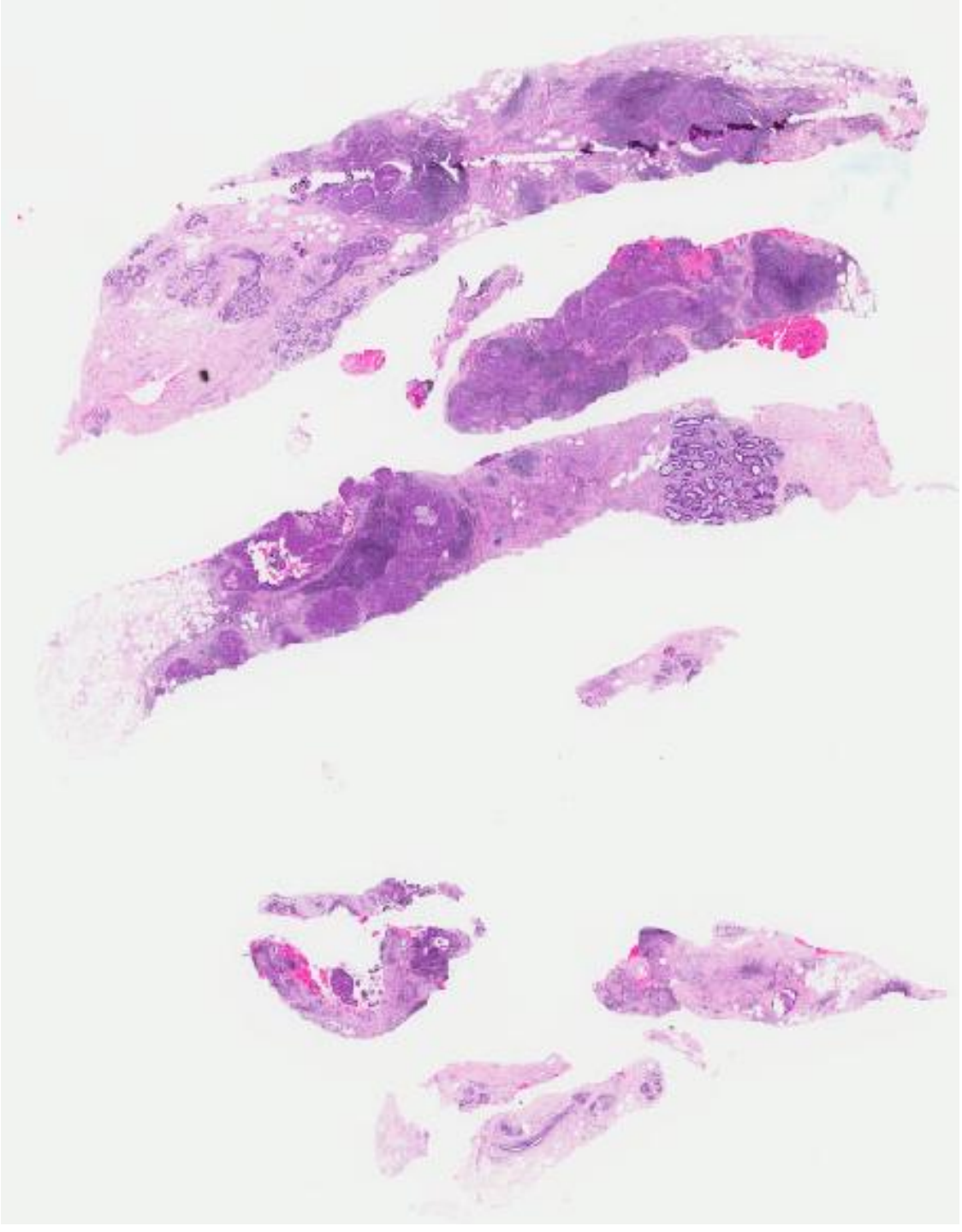
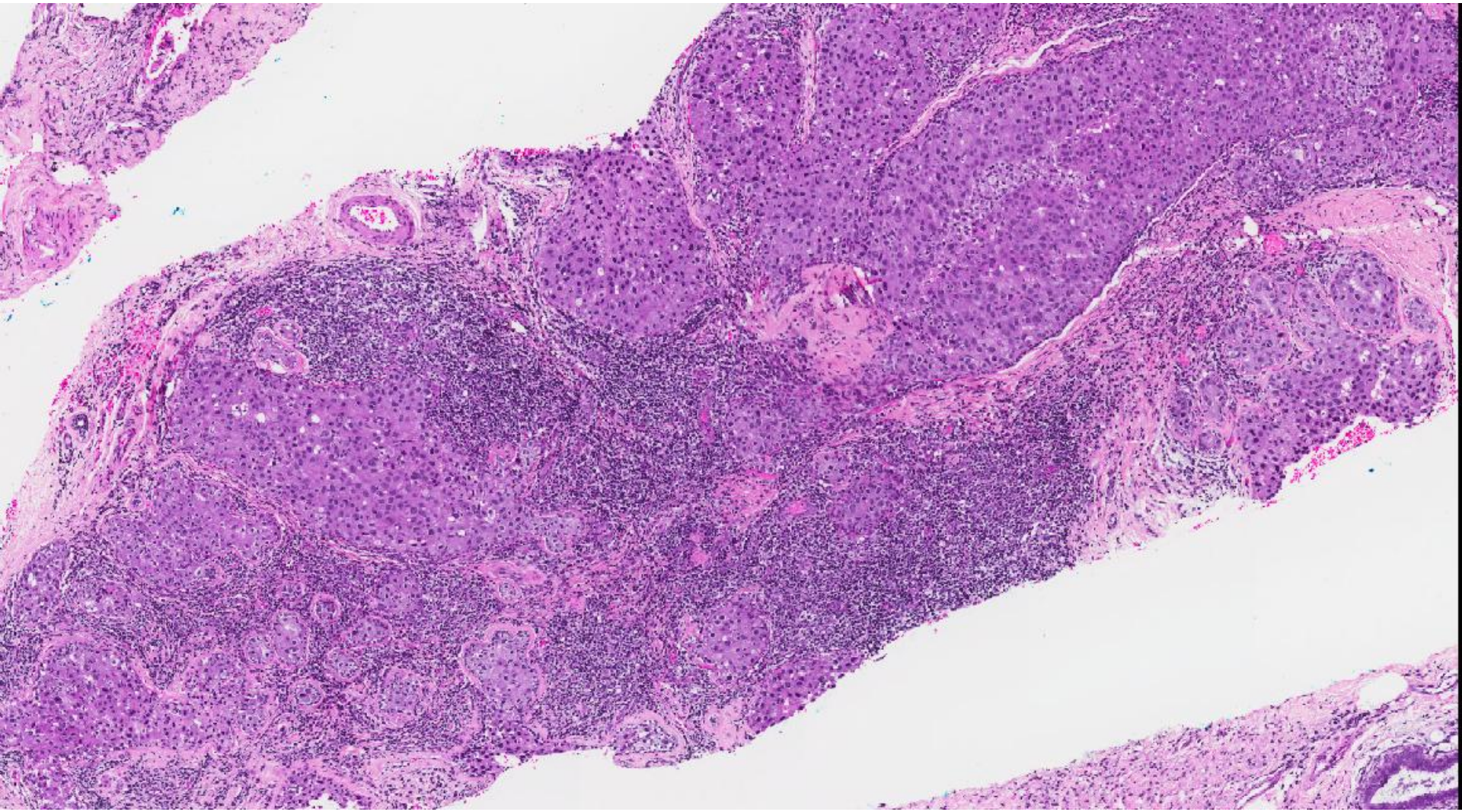
