

CONSENSUS REPORT

Histopathological reporting of malignant lymphoma

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A consensus on histopathology reporting of malignant lymphoma was reached at the "Slide Seminar-cum-Workshop on Malignant Lymphoma," jointly organized by the Malaysian Society of Pathologists and the Department of Pathology, Faculty of Medicine, University of Malaya on 29–30 April, 1999.

I. CLASSIFICATION

It was agreed that the newly proposed World Health Organization classification of Neoplastic Diseases of Hematopoietic and Lymphoid Tissue will be adopted (Table 1). Individual institutions may in addition include in their reports the classification currently in use in these centres in the initial phase, until clinicians are familiar with the entities listed in the WHO classification.

II. IMMUNOHISTOCHEMISTRY

It was also agreed that immunohistological investigation is frequently essential for a correct lymphoma diagnosis. The following was recommended for the study on paraffin-embedded biopsy material:

a. Panel of antibodies for routine application:

CD20 (L26)	or	CD79 α
CD3 (polyclonal CD3)	or	CD43 (MT1)
		CD45RO (UCHL1)
Kappa and Lambda light chains		

b. Panel of useful additional antibodies:

CD15
CD30
CD45 (LCA)
S100
CD68
Cytokeratin
Bcl-2
Vimentin

c. Others:

CD5
CD21
CD23
CD56
ALK

III. THE HISTOPATHOLOGY REPORT

The following items should be included in the histology report:

1. **Identification:** Whether biopsy material is nodal or extra-nodal tissue.
2. **Description of the lesion:**
 - i. *Whether normal structure is preserved*
 - ii. *Describe the pattern of architectural distortion, e.g. nodular, diffuse, sinusoidal or mantle zone; presence of sclerosis, necrosis/apoptosis*
 - iii. *Types of cellular infiltrate present:*
Mixed or monomorphous (non-mixed)
If mixed, name recognisable cells present, such as histiocytes, plasma cells, eosinophils, neutrophils, others
 - iv. *Cytology of tumour cells:*

Cell size	small, large Mono- (regular) or pleo-morphic (varied)
Nuclear features:	round, cleaved, convoluted, multilobated chromatin coarse clumping or fine presence of macro/micro nucleoli
Cytoplasm:	ample or scanty, basophilic, clear etc
Are Reed-Stenberg cells present?	
3. **Results of immunohistochemistry**

TABLE 1: World Health Organization Classification of Neoplastic Diseases of Hematopoietic and Lymphoid Tissues

COMPLETE LIST OF LYMPHOID NEOPLASMS, INCLUDING MORPHOLOGIC AND CLINICAL VARIANTS

B CELL NEOPLASMS

Precursor B cell lymphoblastic leukemia/lymphoma

Peripheral B-cell Neoplasms

B-cell chronic lymphocytic leukemia/small lymphocytic lymphoma
Variant: with monoclonal gammopathy/plasmacytoid differentiation

B-cell prolymphocytic leukemia

Lymphoplasmacytic lymphoma

Mantle cell lymphoma

Variant: blastic

Follicular lymphoma

Variants: Grade 1 (centroblasts comprise <50% of follicle area)

Grade 2 (centroblasts comprise >50% of follicle area)

Cutaneous follicular lymphoma

Marginal Zone B-cell lymphoma of mucosa-associated lymphoid tissue (MALT-type)

Nodal marginal zone lymphoma +/- monocytoid B-cells

Splenic marginal zone B-cell lymphoma (+/- villous lymphocytes)

Hairy cell leukemia

Variant: hairy cell variant

Diffuse large B-cell lymphoma

Variants: Centroblastic

Immunoblastic

T-cell or histiocyte-rich

Anaplastic large B-cell

Burkitt-like

Lymphomatoid granulomatosis type

Pyothorax-related

Diffuse large B-cell lymphoma, subtypes:

Mediastinal (Thymic) large B-cell lymphoma

Intravascular large B-cell lymphoma

Primary effusion lymphoma

Burkitt lymphoma

Variant: with plasmacytoid differentiation (AIDS-associated)

Plasmacytoma

Plasma cell myeloma

Immunosecretory disorders (clinical **or** pathological variants)

Plasma cell myeloma (multiple myeloma)

Monoclonal gammopathy of undetermined significance (MGUS)

Plasma cell myeloma variants:

Indolent myeloma

Smoldering myeloma

Osteosclerotic myeloma (POEMS syndrome)

Plasma cell leukemia

Non-secretory myeloma

Plasmacytomas:

Solitary plasmacytoma of bone

Extramedullary plasmacytoma

Waldenstrom's macroglobulinemia (immunocytoma, see above)

Heavy Chain Disease (HCD)

γ - HCD

α - HCD

μ - HCD

Immunoglobulin deposition disease:

Systemic light chain disease

Primary amyloidosis

T CELL NEOPLASMS

Precursor T cell lymphoblastic leukemia/lymphoma

Peripheral T cell and NK-cell neoplasms

T-cell prolymphocytic leukemia

Variants: *small cell*

Cerebriiform cell

T-cell large granular lymphocytic leukemia

NK cell leukemia

NK/T cell lymphoma nasal and nasal-type

Sezary syndrome

Mycosis fungoides

Variants: *pagetoid reticulosis*

MF-associated follicular mucinosis

granulomatous slack skin disease

Angioimmunoblastic T-cell lymphoma

Peripheral T-cell lymphoma (unspecified)

Variants: *lymphoepithelioid (Lennert's)*

T-zone

Adult T-cell leukemia/lymphoma (HTVL1+)

Variants: *acute*

lymphomatous

chronic

smoldering

Hodgkin-like

Anaplastic large cell lymphoma (ALCL) (T and null cell types)

Variants: *lymphomahistiocytic*

small cell

Primary cutaneous CD-30 positive T-cell lymphoproliferative disorders

Variants: *lymphomatoid papulosis (type A and B)*

primary cutaneous ALCL

borderline lesions

Subcutaneous panniculitis-like T-cell lymphoma
Enteropathy-type intestinal T-cell lymphoma
Hepatosplenic γ/δ T-cell lymphoma

HODGKIN'S LYMPHOMA (HODGKIN'S DISEASE)

Nodular lymphocyte predominance Hodgkin lymphoma

Classical Hodgkin lymphoma

Hodgkin lymphoma, nodular sclerosis (Grade I and II)
Classical Hodgkin lymphoma, lymphocyte-rich
Hodgkin lymphoma, mixed cellularity
Hodgkin lymphoma, lymphocyte depletion

IMMUNODEFICIENCY RELATED-LYMPHOPROLIFERATIVE DISORDERS

A. Congenital Immunodeficiency-associated Lymphoproliferative Disorders

Atypical lymphoproliferative disorders
Diffuse large B-cell lymphoma.

B. Post-transplantation and Other iatrogenic Lymphoproliferative Disorders

Polymorphic B-cell lymphoproliferative disorders
Diffuse large B-cell lymphoma
Plasmacytoma (+/- multiple myeloma)
Peripheral T-cell lymphomas (cytotoxic, NK/T)
Hodgkin lymphoma

C. AIDS-Associated Lymphoproliferative Disorders

Burkitt and Burkitt-like lymphoma
Diffuse large B-cell lymphoma
Immunoblastic lymphoma (with plasmacytoid differentiation)
Primary effusion lymphoma