Hodgkin Lymphoma

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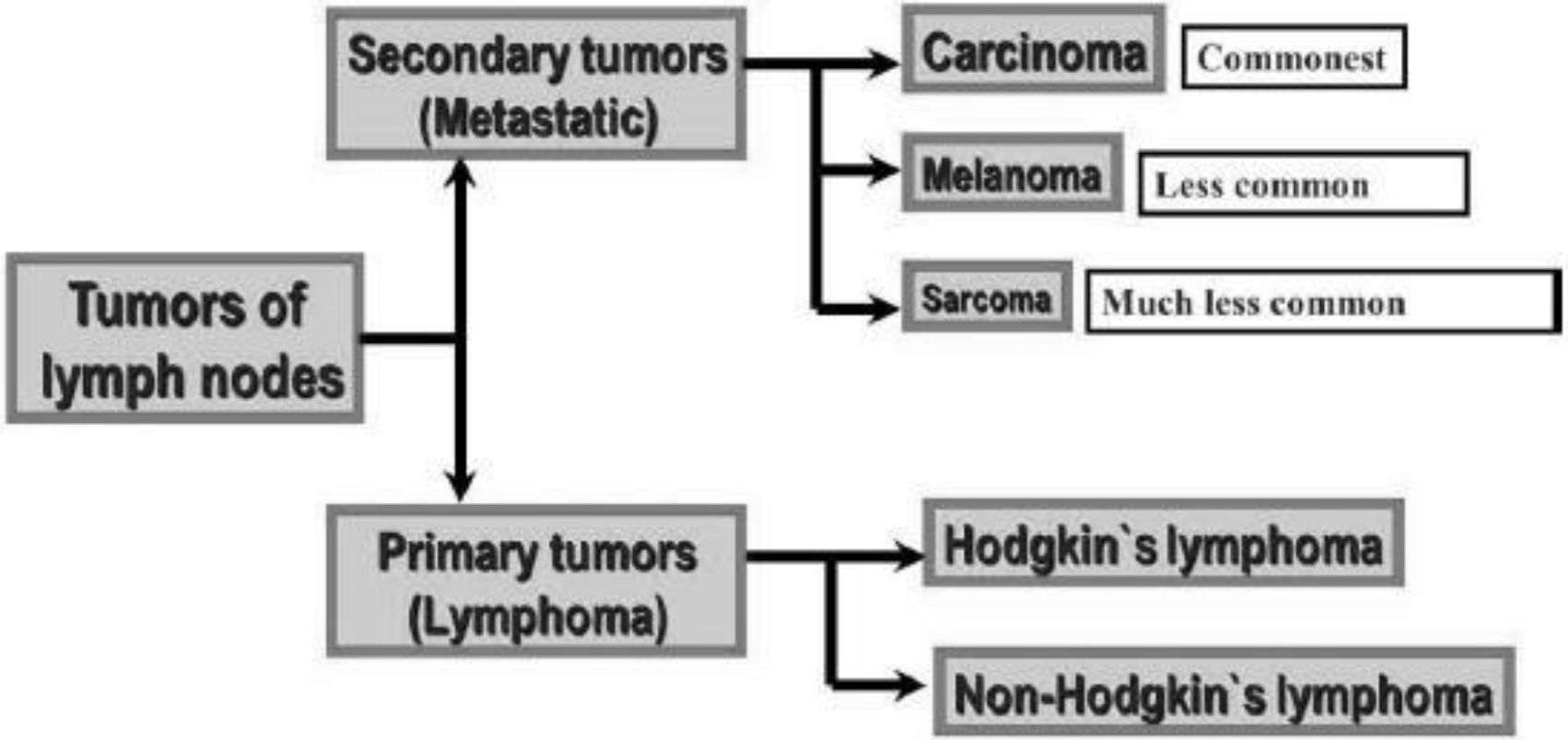
ILOs

- - Describe the different types of Hodgkin lymphoma
- - Emphasis on clinical presentation
- - Emphasis on histopathologic features
- - types of Hodgkin giant cells
- - stages and prognosis of Hodgkin lymphoma

