Hodgkin Lymphoma

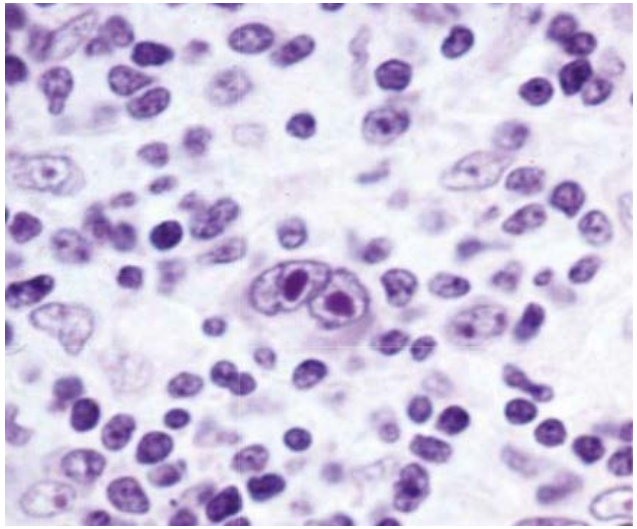
- Lymphoid neoplasm derived from germinal center B cells.
- Neoplastic cells (i.e. Hodgkin/Reed-Sternberg/LP cells) comprise the ***minority*** of the infiltrate.
- Non-neoplastic background inflammatory cells comprise the ***majority*** of infiltrate.
- Two biologically distinct types:
  1. Classical Hodgkin Lymphoma (CHL)
  2. Nodular Lymphocyte Predominant Hodgkin Lymphoma (NLPHL)

Classical Hodgkin Lymphoma

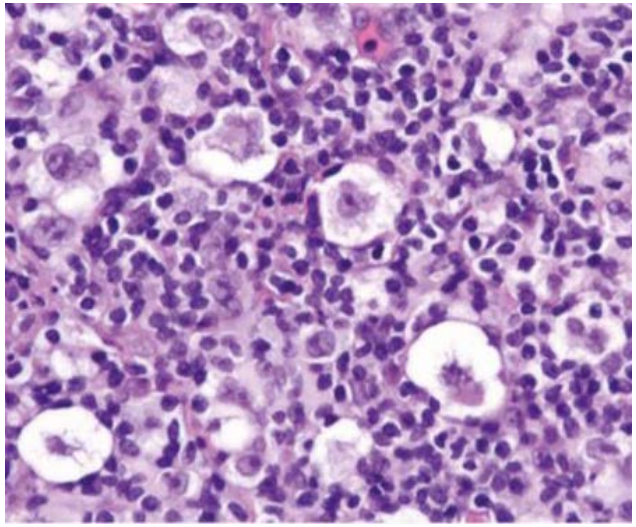
- Neoplastic B (Hodgkin) cells are often take the form of Reed-Sternberg cells or variants
  - Classic RS, mummified and lacunar cells.
- The majority of background, non-neoplastic small lymphocytes are T cells.
- Unique immunophenotype that differs from most B cell lymphomas.
- Divided into 4 histologic subtypes according to the background milieu:
  - Nodular Sclerosis
  - Mixed Cellularity
  - Lymphocyte Rich
  - Lymphocyte Deplete

