

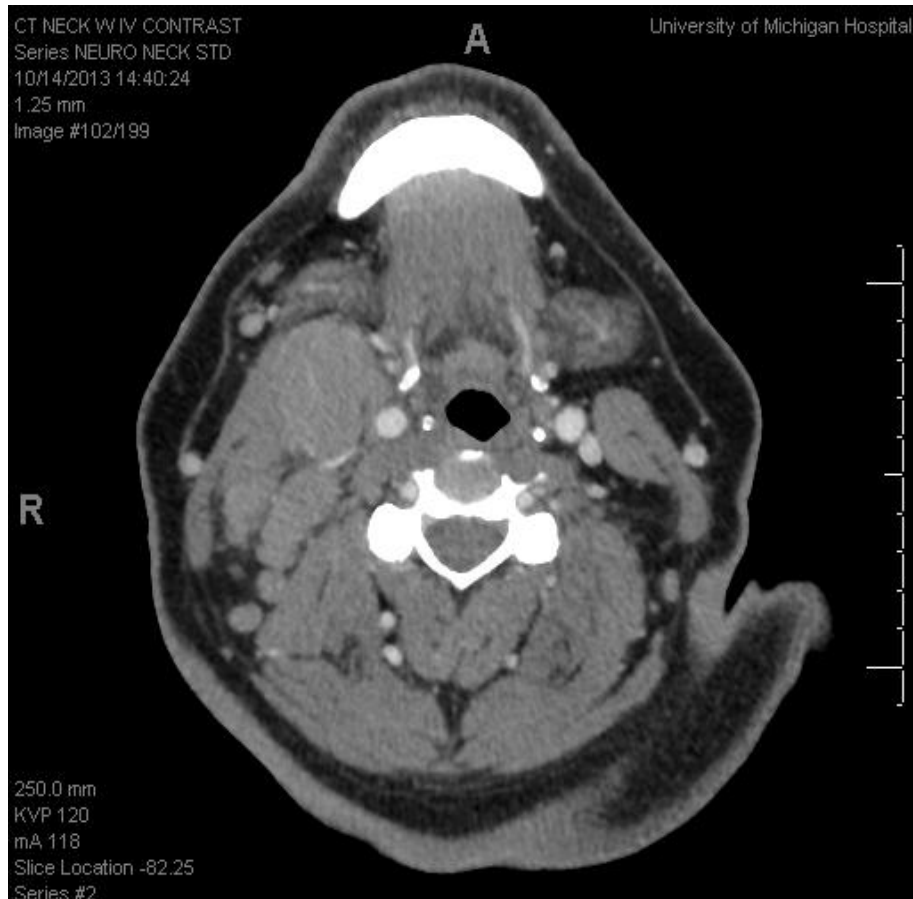
# Interesting Case Conference

11/4/2013

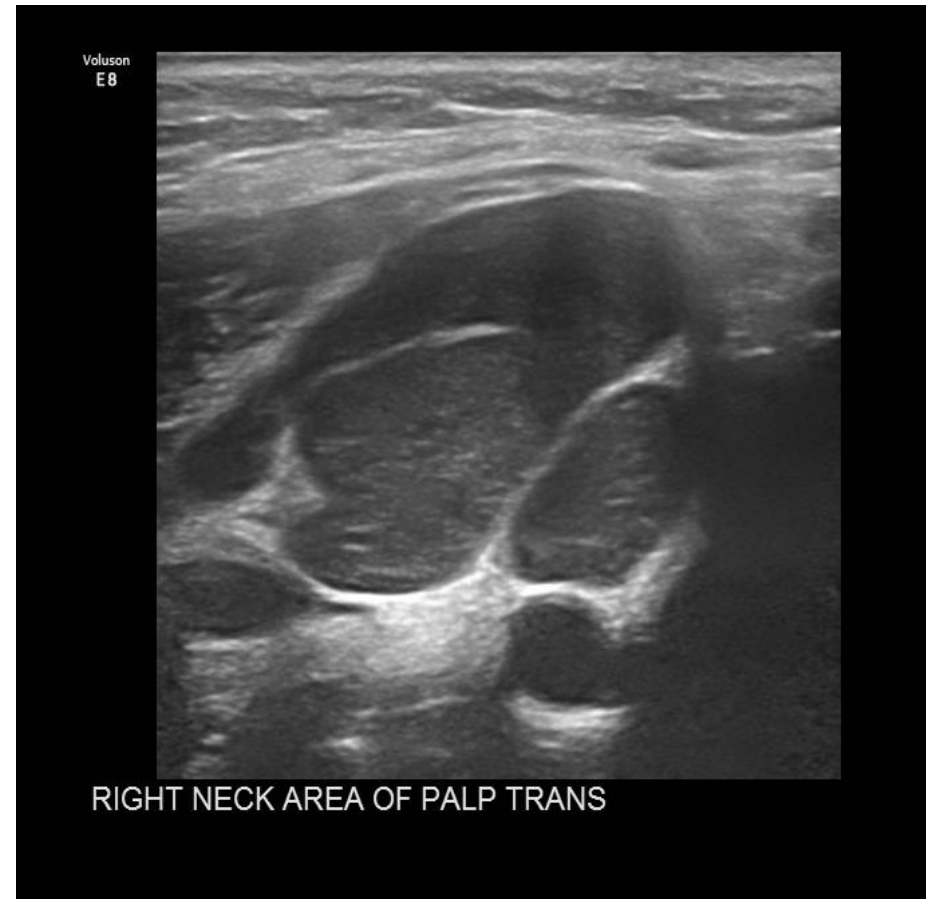
# Hx

- 60 yo M with right sided neck mass
  - Large (5 cm)
  - Mobile
  - Nontender
  - Present for 2-3 month
- Nonsmoker
- PPD+
- No significant B symptoms

