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病理科-李鯨瀛醫師

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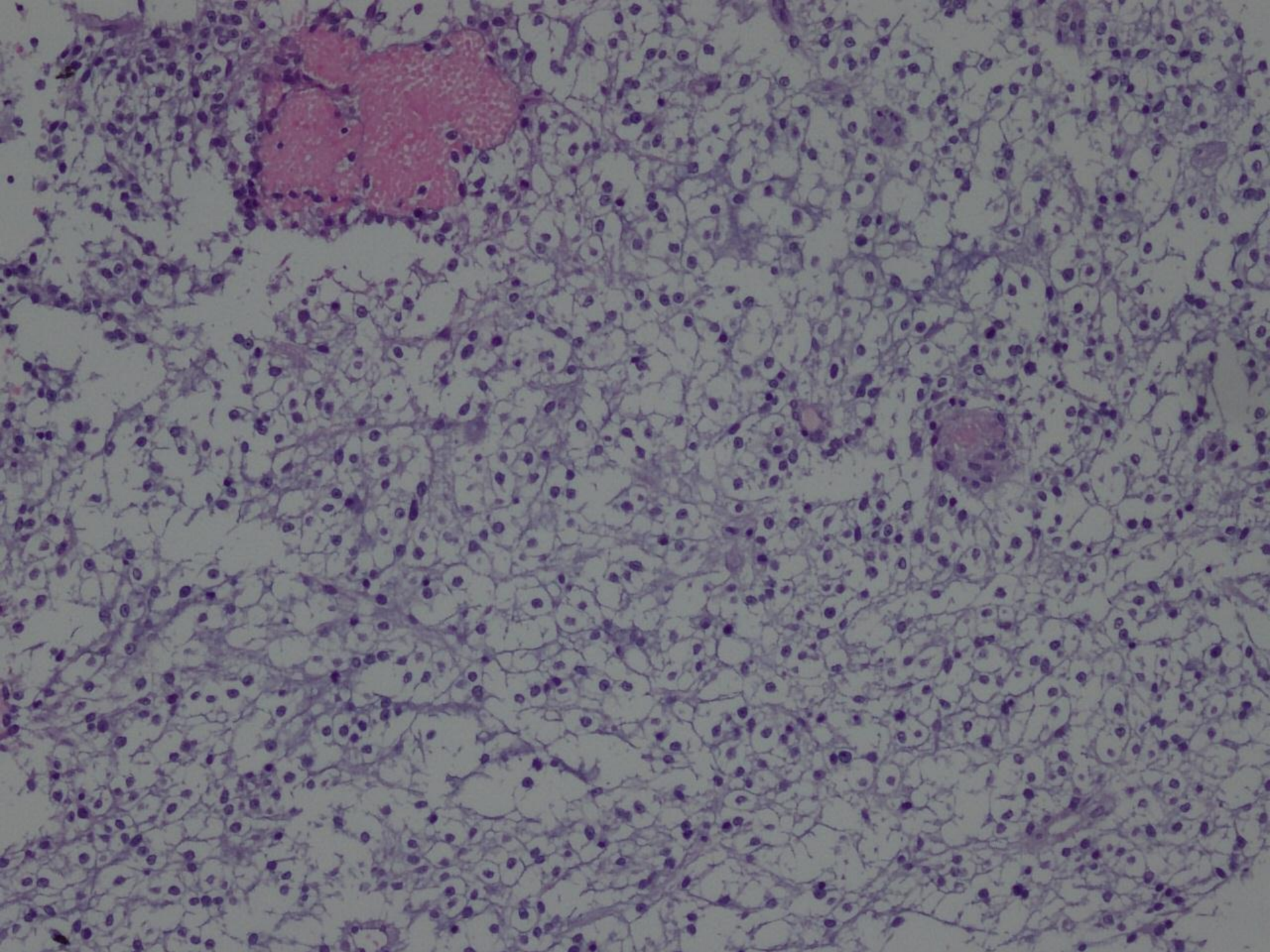