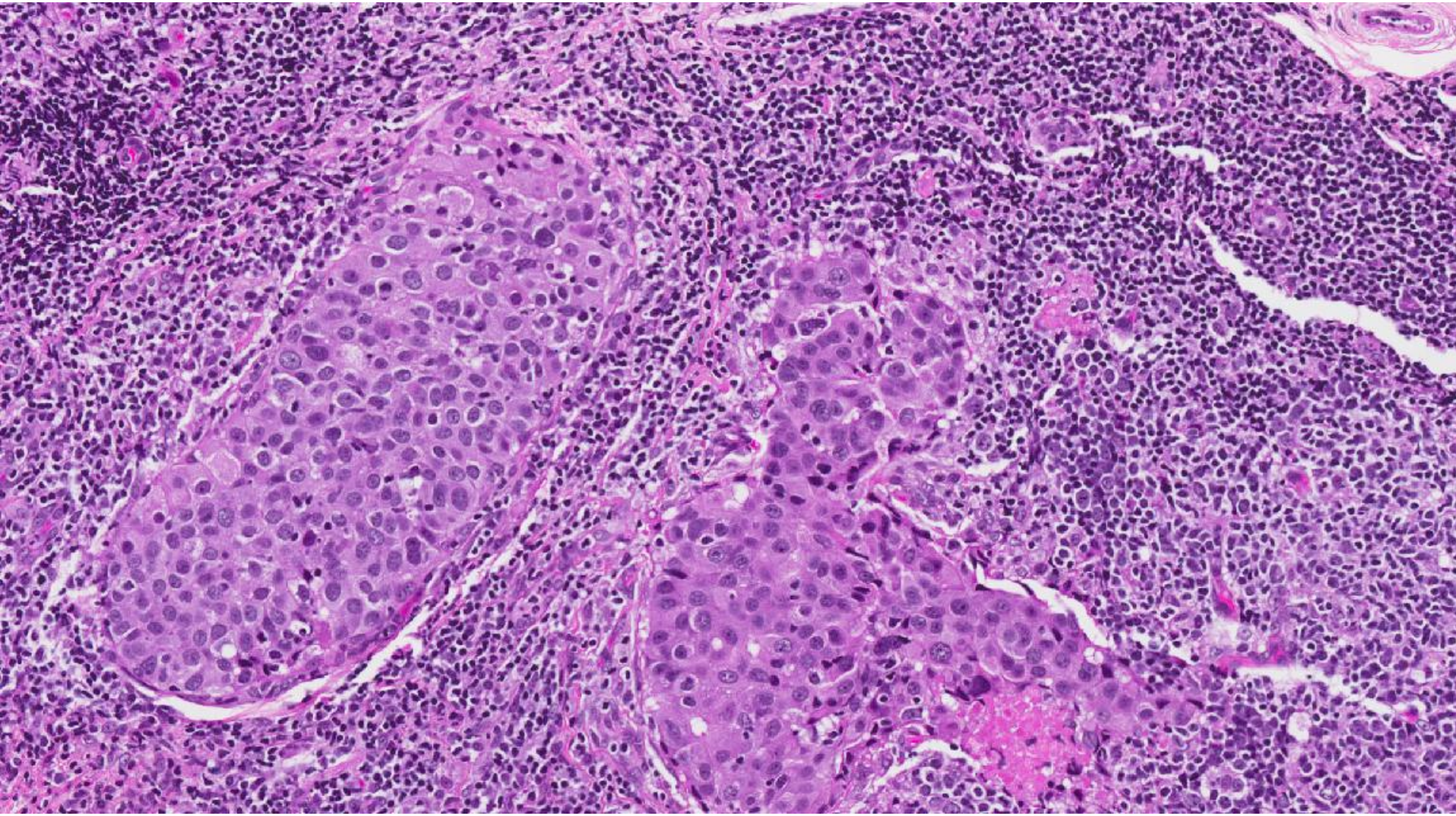
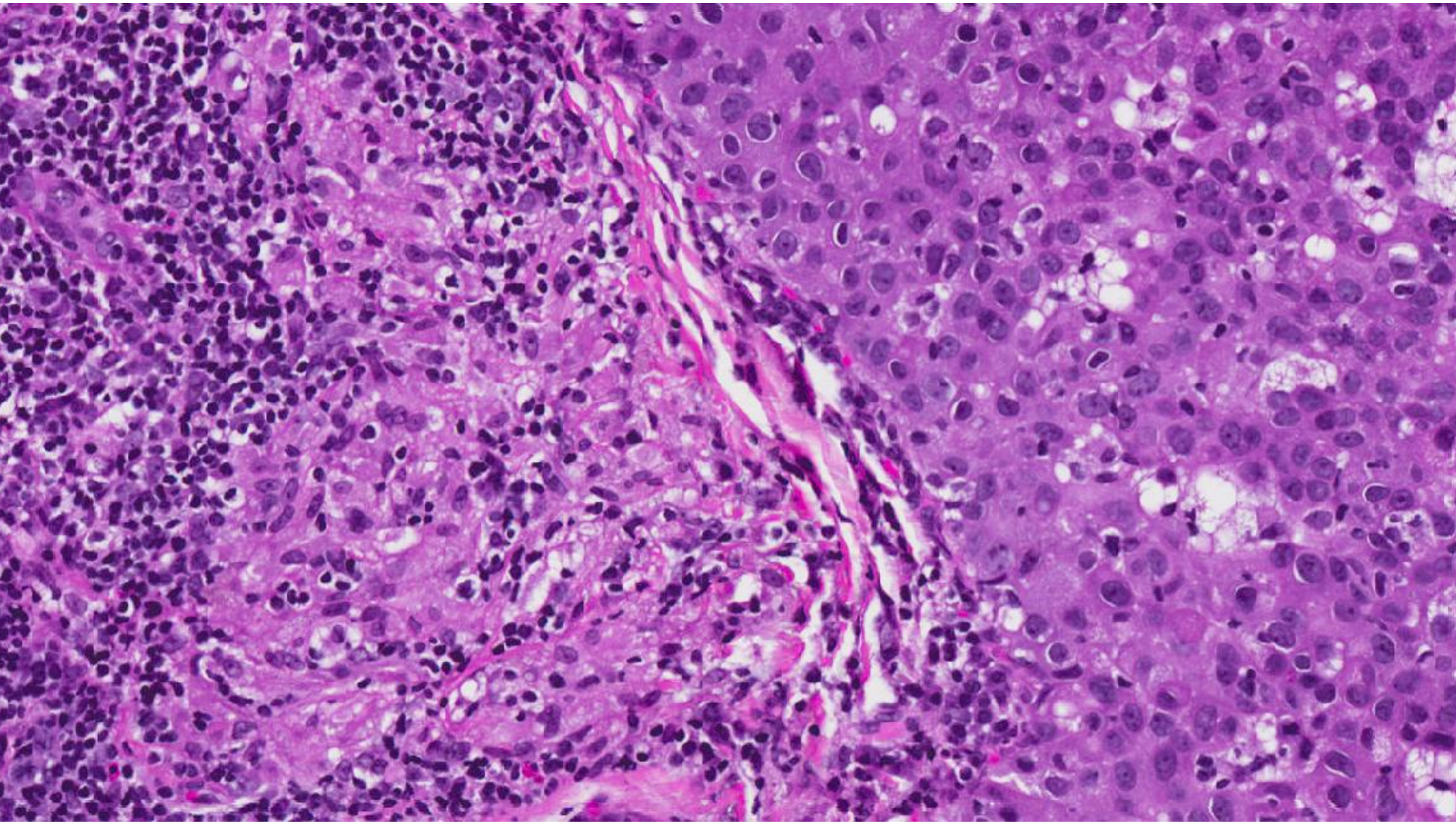
Case 15

