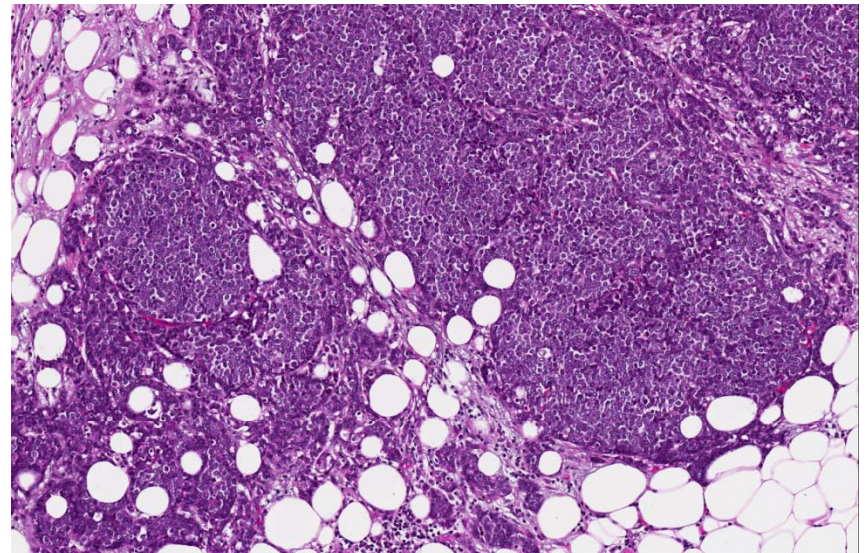
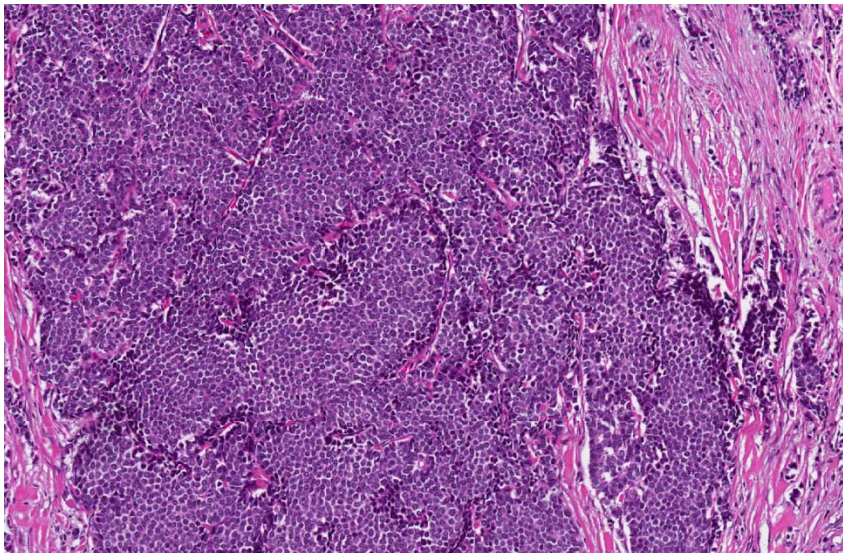
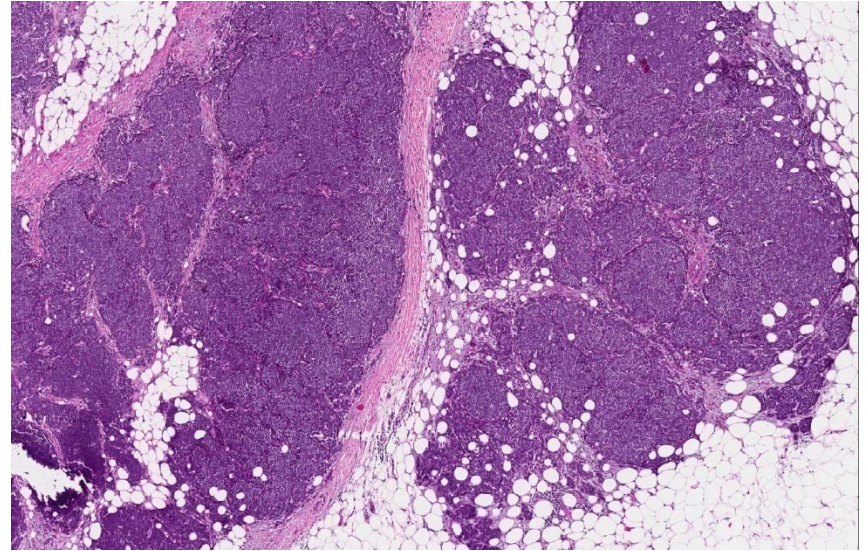
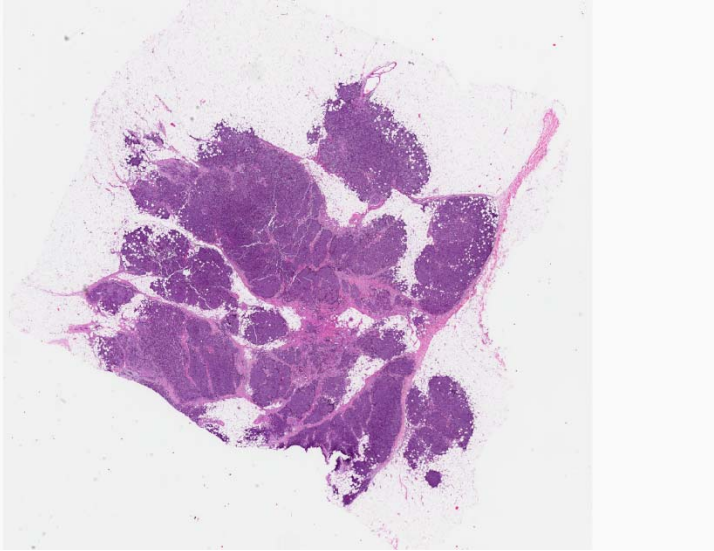


