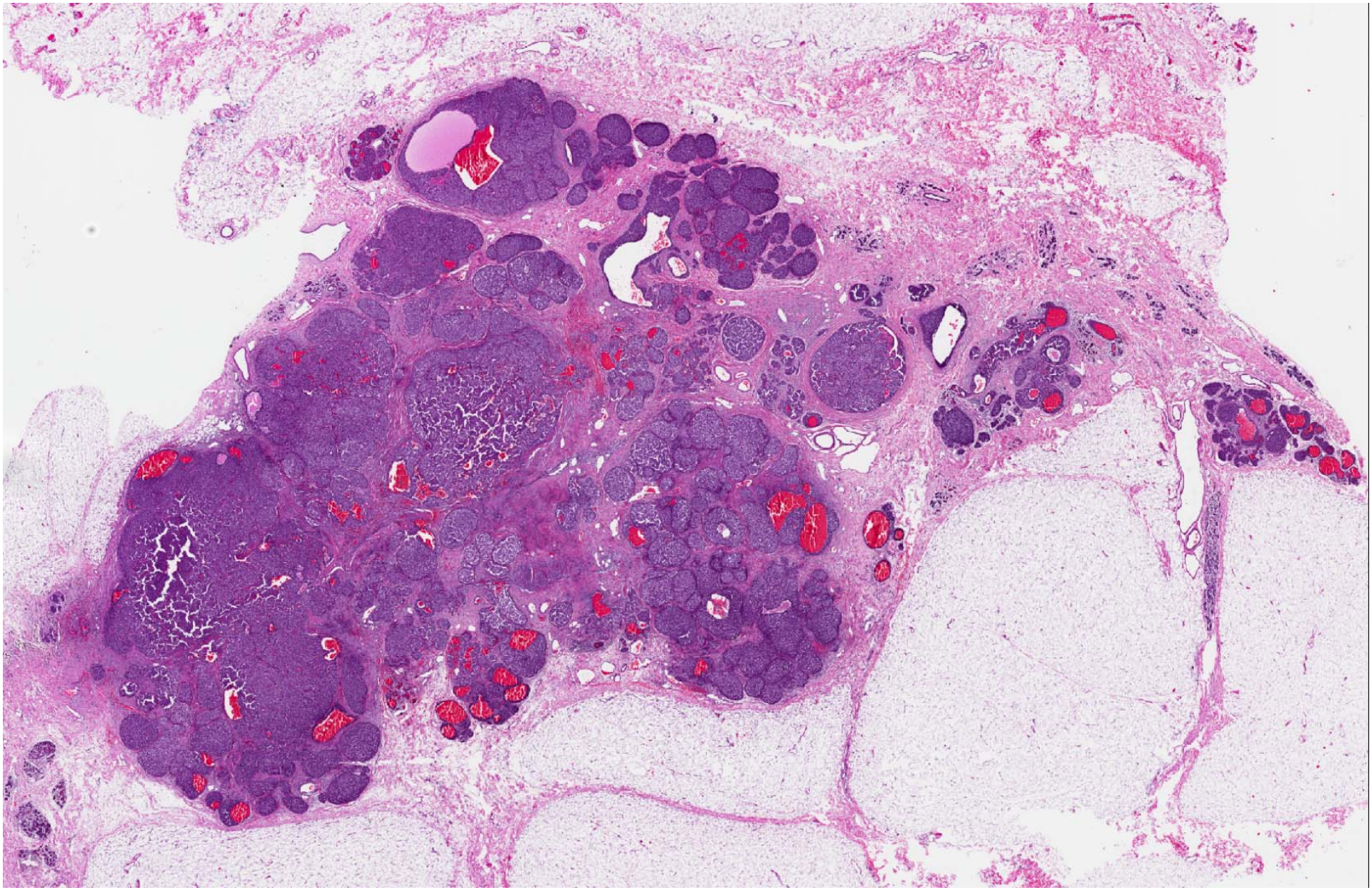
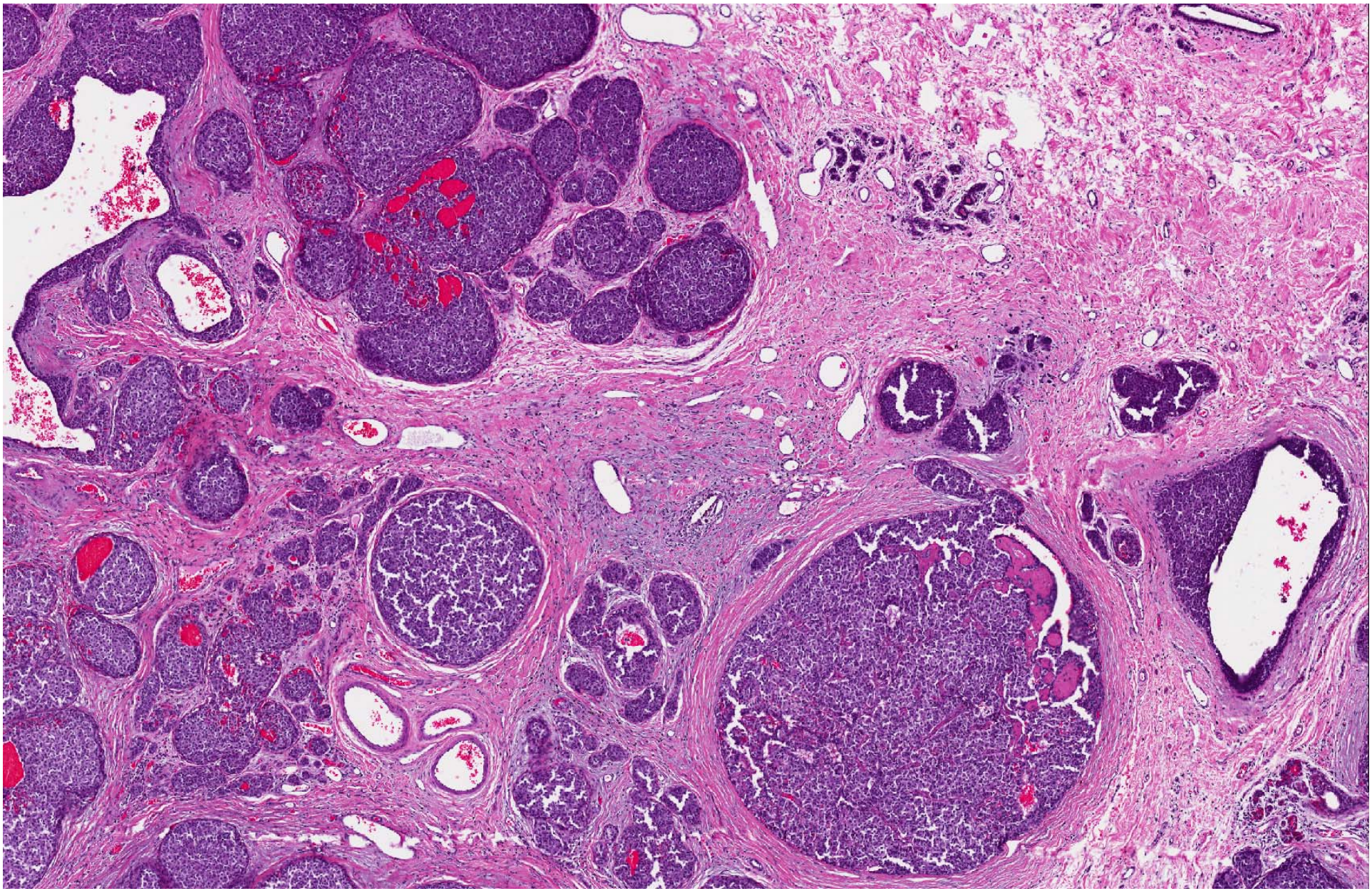
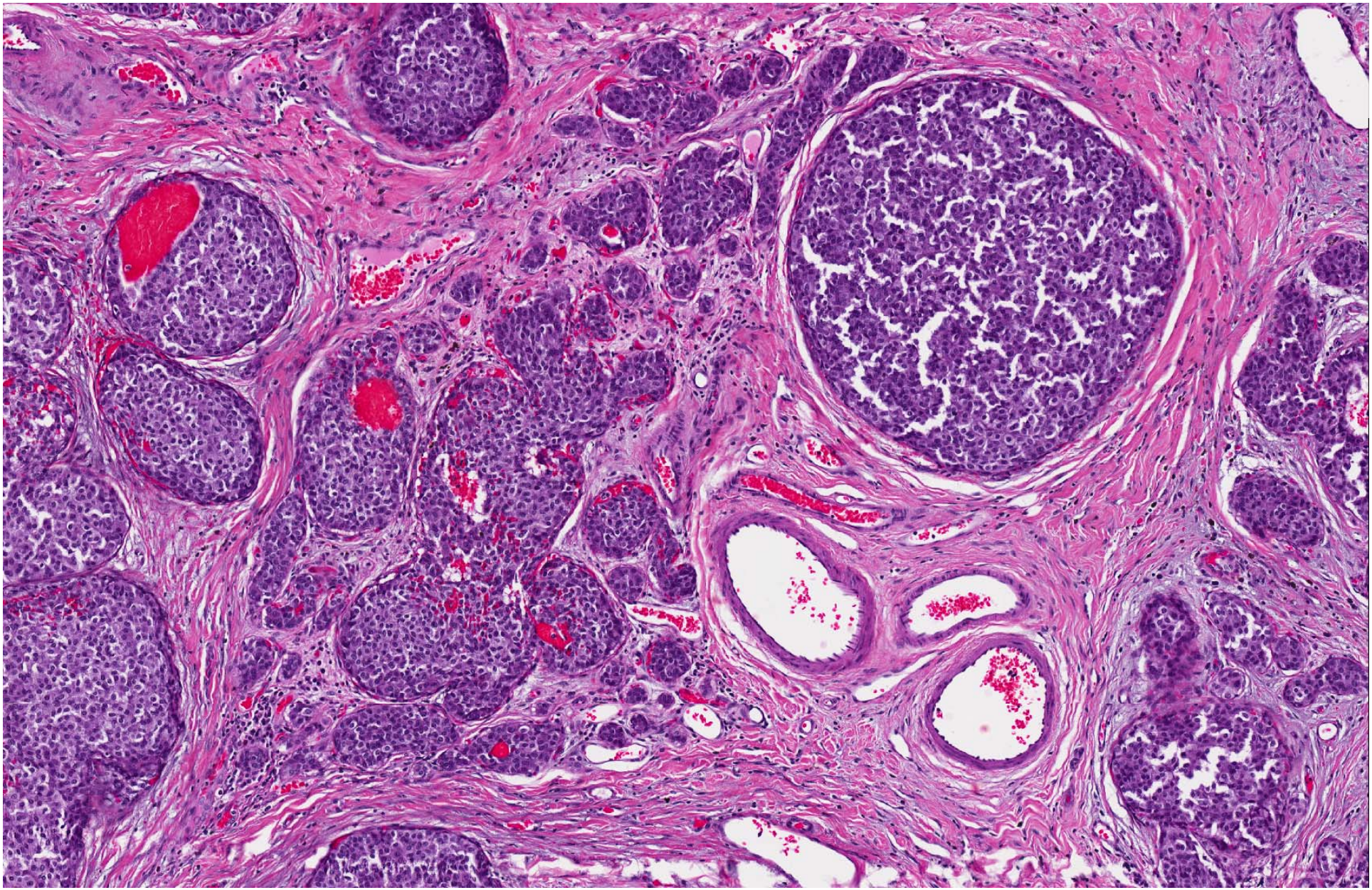