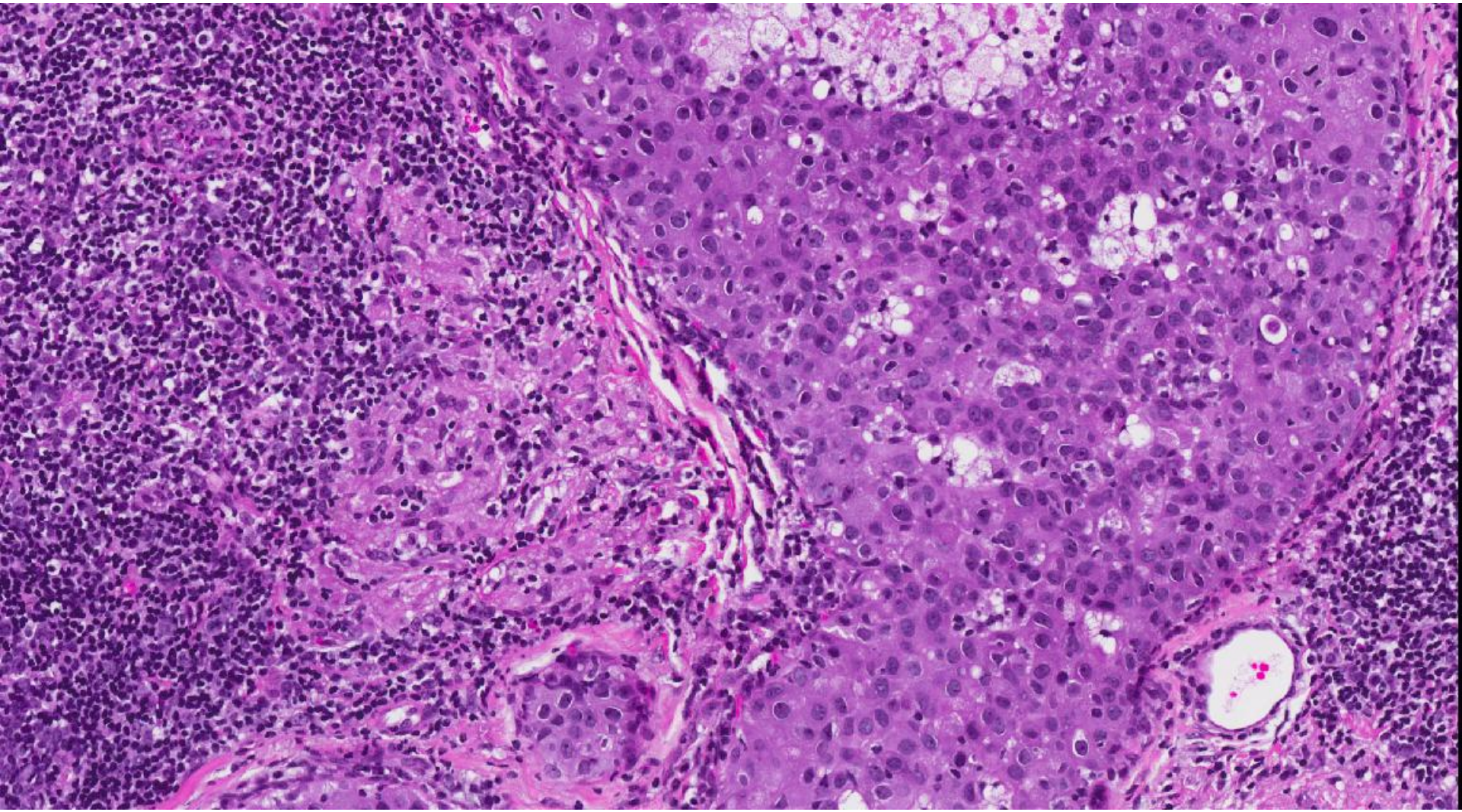
51 year old Chinese lady underwent stereotactic mammotome biopsy of screen detected left breast microcalcifications

