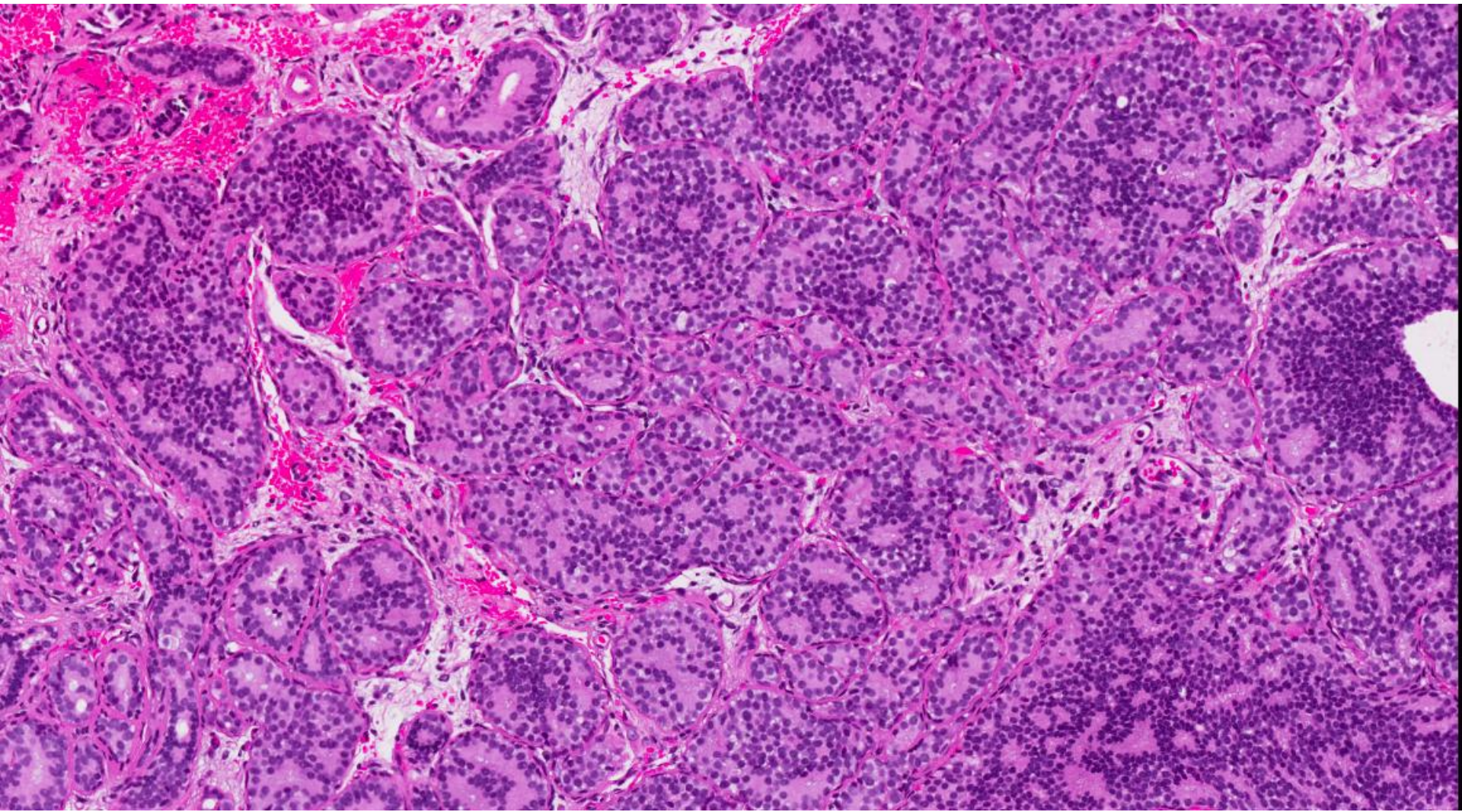
An ultrasound guided trucut biopsy was performed.