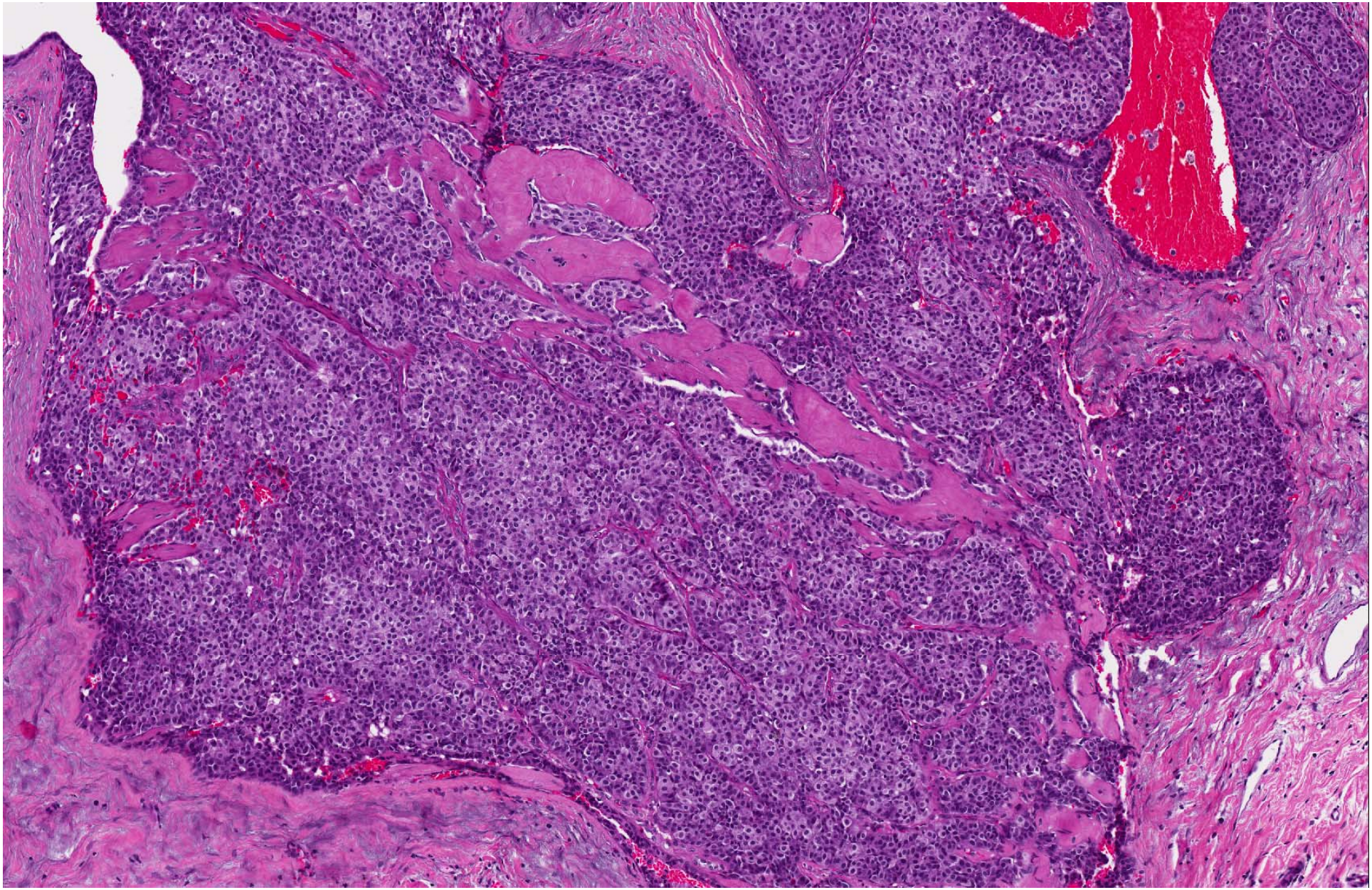
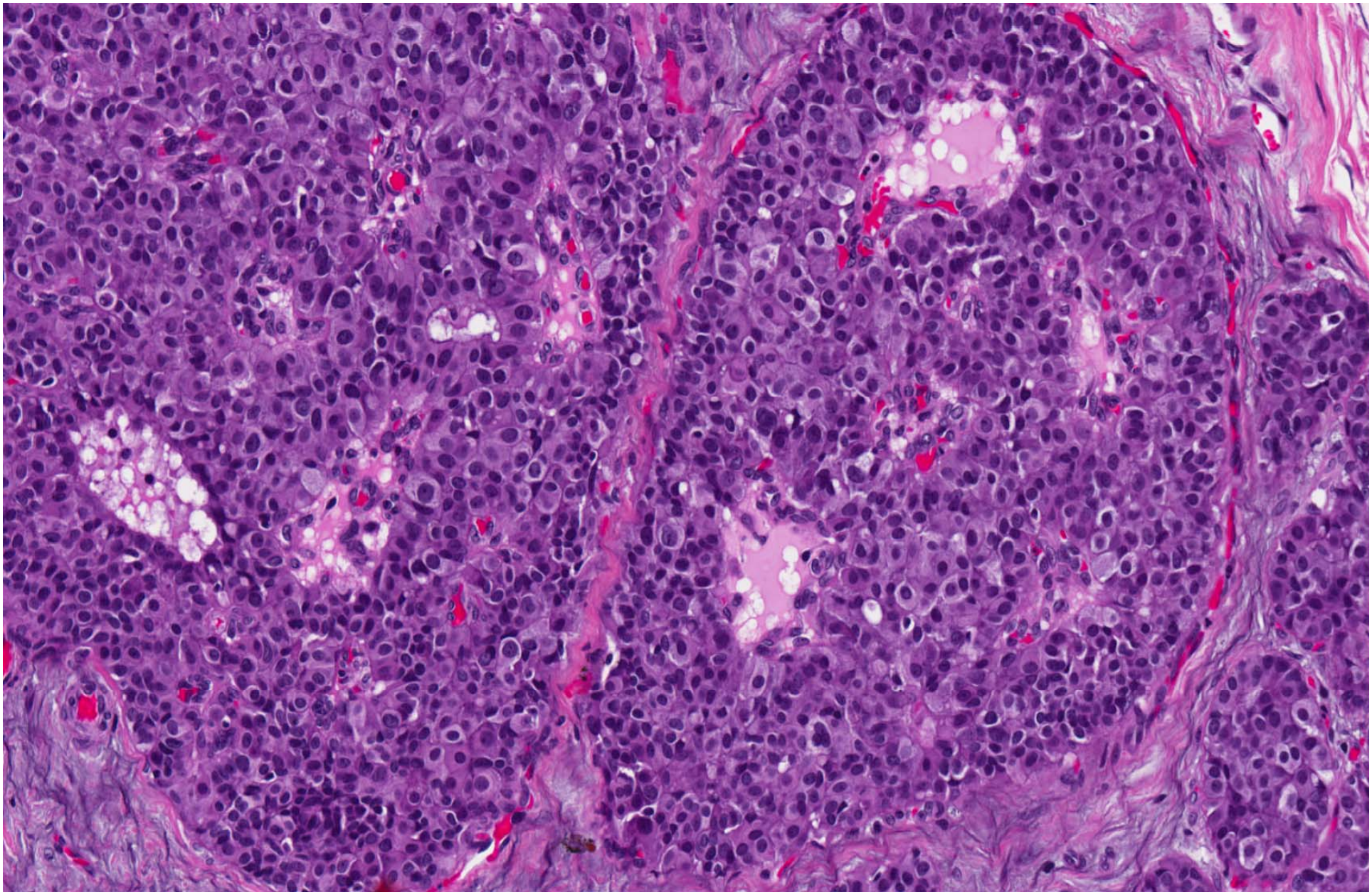
- Set A.8
- 36 year old Chinese lady with a left breast lump and nipple discharge. Underwent recent previous microdochectomy. Current mastectomy specimen contained a hemorrhagic cavity deep to the nipple-areolar complex contiguous with an ill-defined firm lesion in the lower outer quadrant.