CHL - RS Cell Variants

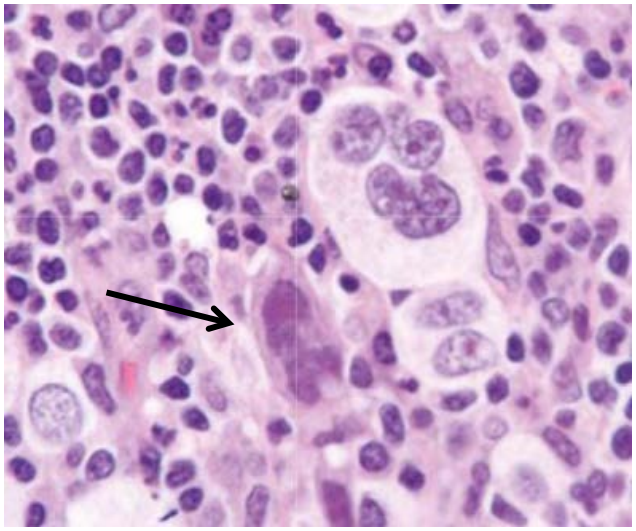
Classic RS Cell



Lacunar Cells



Mummified Cell



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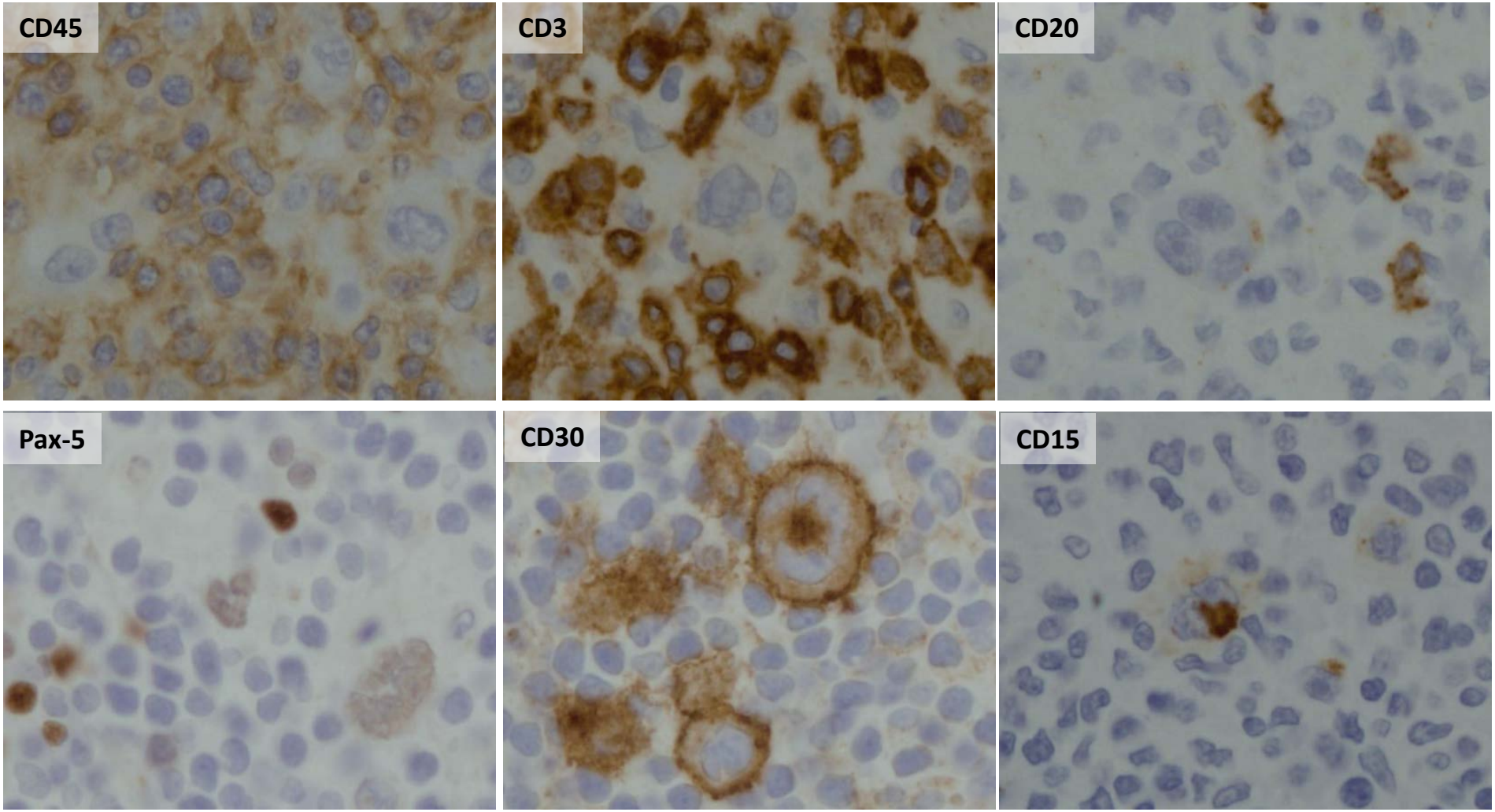
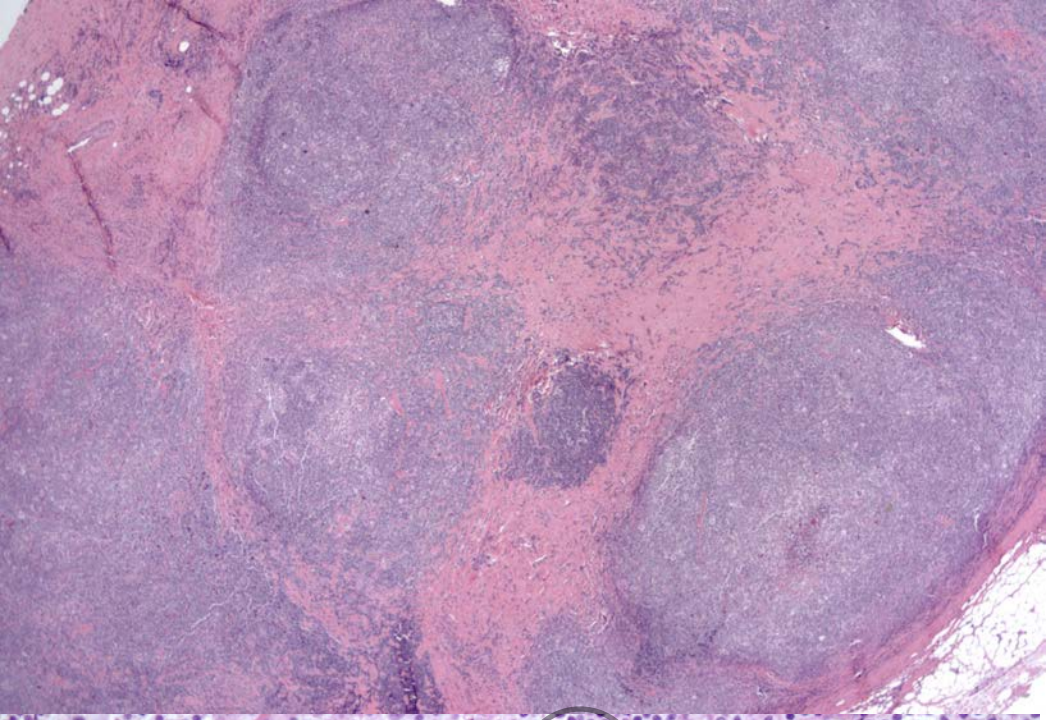
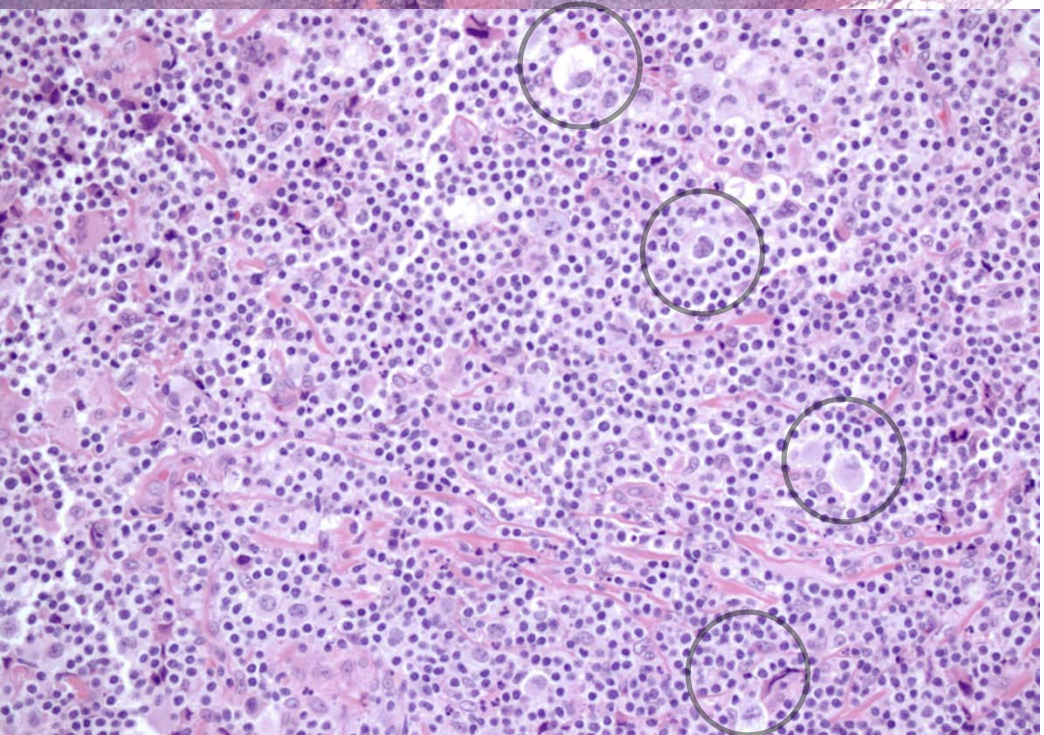
CHL - Immunophenotype