# Radiology

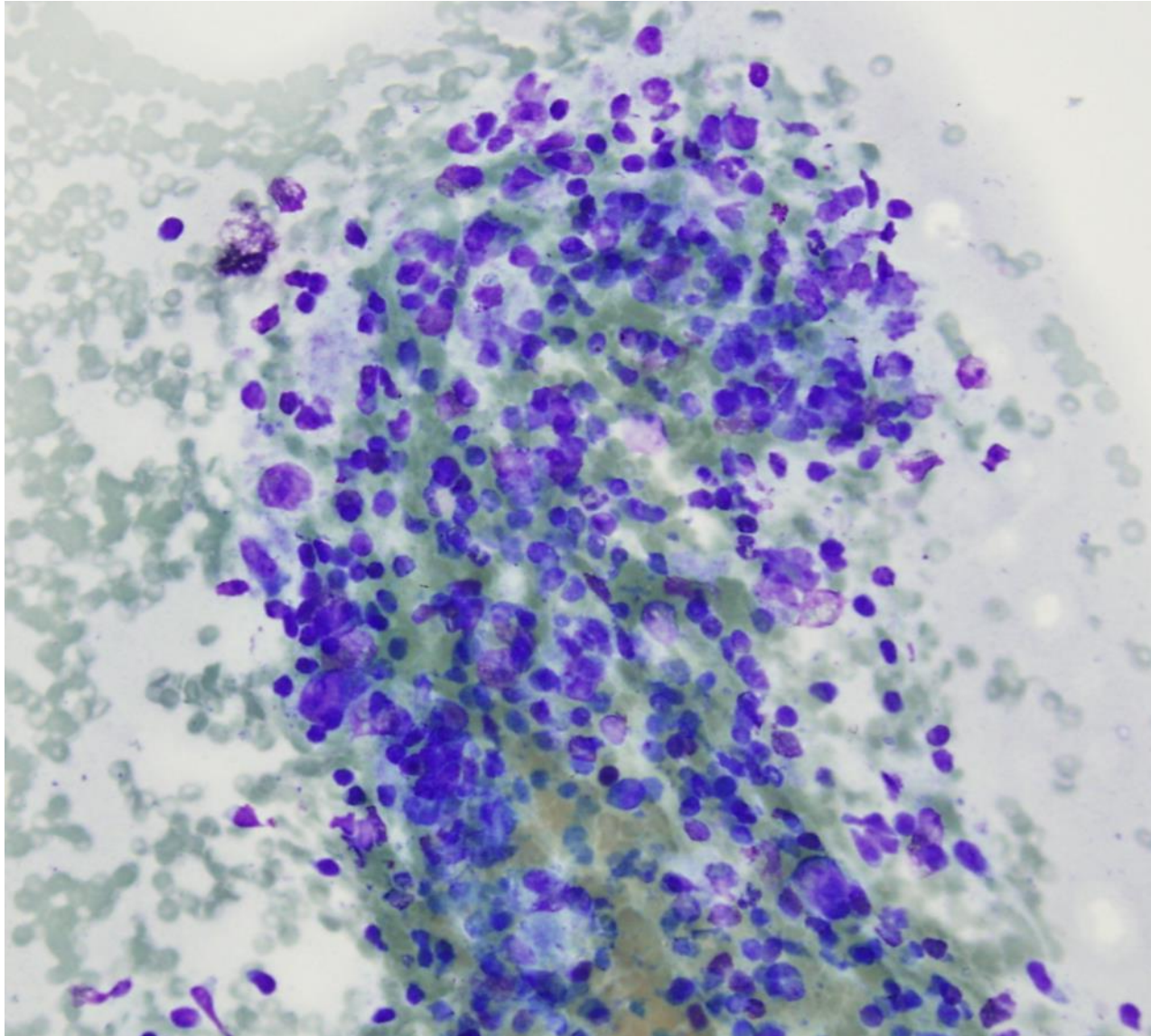


CT

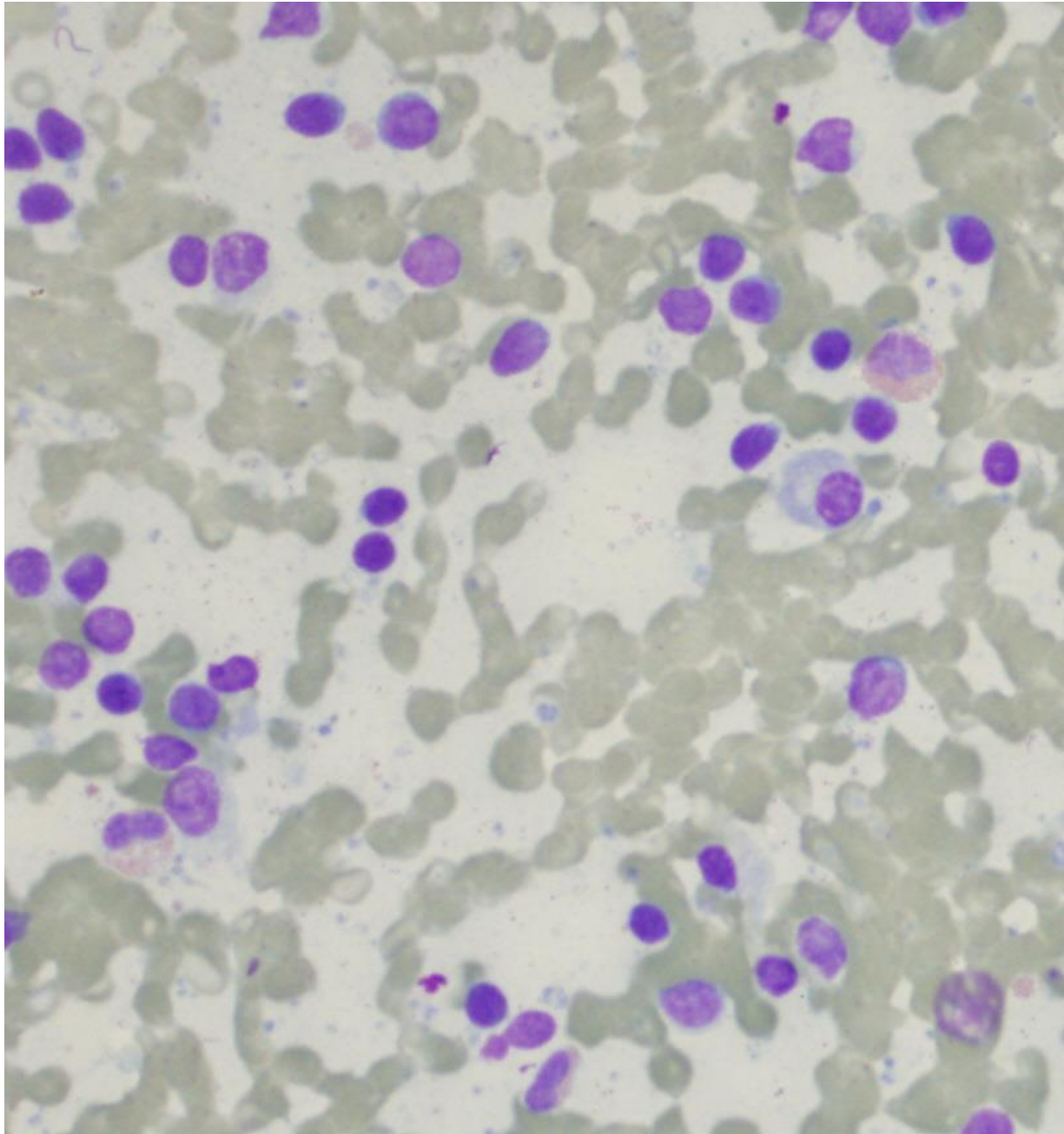


US

# On-site Assessment

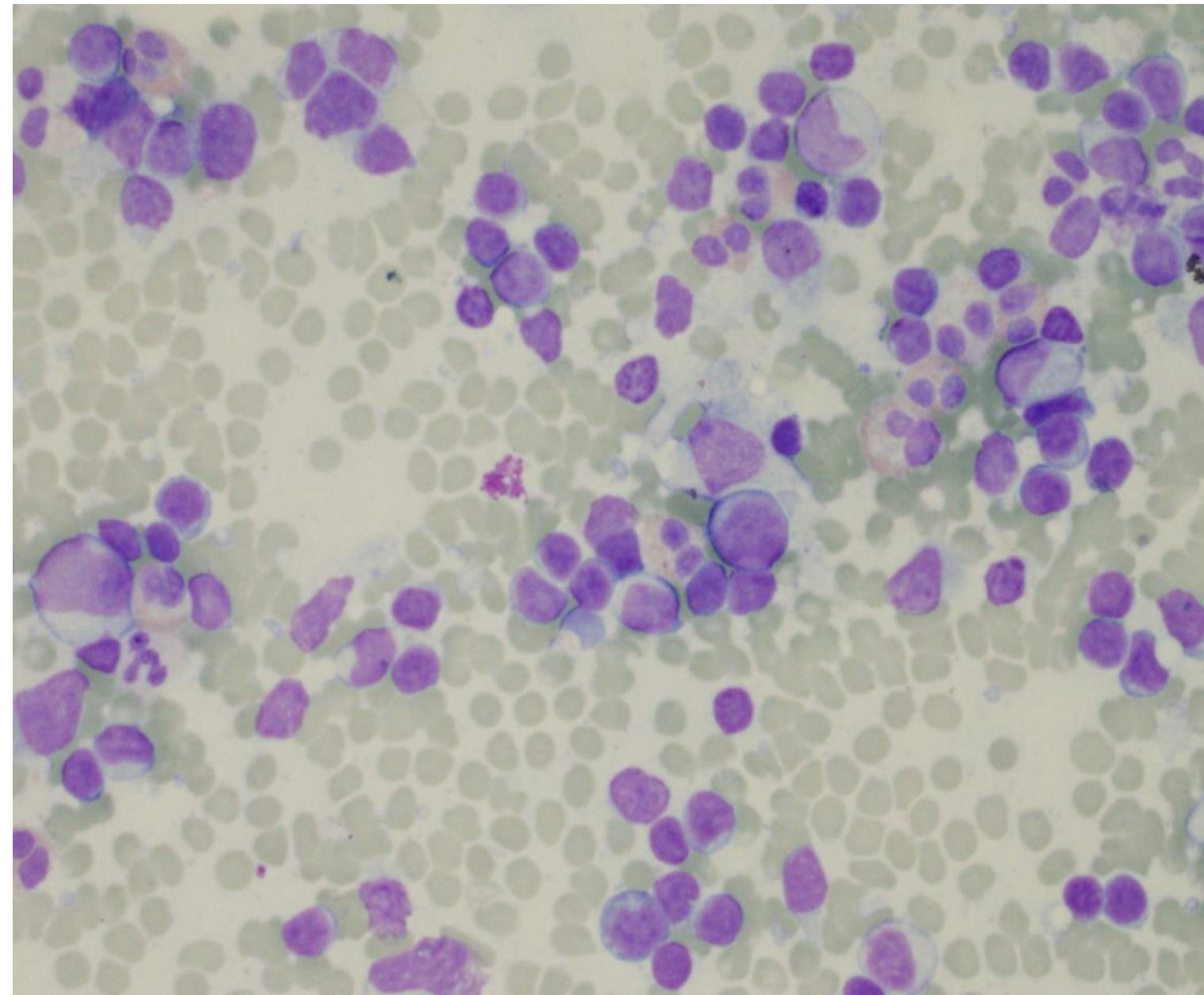


- 8 passes
- Cellular smears
- Lymphoid cells entangled in clot
- Scattered leukocytes cells
- Few lymphohistocytic aggregates