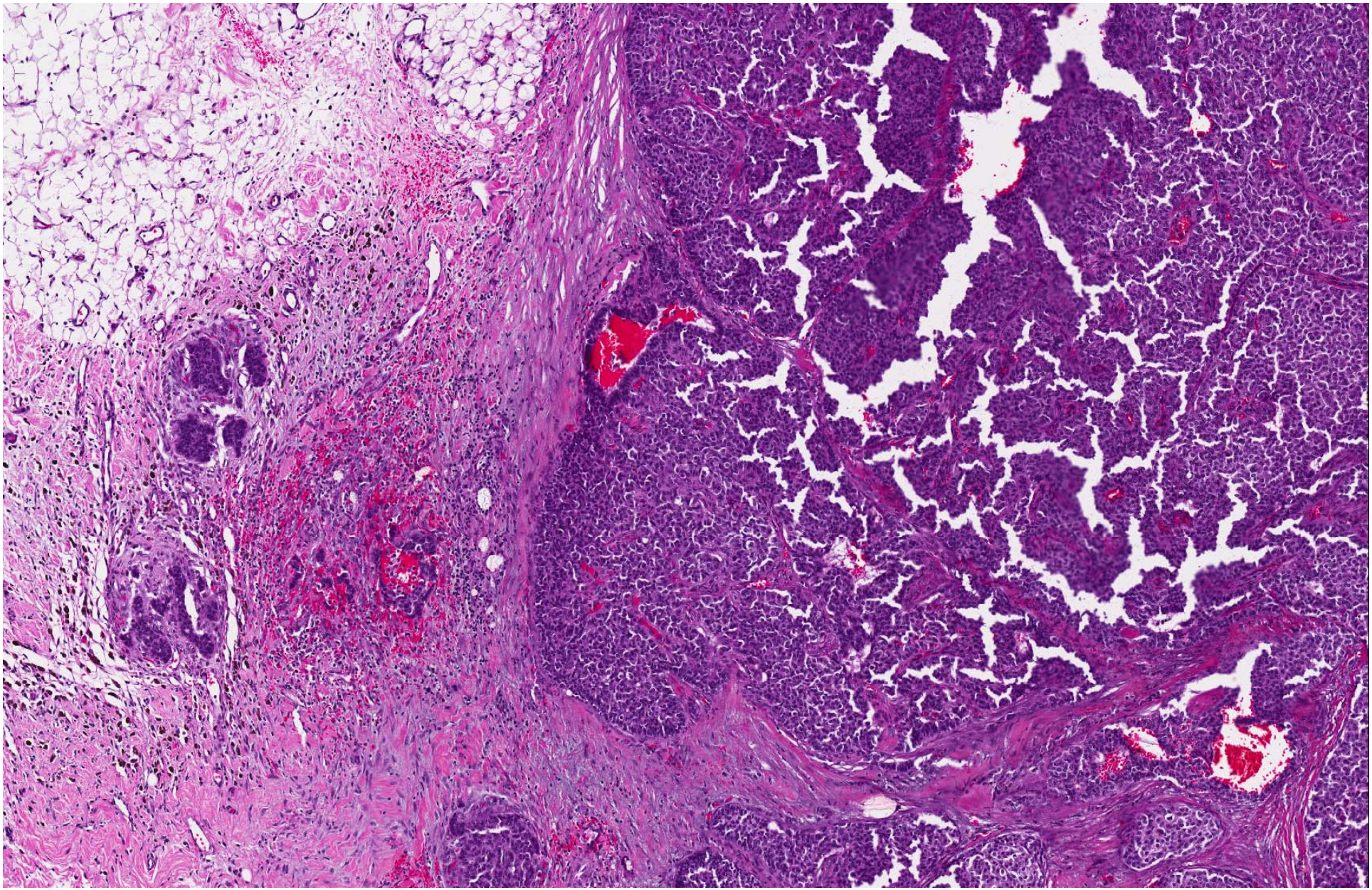


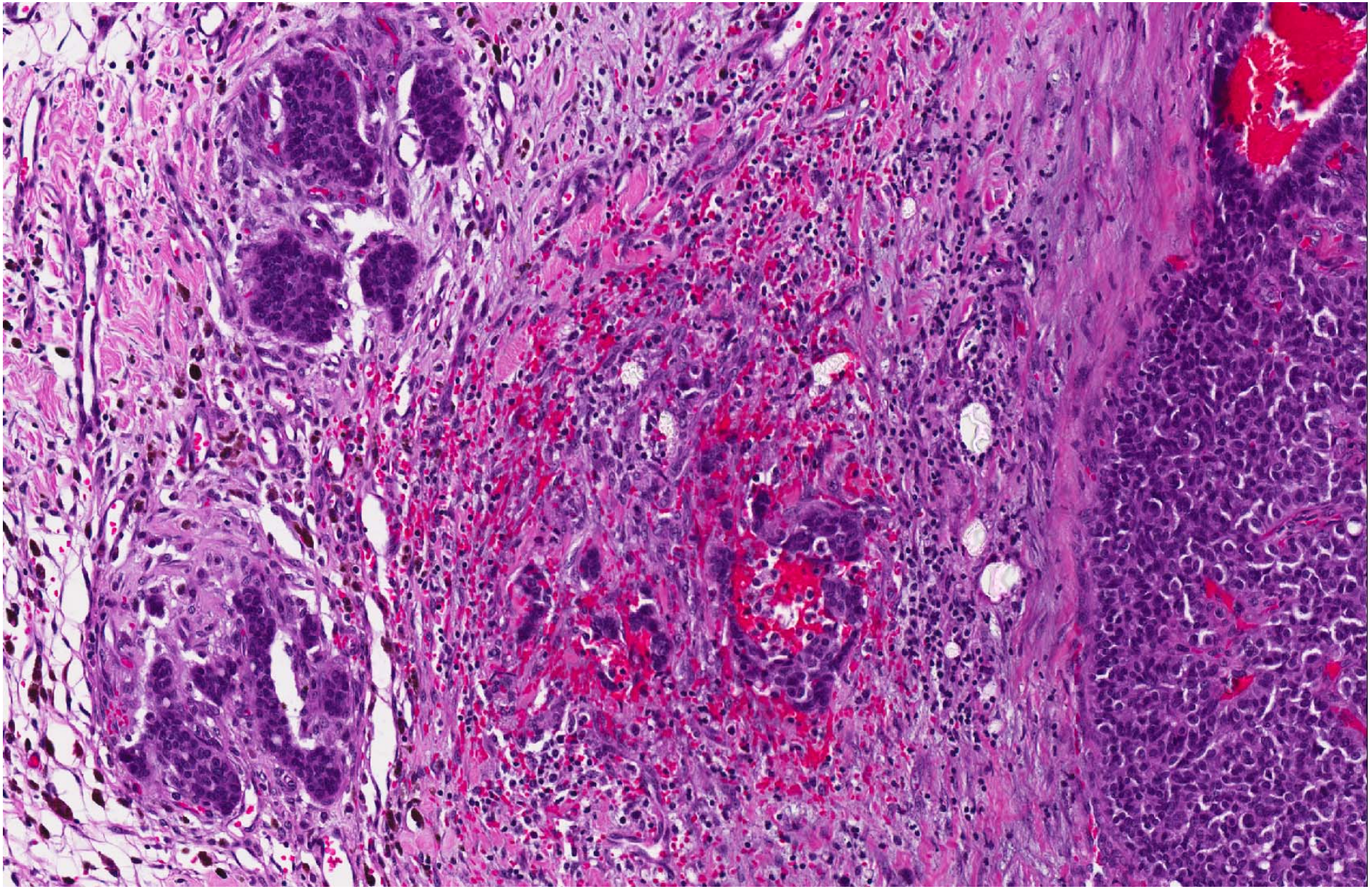