TUMORS OF LYMPH NODES

Classification of tumors of lymph nodes

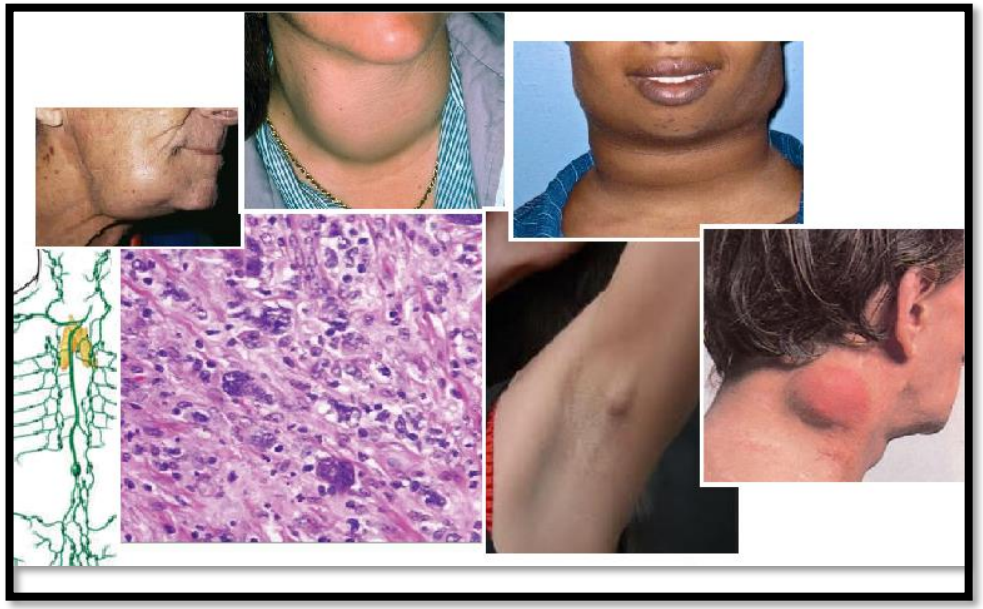


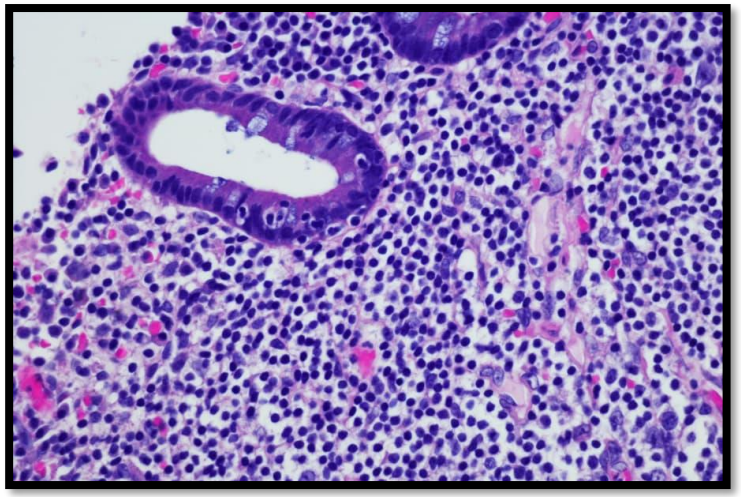
Lymphoma

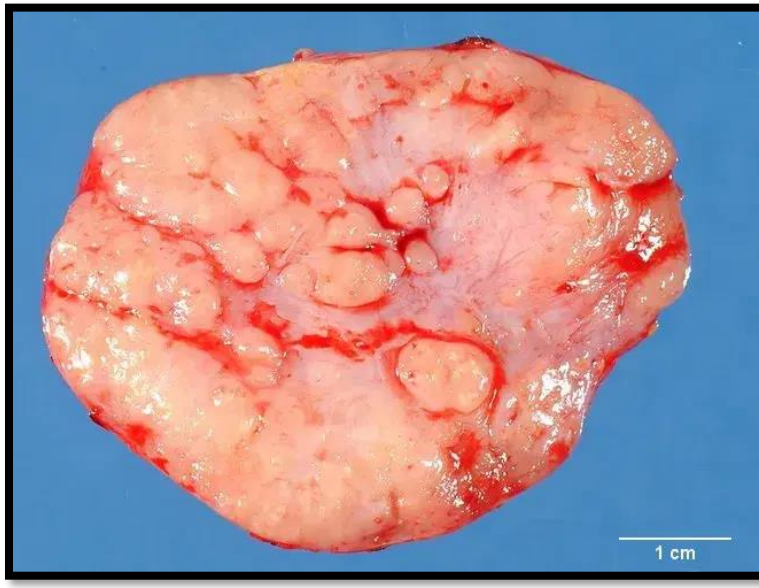
- Definition: Malignant tumors of lymphoid tissue
- - Organs affected: lymphomas could arise from
- - A. Nodal lymphoid tissue (nodal lymphoma)
- - B. Extra-nodal lymphoid tissue (spleen,tonsils, GIT, etc.)
- - Involves one group → spreads to others
- - Can infiltrate organs if untreated
- Lymphoma mainly arise fron B CELLS EXCEPT skin lymphoma arise from T cells