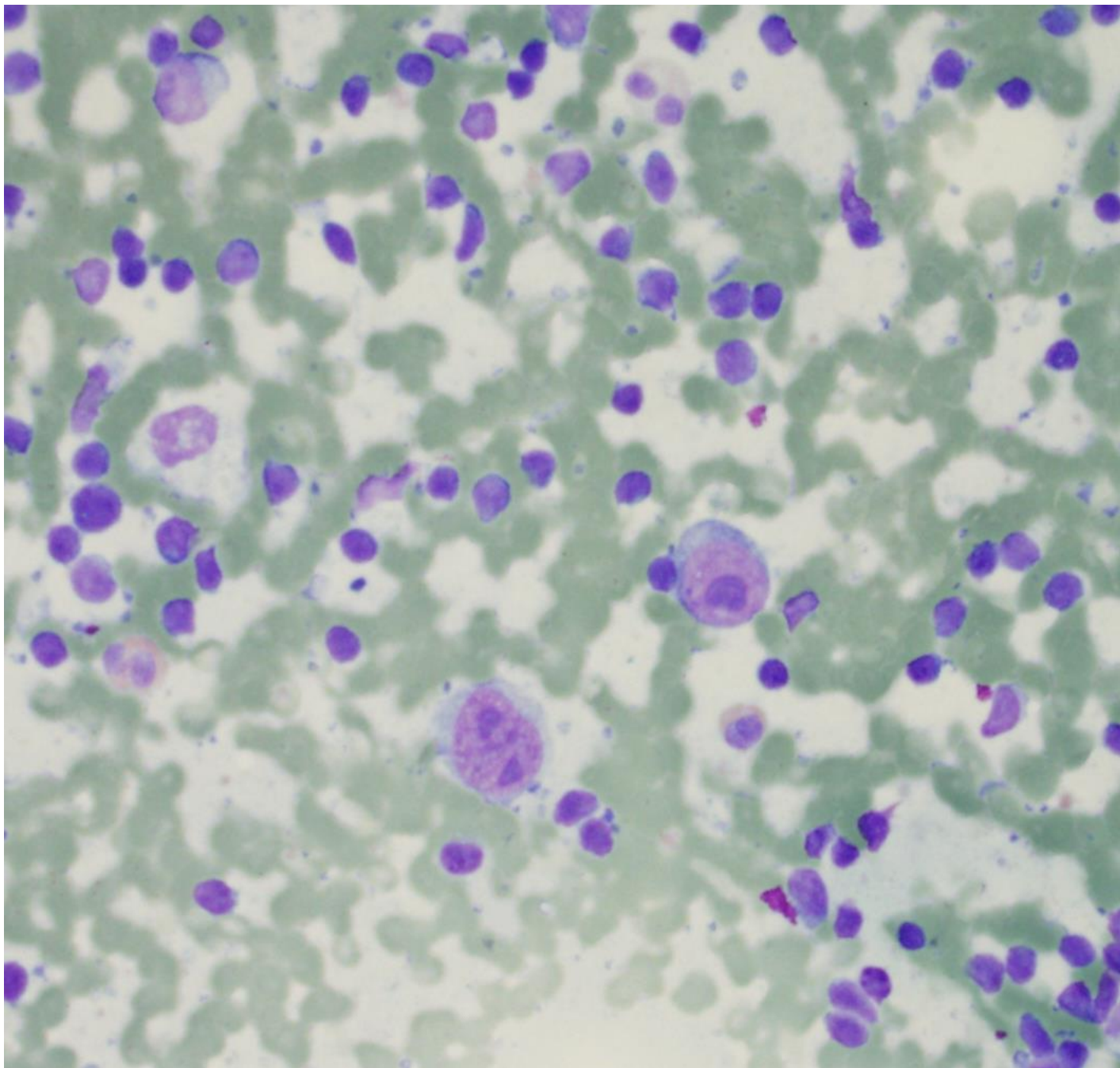


- Mostly small mature appearing lymphocytes
- Increased Plasma cells





- Scattered leukocytes
- Mixed population
- Increased eosinophils



- Rare larger atypical cells
- Monolobated
- Prominent macronucleus

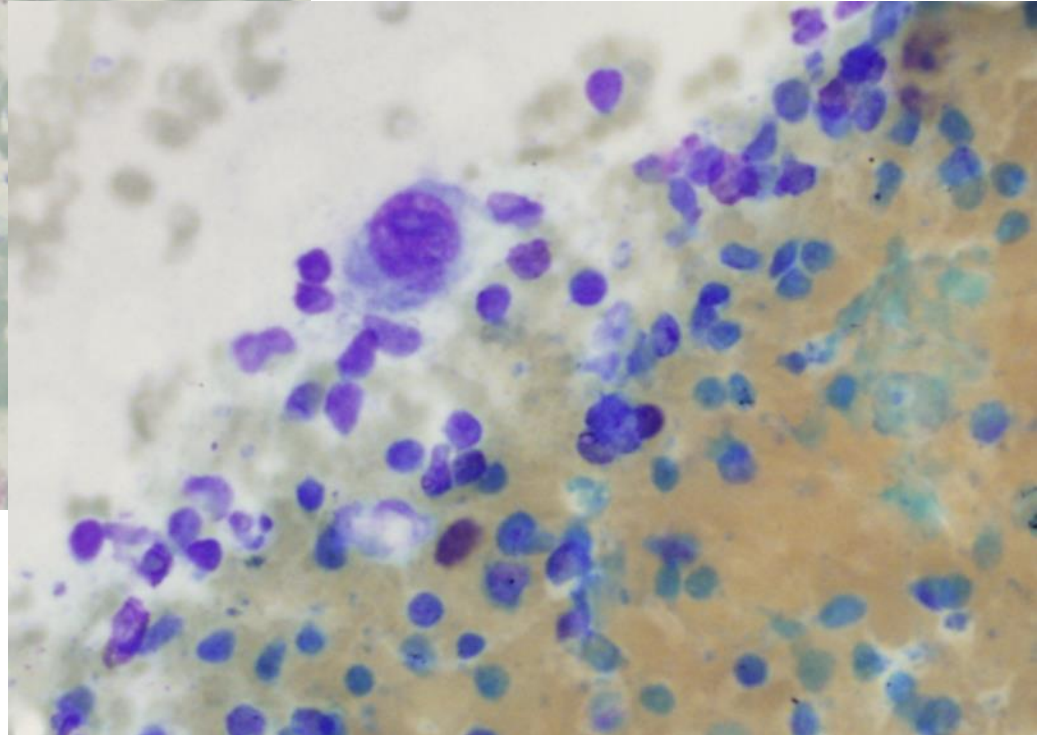
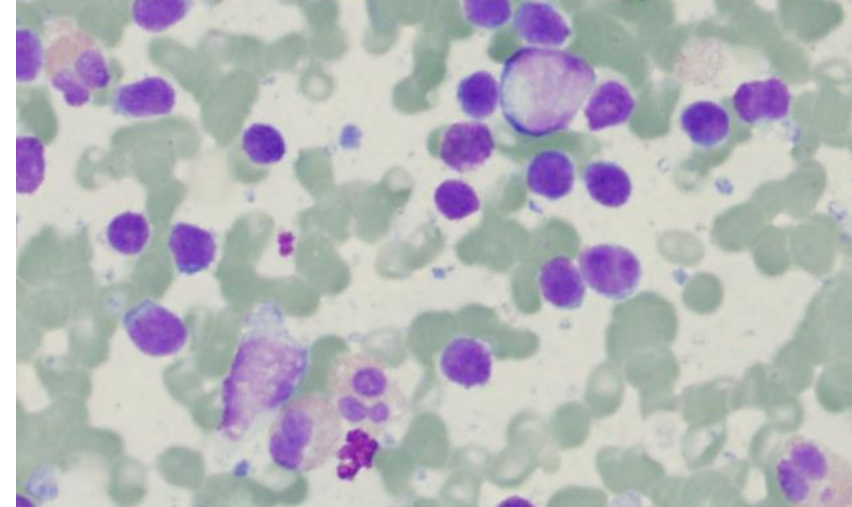
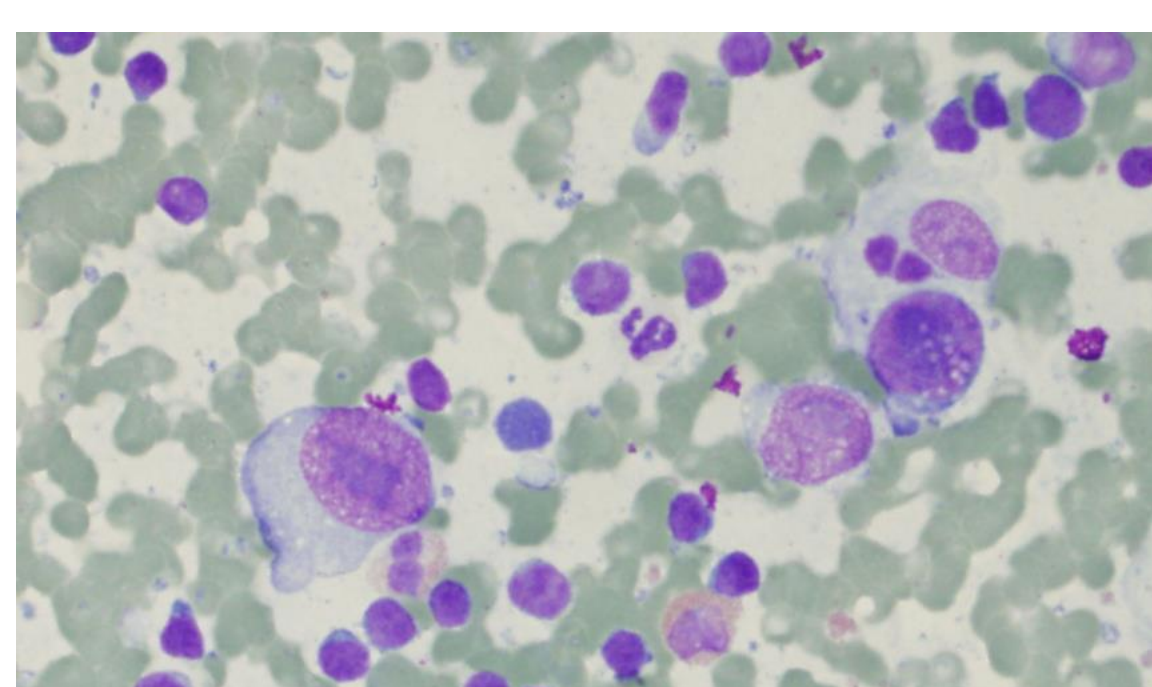