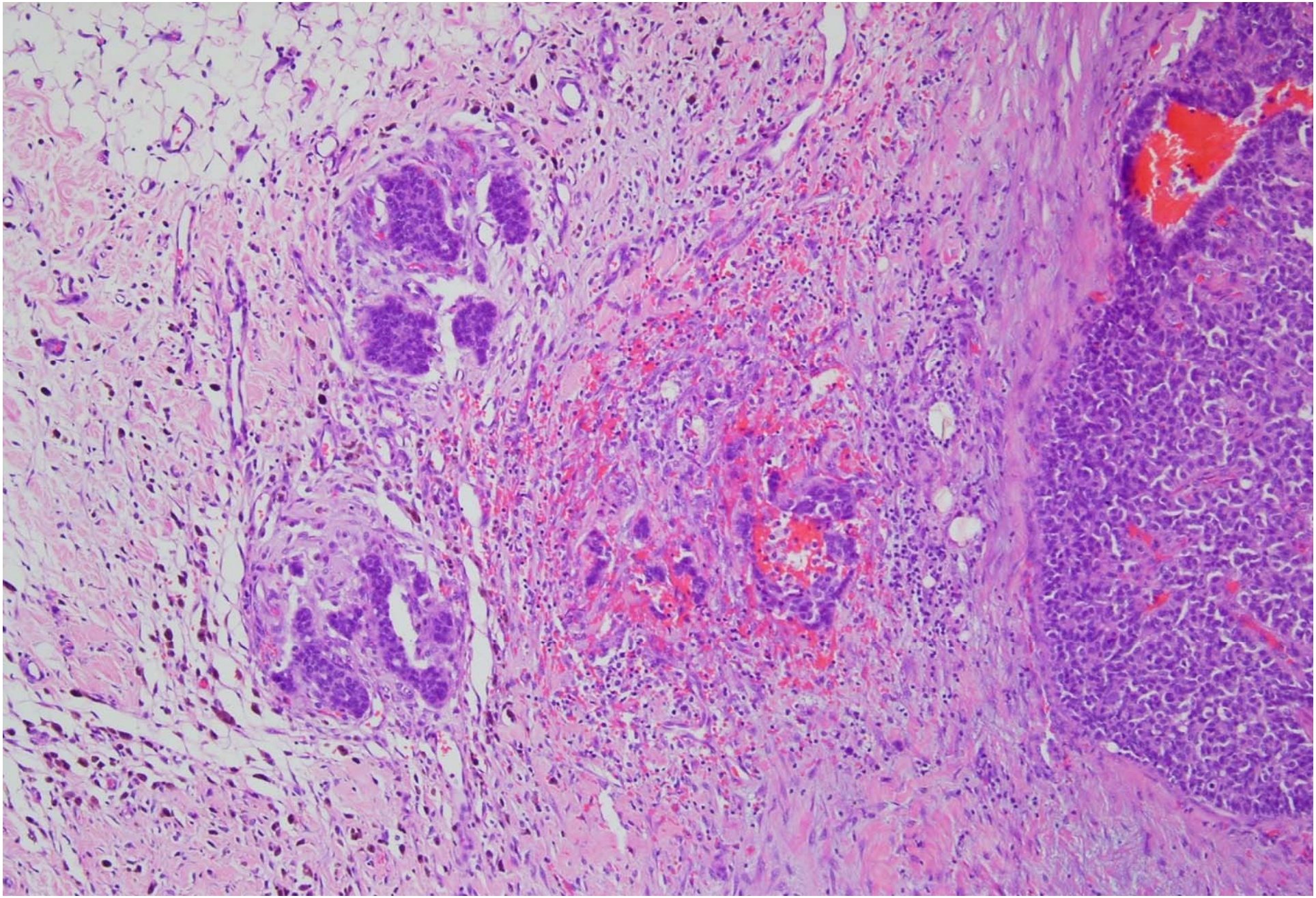


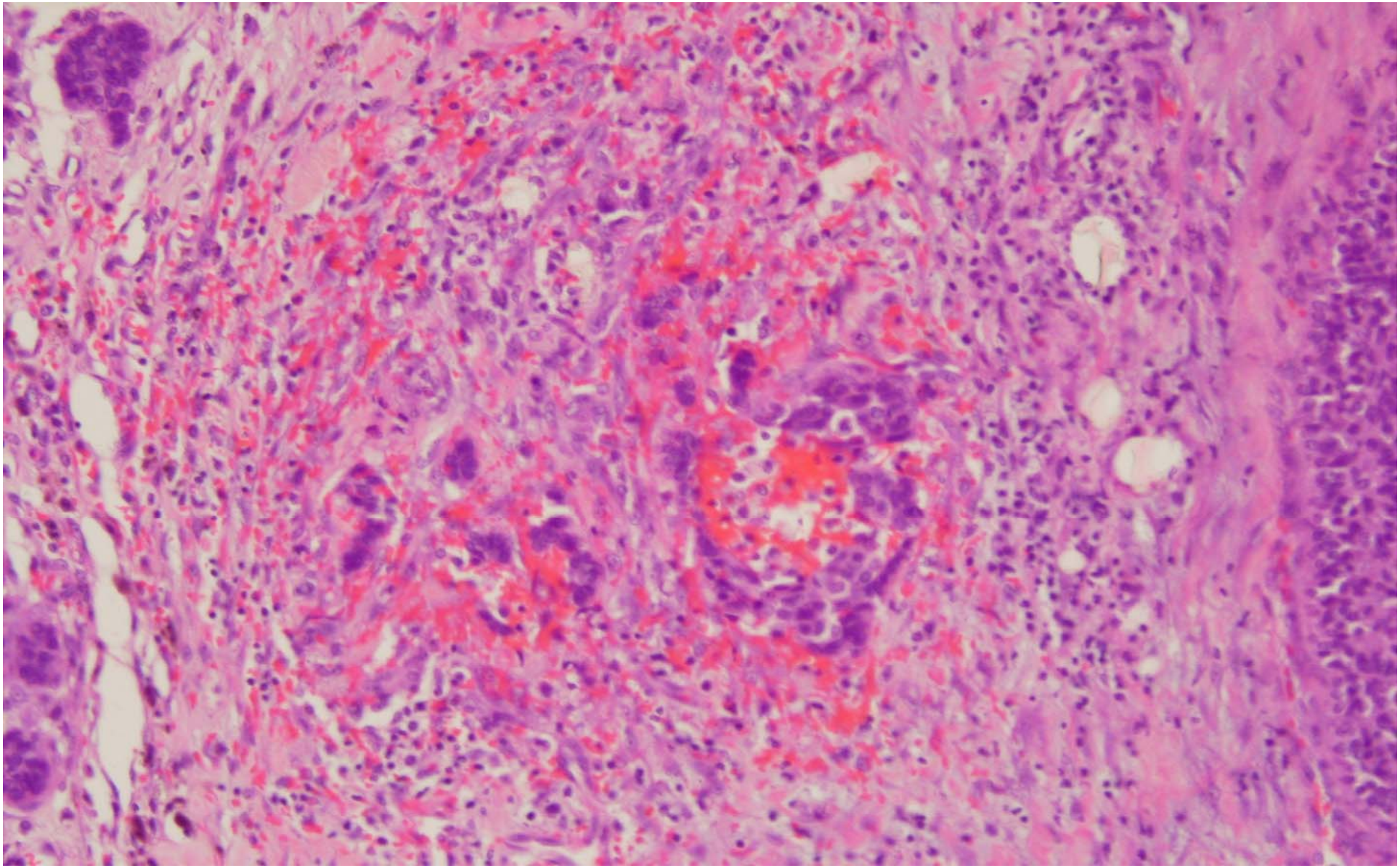