Gross & Microscopic Features

- - Grossly/Clinically: Painless LN enlarged , firm, homogenous pink, cut surface grayish pink early discrete (separated) late fused or matted due to capsular invasion
- - Usually involves multiple LN groups
- - Microscopically: Effacement (loss) of normal nodal architecture
- - Other features vary by lymphoma type(contain HL/RS cells or not)







Hodgkin Lymphoma

- - Malignant tumor of lymphoid tissue
- - Characterized by large neoplastic cells (Reed-Sternberg/Hodgkin's cells)
- - Polymorphic cellular background
- - Reactive inflammatory cells present
- Incidence & Spread~30% of all lymphomas
- - Bimodal age distribution (young & old)(18-24 OR 55-70)
- - Most types affect men > women (except nodular sclerosing)
- - Spread is contiguous
- - ~50% linked to EBV

Clinical Features – LN Enlargement

- - Painless lymphadenopathy
- - Commonly cervical & supraclavicular LNs
- - May involve splenomegaly
- - Tends to involve one group then another
- - More frequent axial LN groups
- Systemic Manifestation:
- - In ~25% of cases
- - Non-specific symptoms:
- - Intermittent low-grade fever, increase ESR, anemia
- - Night sweats, perioritis
- - Progressive weight loss

- Gross Features
- - LNs:
- early = enlarged, firm, discrete
- Later: fusion into irregular fixed mass
- - Cut surface: nodular, grayish-pink
- - Spleen: enlarged, firm, grayish nodules
- - Extra-nodal sites: less common (liver, BM)

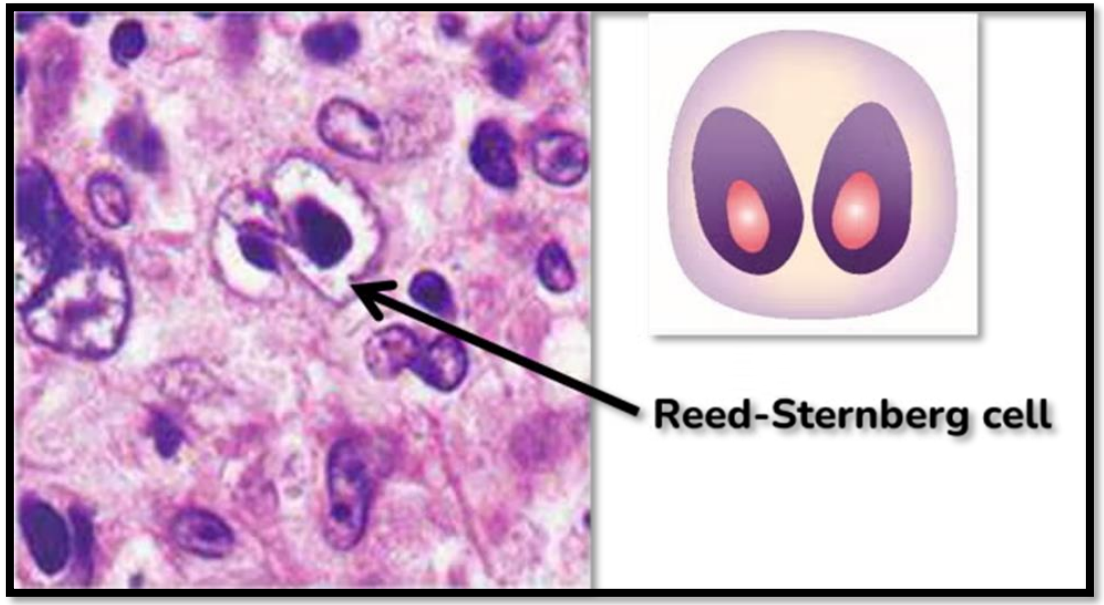
Microscopic Features

- - Partial/complete loss of normal LN (nodal) architecture
- Replacement of nodal tissue(mainly B lymphocyte) with neoplastic lymphoid tissue with Many reactive pleomorphic inflammatory cells(histocytes, plasma cell, eosinophils) and Infiltration by RS cells or variants