**Preliminary dx:**

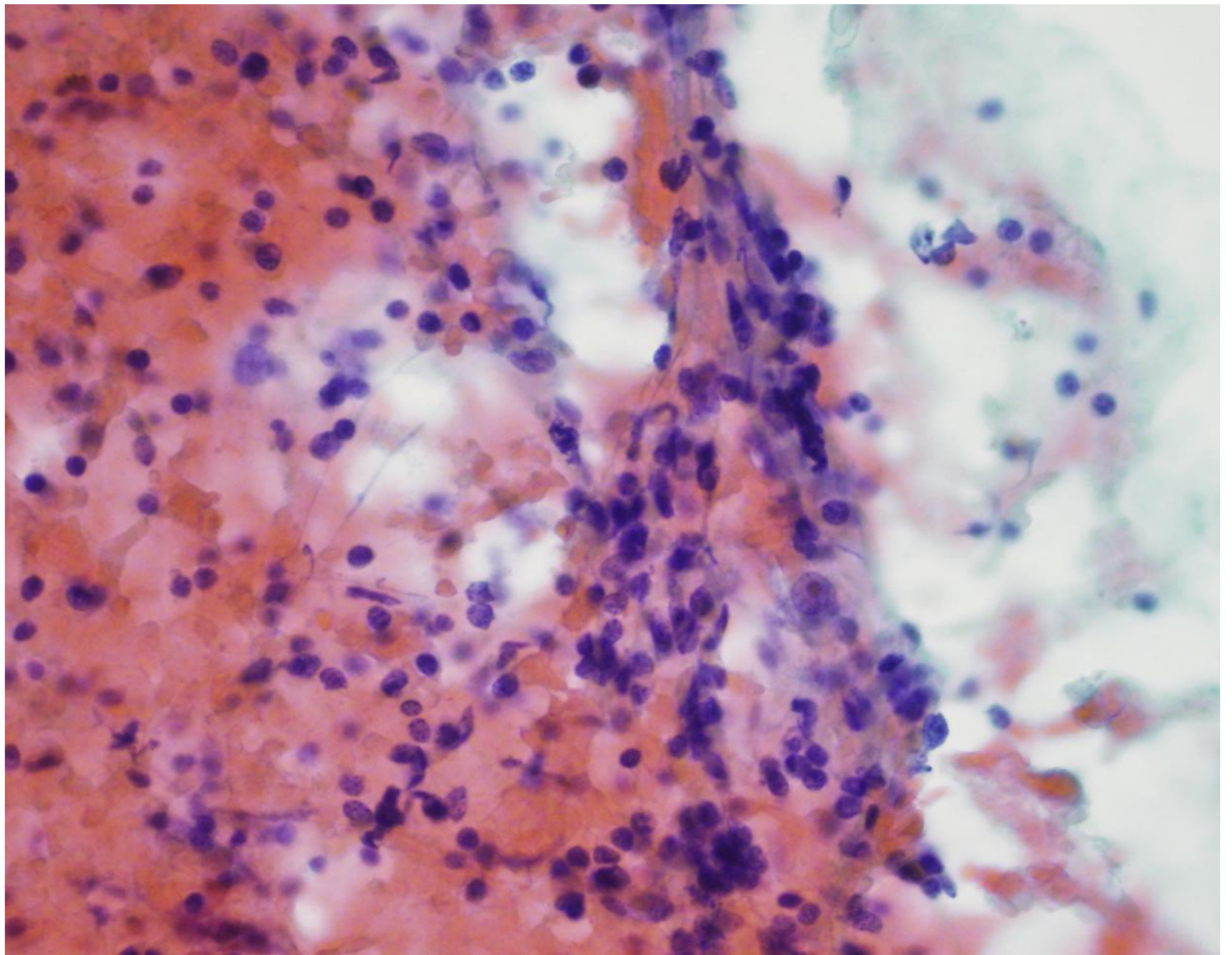
*Rare atypical lymphoid cells present. Pending flow and additional studies*

