Pitfalls in Classifying Lymphomas

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Background: *Although the WHO classification (2001) requires a great deal of morphologic, immunophenotypic, genetic, and clinical features for classifying lymphomas, it is still feasible to misdiagnose under limited resources, especially a limited panel of antibodies used for immunophenotyping. To identify pitfalls in classifying lymphomas among hematopathologist, general pathologists, and pathology residents under this situation.*

Material and Method: *Newly diagnosed lymphoma cases from 1 July 2002 to 30 June 2003 at Siriraj Hospital were included for two rounds of individually blinded review by a hematopathologist, two general pathologists, and three pathology residents. Final diagnoses were given by consensus. Pitfalls were determined from misdiagnosis, in each case analyzed in terms of frequency.*

Results: *One hundred and four lymphoma cases included 61 diffuse large B-cell lymphoma (DLBCL, 58.6%), 12 MALT lymphoma (11.5%), eight follicular lymphoma (FL, 7.7%), seven classical Hodgkin lymphoma (HL, 6.7%), four unspecified peripheral T-cell lymphoma (PTCL, 3.8%), three Burkitt lymphoma (BL, 2.9%), two subcutaneous panniculitis-like T-cell lymphoma (SPTCL, 1.9%), and seven other uncommon types (1% each). Pitfalls were low in frequency on diagnosis of DLBCL, nodular sclerosis HL, and SPTCL (8% each), but not different among the participants only in DLBCL. Pitfalls in diagnosis of MALT lymphoma, mixed cellularity HL, BL, unspecified PTCL, and FL were 60%, 50%, 33%, 29%, and 24%, respectively. However, considering hematopathologist and non-hematopathologist groups, pitfalls in the former were lower, especially in the uncommon types of lymphoma.*

Conclusion: *Pitfalls in classifying lymphomas are common. Interest in hematopathology reduces misdiagnosis in lymphomas other than DLBCL.*

Keywords: *Misdiagnosis, Pitfall, Lymphoma, Pathology, WHO Classification*

J Med Assoc Thai 2007; 90 (6): 1129-36
Full text. e-Journal: *http://www.medassocthai.org/journal*

Lymphoma is a common malignancy, showing an incidence of 5-6% of all cancers in Thai patients, and ranking no. 5 to 6 of the most common cancers at Siriraj Cancer Center[1], similar to the incidence of lymphoma reported in the United States[2]. Lymphoma is divided into Hodgkin lymphoma (HL) and non-Hodgkin lymphoma (NHL). The most recently published WHO classification (2001) for HL and NHL[3] is widely accepted at present. Although the WHO classification requires a great deal of morphologic, immunophenotypic, genetic, and clinical features for making a diagnosis of various types of lymphoma, it is still feasible to misdiagnose under limited resources, especially a limited panel of antibodies used for immunophenotyping[4]. In Thailand, a very small number of hematopathologists is one of the reasons why diagnosis and classification of lymphoma at times are not properly given because general pathologists are not aware of pitfalls in classifying lymphomas. It is interesting to find out such pitfalls in the process of classifying lymphomas. The information from the present study will be useful for the training program and promoting awareness among general pathologists in classifying lymphomas.

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Material and Method

Study Design

Cross-sectional study design. This retrospective analysis was permitted by the Ethics Committee, Faculty of Medicine Siriraj Hospital, Mahidol University (No. 43/2001).

Study Population

The participants included three pathology residents (TP, PT, PR), two general pathologists (RR, AV), and one hematopathologist (SS) from the Department of Pathology, Faculty of Medicine Siriraj Hospital, Mahidol University. The present study samples were all newly diagnosed cases of lymphoma from 1 July 2002 to 30 June 2003 at Siriraj Hospital. Previously diagnosed cases of lymphoma, case review from other hospitals, cases diagnosed by bone marrow specimen only, and inadequate materials for additional study were excluded.

