Interesting Case Conference

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History

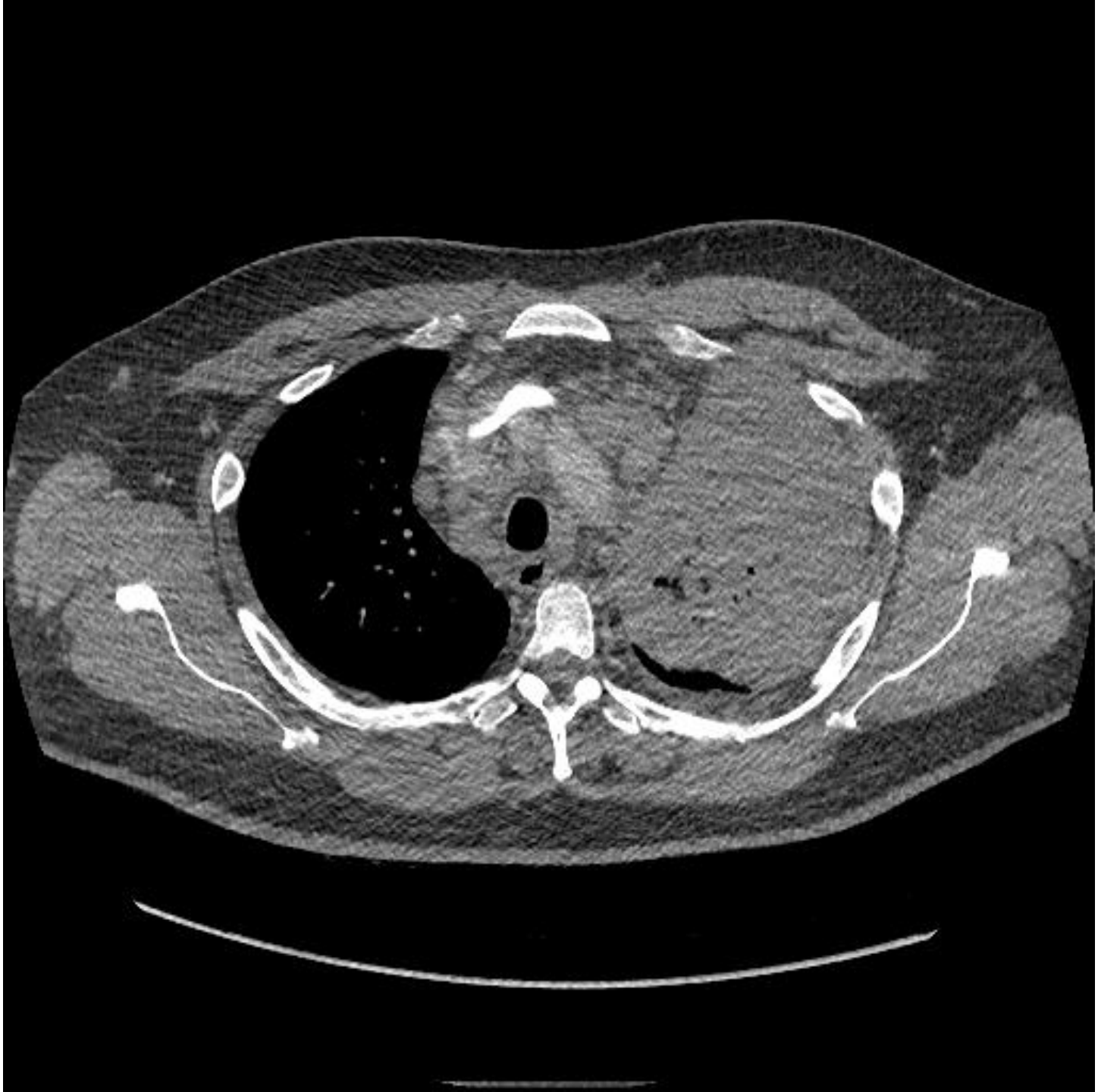
- 44M no PMH, 6 pack year smoking Hx
- Recent post nasal drip/ sinus symptoms → coughing up blood
- Worsening cough, “turns purple”
- CXR - opacification of the left side of the chest

Chest CT

- CT - left upper lobe mass/mass-like consolidation occupying a large portion of the left lung apex
- Most suspicious for a primary bronchogenic neoplasm,
  - encases the left pulmonary artery, inseparable from the pericardium, pericardial and left pleural effusion.