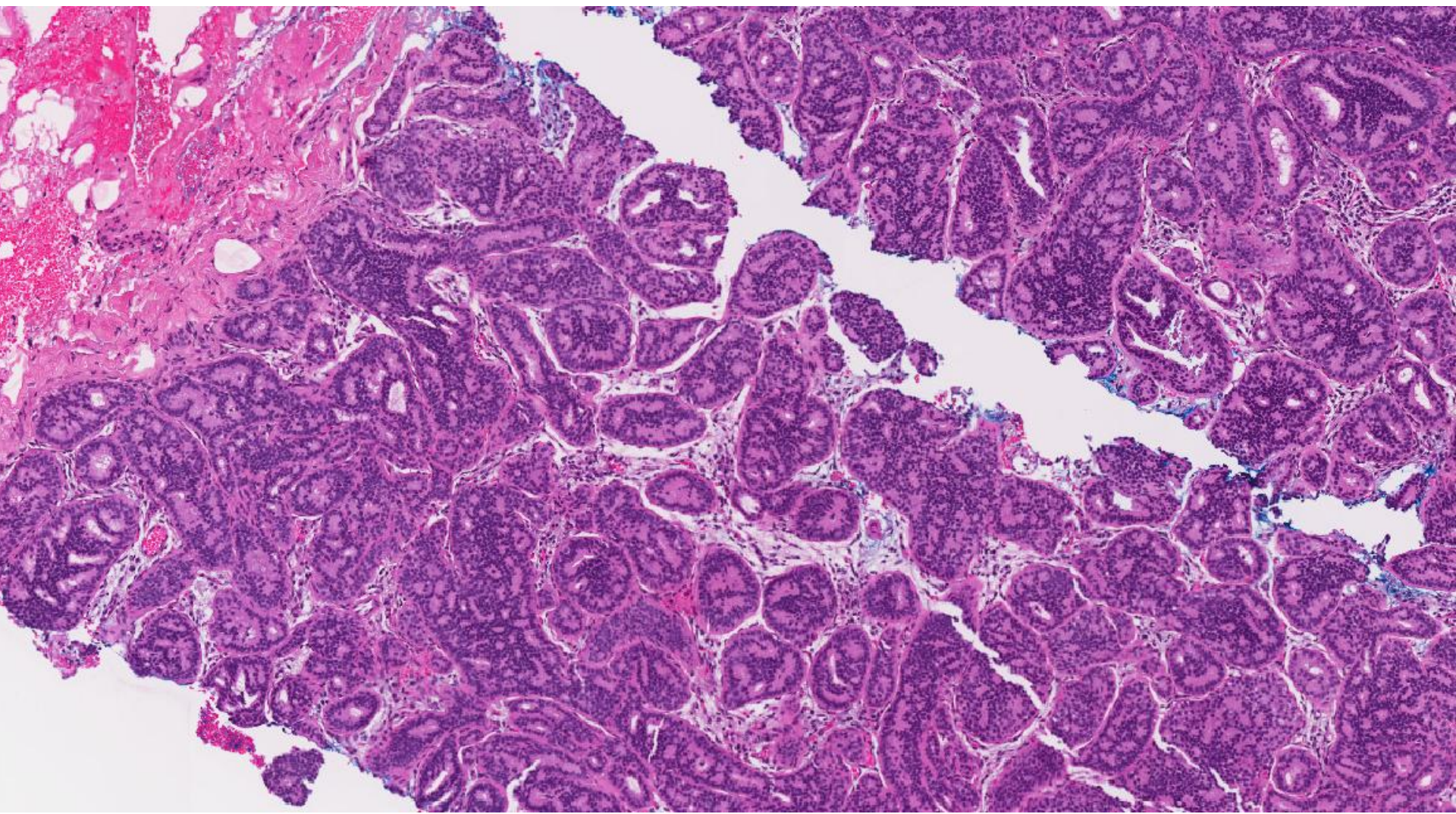


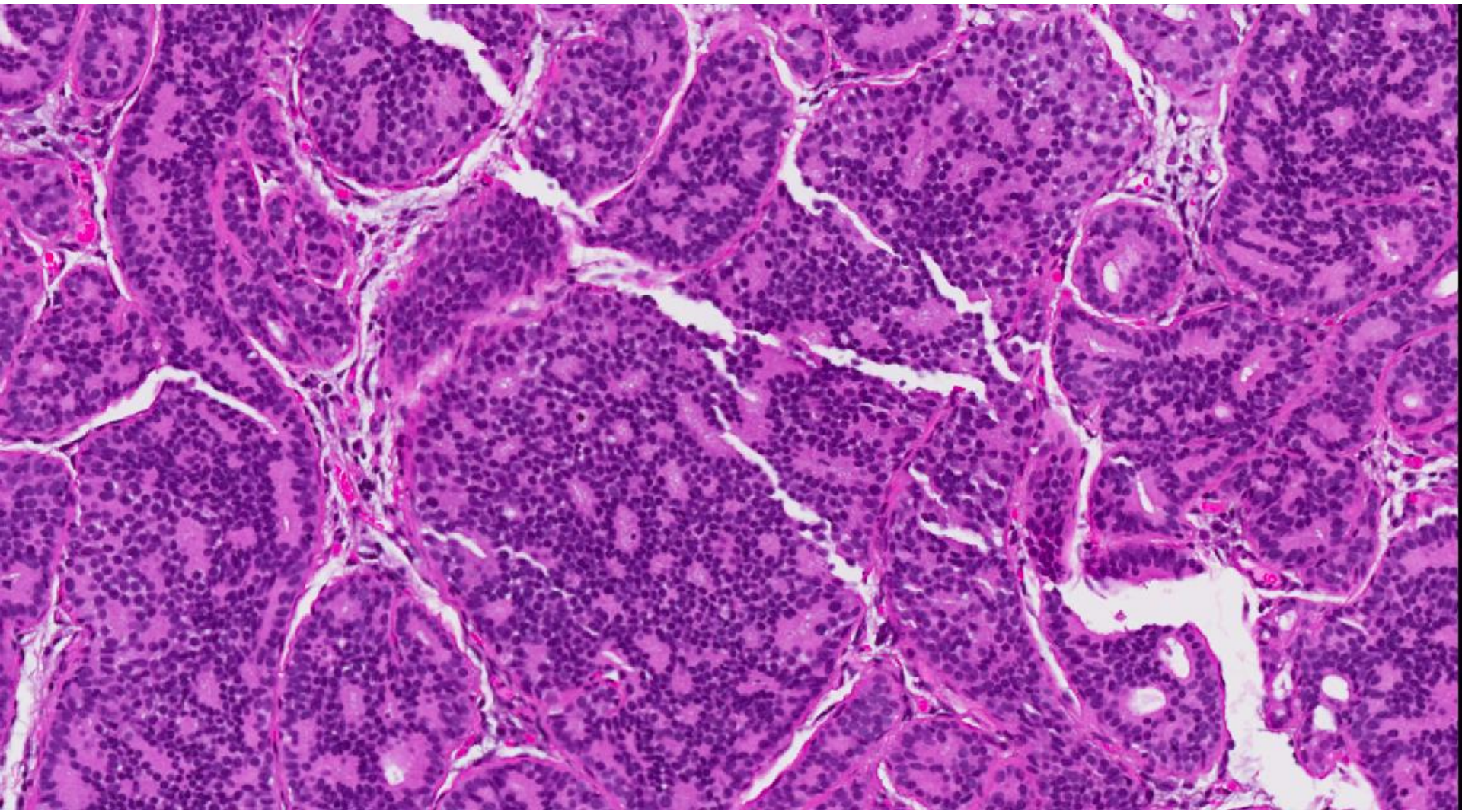












Diagnosis

Ductal carcinoma in situ, low nuclear grade, cribriform pattern, without necrosis, superimposed on adenosis

Ductal carcinoma in situ: *classification & grading*

- No universal agreement.
- Move away from architectural system:
 - Comedo, solid, cribriform, papillary, micropapillary.
- Nuclear grade.
- Nuclear grade with necrosis and/or cell polarisation.
- *Consensus for nuclear grade.*

Ductal carcinoma in situ: *nuclear grading scheme*

- 3 tiers: low, intermediate, high.
- Heterogeneity may be seen.
- Low and high grade usually not observed together.
- Low and high grade DCIS are likely distinct diseases.

Ductal carcinoma in situ:

what to include in the pathology report

- Nuclear grade.
- Presence and type of necrosis (punctate, comedo).
- Architectural pattern(s).
- Cell polarization.
- Size/extent of the lesion.
- Location of calcifications:
 - DCIS alone.
 - In benign tissue alone.
 - Both DCIS and benign breast tissue.
- Status of surgical margins.

Low nuclear grade DCIS

- Small, monomorphic cells with uniform nuclei, regular chromatin, inconspicuous nucleoli.
- Rare mitoses.
- Arcades, micropapillae, cribriform or solid patterns.
- Solid pattern may show microacini in which cells are polarized around small extra-cellular lumina in a rosette-type arrangement.
- Microcalcifications are often of the psammomatous type.
- Necrosis is uncommon.
- Micropapillary pattern may be associated with more extensive disease with multiquadrant involvement.