Half for flow

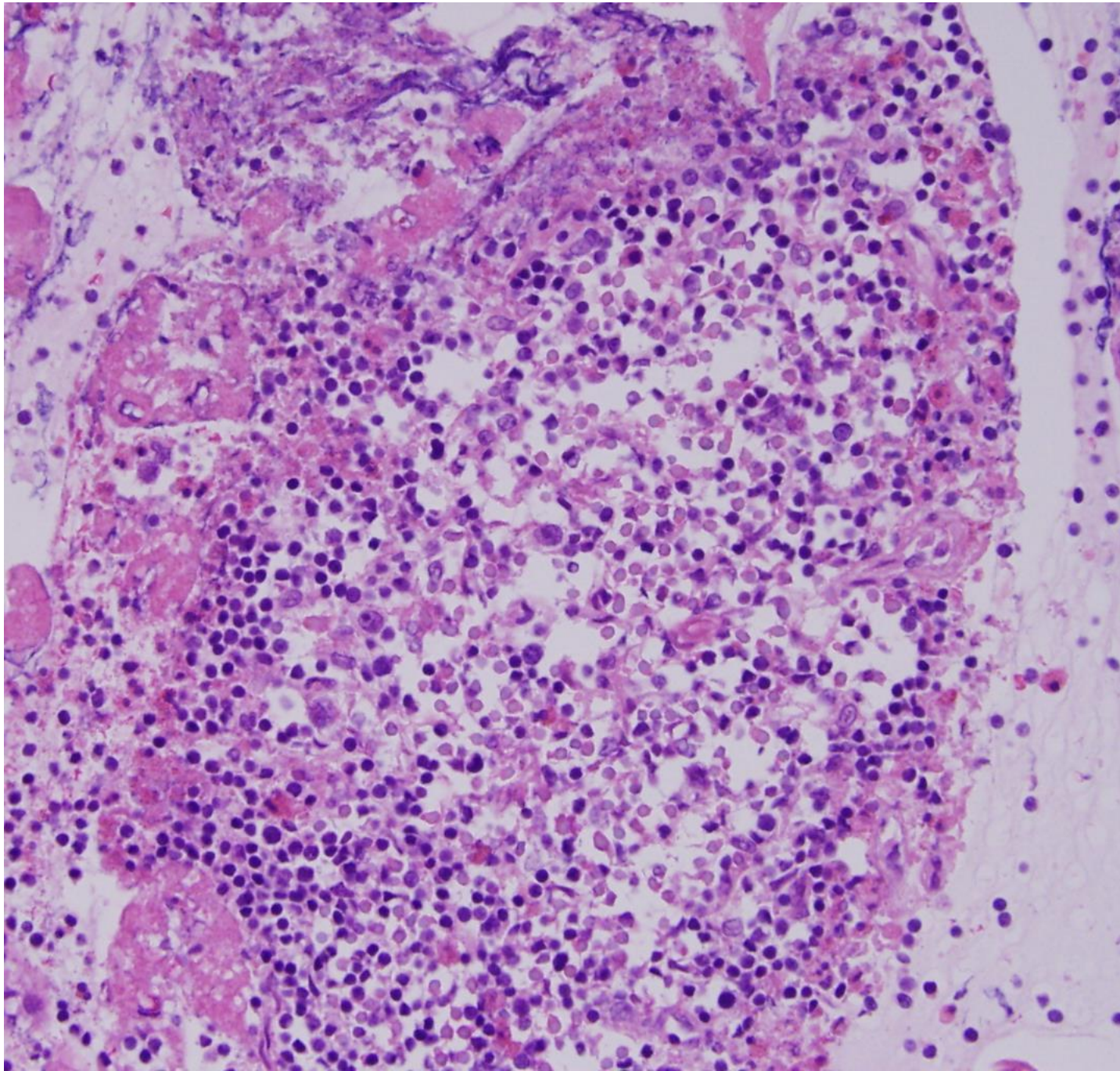
Half for cell block





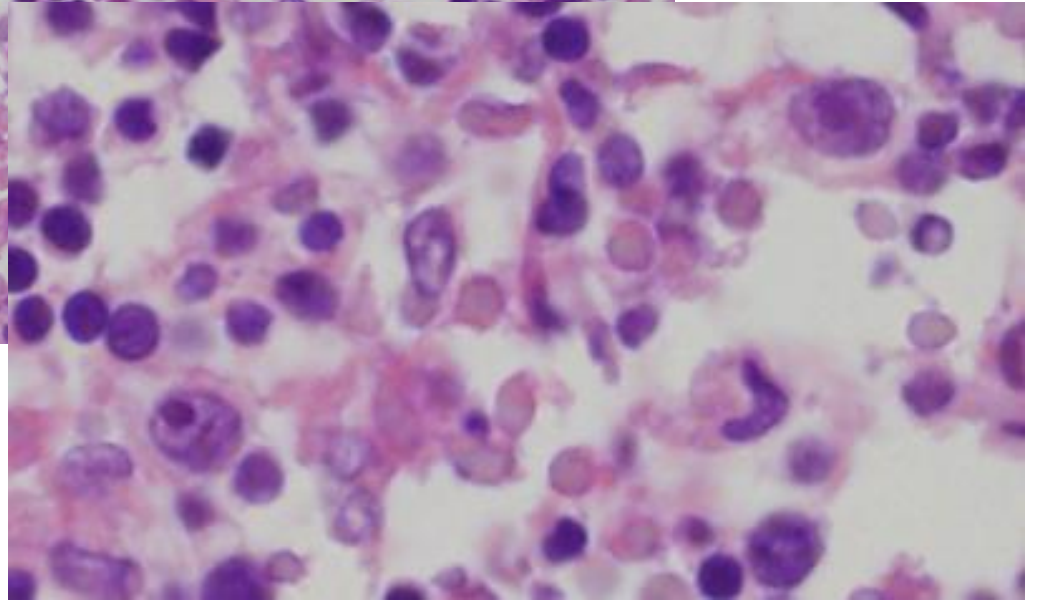
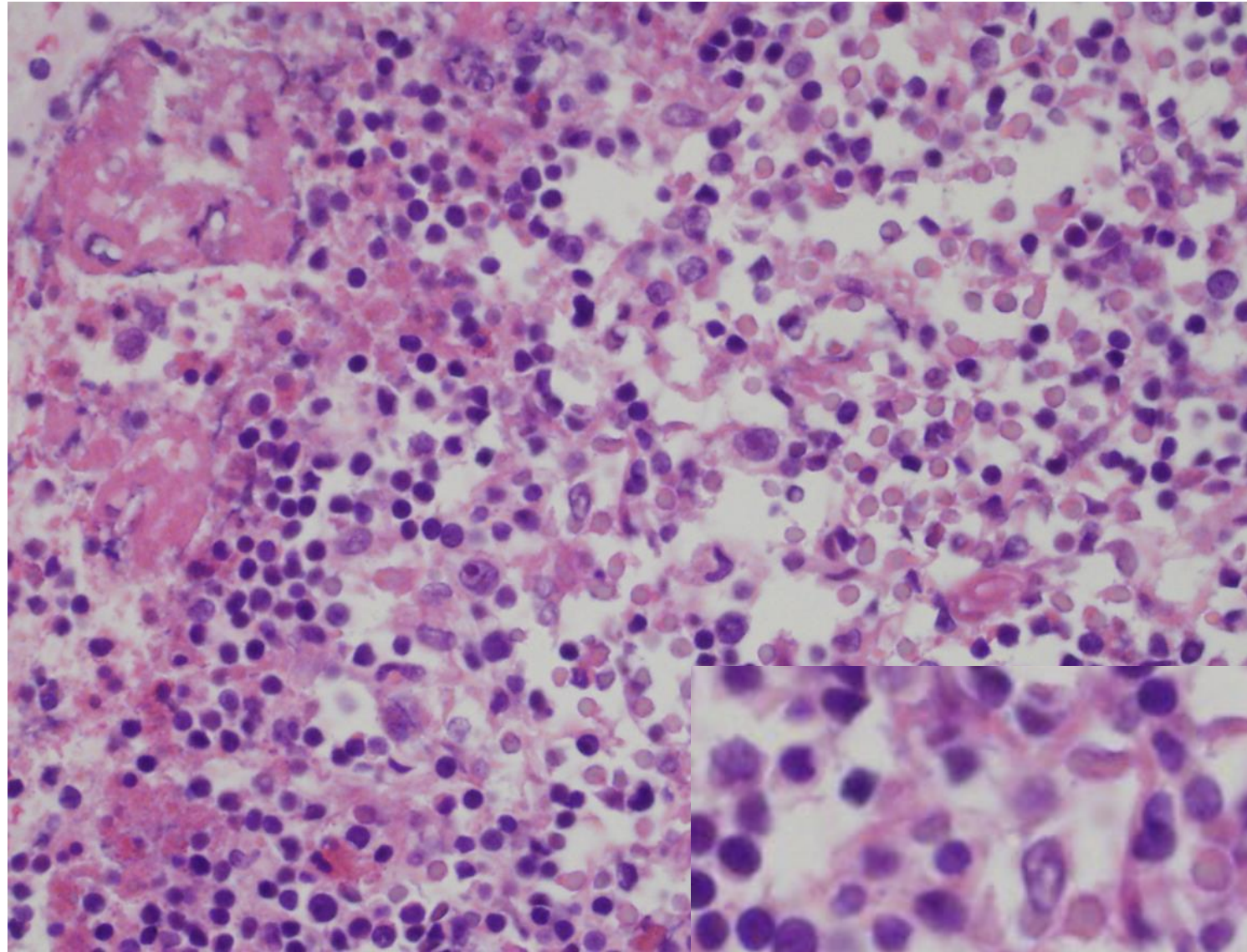