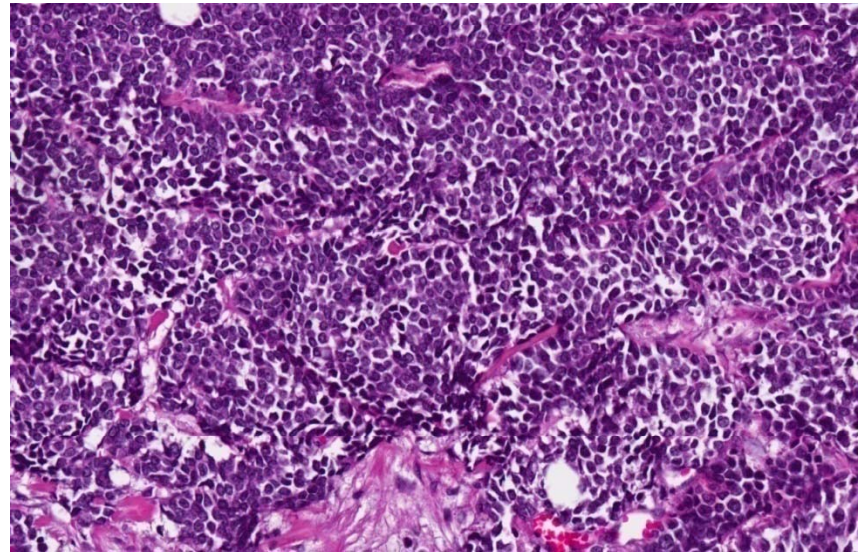
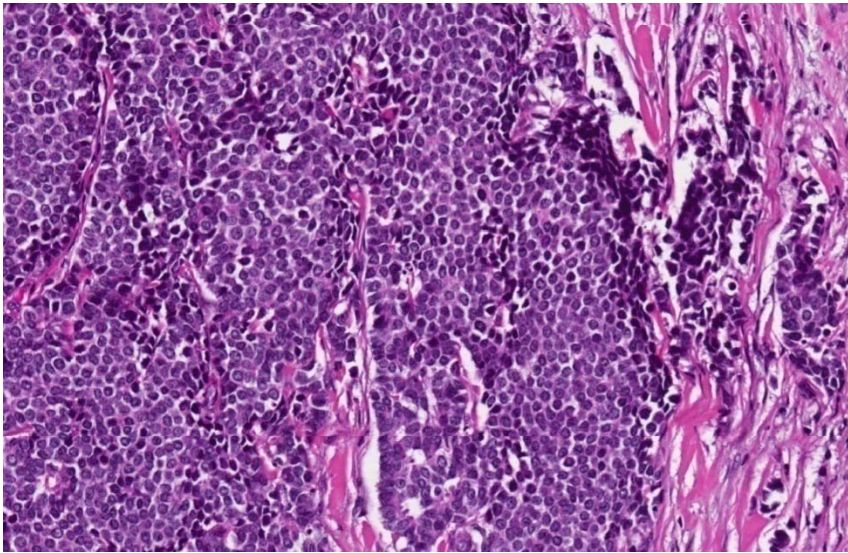
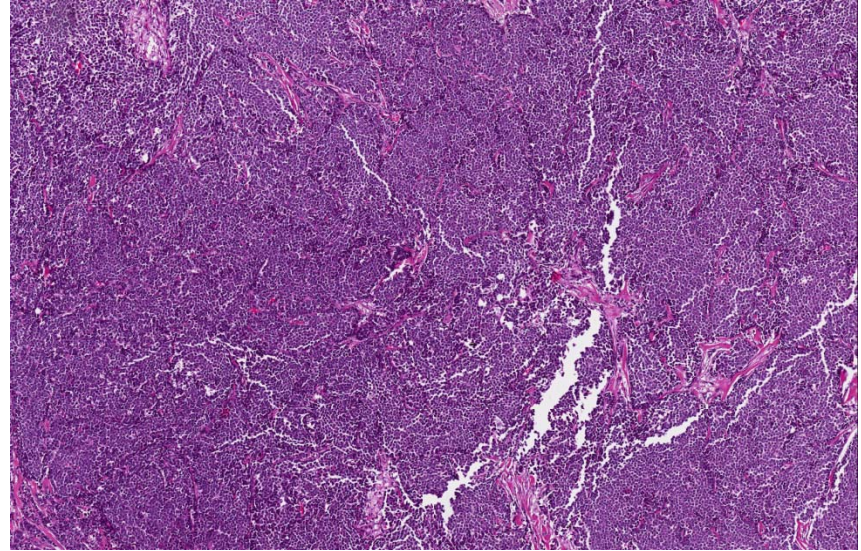
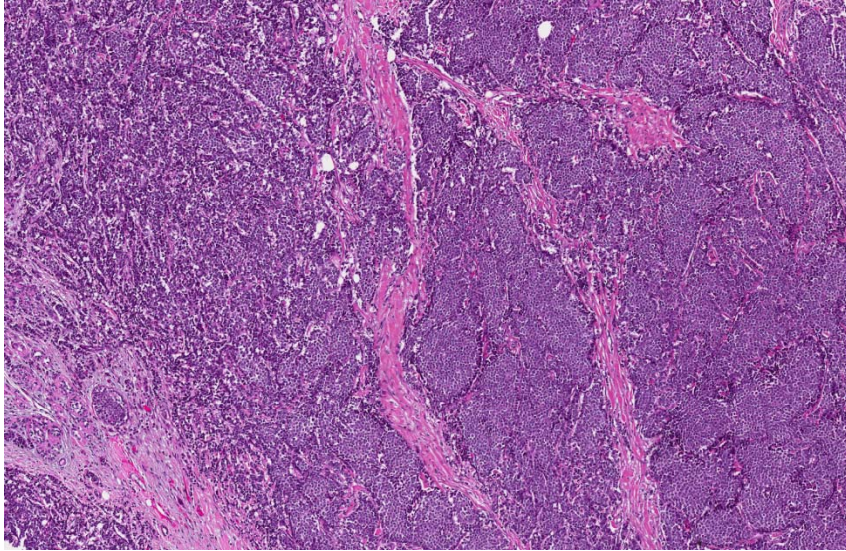
Set D.1