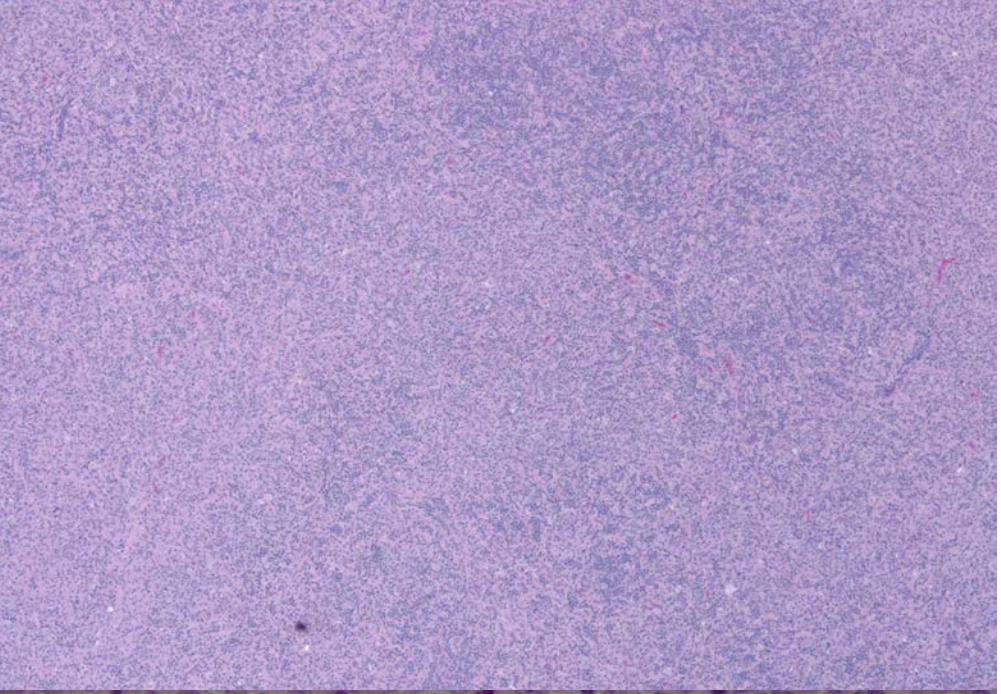
CHL - Histologic Subtypes

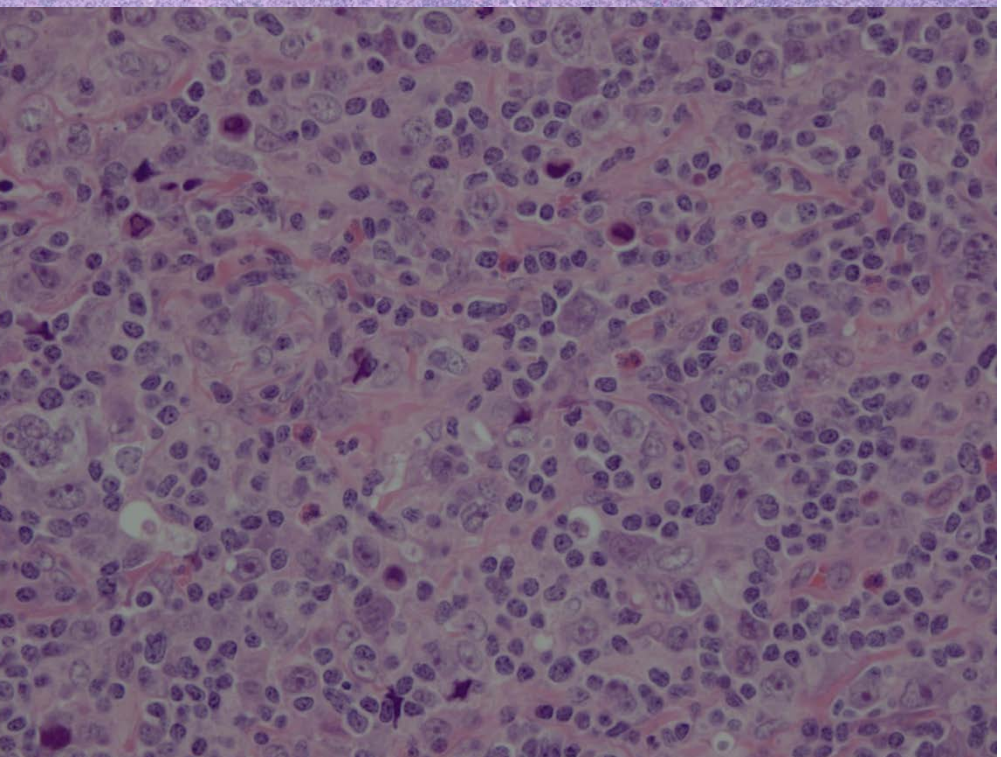




Nodular Sclerosis

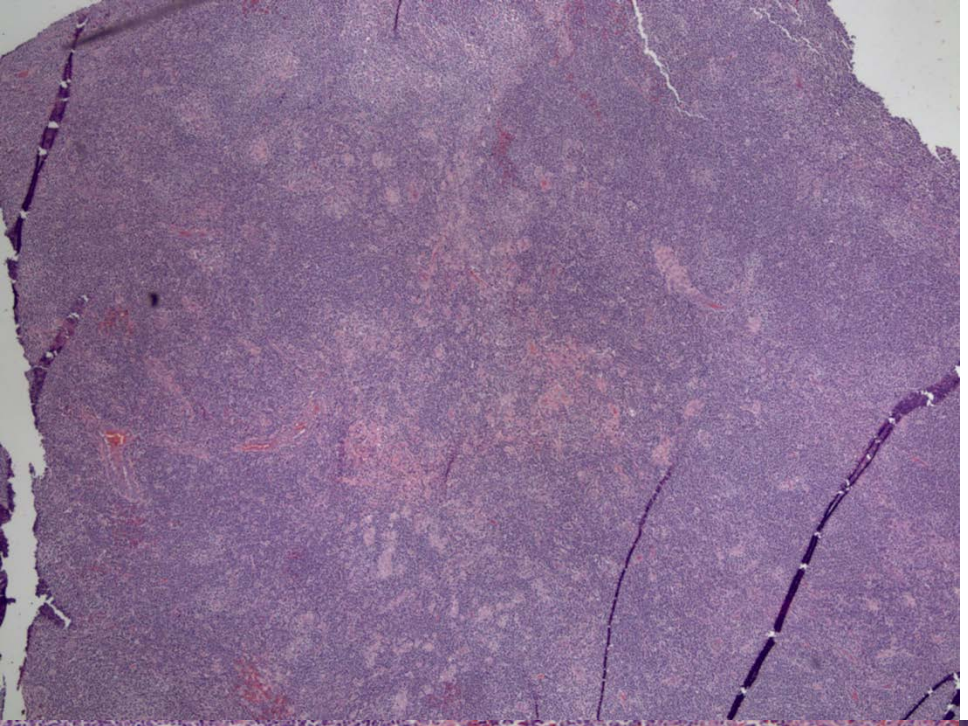
- Architecture is effaced by prominent nodules separated by ***dense bands of collagen***.
- Mixed inflammatory infiltrate composed of T cells, granulocytes, and histiocytes.
- ***Lacunar variants*** are the predominant form of RS cells.