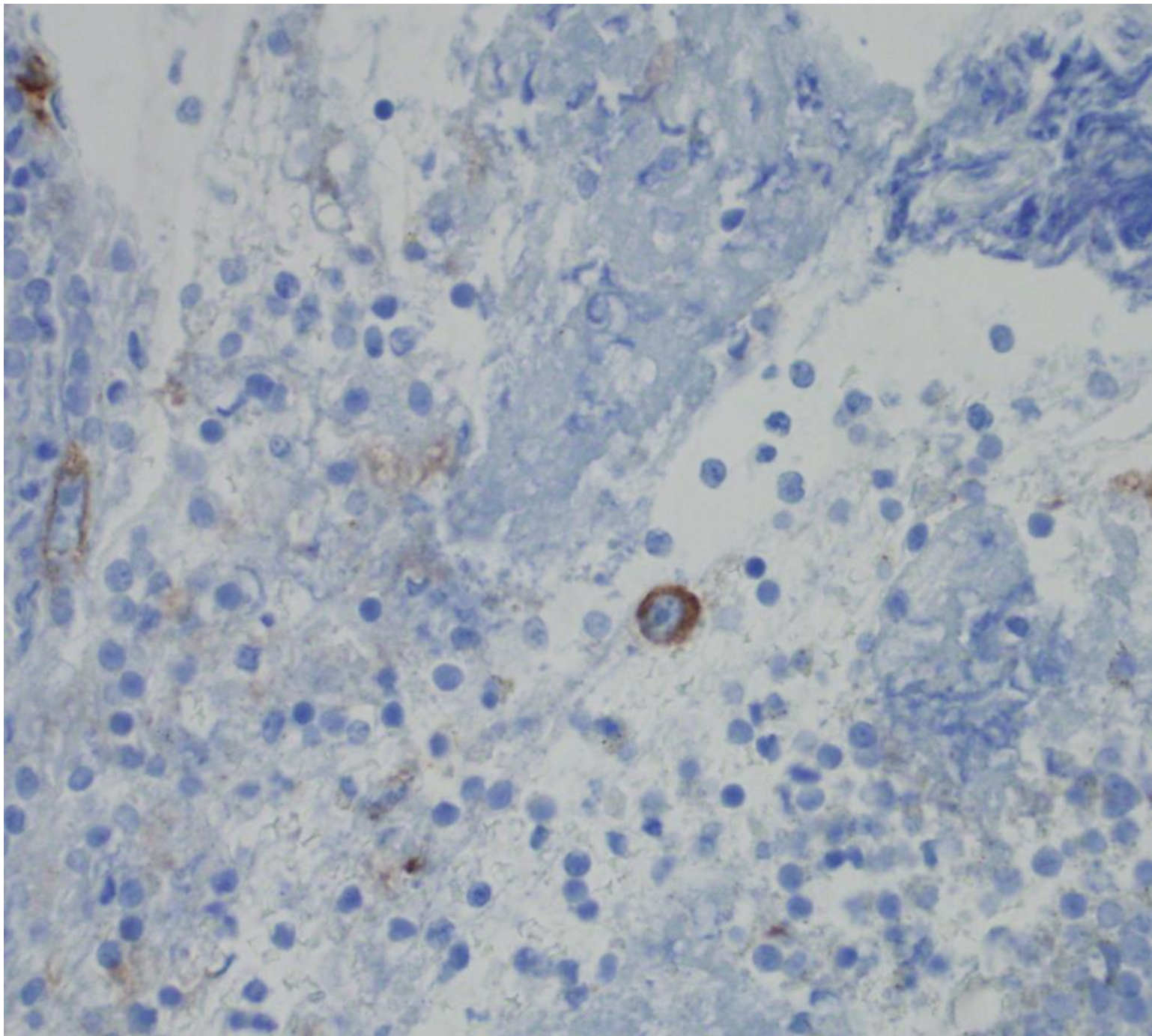


**Cell  
Block**

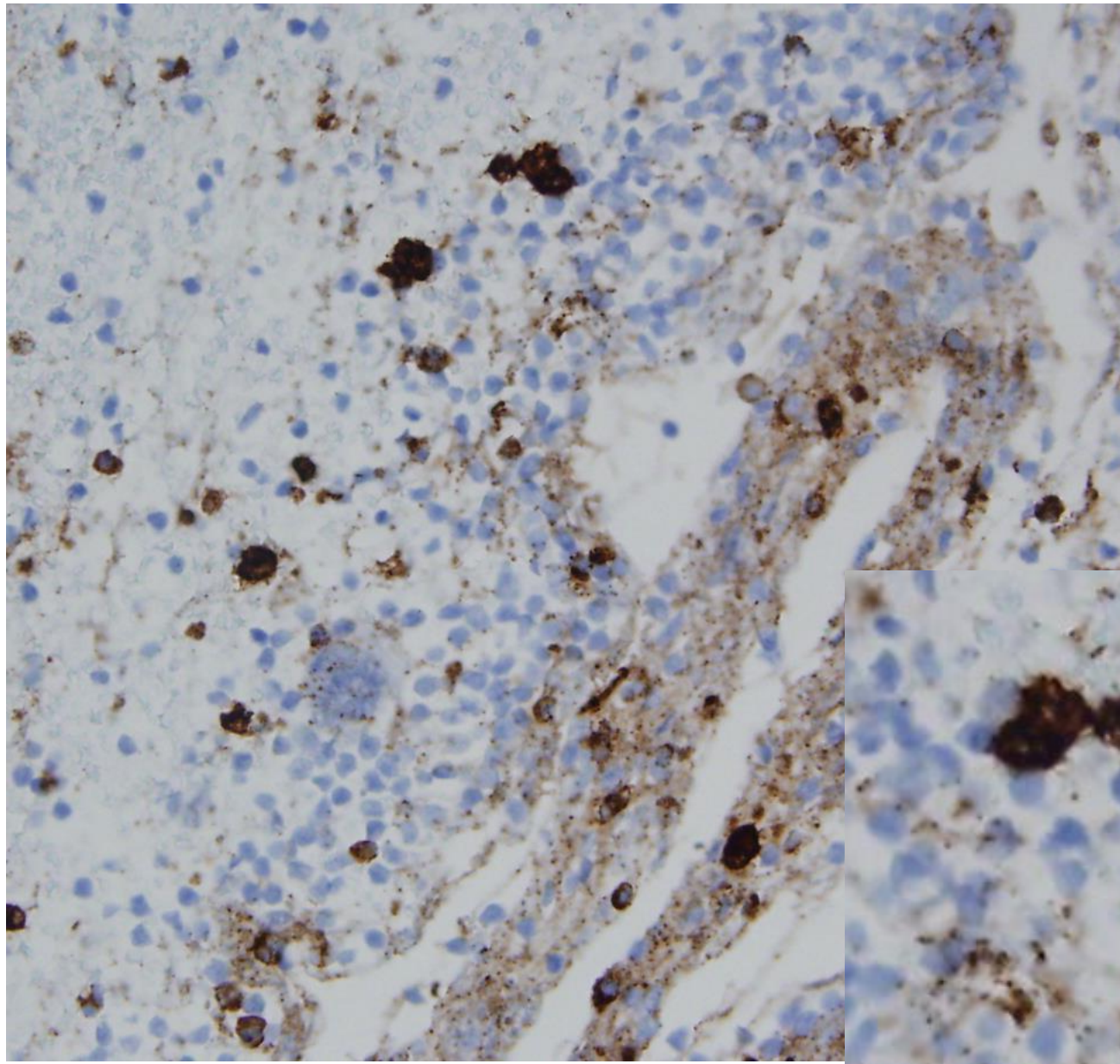




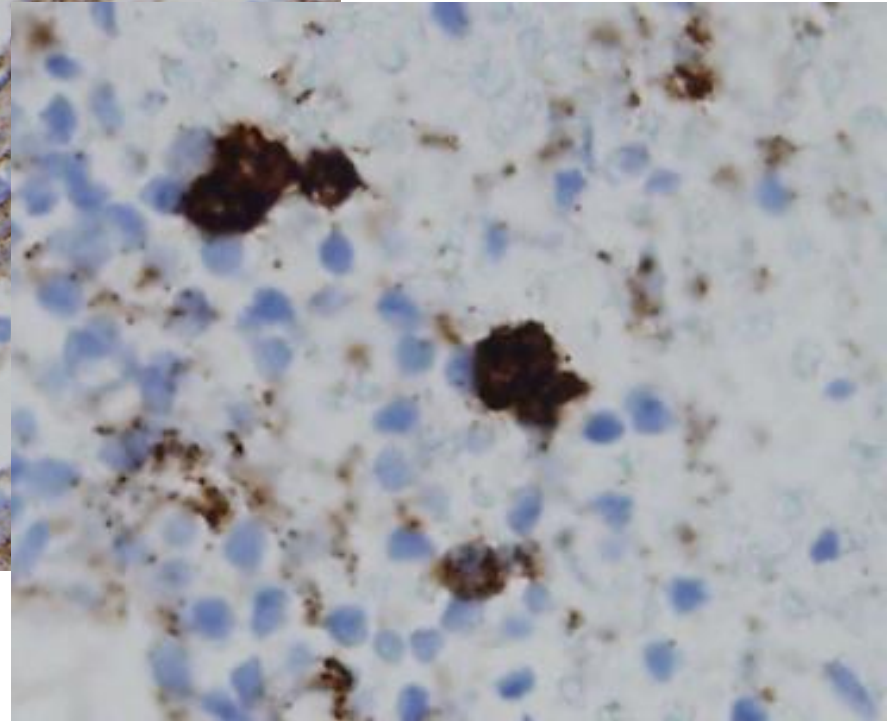




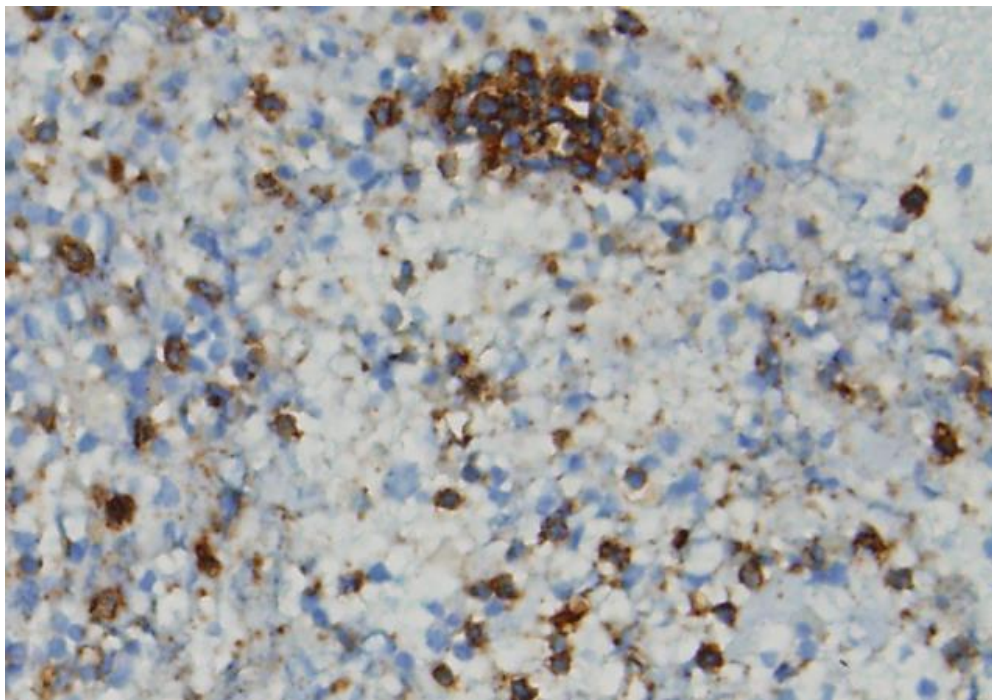
**CD30**



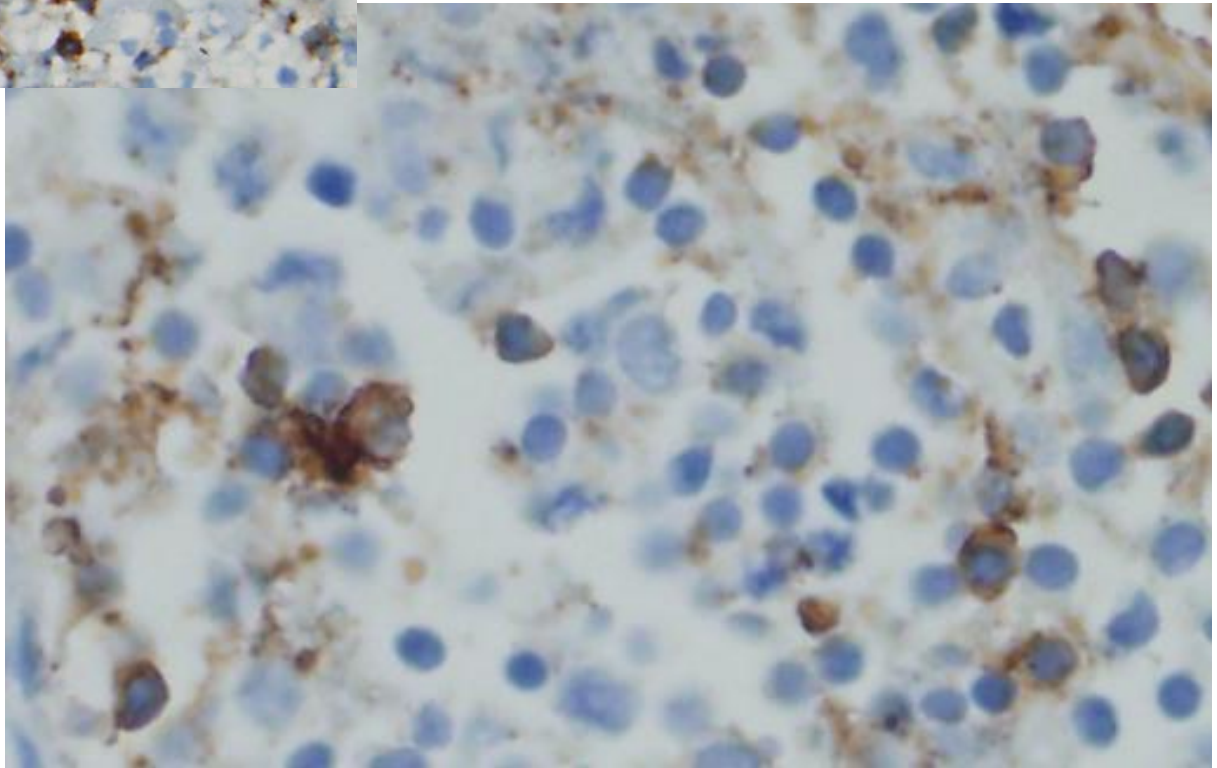
**CD15**



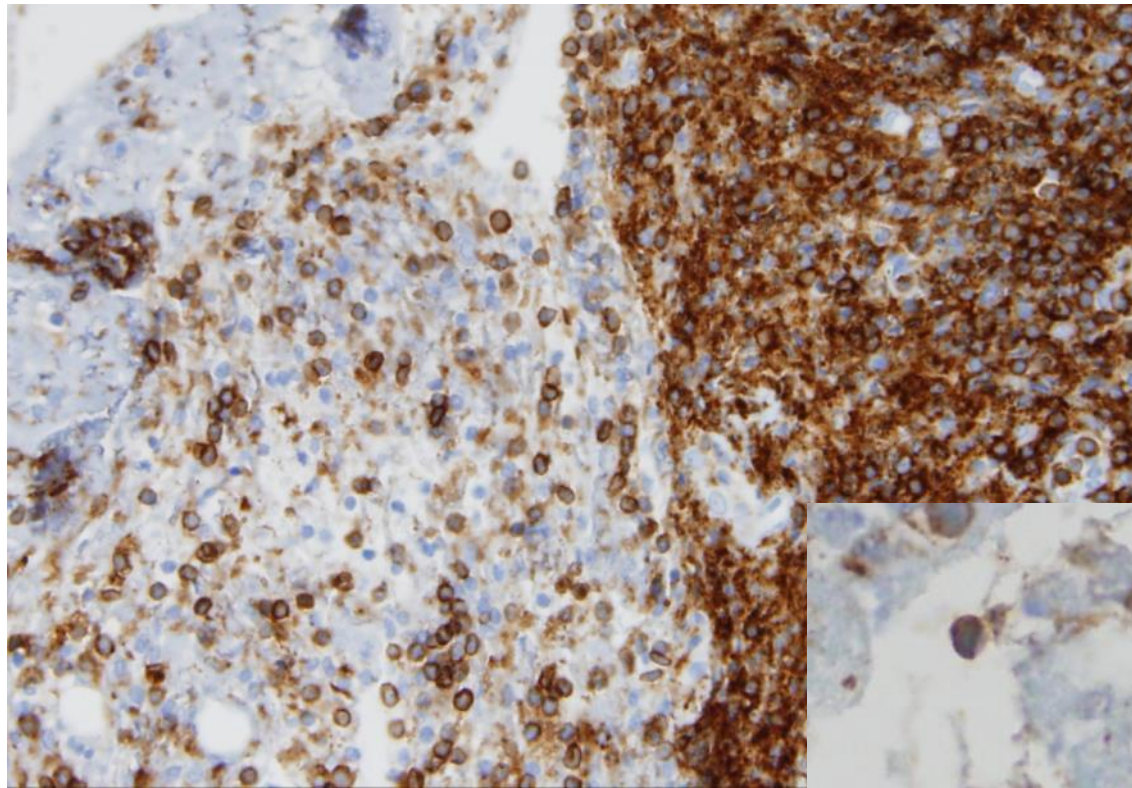




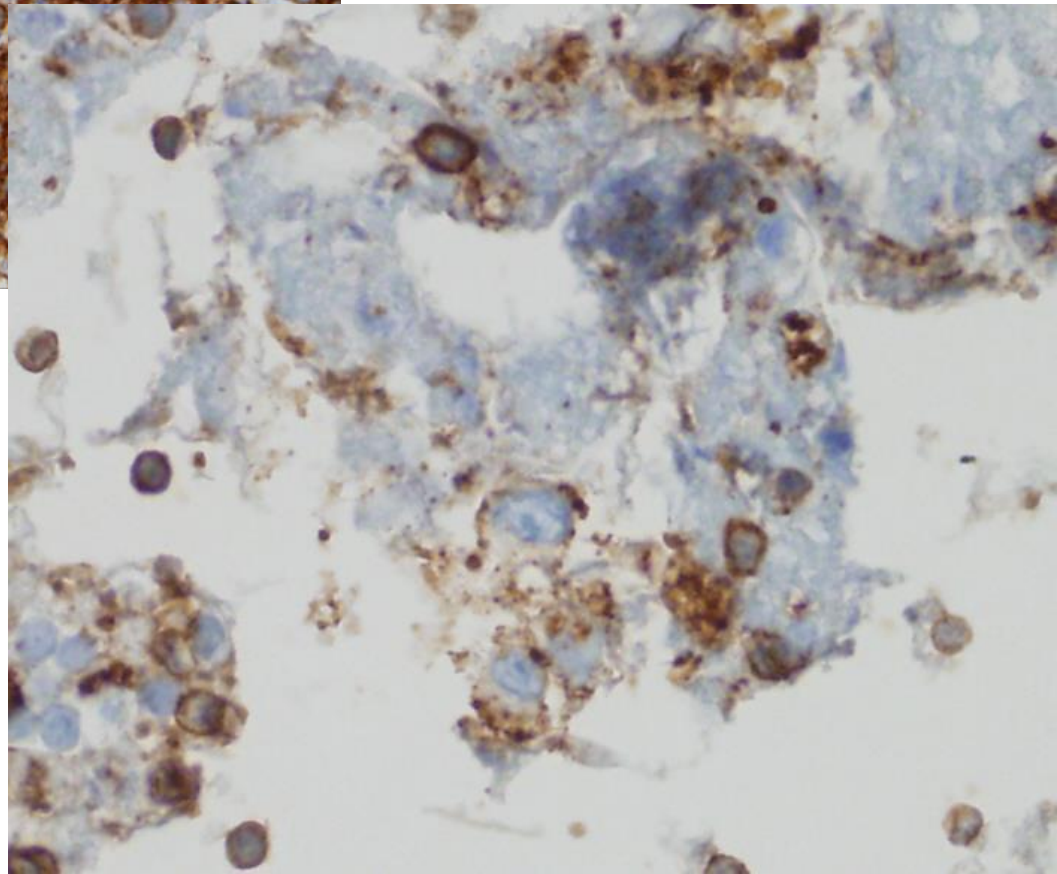
**CD20**

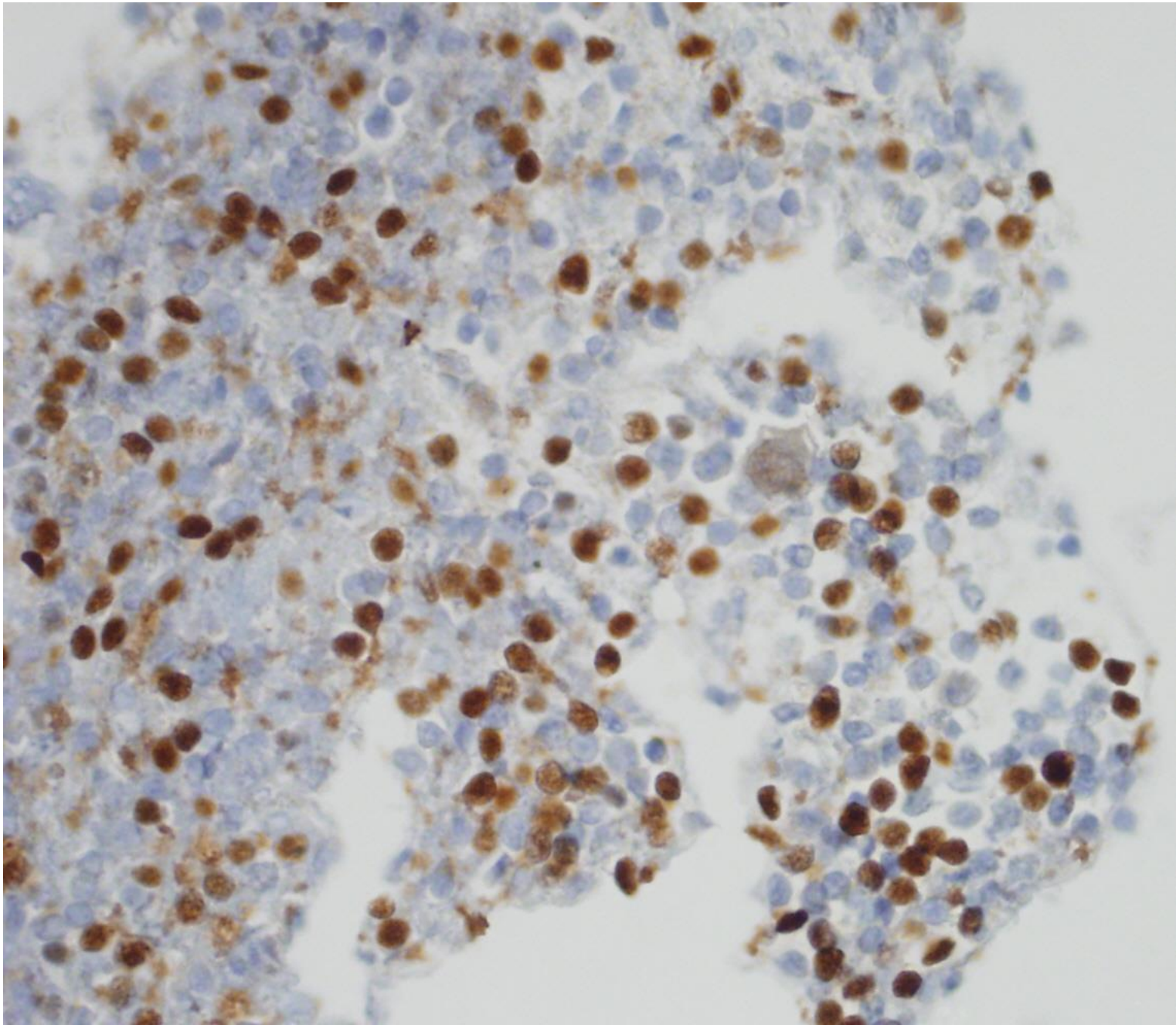






**CD3**





**PAX-5**

# Ancillary Studies

- Flow: no clonal population identified  
CD4/CD8 ratio = 2.2
- Cultures: negative, final mycobacterial  
pending



# Signout

- **Suspicious for Hodgkin lymphoma.**

There are scattered atypical cells with enlarged nuclei, smooth to slightly irregular nuclear contours, and prominent nucleoli present on smear and cell block preparations in the background lymphocytes, neutrophils, plasma cells, eosinophils, and histiocytes. Immunohistochemistry performed on the cell block material reveals that these atypical cells are highlighted by CD30 and Pax-5 (weak) and are negative for CD20. CD3 highlights background T-cells. Results for CD15 are equivocal. Taken together, these features are suspicious for Hodgkin's lymphoma. If clinically indicated, biopsy of the mass may be helpful in further evaluation of this lesion. Please see concurrent flow cytometry report for additional diagnostic information.