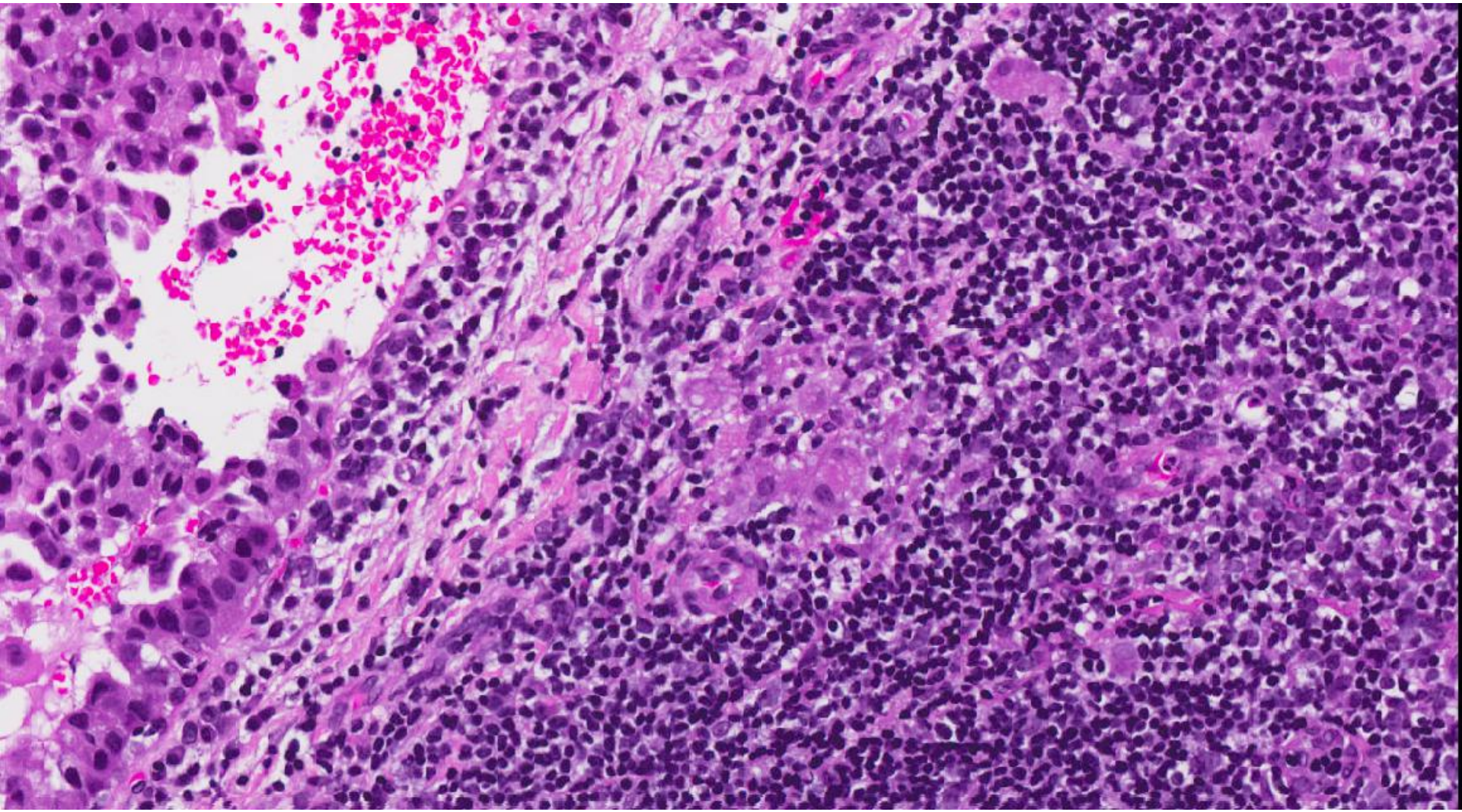


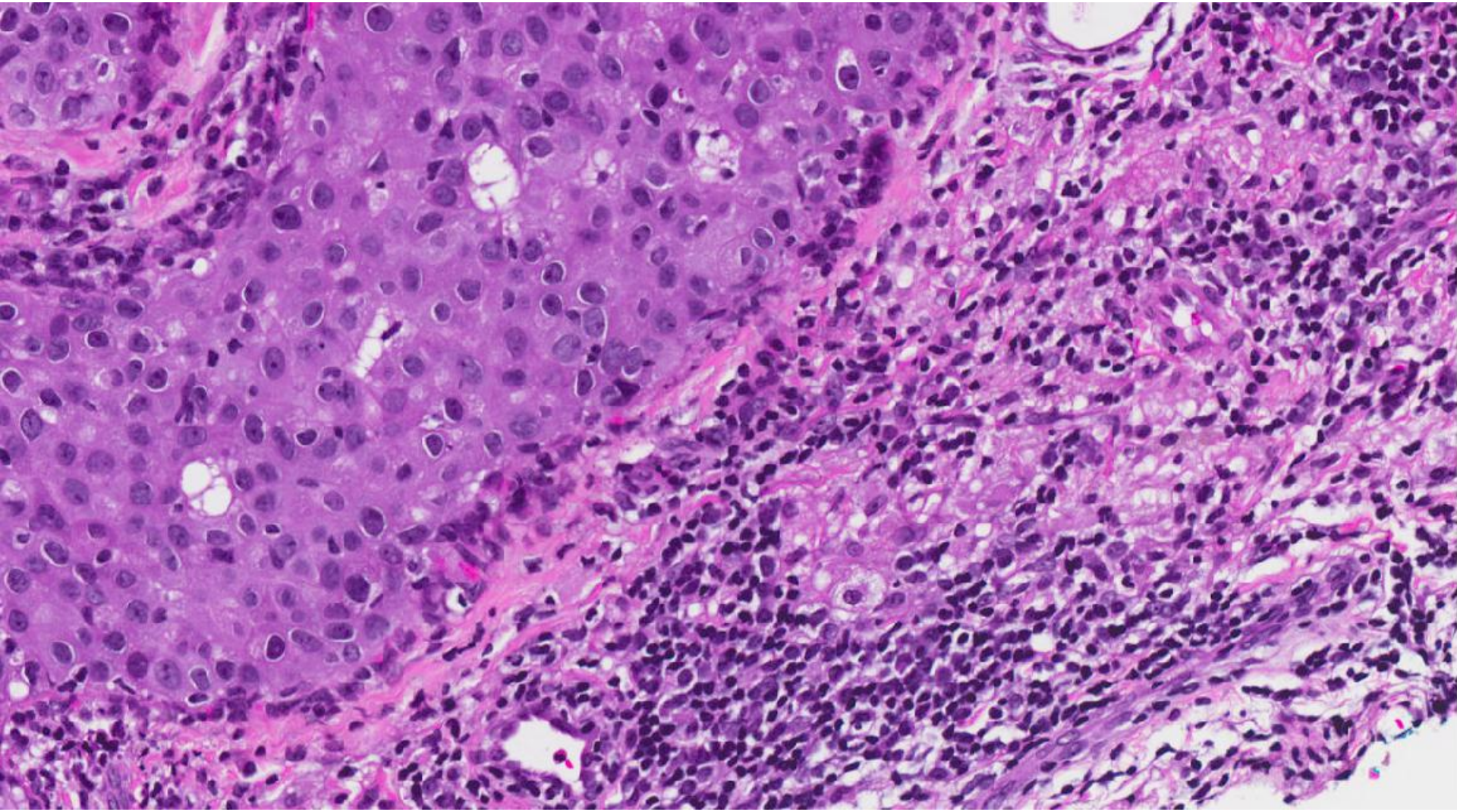