- 66 year old Chinese female underwent a simple right mastectomy with sentinel lymph node procedure following a core biopsy diagnosis of an infiltrative ductal carcinoma of a right breast lesion at the 11 o'clock location.
- ER+, PR+, cerbB2- on immunohistochemistry of tumour on core biopsy.

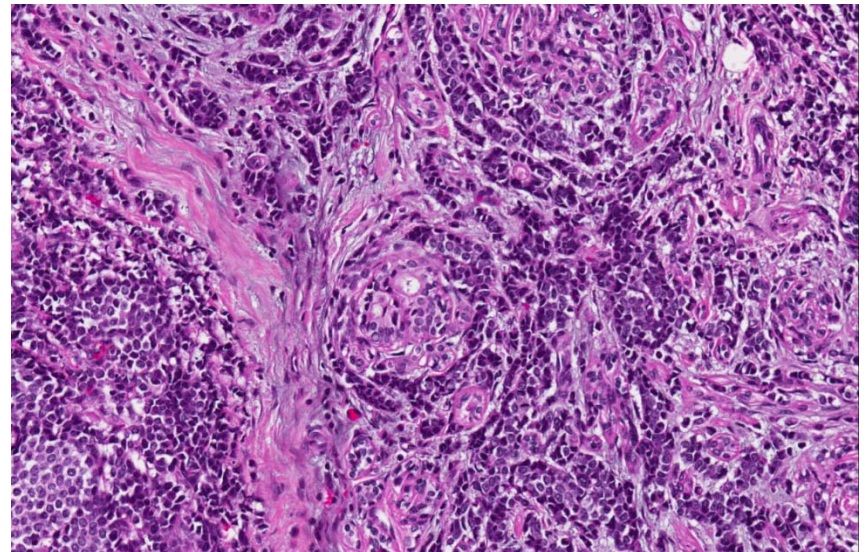
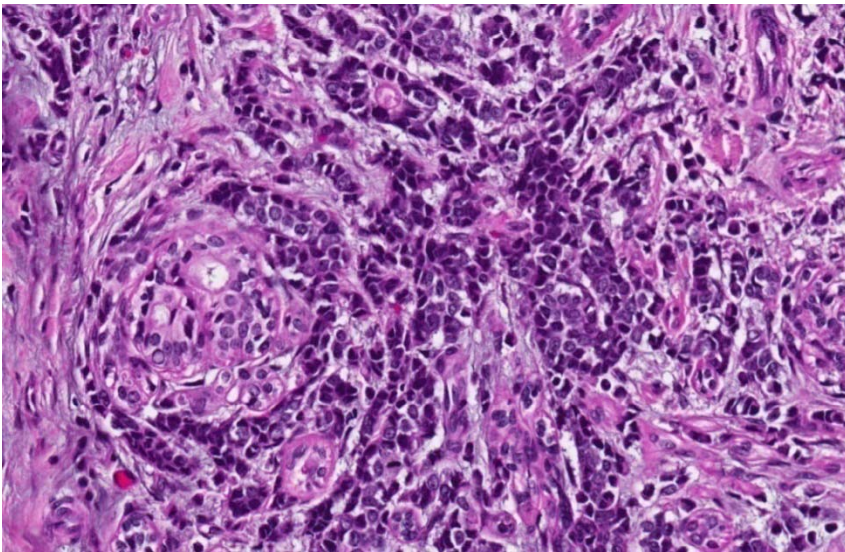
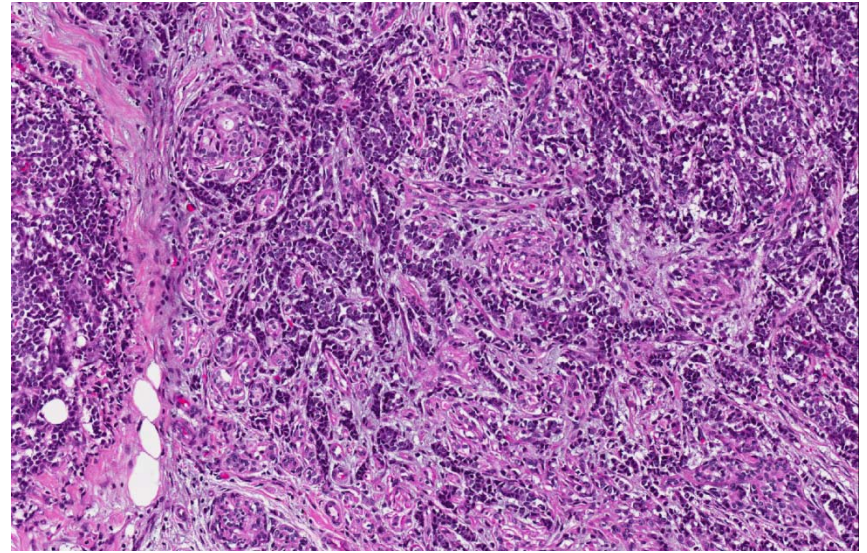
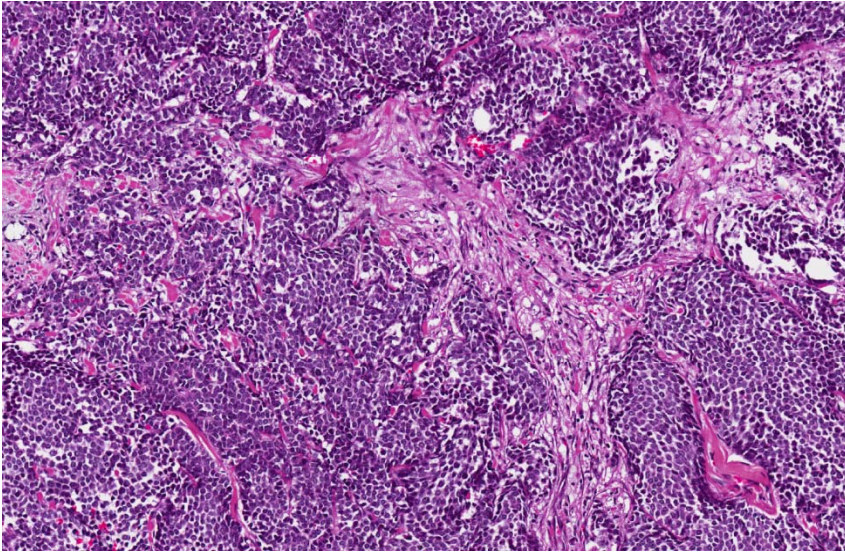
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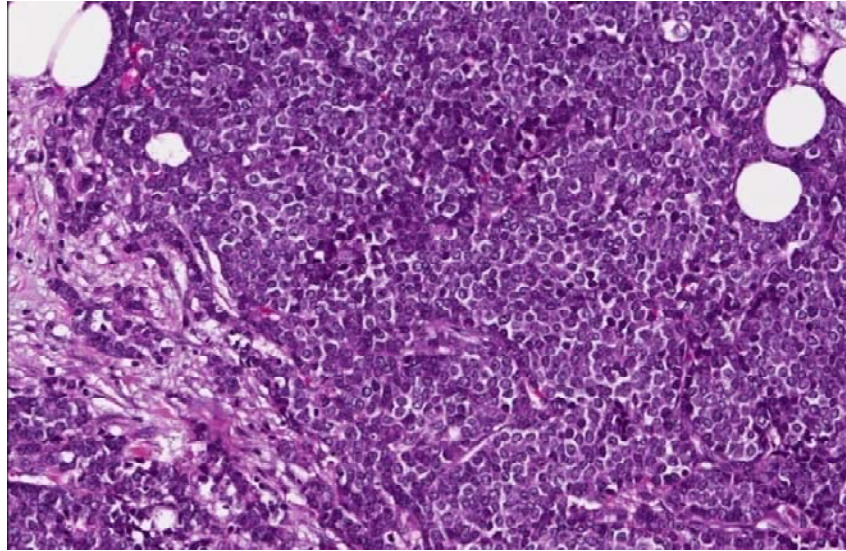
Set D.1