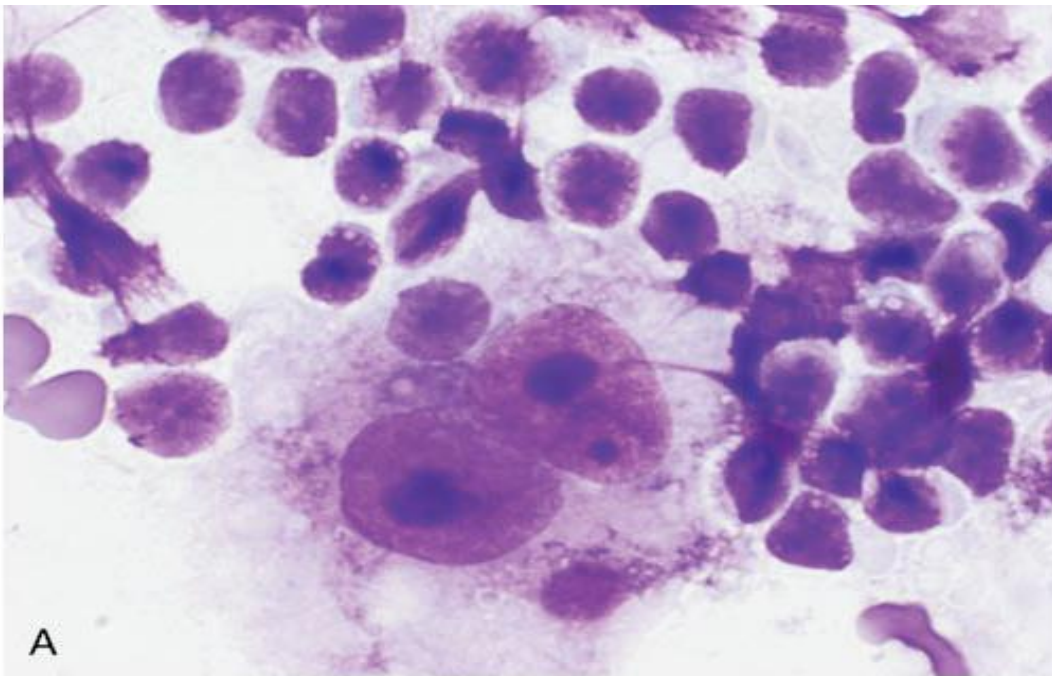
# DDx of Hodgkin Lymphoma in Cytology

- **Reactive lymphoid hyperplasia**
  - Hypocellular smear in nodular sclerosis HL
- **Infectious mononucleosis**
  - RS cells resemble immunoblasts
  - Small than RS cells
  - Serologic testing
  - CD8/CD4 ratio skewed: CD8>CD4
- **T-cell rich large B-cell lymphoma**
  - CD20+, CD3+, CD30-, CD15-
  - Similar to nodular lymphocyte predominate Hodgkins lymphoma
- **Anaplastic large cell lymphoma**
  - Neoplastic “hallmark cells” more numerous
  - EMA and ALK positive
- **Acute lymphadenitis**
- **Metastatic nasopharyngeal carcinoma**
  - Keratin positive

# Hodgkins Lymphoma facts

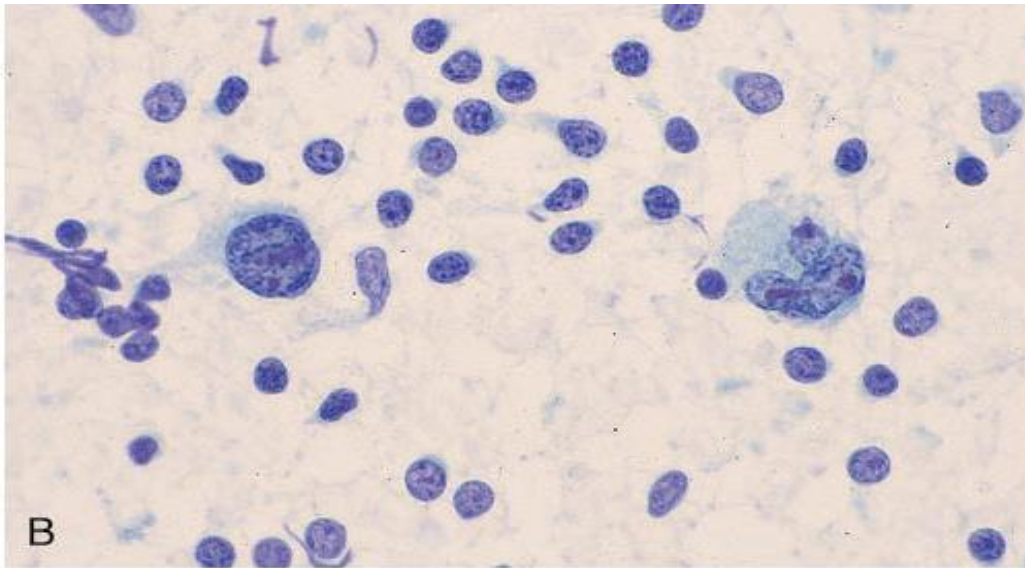
- Two distinct diseases
  - *Neoplastic monoclonal B-cells which compose only a minority of the lesion (Reed-Sternberg cells or mononuclear variants)*
  - *Appropriate cellular background*
- 30% of lymphomas
- Often arise in cervical lymph nodes
- Tumor cells often ringed by T-lymphocytes
- **Classical (95%)**     *CD30+/CD15+/CD20-/CD3-/Pax-5+*     *Bimodal age*
  - Nodular sclerosis
  - Mixed cellularity
  - Lymphocyte-rich
  - Lymphocyte-depleted
- **Nodular lymphocyte predominant HL**
  - *CD30-/CD15-/CD20+/CD3+/*     flanked by CD57+ T-cells     *Older age*
  - “LP cells, popcorn cells”





A

Figure 11.12A Classical Hodgkin lymphoma (HL). A, A



B

Figure 11.12B Classical Hodgkin lymphoma (HL). A, A

### Reed-Sternberg cells

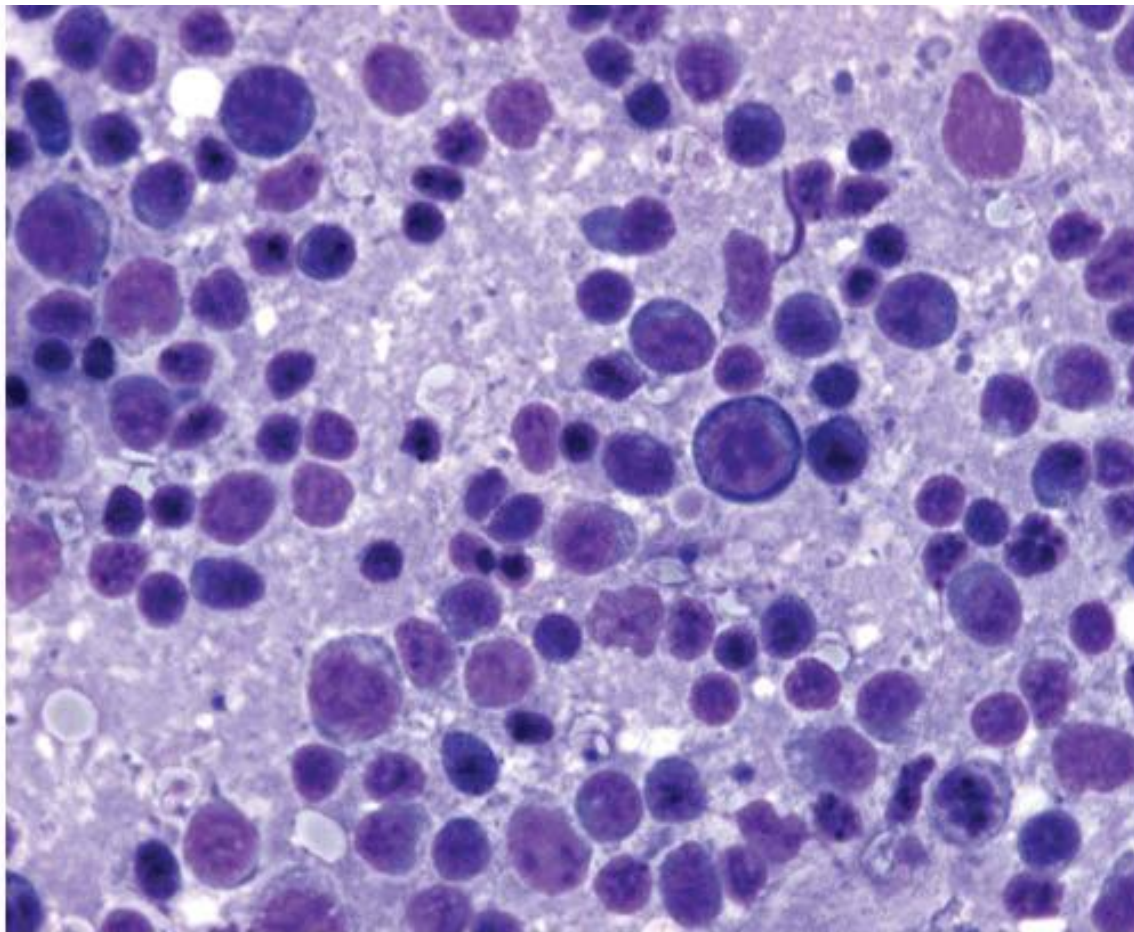
- Large
- Multinucleated  
often bi-lobed
- Coarse, irregular chromatin  
marginated (Pap)
- Inclusion like macronucleus  
often surrounded by halo
- Varying cytoplasm  
abundant to scant  
wispy to dense

### Mononuclear variants

Lacunar cells

Lymphocytic/histiocytic

LP cell / popcorn cell - *NLPHL*



**Figure 11.11 Infectious mononucleosis.** Many immunoblasts are mixed with small round lymphocytes and plasmacytoid lymphocytes (Romanowsky stain).

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