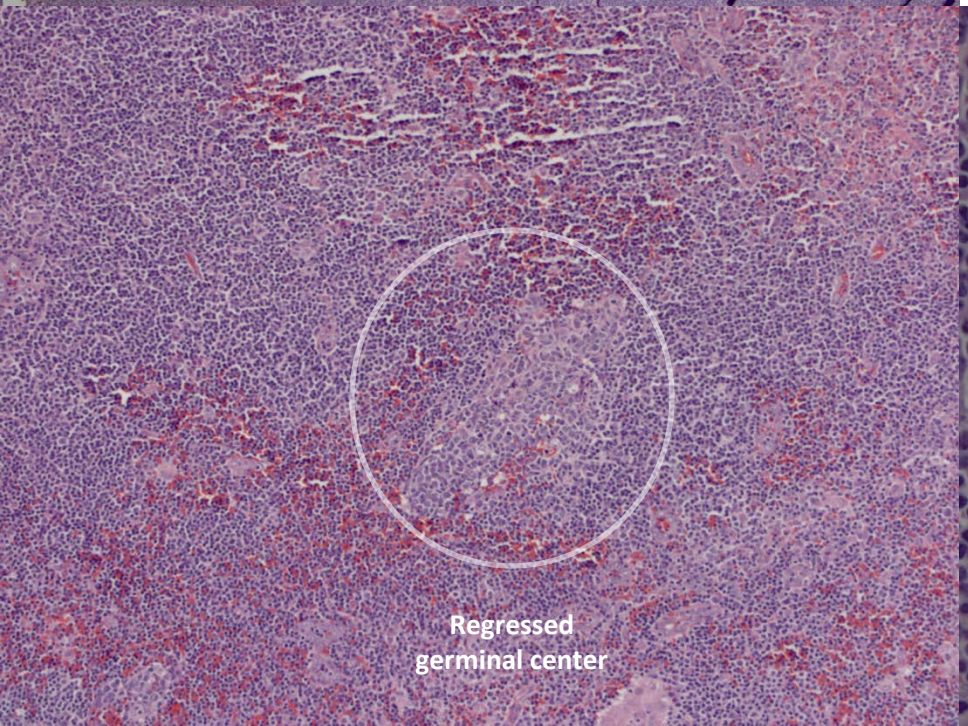
Mixed Cellularity

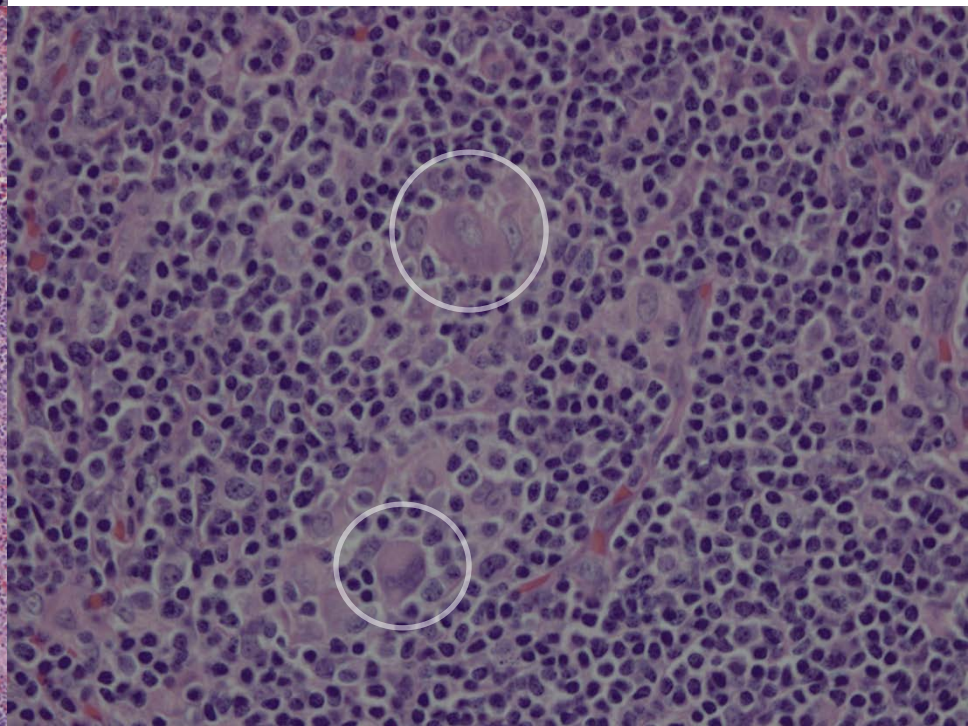
- Architecture is effaced by a more diffuse infiltrate ***without bands of fibrosis***.
- Background of lymphocytes, plasma cells, histiocytes and eosinophils.
- Approximately 75% of cases are ***positive for EBV***-encoded RNA or protein (LMP1)