Set D.1

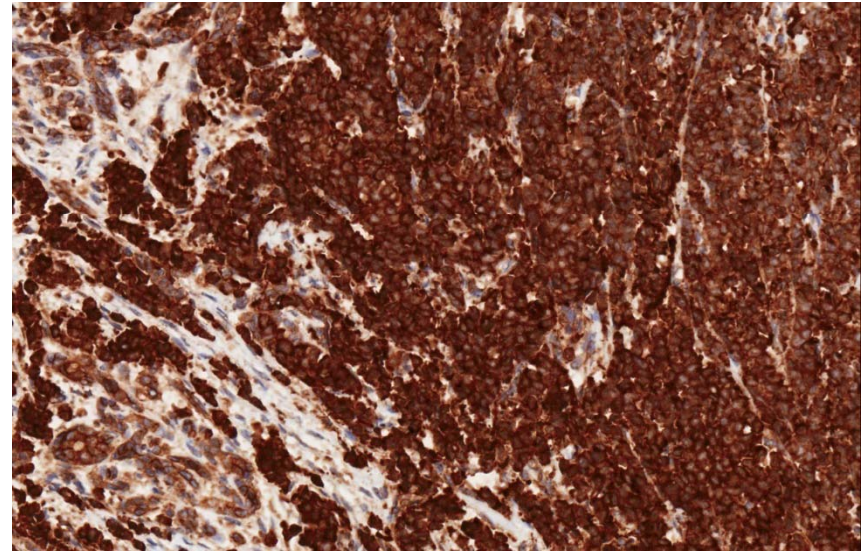
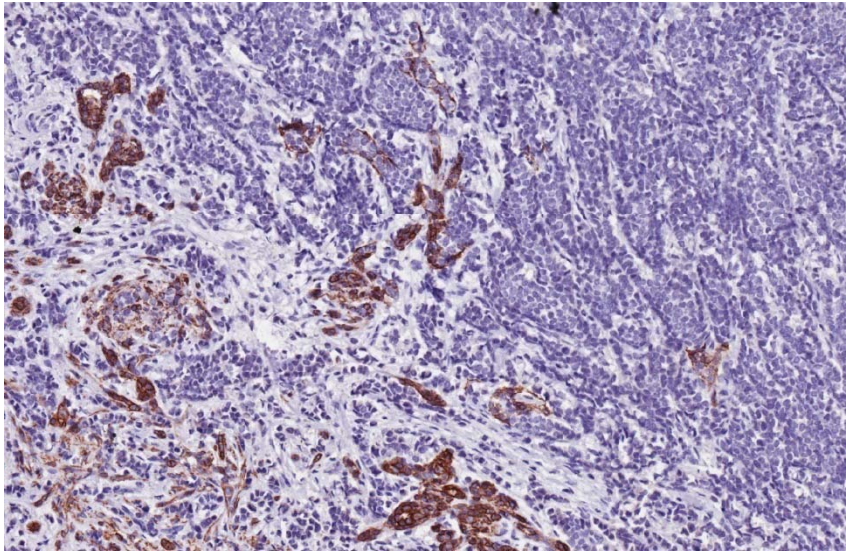