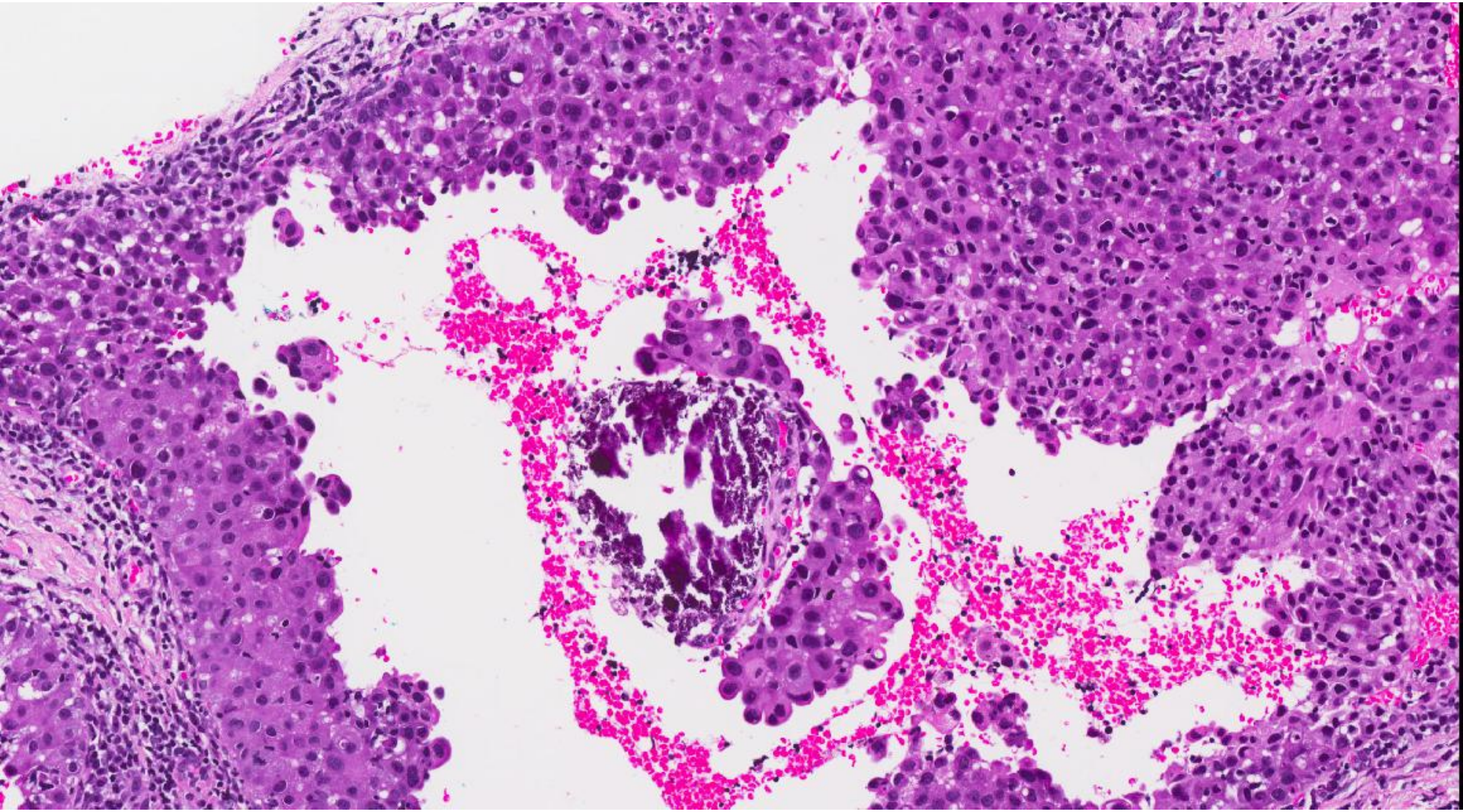


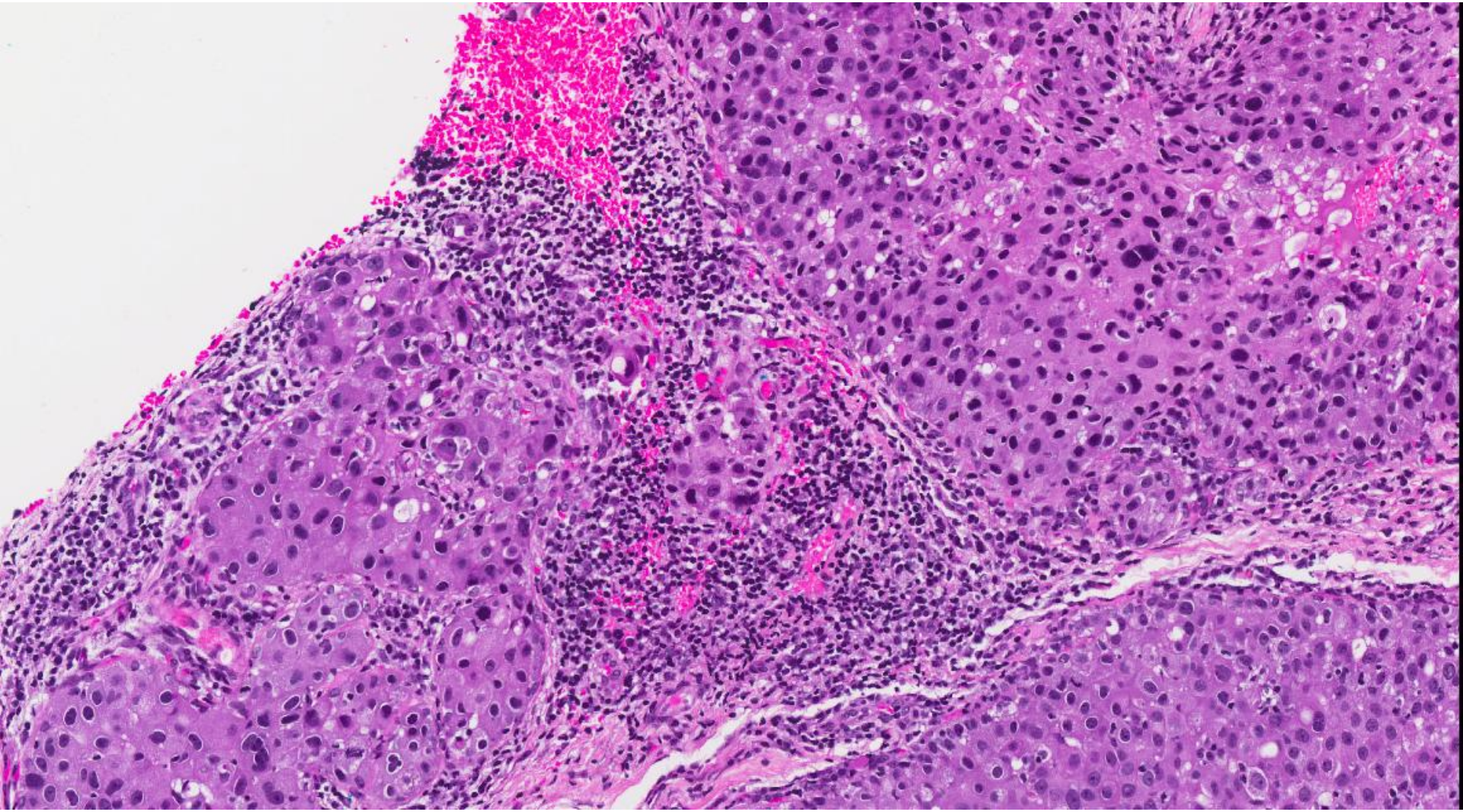