Types of RS CELLS

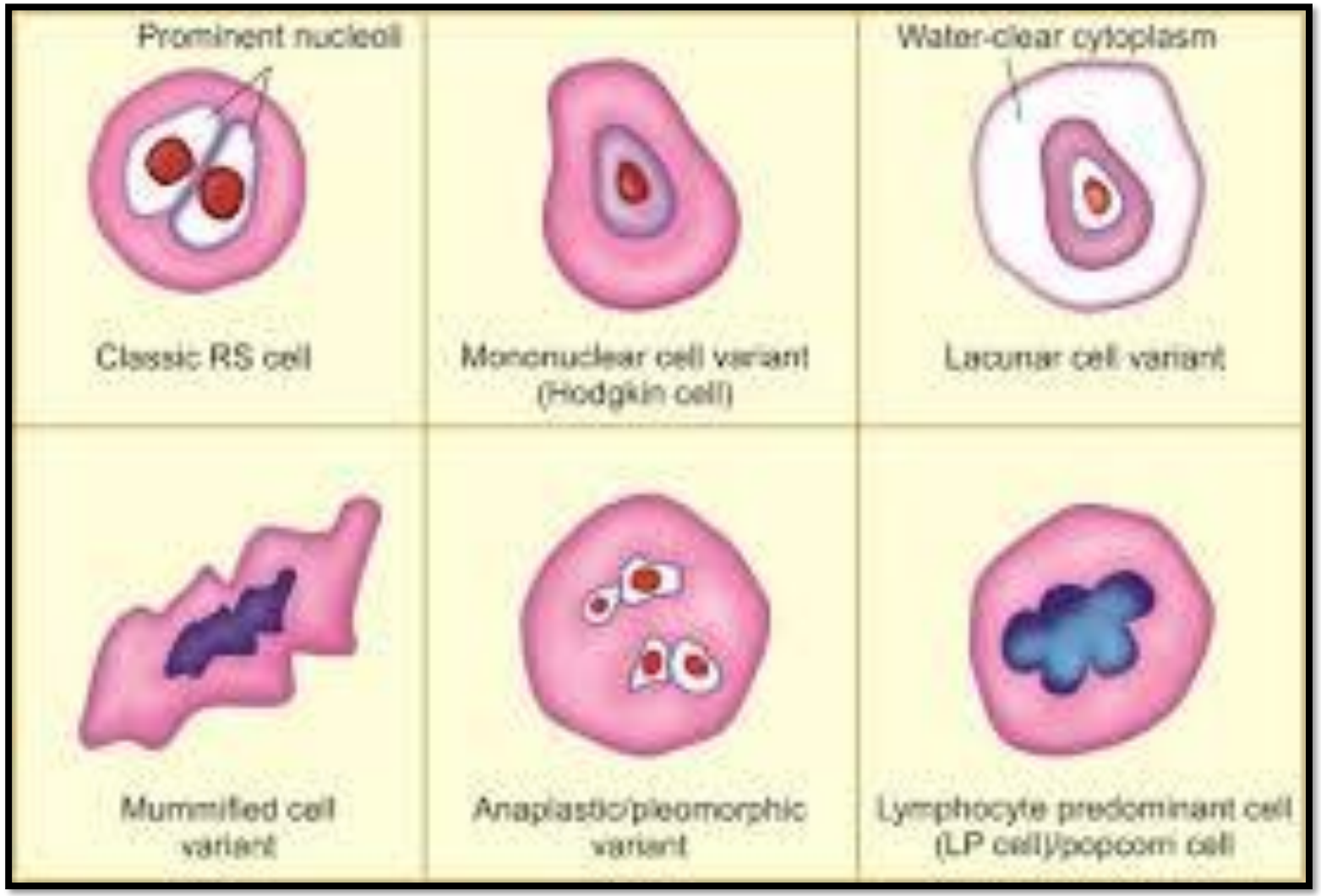
1-Classic RS Cells

- Also called Hodgkin's/Dorothy Reed cells
- - Giant cells (30–60 µm)
- - Abundant pale eosinophilic cytoplasm
- - Two nuclei (mirror image/owl eye)
- - Prominent eosinophilic nucleoli



