

NON - HODKING LYMPHOMAS:

- Non Hodgkin lymphomas (NHLs) are chronic leukemia composed of tumour cell that resemble stages of mature lymphocyte differentiation.

CLASSIFICATION:

- Majority of lymphoid neoplasm are of mature B cell origin.
- Mature B cell Neoplasm → >65 or more.
- Chronic lymphocytic leukemia / small lymphocytic lymphoma:

CLL/SLL is a B cell lymphoma comprising monomorphic small mature B cell pg: 385

FOLLICULAR LYMPHOMA:

- FL is a neoplasm of mature germinal centre (GC) B cell - with varying proportion of centrocytes (CC) & centroblasts (CB) or large transformed cells.

It shows follicular growth pattern.

PATHOGENESIS:

BCL2 Rearrangement - It is strongly associated with chromosomal translocation involving BCL2

↓
Rearrangement on chromosome 14 & 18

Overexpression of BCL2 which Act as an Antiapoptotic factor & promote the survival of follicular lymphoma.

In this cell - no apoptotic cell

MORPHOLOGY

Gross: involve lymph node, spleen, bone marrow.

→ The architecture of the lymph node is lost

- vaguely nodular pattern
- Infiltration of perinodal tissue

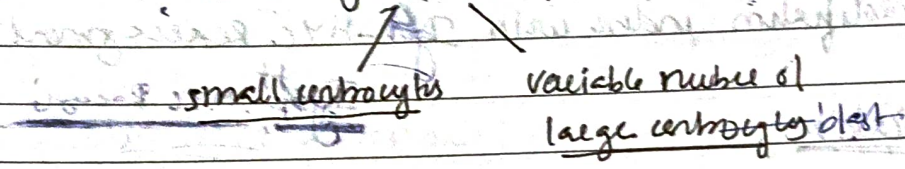
Histology → Follicular growth pattern

The neoplastic follicles are organised structure that is poorly defined

→ The size & shape of follicles varies can be seen

cellular composition

↳ consist of two types of neoplastic cells.



centrocytes (small cleaved cell) ○

size → centrocytes are slightly larger than small lymphocytes.

→ cleaved nuclei: Angulated, elongated, twisted or cleaved nuclei with prominent linear infoldings

- chromatin is less dense

→ cytoplasm → scant pale, barely visible ○

→ centroblasts (large noncleaved cells) ○

→ large 3 times the size of normal lymphocytes ^{cyt}

Nucleus: They have Round or oval nuclei with open nuclear chromatin
(3) multiple peripherally located nuclei

cytoplasm → visible & lightly Amphophilic

Grading is done on the basis of centroblasts //

RANKA
DATE

FL1
FL2
FL3.

Clinical features

→ Occurs in Adult > 50 yrs of Age

→ develop generalized, painless, lymphadenopathy

Prognosis

BURKITT LYMPHOMA: → Fastest growing tumor

It is a mature aggressive B-cell neoplasm of germinal centre B-cell phenotype. (It is composed of Medium sized, monomorphic lymphoid cell.

→ These cells have basophilic vacuolated cytoplasm & a nucleus with multiple small nuclei.

→ High proliferation index with IGH-MYC Rearrangement

IGH-MYC Rearrangement

Classification

1) endemic Burkitt lymphoma → (endemic) 100% EBV Associated
→ Associated with EBV & HLA class II
They occur in Mandible, jaw, maxilla.

2) sporadic (nonendemic) → involve → Abdomen, soft tissue, orbit
15-20% EBV Associated
Waldeyer Ring, gingiva, thyroid
ovary.

3) Immunodeficiency Associated BCL (HIV)
25% EBV Associated → Affect lymph nodes

PATHOGENESIS

Risk factors → P. falciparum infection
EBV virus.

(Immunodeficiency HAZARD)

Overexpression of MYC transcription factor.

MYC → proto-oncogene Regulator (was being Metabolism)

↓ Anaerobic glycolysis

hallmark of cancer if Associated with
(Rapid cell growth)

→ Translocation of MYC gene on chr 8.
t(8;14) - most common

t(2;8)

t(8;22)

Respiratory chain blocked

MYC protein ↑↑

↑ expression of gene
req. for Anaerobic glycolysis

→ Warburg effect

→ overexpression of MYC (oncoprotein) → cause uncontrolled proliferation

MORPHOLOGY:

Produces a bulky mass of tumor with Adjacent lymph nodes.

→ The cut surface has fish flesh appearance with focal areas of necrosis & hemorrhage.

Microscopy → loss of Architecture & diffuse growth pattern.
infiltrate of lymphoid cell

Features of cells

→ Medium sized lymphoid cell

→ Round to oval nuclei. finely clumped & dispersed chromatin
multiple (2-5) basophilic paracentrally located nucleoli

→ Basophilic or Amphophilic cytoplasm.

→ small, round lipid filled vacuoles.

→ numerous mitotic figures & Apoptosis.

STARRY SKY PATTERN :

Tumor cell undergo apoptosis



nuclear Remnants are phagocytosed by benign macrophages.



(The sprinkling of these tingible body macrophages in the background of corneous blue lymphoid cells)



starry sky pattern

Immunophenotype

surface Ig M

tic for CD19, CD20, CD79+, CD22

~~HL~~ → CD110 & BCL6