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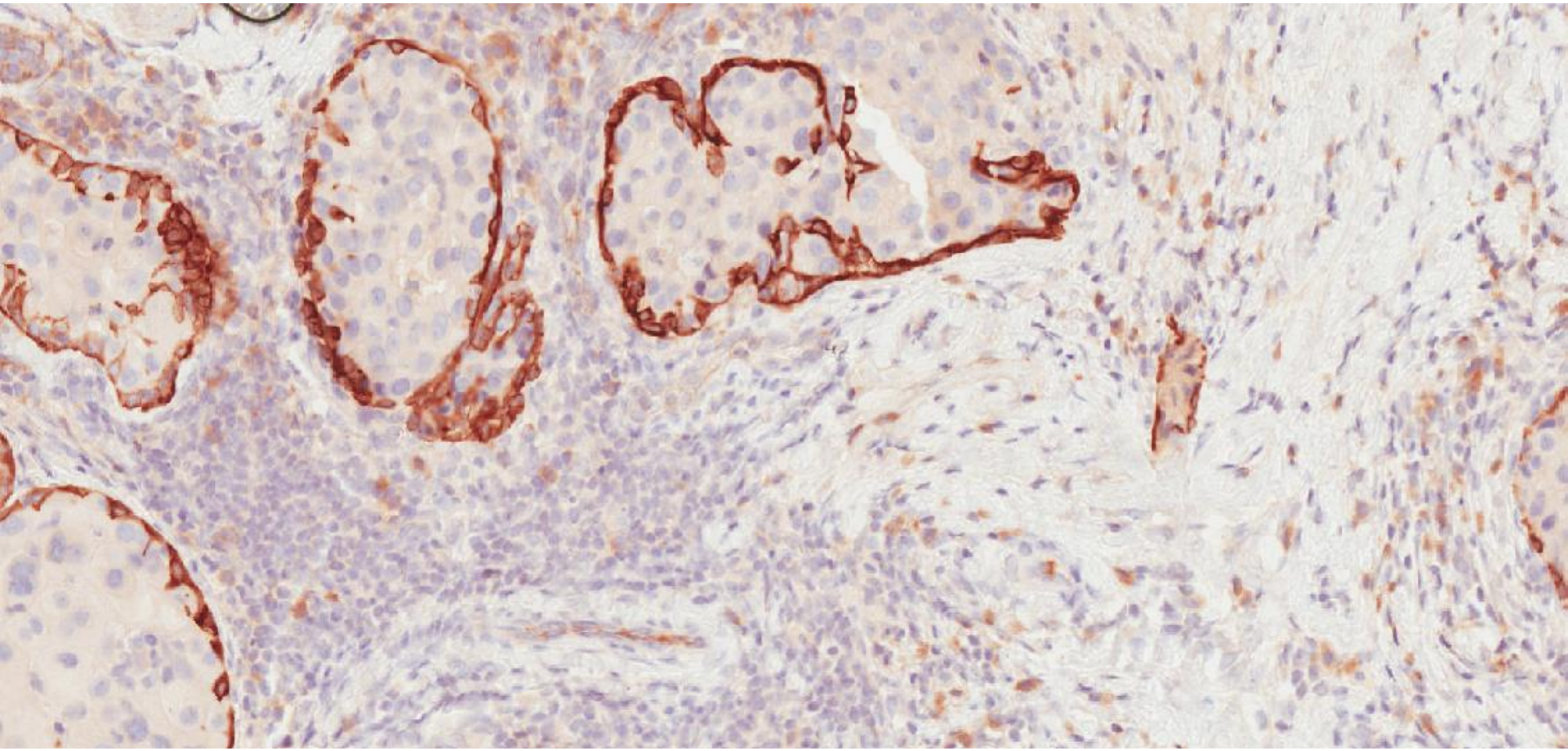