Study Procedures

Clinical information was gathered from that given in the requisition. No participants were allowed to see the original pathologic diagnoses. Cases were given new labels by random. H&E slides and clinical information were given to each participant for individual slide examination. Participants could request special staining available in the present study, including CD3, CD15, CD20, CD30, CD43, CD45, CD68, CD79a, kappa light chain, lambda light chain, bcl-2 protein, IgG, IgA, IgM, TdT, myeloperoxidase, Ki-67, and other non-hematologic markers. However, CD5, CD10, CD23, CD56, bcl-6 protein, CD1a, cyclin D1, TIA-1, granzyme B, and perforin were not available. Participants gave their diagnoses in the checklist form. After all participants finished the first round of slide review, then all materials were subject to recoding and all aforementioned steps were repeated. After all participants finished the second round of slide review, final diagnoses were made by consensus. Consensus must be made by agreement from all participants after open discussion. Pitfalls were determined from misdiagnosis in each case, analyzed in terms of frequency, from both rounds whenever different from the "consensus" diagnosis. The causes of pitfalls were analyzed from both data record sheets during making individual diagnosis and participant's opinion during making "consensus" diagnosis. The disagreement in variant of any lymphoma type was not calculated as misdiagnosis.

Results

At the outset of the present study, 107 cases

Table 1. Frequency of lymphoma types, misdiagnosis made by each participant, and pitfalls in classifying lymphomas

Lymphoma types	Cases (n = 104)	Misdiagnosis (times)												Pitfall*
		A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F1	F2	
Diffuse large B-cell	61 (58.6%)	4	4	6	4	3	2	4	3	14	4	6	7	61 (8%)
MALT	12 (11.5%)	4		10	11	8	10	10	10	6	6	8	3	86 (60%)
Follicular	8 (7.7%)	1	1	2	2	1	3	4	2		2	3	2	23 (24%)
Nodular sclerosis Hodgkin	5 (4.8%)							1	1			2	1	5 (8%)
Peripheral T-cell, unspecified	4 (3.8%)			1	2	3	1				1	4	2	14 (29%)
Burkitt	3 (2.9%)			2		1		3	3	1		2		12 (33%)
Mixed cellularity Hodgkin	2 (1.9%)		1	1	1	1	1	1	1	1	1	1	2	12 (50%)
Subcutaneous panniculitis-like T-cell	2 (1.9%)					1						1		2 (8%)
Precursor T-lymphoblastic	1 (1%)			1	1	1		1	1		1	1		7 (58%)
Lymphoplasmacytic	1 (1%)			1	1	1	1	1	1	1	1	1	1	10 (83%)
Mantle cell	1 (1%)				1							1		2 (17%)
Mediastinal large B-cell	1 (1%)			1	1	1		1	1	1	1		1	8 (67%)
Mycosis fungoides	1 (1%)	1		1	1		1	1	1		1		1	8 (67%)
Angioimmunoblastic T-cell	1 (1%)				1	1	1	1				1	1	6 (50%)
Anaplastic large cell	1 (1%)			1		1				1		1		4 (33%)
Total	104 (100%)	10	6	27	26	23	20	28	24	25	18	32	21	260 (21%)

A = Hematopathologist; B, C = General pathologists; D, E, F = Pathology residents;
1 = first round slide review, 2 = second round slide review
* Pitfall = frequency of misdiagnosis made by participants from both rounds

of lymphoma newly diagnosed at Siriraj Hospital from 1 July 2002 to 30 June 2003 were included. But, after making a consensus diagnosis, one case of precursor T-lymphoblastic lymphoma (T-LBL) of the mediastinum originally diagnosed by a general pathologist (not involved in the present study) was found to be thymoma type B1. Two cases with suboptimal histology (distortion artifact) were also excluded.

Thus, a total of 104 lymphoma cases were classified in WHO classification (2001) (see Table 1), including 61 diffuse large B-cell lymphoma (DLBCL, 58.6%), 12 extranodal marginal zone lymphoma of mucosa-associated lymphoid tissue (MALT lymphoma, 11.5%), 8 follicular lymphoma (FL, 7.7%), 7 classical Hodgkin lymphoma (HL, 6.7%), 4 unspecified peripheral T-cell lymphoma (PTCL, 3.8%), 3 Burkitt lymphoma (BL, 2.9%), 2 subcutaneous panniculitis-like PTCL (SPTCL, 1.9%), 1 T-LBL (1%), 1 lympho-plasmacytic lymphoma (LPL, 1%), 1 mantle cell lymphoma (MCL, 1%), 1 mediastinal large B-cell lymphoma (MLBCL, 1%), 1 mycosis fungoides (MF, 1%), 1 angioimmunoblastic T-cell lymphoma (AITL, 1%), and 1 anaplastic large cell lymphoma (ALCL, 1%). Thus, the frequency of HL was 6.7% and that of NHL was 93.3%. Among the 97 cases of NHL, B-cell NHL and T-cell NHL constituted 89.7% and 10.3%, respectively. As shown in Table 1, DLBCL, MALT lymphoma, FL, PTCL, and BL were the five most common types of NHL in the present study, accounting for 90.7% of all NHL cases.