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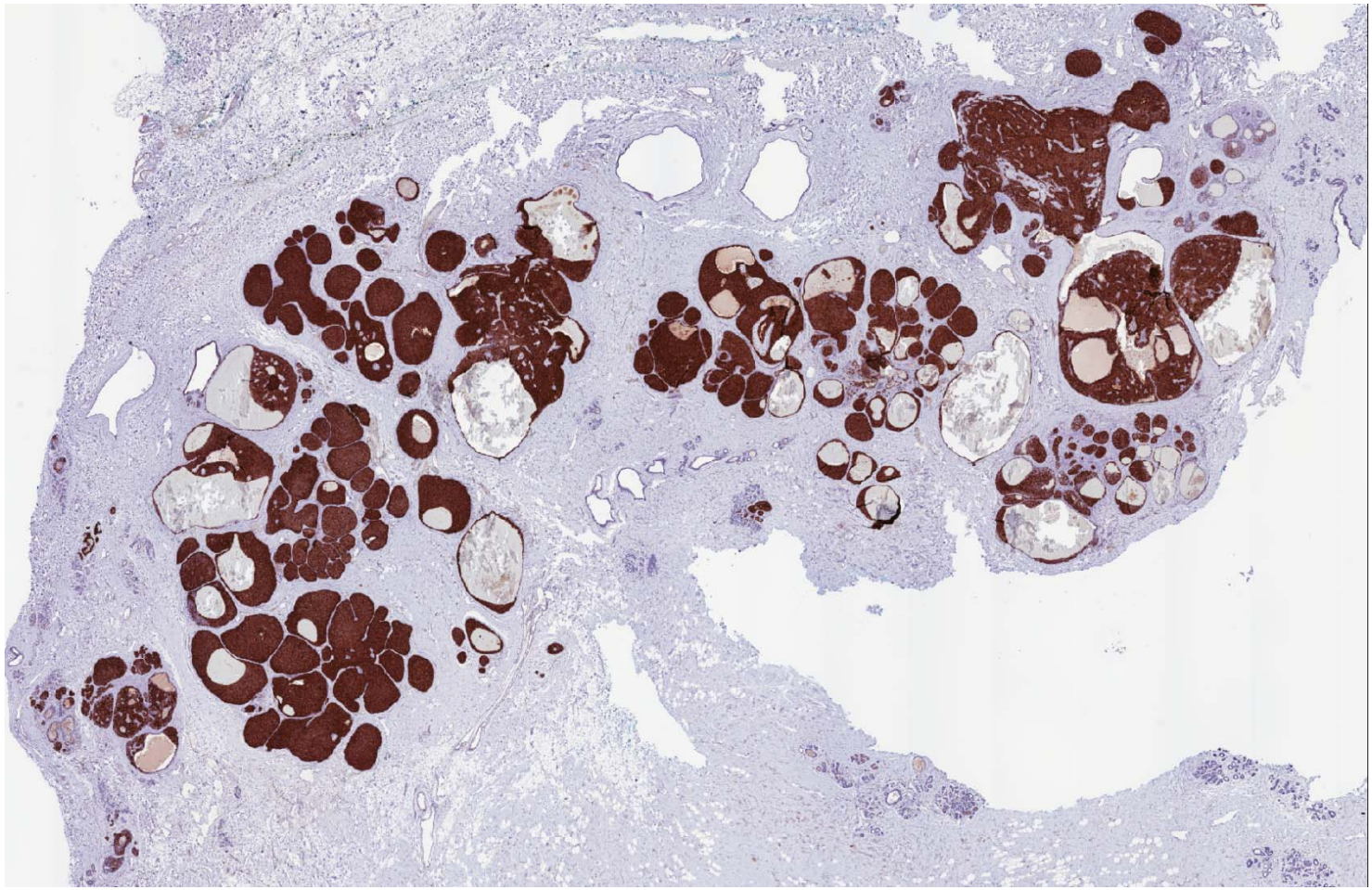