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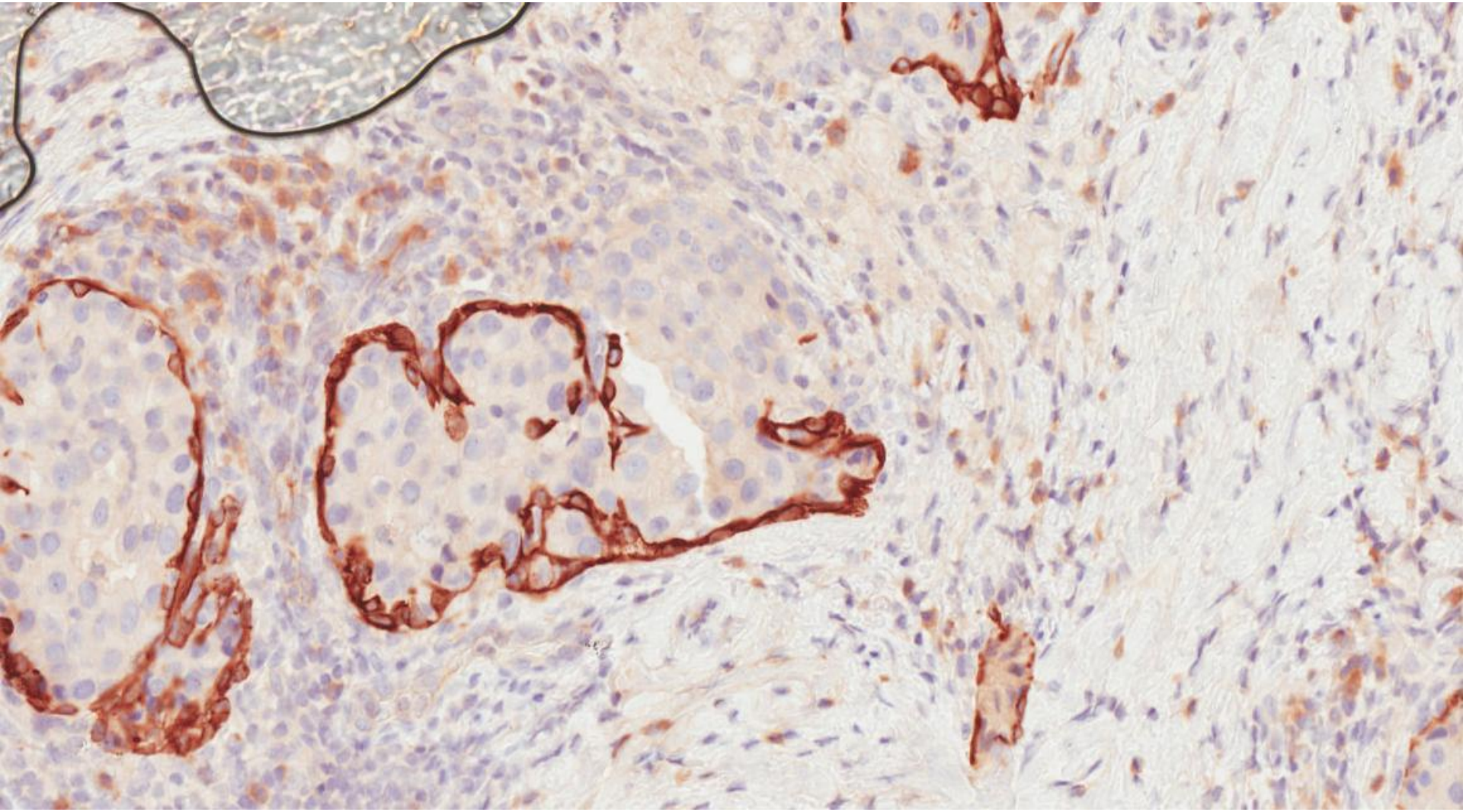

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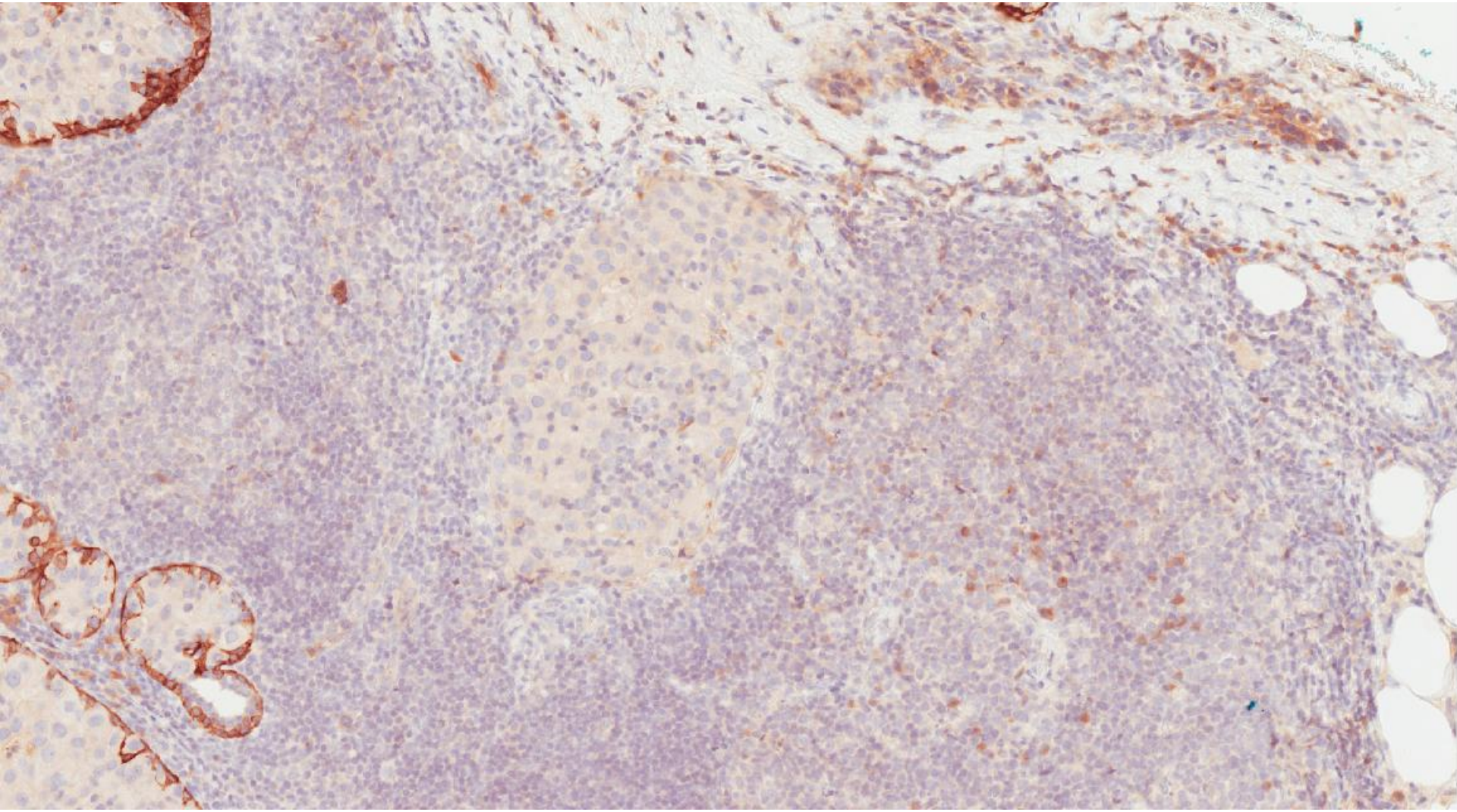