2-RS Cell Variants

- **Mononuclear variant:**
- single nucleus with prominent nucleolus (rare type)
- **Lacunar cell:**
- shrunken cytoplasm during preparation(clear space)
- **Popcorn cell:** lobed nuclei,
- small nucleoli

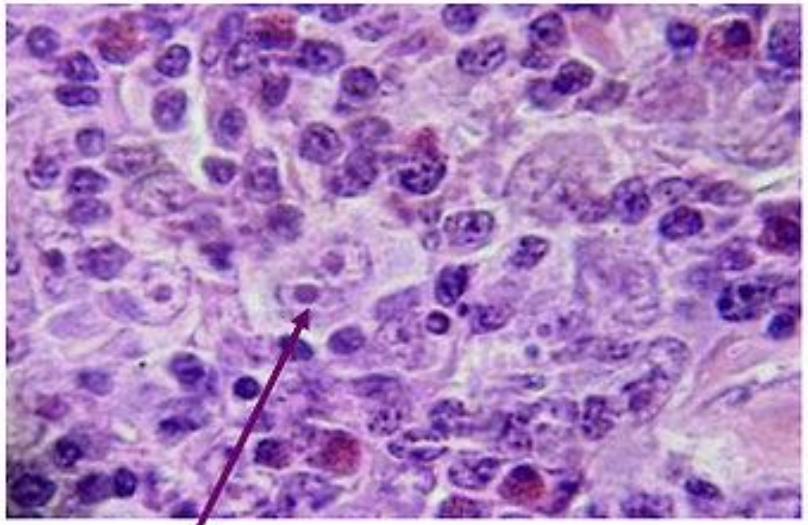


Types of Hodgkin Lymphoma

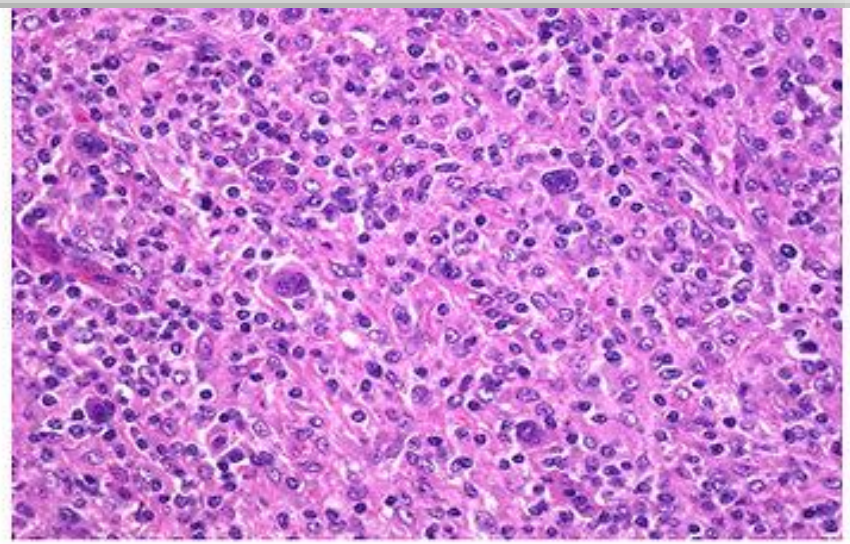
- - Classified according to RS cell frequency, background cells, fibrosis
- Nodular Lymphocyte Predominant HL
- - ~5% of HL cases
- - **Best prognosis**
- - Nodular appearance with reactive cells (lymphocytes)
- **- Popcorn** variant RS cells
- - No classic RS cells

- Classic HL – Lymphocyte-Rich Type
- - ~5% of HL cases
- - **Good prognosis**
- - Reactive cells mainly lymphocytes
- - Mononuclear Hodgkin's cells
- - Classic RS cells rare