Intermediate nuclear grade DCIS

- Cells with mild to moderate variability in size, shape and placement.
- Variably coarse chromatin, variably prominent nucleoli.
- Cell polarization not as well-developed as in low-nuclear-grade DCIS.
- Mitoses may be present.
- Punctate or comedo necrosis may be present.
- Amorphous or laminated microcalcifications similar to that of low-nuclear-grade DCIS, or of both low-grade and high-grade DCIS.

High nuclear grade DCIS

- Highly atypical cells in solid, cribriform or micropapillary patterns.
- Nuclei are pleomorphic, poorly polarized, with irregular contours and distribution.
- Coarse, clumped chromatin and prominent nucleoli.
- Mitotic figures common.
- Comedo necrosis frequent.
- Amorphous microcalcifications.

Ductal carcinoma in situ: *unusual variants*

- Apocrine.
- Signet ring.
- Neuroendocrine.
- Spindled.
- Squamous.
- Clear cell.

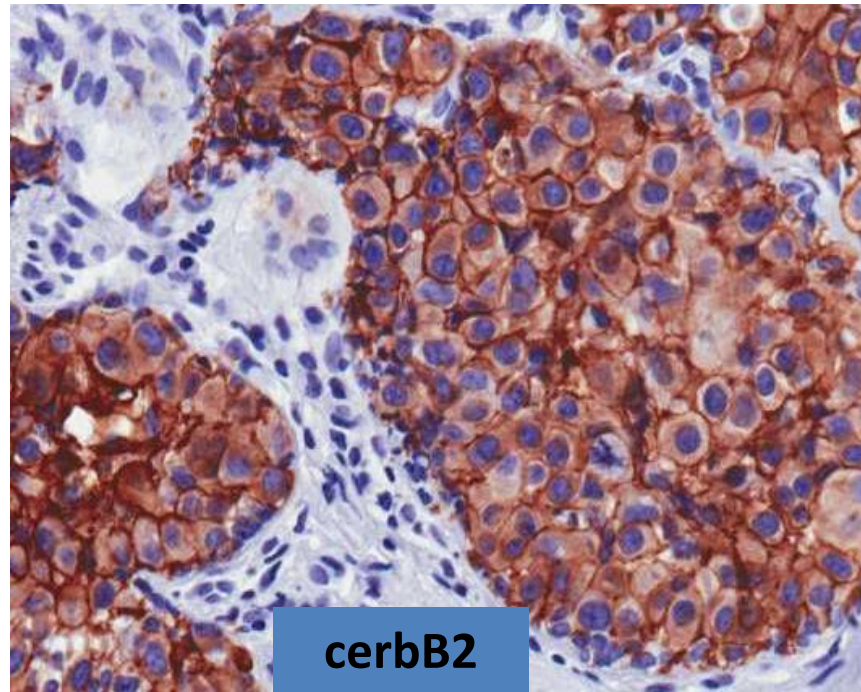
Grade according to nuclear features and necrosis.

Ductal carcinoma in situ: *ER and PR*

- Adjuvant tamoxifen significantly reduces ipsilateral risk of DCIS recurrence and/or progression to invasive breast cancer by about 50% in patients treated with lumpectomy and radiation.
- Benefit is restricted to patients with ER-positive disease.
- Similar reduction for contralateral breast cancer.
- Results for PR similar, but less significant.
- Controversial whether routine PR testing in DCIS is necessary.

Ductal carcinoma in situ: *HER2*

- HER2 overexpression is more common in high-grade DCIS than in invasive breast cancer.
- No clinical indication for HER2 assessment in DCIS.



Ductal carcinoma in situ: *clinical course and prognosis*

- Clinical, pathological, molecular data indicate that DCIS is a precursor, albeit not obligate, to invasive breast cancer.
- Radiographic-pathological correlation studies show that DCIS is in most cases confined to a single segment or ductal-lobular system.
- Involvement of the segment may be extensive and “skipped” areas may occur, especially in low nuclear grade DCIS.

Ductal carcinoma in situ: *clinical course and prognosis*

- Increased risk of local recurrence and/or progression to invasive cancer:
 - Young age.
 - Larger lesion size.
 - High nuclear grade.
 - Comedo necrosis.
 - Positive margin status.