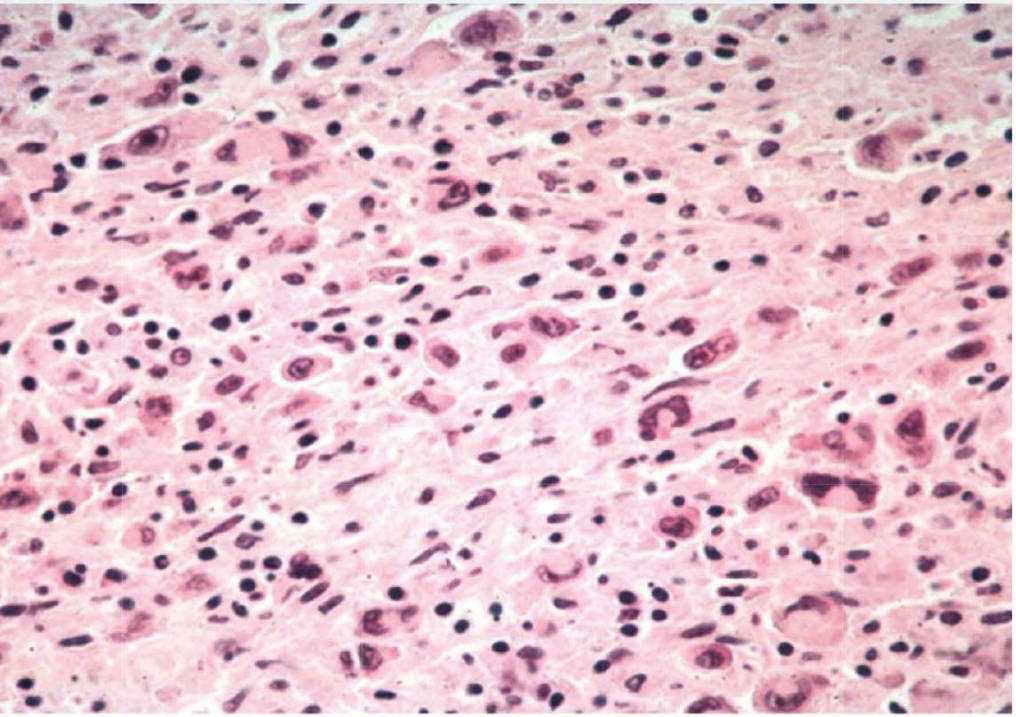


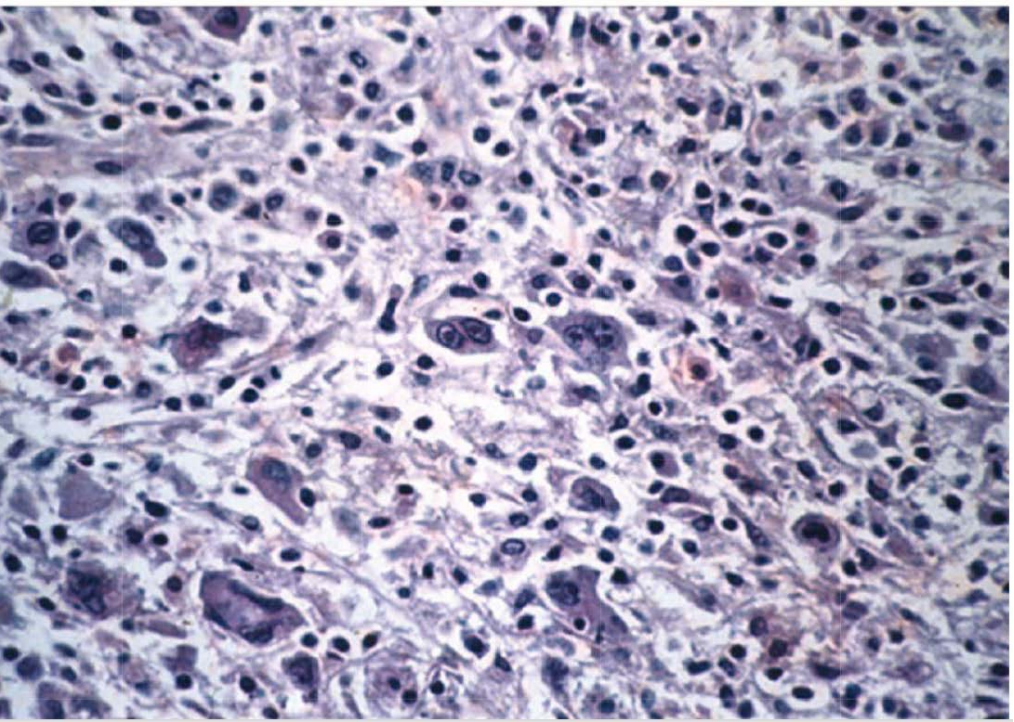
Lymphocyte Rich

- Architecture is effaced by a nodular to vaguely nodular ***infiltrate of lymphocytes***.
- Nodules may contain regressed germinal centers.
- The ***majority of background, non-neoplastic lymphocytes are B cells***; T cells form rosettes around neoplastic cells.
- Granulocytes and histiocytes are rare.









Lymphocyte Deplete

- Architecture is effaced by disordered fibrosis and necrosis.
- ***Paucity of background inflammatory cells***.
- RS cells are characteristically ***pleomorphic*** and may be rare or abundant.