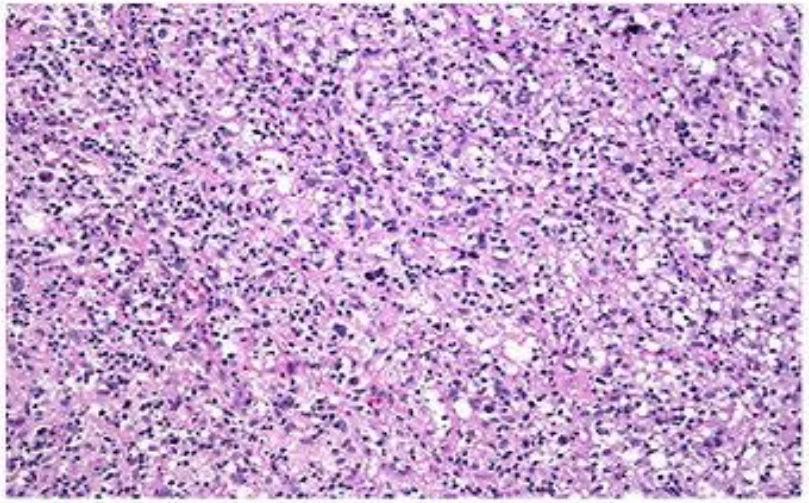
- Classic HL – Nodular Sclerosing Type
- - ~65% of HL cases
- **- Good prognosis**
- - **LN divided into nodules by collagen bands**
- - **Nodules contain mixed reactive cells**
- - **Lacunar** Hodgkin's cells
- - Classic RS cells rare
- Classic HL – Mixed Cellularity Type- ~20–25% of HL cases
- - **Poor prognosis**
- - Diffuse mixed inflammatory background
- - Numerous classic RS & **mononuclear** cells
- : Classic HL – Lymphocyte Depletion Type
- - 1–5% of HL cases
- - **Worst prognosis**
- - Few reactive cells & lymphocytes
- - Many classic RS & Hodgkin's cells
- - Frequent mitosis



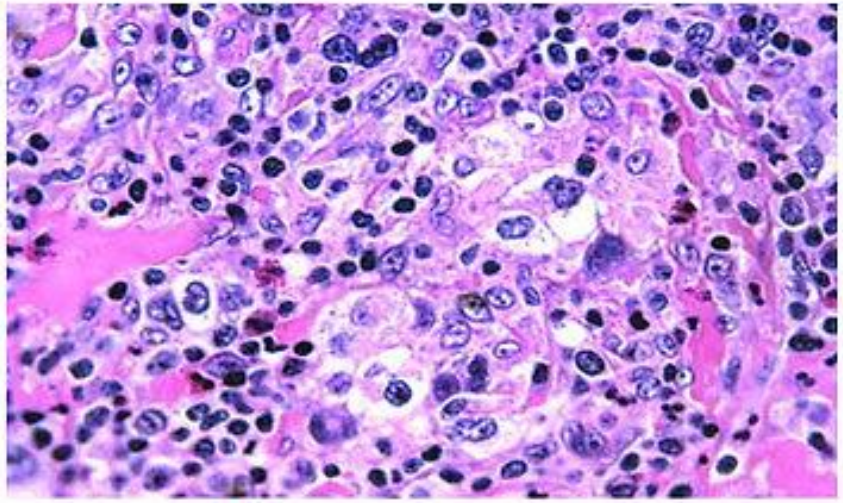
Typical Reed-Sternberg cell in Lymphocyte rich type of HL