Set D.1



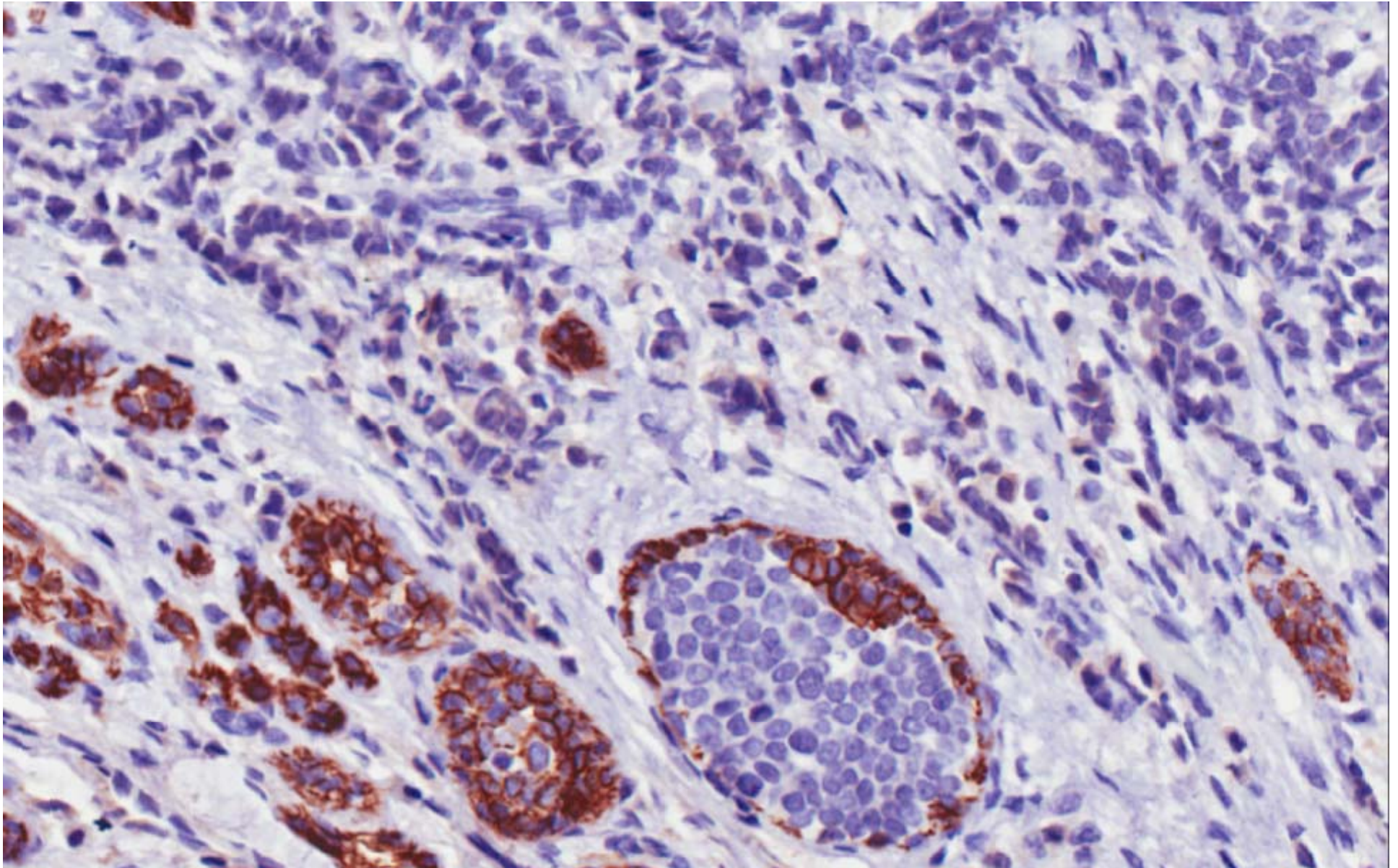
E-cadherin

p120catenin



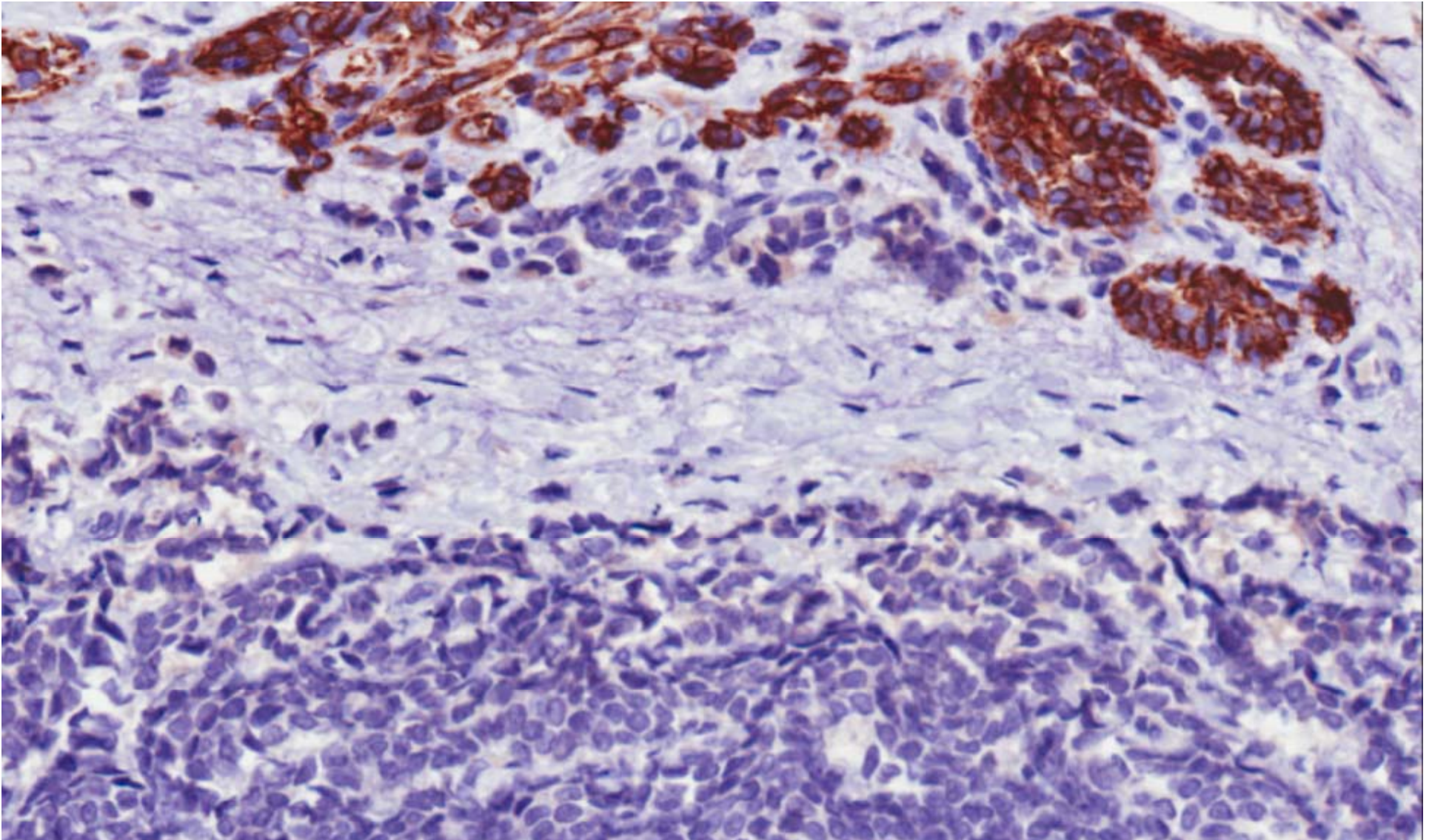
Set D.1

E-cadherin



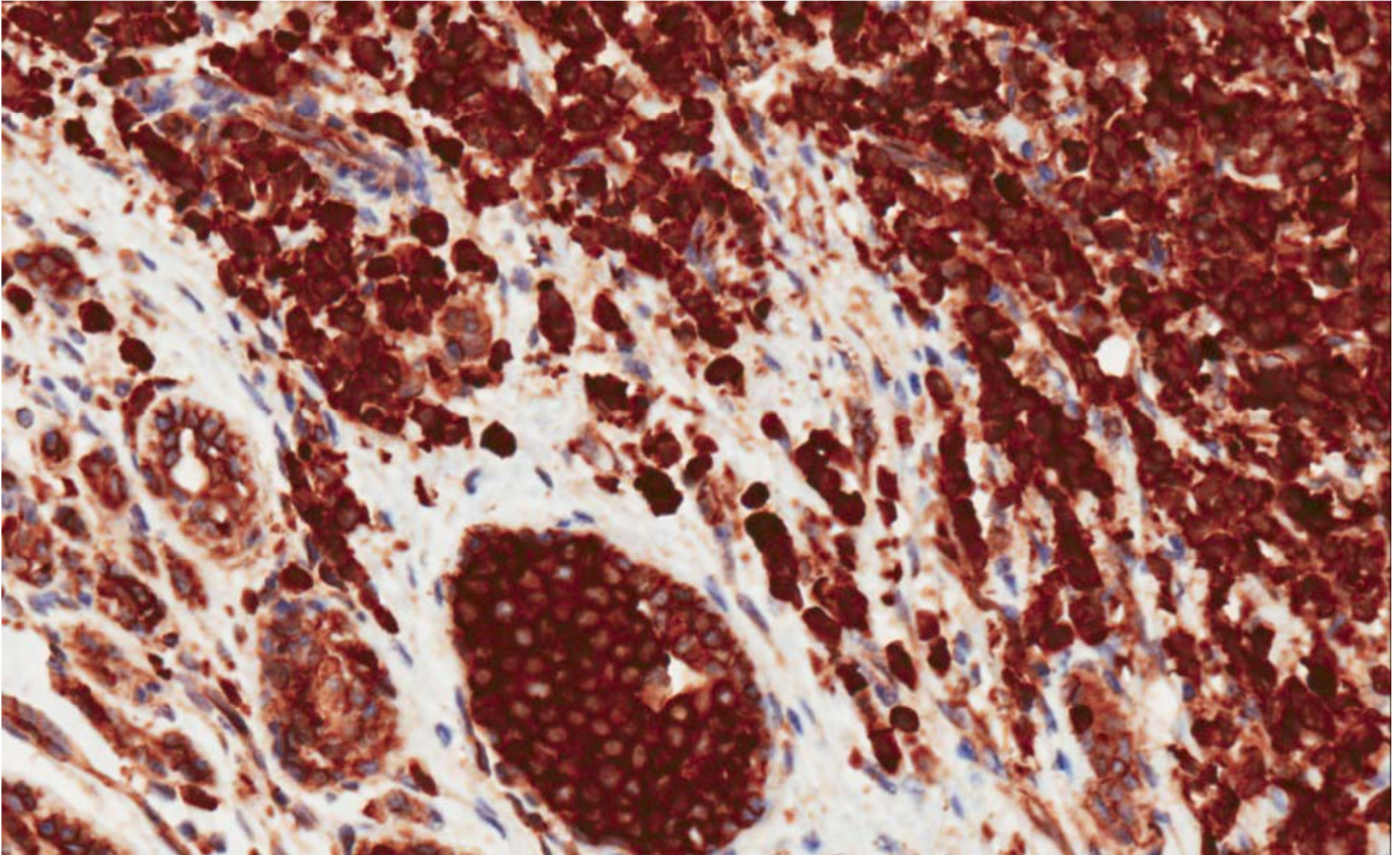
Set D.1

E-cadherin



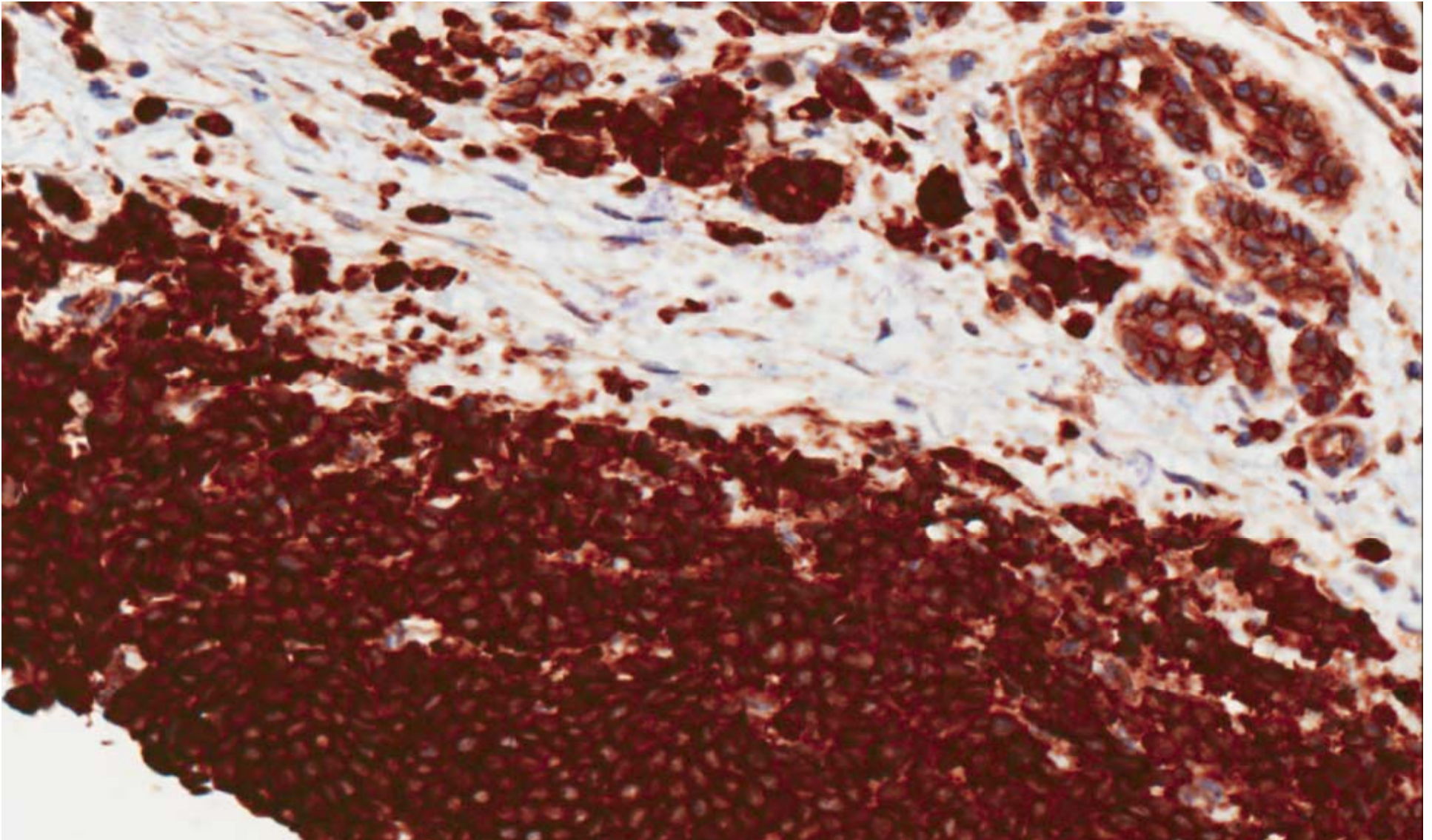
Set D.1

p120catenin



Set D.1

p120catenin



- Invasive lobular carcinoma, solid variant

Invasive lobular carcinoma

- 1st described with lobular carcinoma in situ in 1941 by Foote and Stewart.
 - Desmoplastic stromal reaction.
 - Linear arrangement of tumour cells.
 - Targetoid growth pattern.
- Accounts for < 5% to 14% of invasive breast cancer.
- Median age at diagnosis between 45 to 56 years.

Invasive lobular carcinoma:

Clinical features

- Ill-defined mass.
- Vague thickening.
- Fine diffuse nodularity.

Invasive lobular carcinoma: Imaging

- Mass:
 - Heterogeneous hypoechoic mass with angular or ill-defined margins, posterior acoustic shadowing.
 - Lobulated and well-circumscribed mass.
 - Asymmetric density.
 - Spiculated mass.
- Calcifications are uncommon.
- Mammographically and ultrasonographically silent.
- Mammographic size tends to be less than macroscopic measured size.
- MRI correlates more closely with pathologic tumour size than ultrasound.

Invasive lobular carcinoma: **Pathology**

- **Macroscopy:**
 - Occult and grossly inapparent.
 - Diffuse breast involvement.
 - Firm hard tumour with irregular borders.
 - Gray white with scirrhous or fibrous appearance.
 - Haemorrhage, necrosis, cysts, calcifications are uncommon.
- **Microscopy:**
 - Thread-like strands of tumour cells.
 - Cytoplasmic globules.