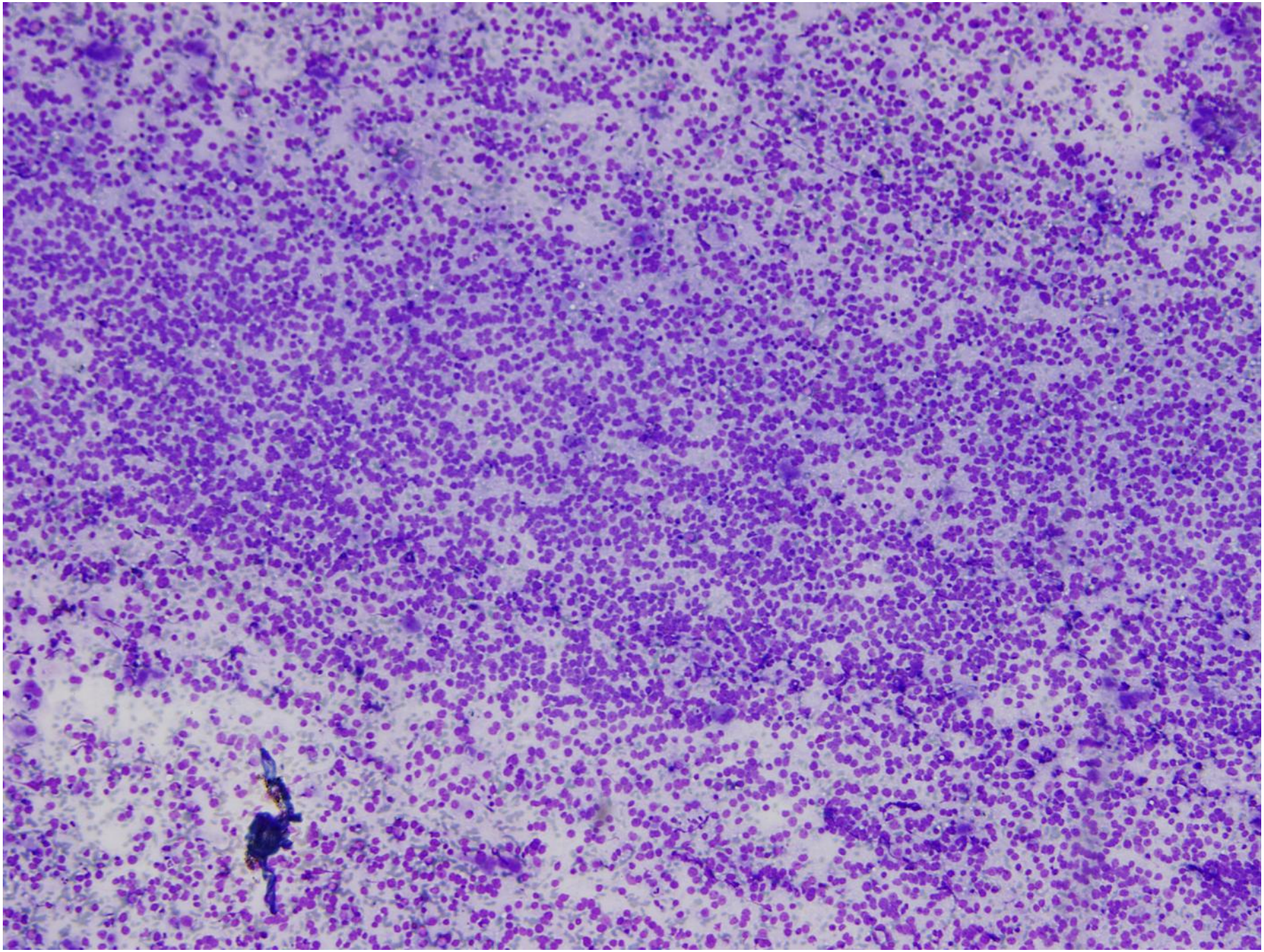
Chest CT

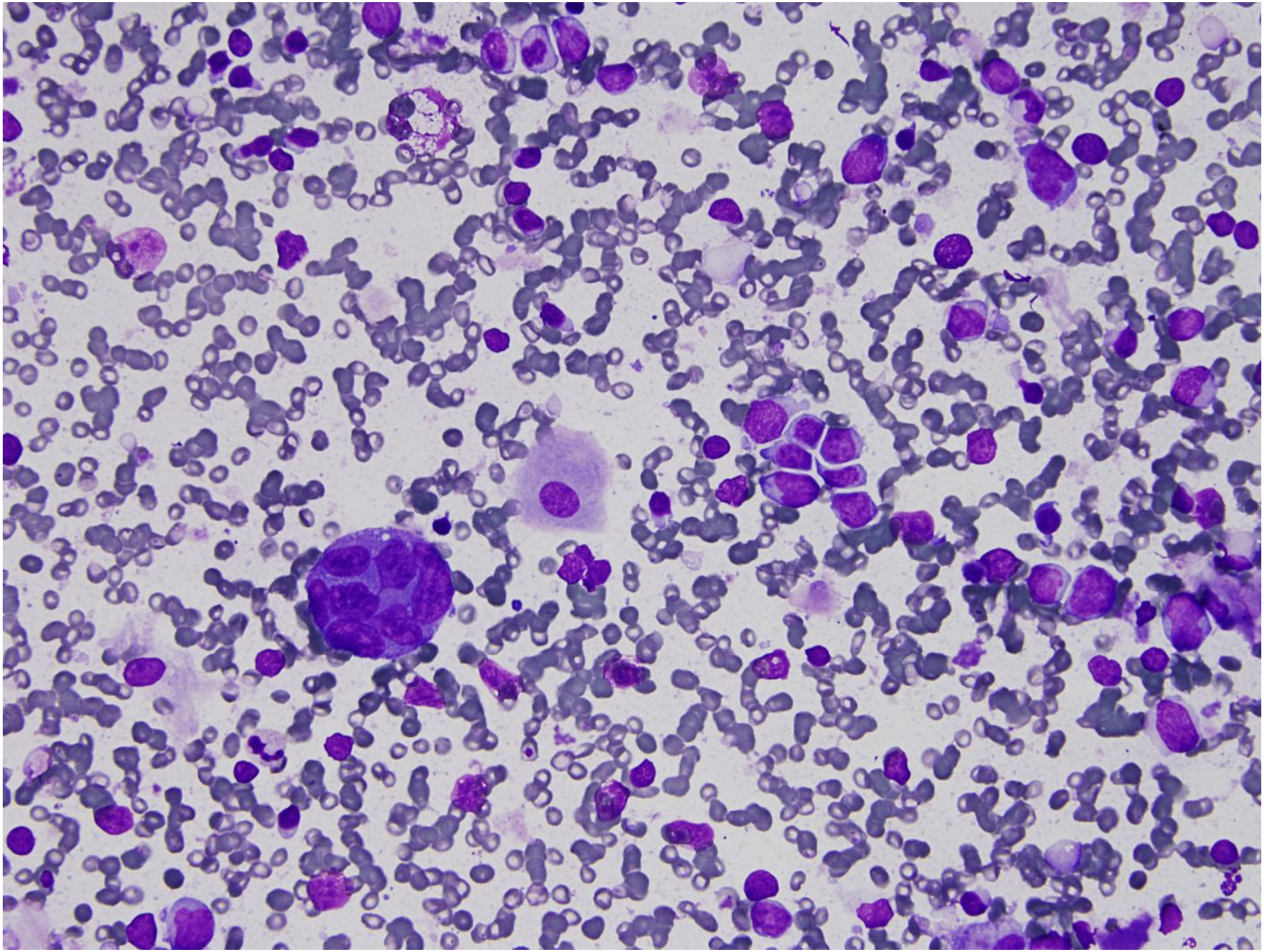
- Enlarged left hilar, subcarinal, right upper and lower paratracheal, prevascular/anterior, mediastinal, and supraclavicular lymph nodes, compatible with metastatic disease.