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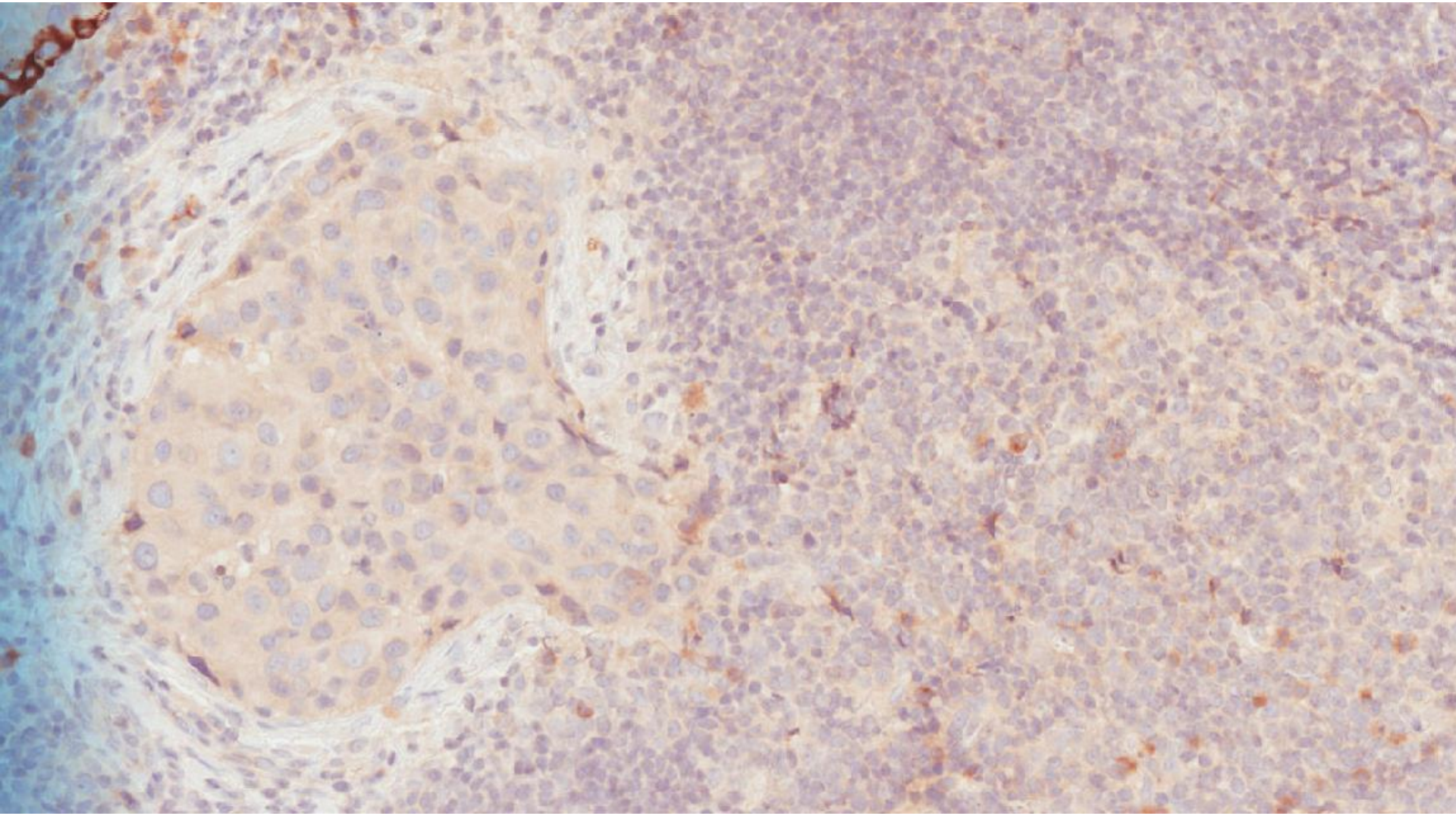

Diagnosis

Ductal carcinoma in situ, high nuclear grade, with necrosis and calcifications, with microscopic invasion

Occasional small granulomas

Microinvasive carcinoma

- Defined as one or more clearly separate microscopic foci of infiltrating tumour cells into the mammary stroma, each ≤ 1 mm.
- Most commonly seen in the background of high grade ductal carcinoma in situ (DCIS).
- Infrequent and often over-diagnosed.
- Can accompany lobular carcinoma in situ (LCIS) or rarely seen on its own without DCIS or LCIS.

Microinvasive carcinoma

- Clinical features:
  - No specific clinical features.
  - When seen in association with high grade DCIS, the clinical presentation is mammographically detected microcalcifications, mass, asymmetry or architectural distortion.
- Macroscopy:
  - Appearances are of associated DCIS, with ill-defined fibrous areas extruding comedo-type necrosis.
  - There can be no visible abnormality.

Microinvasive carcinoma

- Histopathology:
  - Background of extensive DCIS (usually high grade but can occur with all grades) with periductal chronic inflammation.
  - Microinvasive cancer seen as malignant cells (usually high grade and ductal NST phenotype) within the stroma as angulated small clusters or as single cells.
  - Stromal oedema, desmoplasia and chronic inflammation accompany microinvasive foci.
  - Need to search for additional foci when microinvasion is discovered.

Microinvasive carcinoma

- Differential diagnoses:
  - Pure in situ disease
  - Frankly invasive disease (> 1 mm in size)
- Mimics of invasion:
  - DCIS involving TDLU, sclerosing adenosis, radial scar.
- Immunohistochemistry:
  - To demonstrate myoepithelial cells.
  - Basement membrane stains are not reliable, as DCIS may show variable membrane loss, while microinvasive foci may partially retain basement membrane.
- If microinvasion is doubtful, the recommendation is to render diagnosis of in situ disease.

Microinvasive carcinoma

- ER, PR and HER2 assessment is difficult to achieve due to the small size of the microinvasive focus.
- Report results for the corresponding DCIS.
- Low incidence of axillary nodal metastases.
- Staged as T1mi in the TNM/AJCC classification.

Granulomas in breast cancer

- Non-caseating epithelioid or sarcoid-like granulomas have been rarely observed in breast carcinoma.
- Thought to be due to an abnormal immunological response or hypersensitivity reaction.
  - *J Clin Pathol. 1992 Oct;45(10):885-8.*
  - *Virchows Arch A Pathol Anat Histopathol. 1988;412(3):231-9.*