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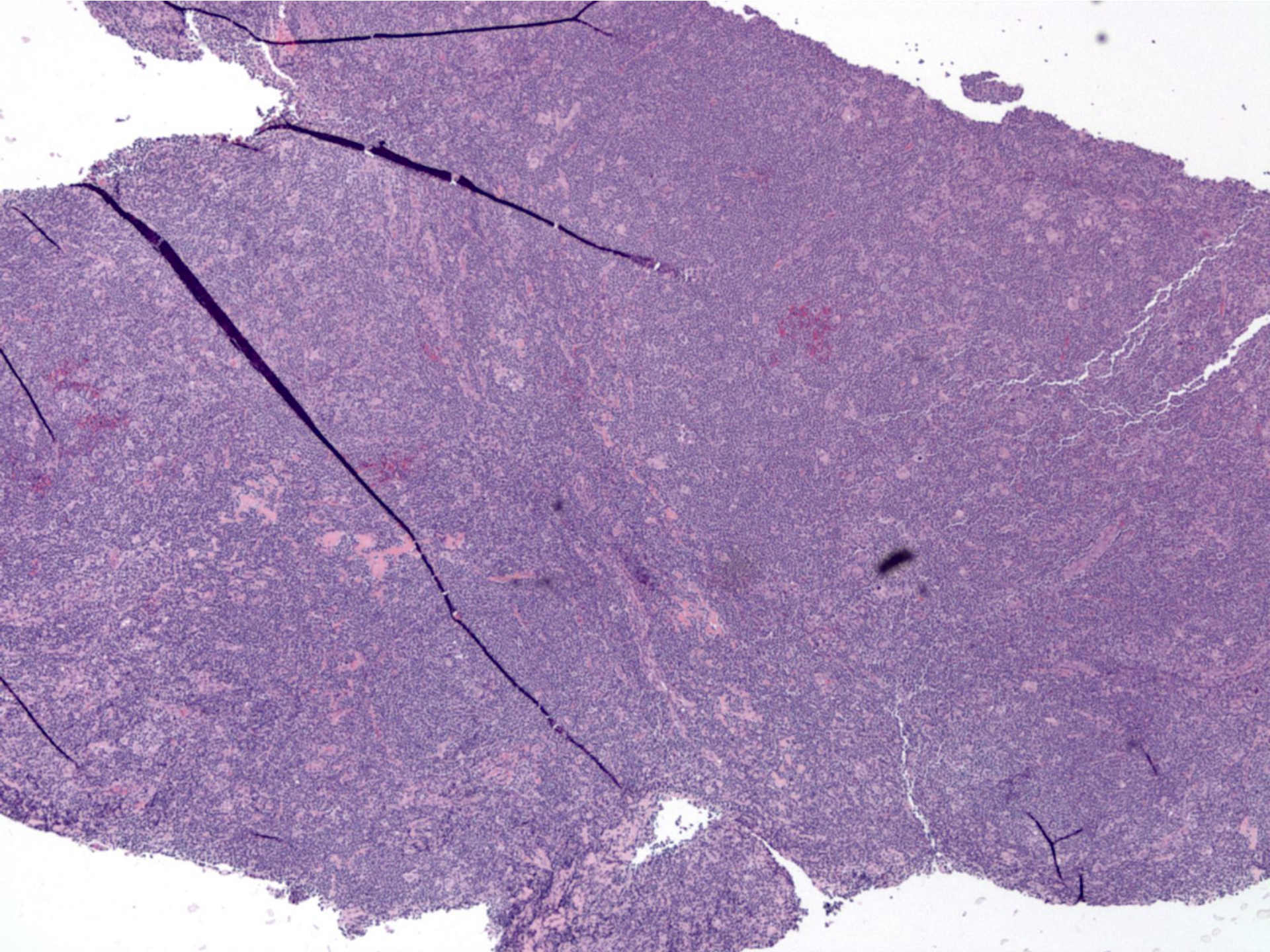
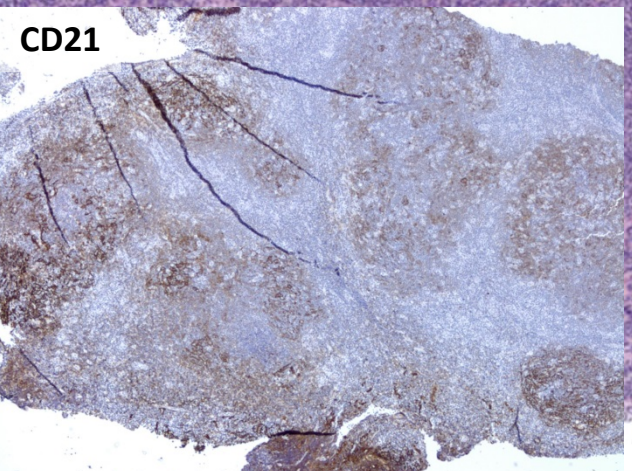
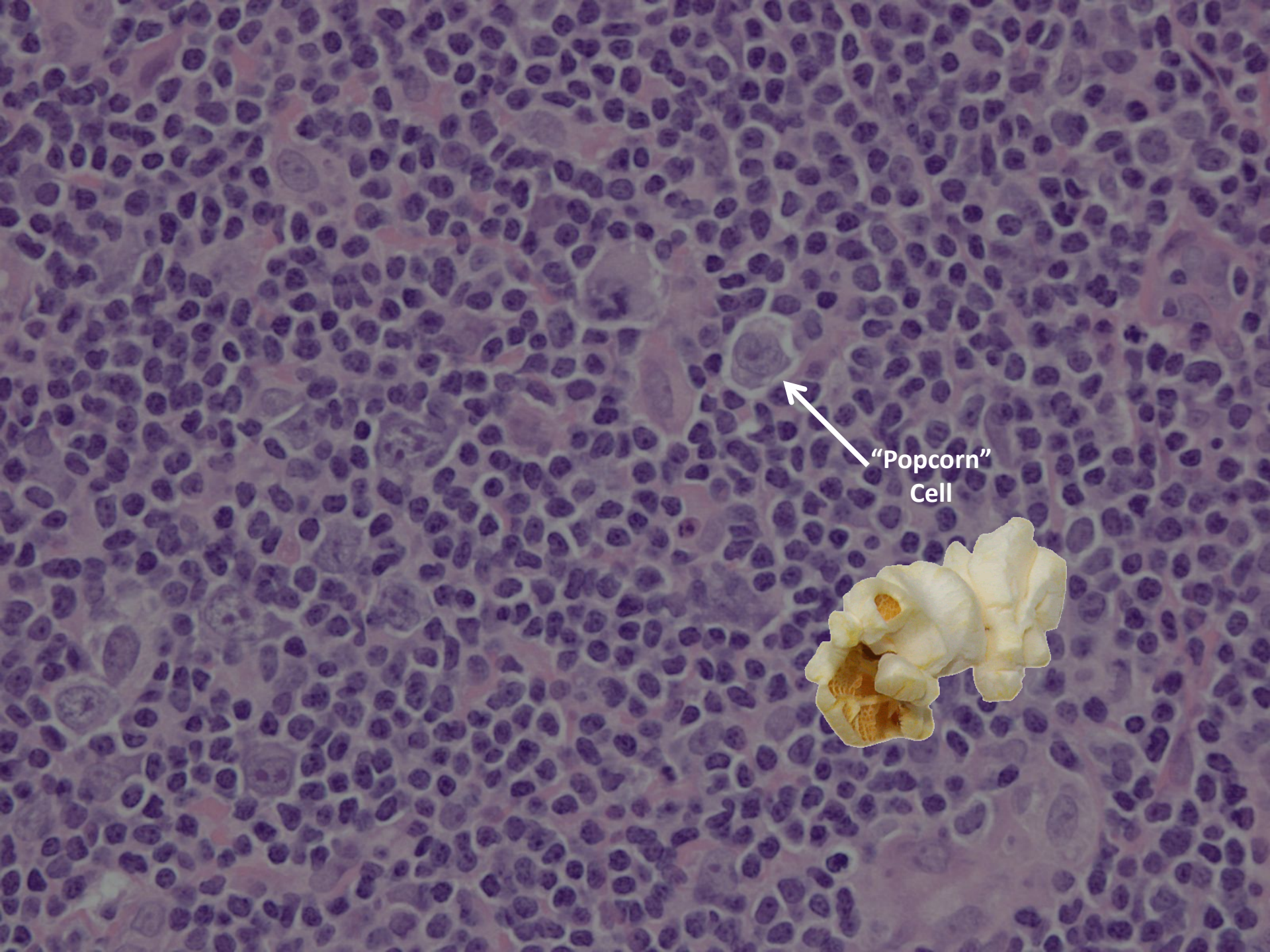
Nodular Lymphocyte Predominant Hodgkin Lymphoma