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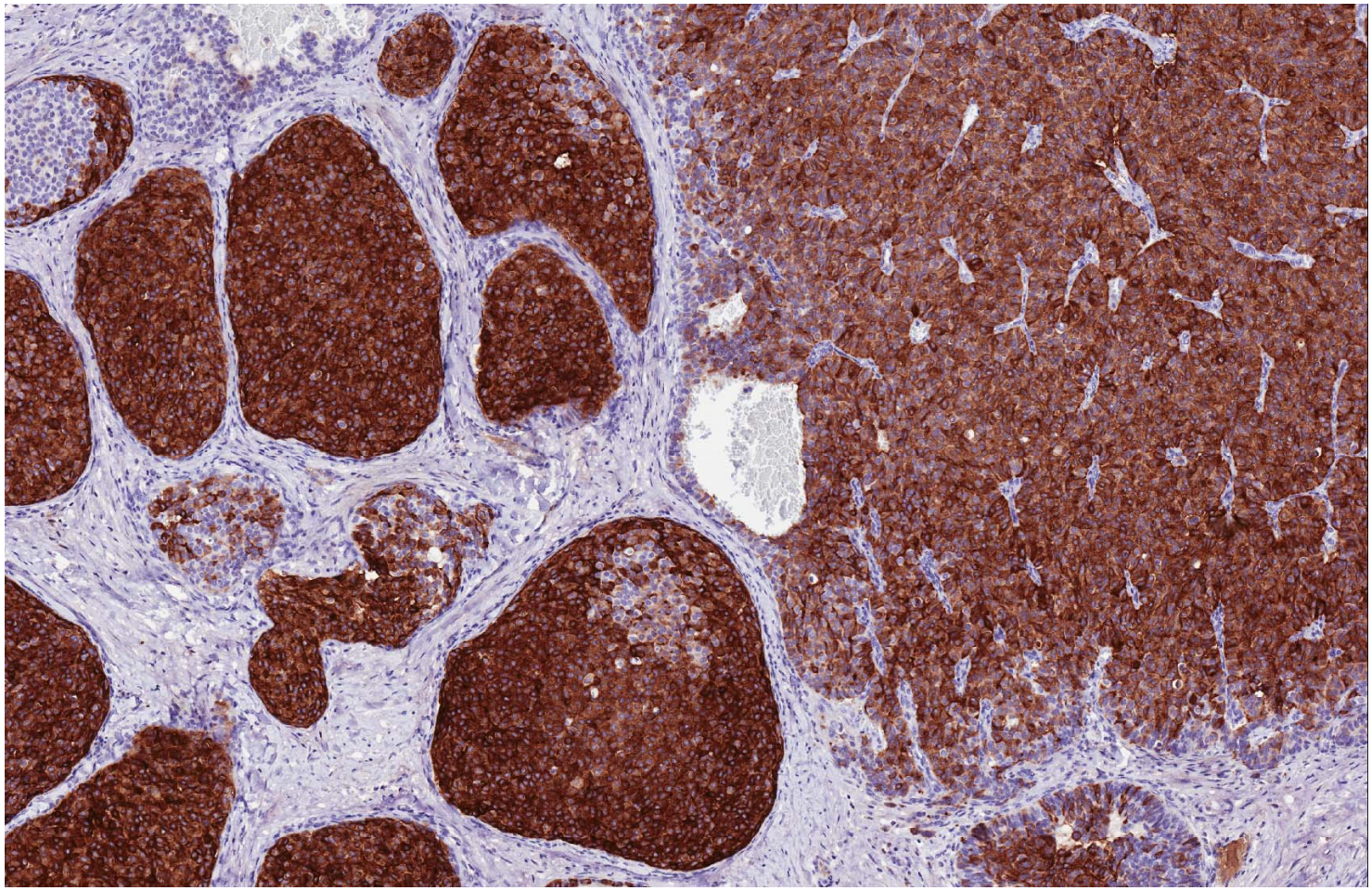

- DCIS, solid and solid-papillary with neuroendocrine differentiation and focal likely microinvasion (D5, 0.7 mm).

(Note: microinvasive focus may not be visualised in all the sets)

Neuroendocrine differentiation

- Solid and solid-papillary islands with relatively uniform cell population.
- Epithelial cells with amphophilic/argyrophilic cytoplasm.
- Epithelial pseudorosettes.

Microinvasion

- Extension of carcinoma cells beyond the basement membrane of the ductal-lobular system into the adjacent tissue.
- Not more than 1 mm in greatest dimension.
- For multiple foci of microinvasion, only the size of the largest focus is used for classification.
- T1mic.

Microinvasion

- Most commonly seen in association with large, high-grade ductal carcinoma in situ (DCIS).
- May be seen in DCIS of any grade, as well as LCIS.
- Rarely, can be diagnosed in isolation, without accompanying in situ carcinoma.
- When to suspect microinvasion:
  - Stromal desmoplasia.
  - Lymphocytic infiltrates.
  - Lobular involvement by high-grade DCIS.
  - Large extensive lesions of DCIS.
- Multiple levels can assist in defining a suspicious focus.
- Use of immunohistochemistry to confirm absence of myoepithelial cells in the microinvasive focus.

Mimics of microinvasion

- DCIS involving lobules.
- DCIS involving ducts with branching.
- Fibrotic distortion of lobules and ducts affected by DCIS.
- DCIS superimposed on benign sclerosing lesions.
- Crush and cautery artifact.
- Displacement of DCIS cells into stroma and adipose from prior specimen manipulation/needling procedure.

Microinvasive carcinoma

- ER, PR, cerbB2 should be reported on the microinvasive carcinoma cells.
- If the microinvasive focus is cut through, the corresponding staining results for the accompanying DCIS should be provided, as they will serve as surrogates.

Microinvasive carcinoma

- In some studies, the disease free and overall survivals are similar to those of pure DCIS of similar size and grade.
- In other studies, the clinical outcome is reported as intermediate between patients with pure DCIS and those with established invasive cancer.
- Using the TNM classification of up to 1 mm extent for microinvasion, it is likely that the clinical course will be similar to DCIS.
- Patients with large DCIS with and without microinvasion are managed in a similar manner, with inclusion of sentinel lymph node biopsy.

Why possible microinvasion in this case?

- For microinvasion:
  - Irregular small nests with stromal reaction of fibrosis and inflammation.
  - Large DCIS lesion.
  - No post-surgical changes of fat necrosis, granulation tissue, reparative fibrosis in the immediate vicinity.
  - Presence of other areas of microinvasion not demonstrated in the slides for review.
- Against microinvasion:
  - History of microdochectomy.
  - Haemosiderophages in the vicinity of the suspected microinvasive nests suggesting the possibility of trauma/needling.

Learning points

- Recognition of neuroendocrine differentiation.
- Diagnosis of microinvasion and excluding its mimics.
- Clinicopathologic characteristics of neuroendocrine DCIS with bloody nipple discharge.