HL, mixed cellularity



HL, lymphocyte depletion



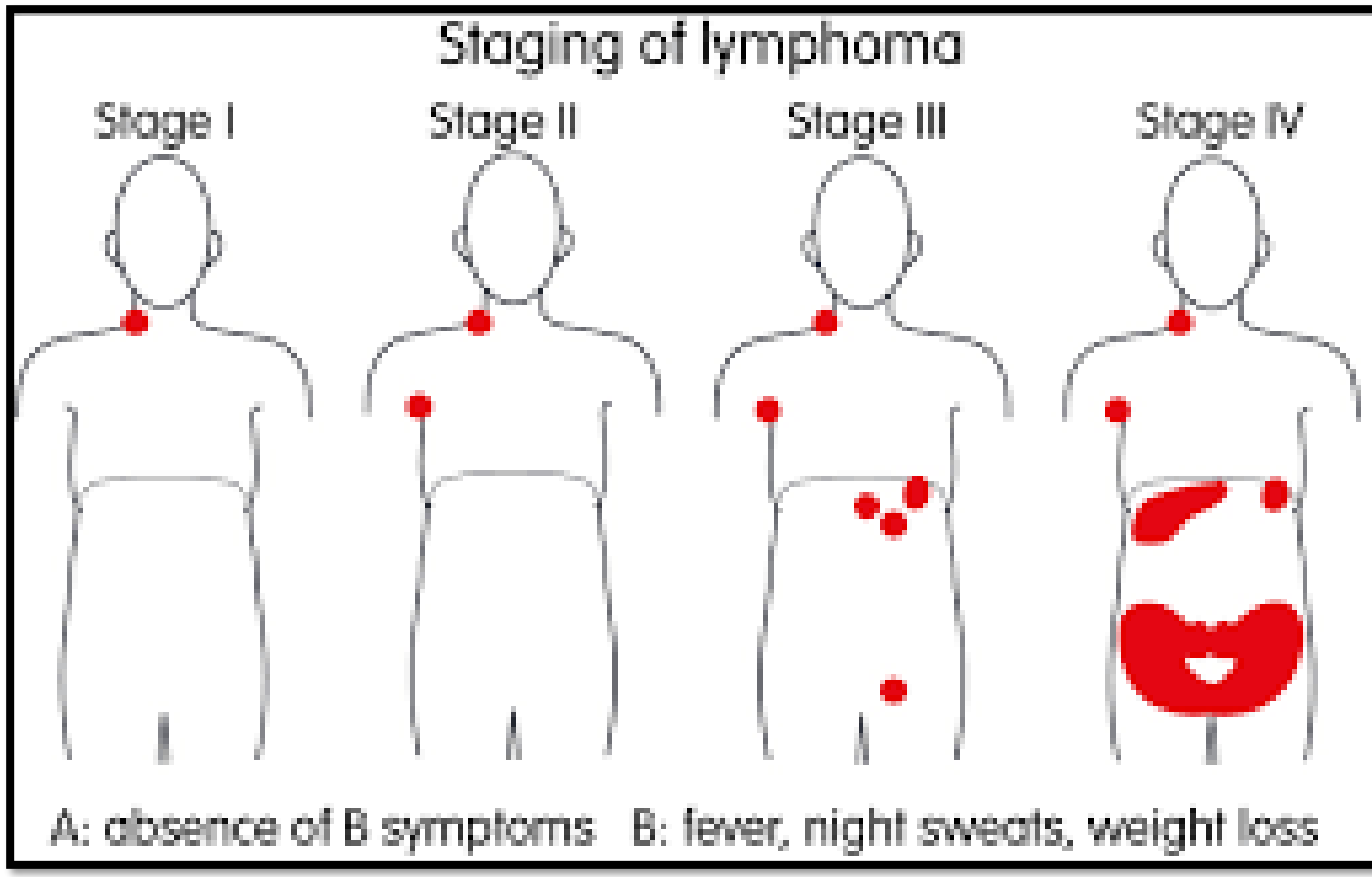
HL, nodular sclerosis

Prognosis of Hodgkin Lymphoma

- - Depends on histological subtype
- - Good: Nodular lymphocyte predominant & lymphocyte-rich
- - Relatively good: Nodular sclerosis
- - Poor: Mixed cellularity
- - Worse: Lymphocyte depletion
- - Clinical stage & organ infiltration more important

Staging of Hodgkin Lymphoma

- Stage I: One LN group affected above or below diaphragm
- Stage II: more than one (2 or more LN groups) at same side of diaphragm
- Stage III: LN groups both sides of diaphragm
- Stage IV: Spread to organs beyond LNs/spleen



Non-Hodgkin’s Lymphoma

- Definition- Malignant tumor of lymphoid tissue
- - Mostly from B or T lymphocytes
- - May arise in nodal or extra-nodal tissue
- Special Features of NHL
- - Multiple heterogeneous disorders
- - Peripheral LN affection
- - Non-contiguous spread
- - Common primary extra-nodal presentation

Comparison of HL &NHL

	HL	NHL
Cellular origin	B lymphocytes	B lymphocytes (90%), T lymphocytes (10%)
Extent of disease	Localized	Disseminated
B symptoms	common	40%
Extranodal involvement	rare	common

	HL	NHL
Incidence	+/- 30 % of all lymphomas	More common
Age incidence	Bimodal	Increase with age
Neoplastic cells	RS cells or its variants	B cells or T cells
Background cells	Numerous reactive cells	No or rare reactive cells
Progression	Often localized to a single group of LNs	Tend to involve more than one group of LNs
Spread	Usually contiguous spread.	Usually non-contiguous spread.
Peri-nodal extension	Less frequent peri-nodal extension	Frequent peri-nodal extension
Extra nodal extension	Extension of extra-nodal sites is uncommon.	Extension to extra-nodal sites is common.
Prognosis	Generally better than NHL (based on stage)	Generally worse than HL (based on stage)


Thank
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