Invasive lobular carcinoma: **Pathology**

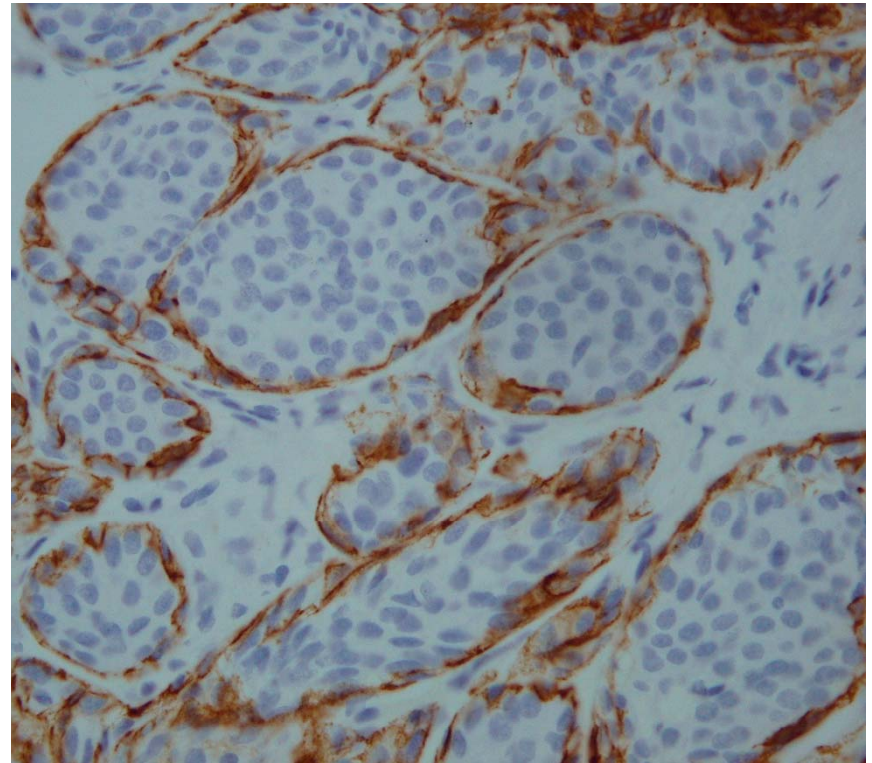
- Microscopic subtypes:
 - Classical
 - Variant:
 - Trabecular
 - Alveolar
 - **Solid**
 - Tubulolobular
 - Pleomorphic, histiocytoid, myoid

Invasive lobular carcinoma, **solid variant**

- Large confluent sheets with little intervening stroma.
- Constituent cells show characteristics of classical ILC.

E-cadherin

- Transmembrane glycoprotein involved in calcium dependent intercellular adhesion.
- Encoded by gene on 16q22.1.
- Abnormal E-cadherin function in cancers facilitates cell detachment & promotes metastases.
- Expressed in ductal lesions; absent in lobular neoplasia and lobular cancer.

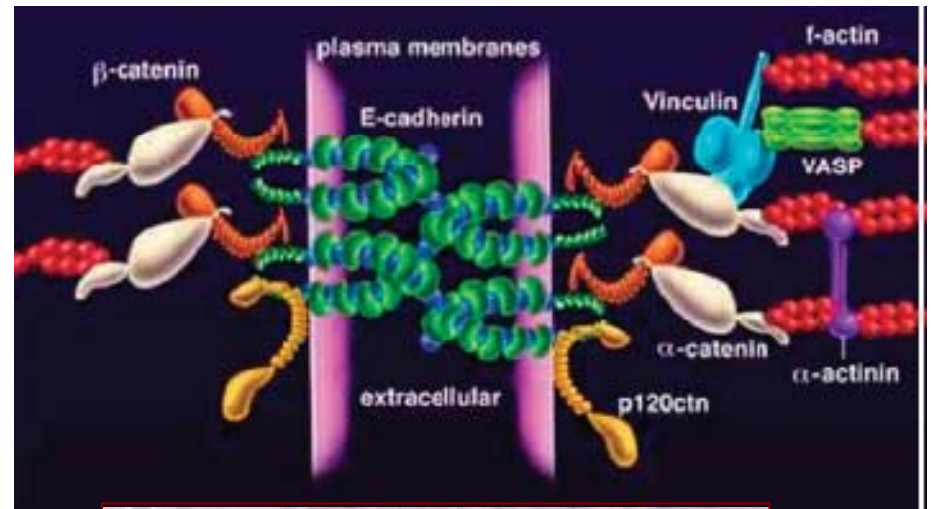


Lobular neoplasia with absent E-cadherin in the lesional cells, with E-cadherin positive rim of myoepithelial cells.

p120 catenin

- Part of the E-cadherin complex that anchors E-cadherin protein to cytoplasmic actin filaments.
- Diffuse cytoplasmic localisation in lobular neoplasia; dominant membrane staining in ductal lesions.

(Dabbs et al. Am J Surg Pathol 2007;31:427-437)



Invasive lobular carcinoma: **Prognosis**

- Overall, prognosis is similar to invasive ductal carcinoma.
- Classical ILC has a more favourable prognosis than variant forms of ILC, and IDC.
- Pleomorphic and signet ring cell variants have poor clinical outcome.
- Propensity for metastases to leptomeninges, peritoneum, retroperitoneum, gastrointestinal tract, reproductive organs, bone.
- Metastases to lungs, liver, brain less common than in ductal cancers.

Learning points

- Recognition of unusual pattern of invasive lobular cancer.
- Use of e-cadherin and p120catenin in confirming a lobular origin.
 - Interpretive challenges with both antibodies.
- Pitfalls with trucut core biopsy subtyping.
 - Called invasive carcinoma with ductal features on core biopsies.
- Awareness of variants of invasive lobular cancer.