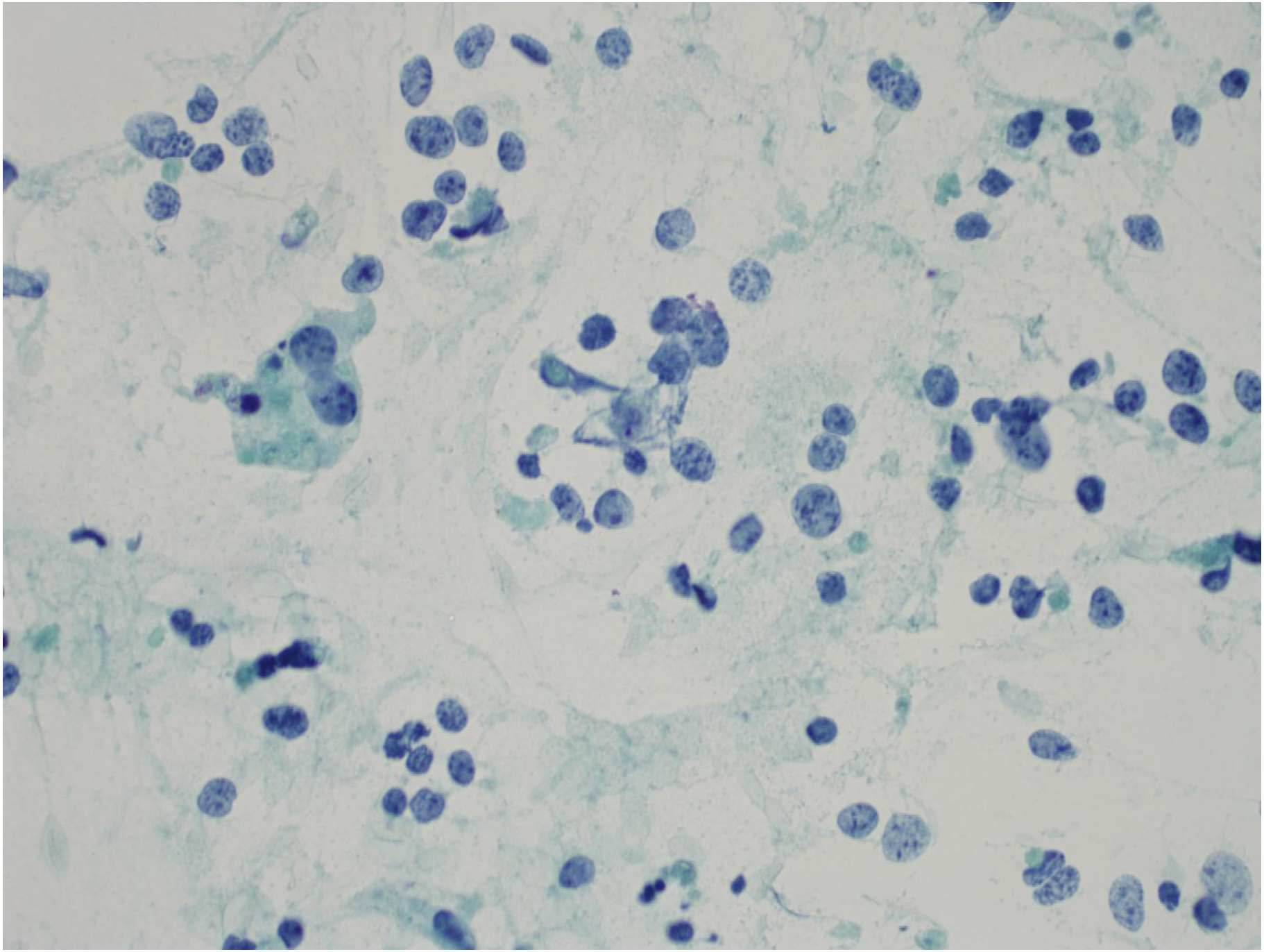


Clinical DDx

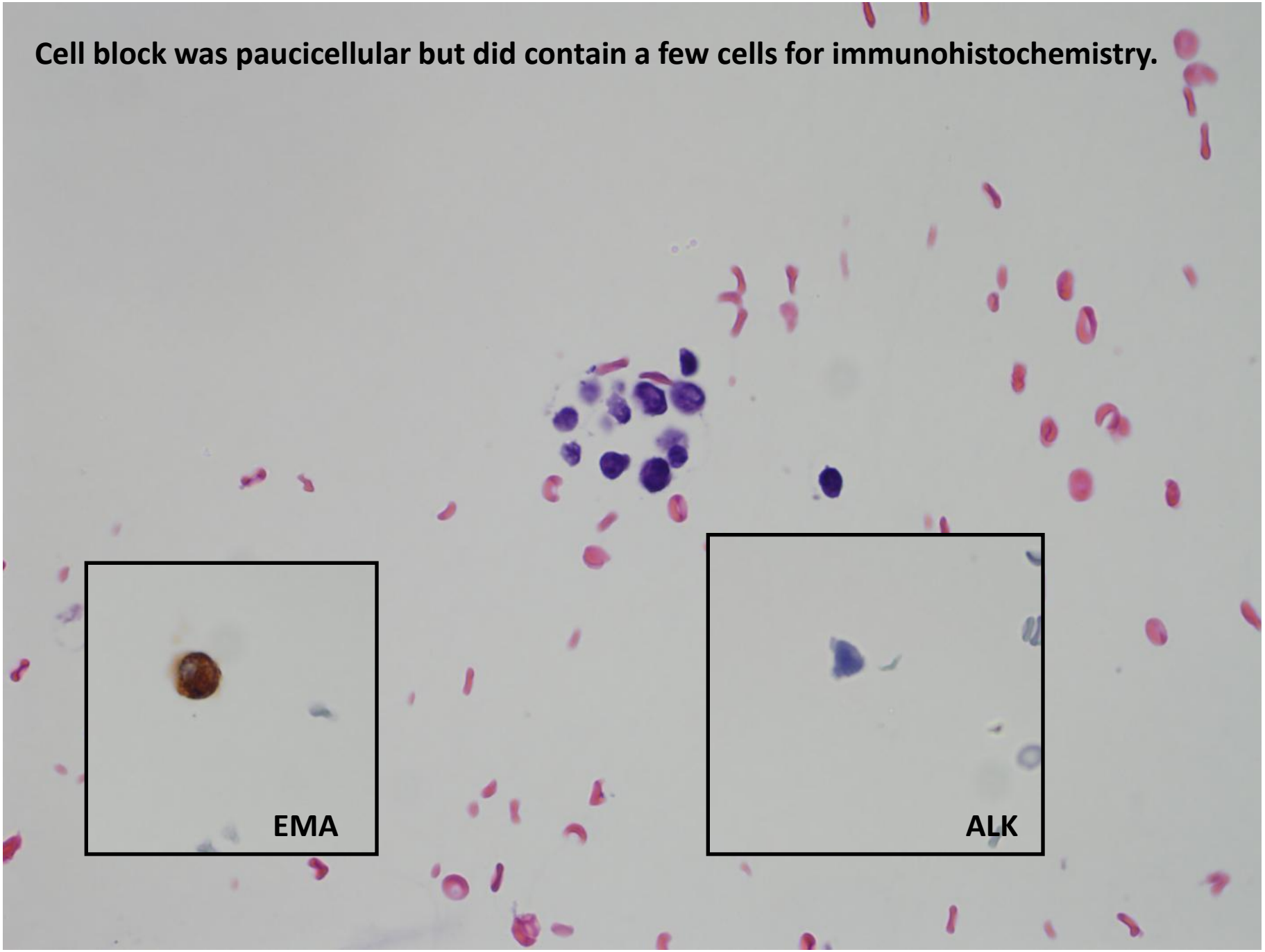
- Bronchogenic carcinoma vs. granulamtous disease.
- Supraclavicular lymph node fine-needle aspiration and biopsy were performed.







Cell block was paucicellular but did contain a few cells for immunohistochemistry.