In Table 1, pitfalls were significantly reduced in the second round of slide review ($p < 0.5$) when concerning all participants, but not statistically significant when considering among groups (e.g., hematopathologist vs. non-hematopathologist group) or within each participant. Based on the consensus diagnosis, hematopathologist misdiagnosed 9.6% in the first round and 5.8% in the second round, general pathologists misdiagnosed 22.1-26.0% in the first round and 19.2-25.0% in the second round, and pathology residents misdiagnosed 24.0-30.8% in the first round and 17.3-23.1% in the second round.

Pitfalls in classifying lymphomas were low in DLBCL, nodular sclerosis HL (NSHL), and SPTCL at 8% each. MALT lymphoma, mixed cellularity HL (MCHL), PTCL, and FL were among those common lymphomas (> 1 case in the present study) having more pitfalls in classifying lymphomas. All uncommon types of lymphoma (only 1 case each included in the present study) had high pitfalls among the general pathologists and pathology residents, varying from 2 to 10 times of misdiagnosis while hematopathologist misdiagnosed once in the first round and none in the second round.

Immunophenotyping by paraffin-section immunoperoxidase conventionally used in general practice in surgical pathology was very helpful to distinguish between B-cell and T-cell NHL. At times, participants found that it was difficult to distinguish lymphomas from reactive states. Three cases of FL were misdiagnosed as reactive follicular hyperplasia 5 times; a case of DLBCL and a case of MCHL were misdiagnosed as reactive states 1 time each. Participants also considered reactive states 10 times as differential diagnosis on two cases of FL and one case each of DLBCL, AITL, PTCL, SPTCL, and T-LBL.

Pitfalls in diagnosis and subtyping of Hodgkin lymphoma (HL)

Pitfalls were noted in HL when focal and faint staining of CD15 and/or CD30 was overlooked and misinterpreted as negative. Co-expression of CD20 by Hodgkin and Reed-Sternberg (HRS) cells was then interpreted as B-cell phenotype of lymphoma cells and misdiagnosed as DLBCL.

A case of T-cell/histiocyte rich (THR) variant of DLBCL was misdiagnosed as nodular lymphocyte predominant HL (NLPHL). The expression of CD20 by the lymphoma cells could not distinguish between THR variant of DLBCL and NLPHL. However, WHO classification prefers the former if typical nodule of NLPHL is lacking[3]. Since only diffuse growth was observed in this particular case, thus the consensus diagnosis of THR variant of DLBCL was made.

One of the two cases of MCHL was misdiagnosed as lymphocyte-rich classical HL by some participants due to underestimation of the number of HRS cells and overlooking the polymorphonuclear cell infiltration. Despite the low pitfall in diagnosis of NSHL in the present study (8%), inexperienced pathologist might misdiagnose NSHL as chronic lymphadenitis with fibrosis if lacunar cells and other HRS cell variants were overlooked.

Pitfalls in diagnosis of diffuse large B-cell lymphoma (DLBCL)

DLBCL was the only type that had the lowest pitfall in diagnosis (8%) without any difference among the participants (Table 1). Hematopathologist misdiagnosed DLBCL as BL 2 times (1.6% of diagnosis made), FL 2 times (1.6%), NLPHL 1 time (0.8%), reactive state 1 time (0.8%), mediastinal large B-cell lymphoma 1 time (0.8%), and unclassified B-cell lymphoma 1 time (0.8%).