- Nodal architecture is effaced by large nodules with residual germinal centers compressed toward the periphery.
- Neoplastic B cells take the form of LP or “popcorn” cells.
- The majority of background, non-neoplastic lymphocytes are B cells; T cells form rosettes around neoplastic cells.
- Immunophenotype reflects maintenance of the B cell repertoire.



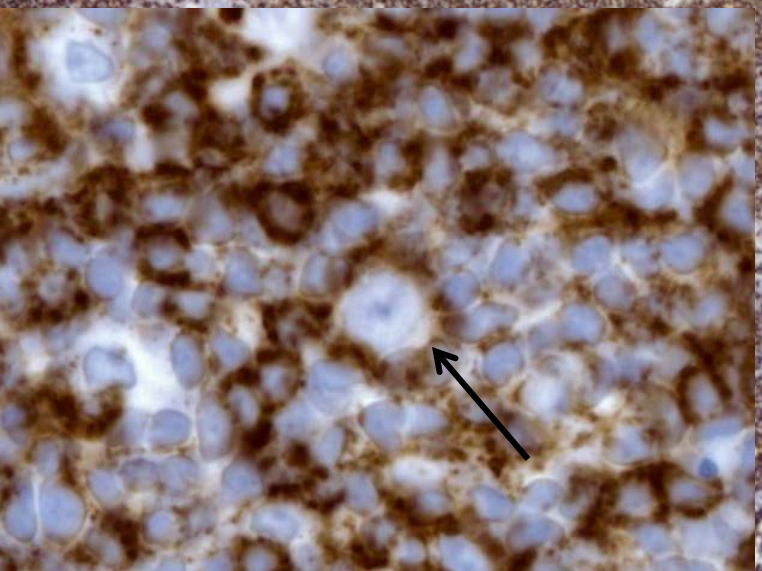
Follicular dendritic meshwork is expanded imparting the nodular pattern.




"Popcorn"
Cell

CD20

- Neoplastic cells are positive and rimmed by negative T cells
- Most of the background lymphocytes are B cells
- “Moth-eaten” appearance on low power



NLPHL - Immunophenotype