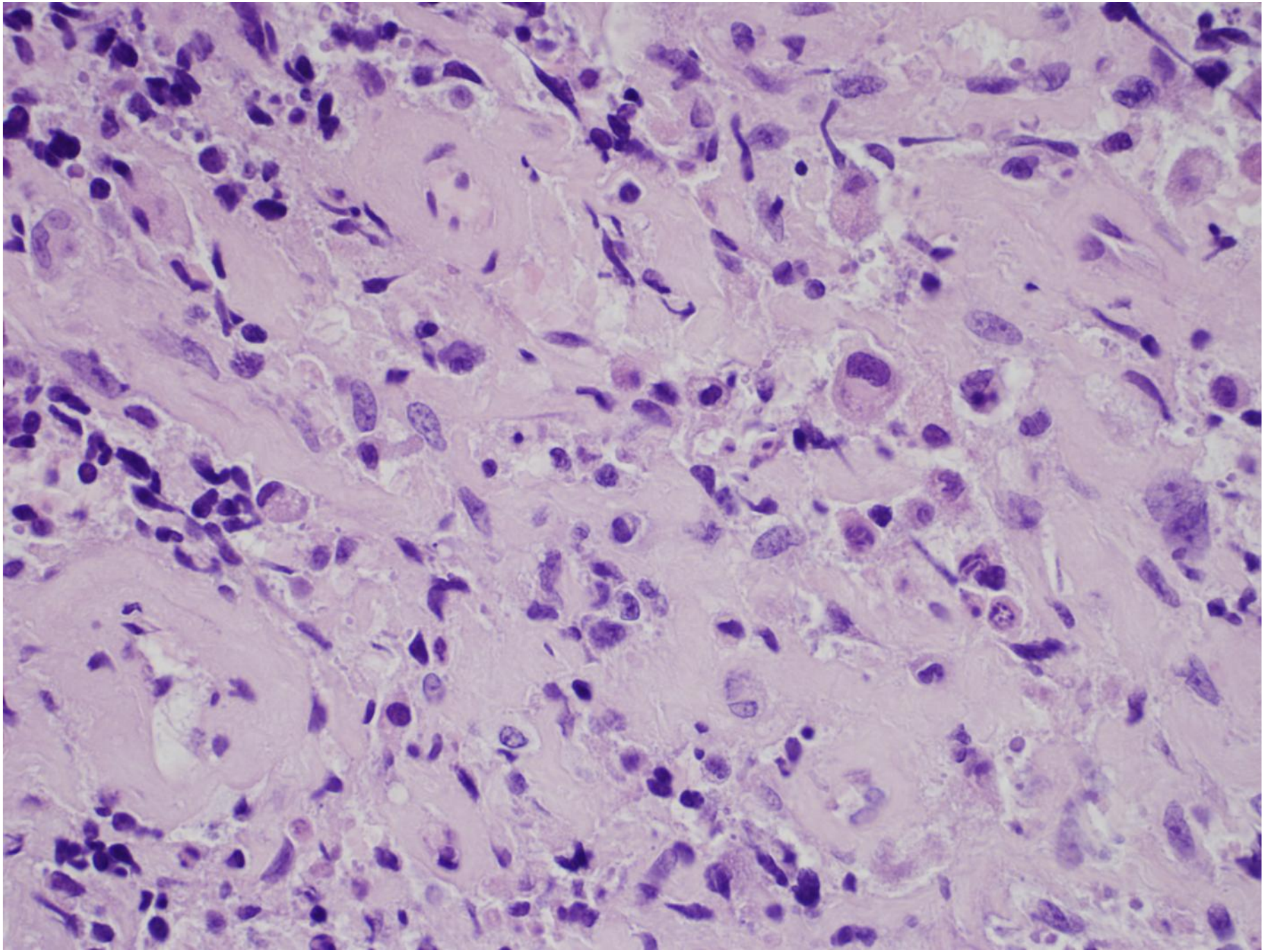


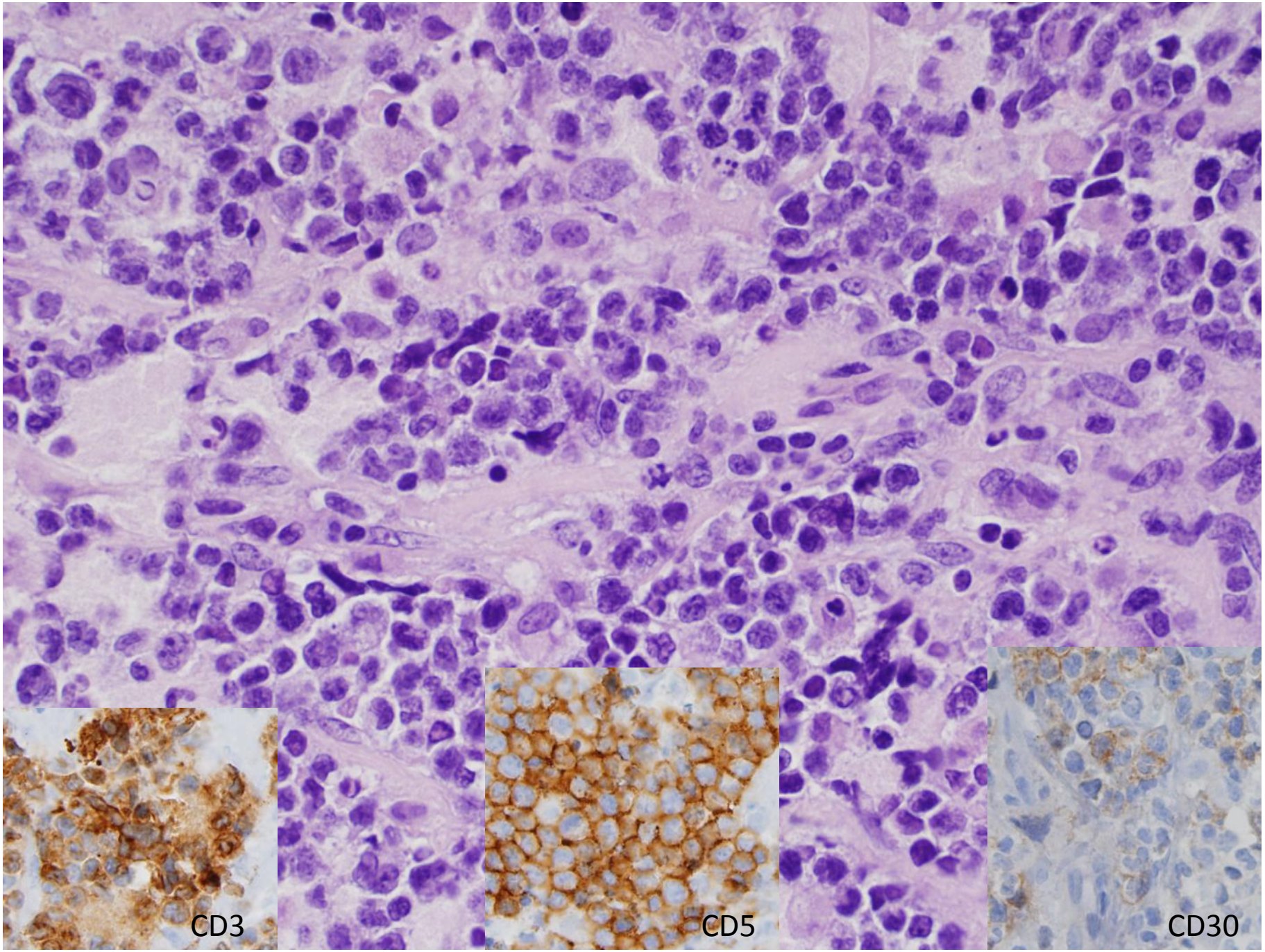
Synopsis of Diagnosis

- Positive for malignant cells. Poorly differentiated malignant neoplasm.
  - Cell block sparsely cellular
  - Rare EMA positive tumor cells that are ALK negative
  - DDx includes poorly-differentiated carcinoma or large cell lymphoma
  - Please correlate with concurrent biopsy and flow cytometry.

Core Biopsy

- A. Right supraclavicular lymph node, core biopsy: Malignant lymphoma best classified as peripheral T-cell lymphoma, not otherwise specified (PTCL, NOS). See COMMENT.
  - discohesive nests of pleomorphic, variably-sized cells with irregular nuclear contours and variably prominent nucleoli embedded in a collagenous stroma. Foci of necrosis are present. Immunohistochemical stains were performed. The neoplastic cells are positive for CD3 (weak) and CD5 (strong). CD20 marks rare B-cells. CD30 marks a small subset of cells. The cells are negative for CD1a, ALK-1 and TdT. In summary, this is a very small biopsy. However, the morphologic and immunophenotypic findings are best classified as PTCL, NOS.