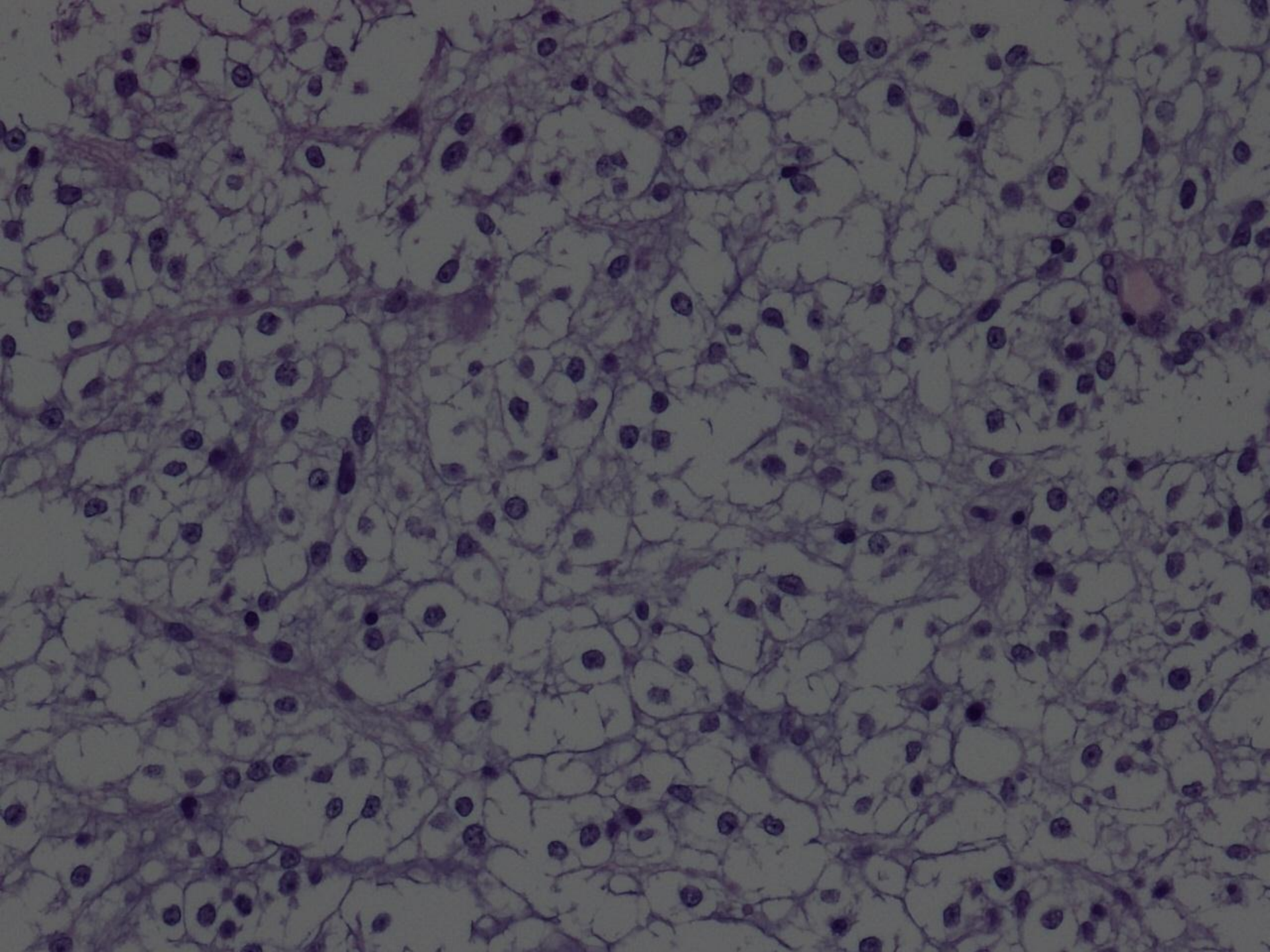

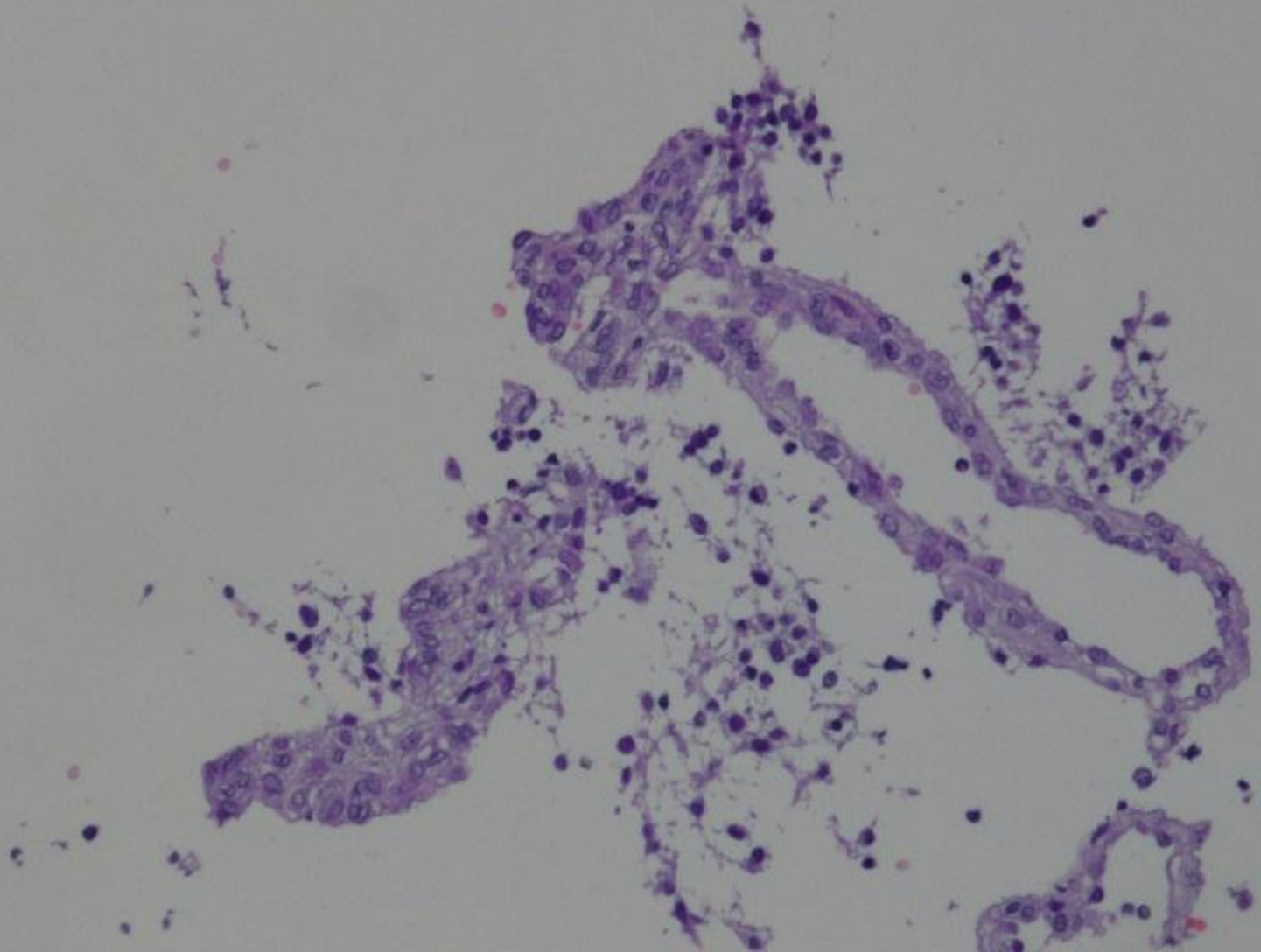

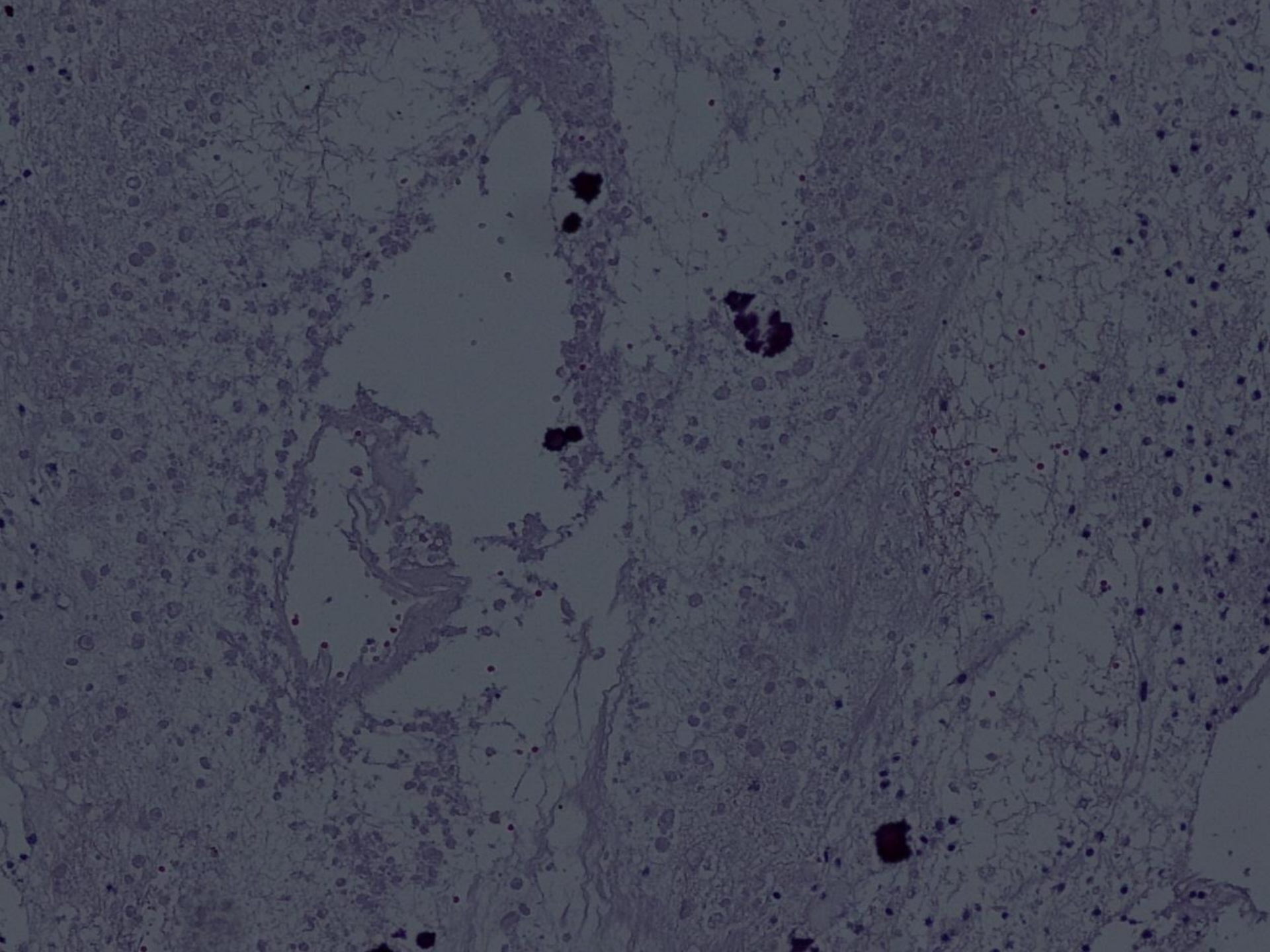

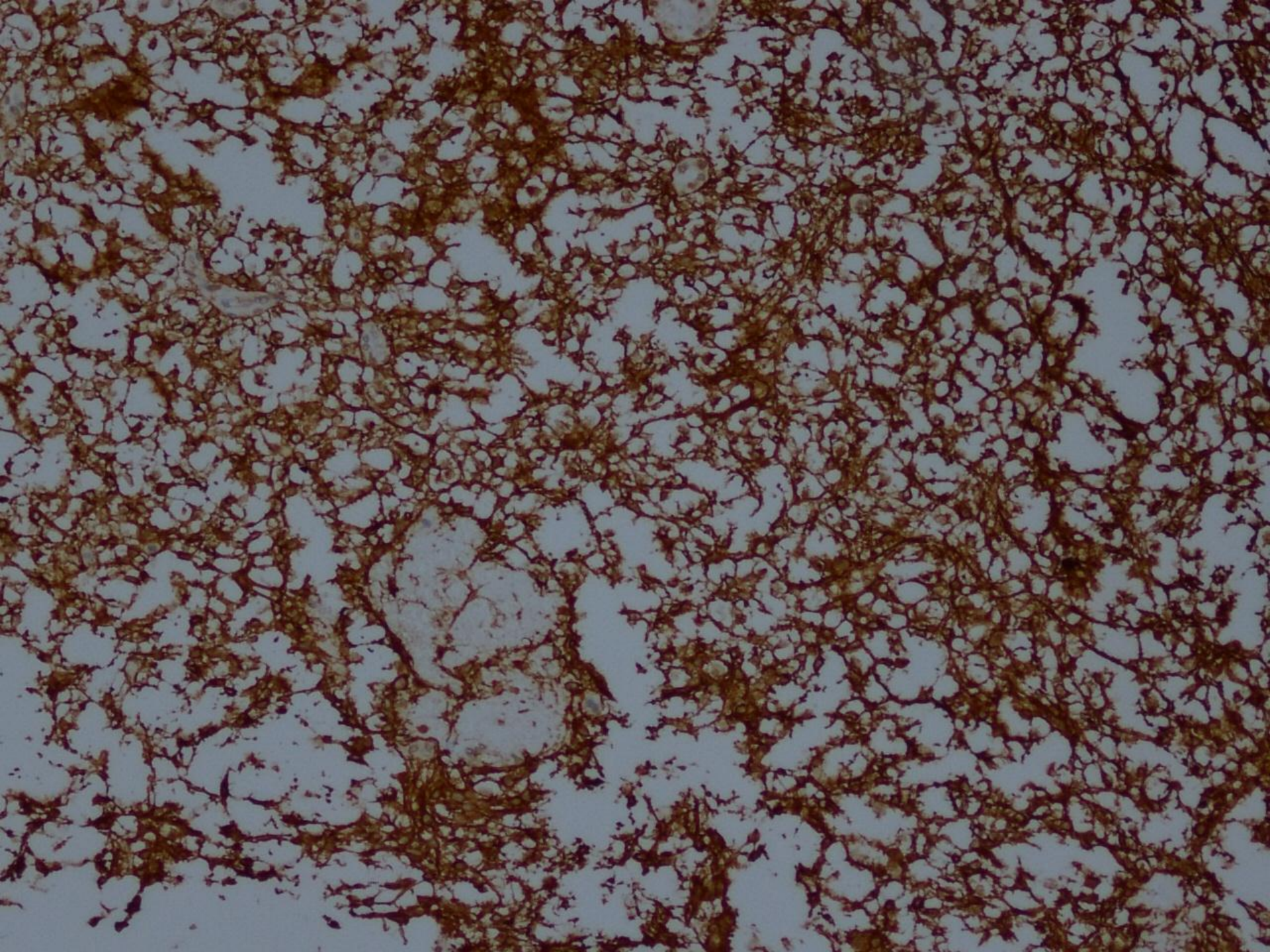

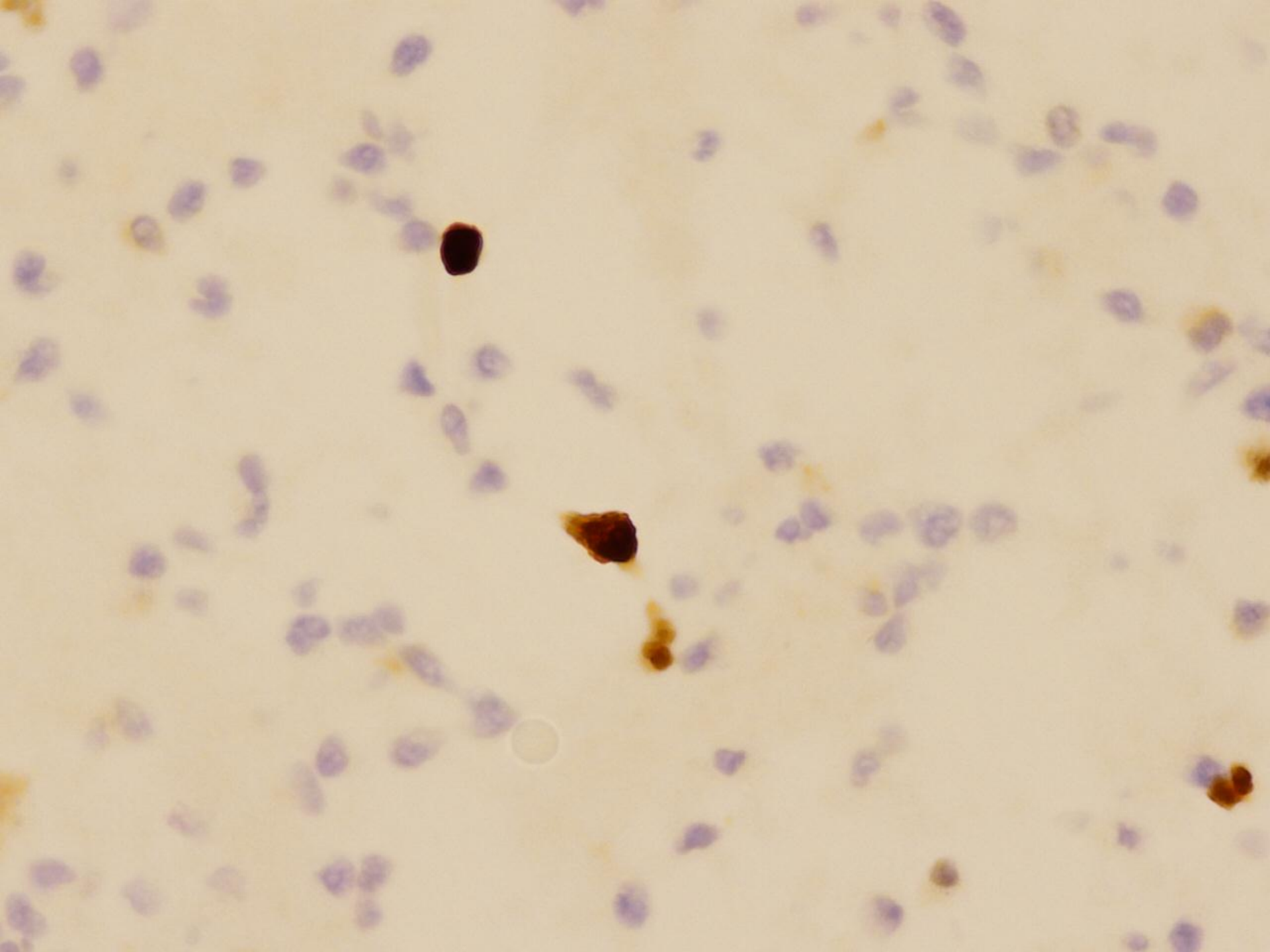

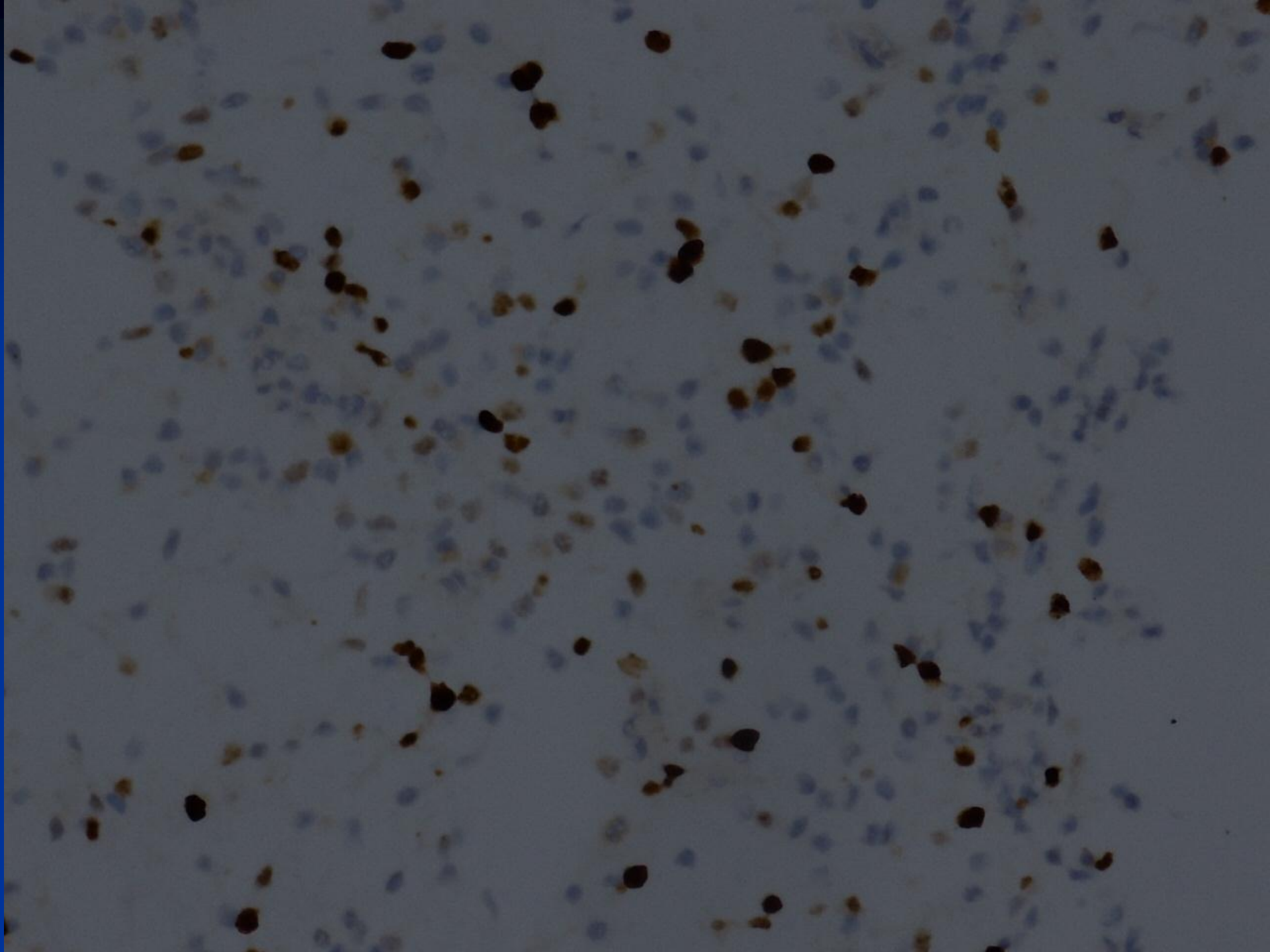

Anaplastic Astrocytoma (AA)

- Mitotically active infiltrating astrocytoma
- WHO III
- Can appear de novo or arise from grade II astrocytoma

AA

- Site:

  -- Cerebral hemispheres (children and adults)

  -- Thalamus (children and adults)

  -- Brain stem (usually pons) (typically children)

  -- Cerebellum (usually adults) rare

  -- Spinal cord (usually children and adults): uncommon

MICRO

- Infiltrative:
- Cellularity:
  generally moderate to high
  can overlap with GBM or astrocytoma
- Nuclei:
  highly variable degree of atypia
- Mitosis:
  1 usually considered sufficient in small specimen
  WHO: 1 insufficient in large specimen, but no codified number
- Vascular proliferation: absent
- Necrosis: absent
- Calcification (uncommon)

Immuno stain

- GFAP (glial fibrillary acidic protein)

  astrocytes are positive
- MIB-1 (Ki-67): usually in 5-15% range
- IDH-1 (+) in most cases

D.D

- Reactive gliosis:
  low to medium cellularity
  generally uniform cells with no or minor atypia
  low Ki-67 rate
- Astrocytoma
  mitotically less active
  ↓cytological atypia and ↓Ki-67 rate, but overlap
- GBM: necrosis
- Pilocytic astrocytoma
- Oligodendroglioma

Pilocytic Astrocytoma

- Occurs predominantly in children and young adults (< 20 Y/o)
- Most common glioma in children
- Most frequently occurs in the cerebellum; may be seen in the optic nerve, third ventricle, hypothalamus, brain stem, cerebral hemispheres, or thalamus
- Gross: relatively-circumscribed

Pilocytic Astrocytoma

- Biphasic pattern:

  --- Loose, microcystic areas typically contain eosinophilc granular bodies or protein droplets

  ---Pilocytic component shows elongated cells with densely packed fibrillary cytoplasm and Rosenthal fibers
- GFAP: (+)
- Overall prognosis is excellent

Oligodendroglioma

- Typically occurs in adults (peak in 40-45 y/o), rare in children
- Prefer in the cortex and white matter of the cerebral hemispheres
- Soft, well-defined tumor
- Fried-egg/honeycomb appearance: monomorphic cells with uniform round nuclei and perinuclear halos
- Mitotic activity is usually low
- GFAP: (-)

A.A.

Prognosis:

- Poor, most patients succumb within 5 years
- Often progress to GBM

Diagnostic checklist

- Exclude mimics
- Be careful in the diagnosis; AA treated with R/T and C/T