CD3
CD5
CD30

Flow Cytometry

- Aberrant CD5+, CD7+ T-cells consistent with involvement by previously diagnosed peripheral T-Cell lymphoma, not otherwise specified.
- Comment: The major aberrant feature is the loss of surface expression of CD2, CD3, CD4, and CD8.
- Of note, the CD3 immunostain was positive in the biopsy but this may not necessarily represent surface expression which is being assayed via flow cytometry.

Anaplastic large T cell lymphoma (ALCL)

- Was not the diagnosis applied to our patient but deserves mention.
- Intermediate to large cell, pleomorphic, abundant cytoplasm
- CD30+, ALK + (nuclear and cyto in t(2;5) NPM;ALK), ALK stains more strongly in the larger cells.
- CD45+ 90%
- EMA +
- CD3 lost 75% time
- CD2,4,5,7 retained 70% of time.

ALCL growth patterns

- Classic
- Lymphohistiocytic (10%)
- Small cell (5-10%)
- Hodgkin-like (3%)
- Hypocellular
- Neutrophil rich
- Sarcomatoid

PTCL

- Diagnosis of exclusion
  - ALCL – ALK+, CD30, CD3 lost often
  - AITL
  - ATLL
  - TCRLBCL
- Often smaller cells than ALCL or DLBCL