Table 2. Common pitfalls in diagnosis of diffuse large B-cell lymphoma (DLBCL)

Misdiagnosis as	Percent (%)	Main cause
NLPHL*	2.3	Unaware of the significant number of large B-cells; neglect the lack of nodule that is required for diagnosis of NLPHL
MALT*	1.4	Underestimate the large cell component
FL*	1.0	Misinterpret nodular areas falsely formed by stroma as neoplastic follicles despite the lack of other features of FL
NSHL*	0.8	Prominent sclerotic background and presence of some CD30+ cells resembling lacunar cells and HRS cells despite many more CD20+ large cells adequate for diagnosis of DLBCL
BL*	0.7	Difficult to decide when both centroblasts and Burkitt cells are present

* See abbreviation list

The non-hematopathologist group misdiagnosed DLBCL as NLPHL 14 times (2.3%), MALT lymphoma 10 times (1.6%), FL 6 times (1%), NSHL 6 times (1%), BL 3 times (0.5%), NMZL 3 times (0.5%), small lymphocytic lymphoma (SLL) 2 times (0.3%), MCL 2 times (0.3%), AITL 2 times (0.3%), unclassified B-cell lymphoma 2 times (0.3%), Precursor B-lymphoblastic lymphoma 1 time (0.2%), lymphocyte-rich HL 1 time (0.2%), and LPL 1 time (0.2%). The causes of common pitfalls are shown in Table 2.

Pitfalls in diagnosis of MALT lymphoma

MALT lymphoma showed the highest pitfall (60%) in the common lymphoma group. The authors separated this entity into typical MALT lymphoma and MALT lymphoma with increased large cells, according to large cell component; both showed different pitfalls. Among the five cases of typical MALT lymphoma, hematopathologist did not make any misdiagnosis in both rounds of slide review. The non-hematopathologist group commonly misdiagnosed typical MALT lymphoma as small lymphocytic lymphoma (SLL). Among the seven cases of MALT lymphoma with increased large cells, misdiagnosis as DLBCL was the most common among all participants. The frequency and causes of pitfalls in diagnosis of MALT lymphoma are shown in Tables 3.1 and 3.2.

Pitfalls in diagnosis of follicular lymphoma (FL)

FL showed pitfalls of 24%; the frequency and causes are shown in Table 4.

Pitfalls in diagnosis of unspecified peripheral T-cell lymphoma (PTCL)

PTCL, the fourth most common lymphoma in the present study, showed pitfalls of 29%; the frequency and causes of common pitfalls are shown in Table 5.

Pitfalls in diagnosis of Burkitt lymphoma (BL)

Misdiagnosis as DLBCL was common (33.3%) due to over estimation of cell size, especially during interpretation of immunostained slide, the cell size appeared larger than usual due to the positive CD20 staining of the cell membrane despite the fact that the nucleus was still medium in size when compared with that of histiocyte in the vicinity.

Pitfalls in diagnosis of subcutaneous panniculitis-like T-cell lymphoma (SPTCL)

There were two cases of SPTCL in the present study (Table 1). SPTCL showed pitfalls of 8.3% as it was misdiagnosed as MF and AITL. The misdiagnosis as MF was caused by misinterpretation of slight dermal involvement without other feature of MF. The misdiagnosis as AITL was caused by over interpretation of vascularity as a diagnostic feature of AITL despite the typical features of SPTCL.

Pitfalls in diagnosis of uncommon lymphomas

In the present study, one each of the following lymphomas was included: T-LBL, LPL, MCL, MLBCL, MF, AITL, and ALCL (Table 1). As mentioned previously, high pitfalls were noted among the non-hematopathologist group – highest in LPL (83%) and lowest in MCL (17%).

T-LBL showed pitfalls of 58% as it was misdiagnosed as PTCL, caused by the faint expression of TdT that required repeat staining without nuclear counter staining.

LPL showed pitfalls of 83% as it was misdiagnosed as DLBCL, MALT lymphoma, and SLL. The

Table 3.1. Common pitfalls in diagnosis of typical MALT lymphoma

Misdiagnosis as	Percent (%)	Main cause
SLL*	45.0	Lack of epithelium in the biopsy despite the mucosal site of involvement
DLBCL*	5.0	Overestimate the number of scattered large lymphoid cells
NMZL*	3.3	Unaware of the biopsy of mucosal site; misinterpret as lymph node
FL*	1.7	Misinterpret follicular colonization in MALT lymphoma as neoplastic follicles in FL
MCL*	1.7	Unaware of large transformed neoplastic cells that should not be present in MCL
LPL*	1.7	Unaware of plasmacytic differentiation in MALT lymphoma

* See abbreviation list

Table 3.2 Common pitfalls in diagnosis of MALT lymphoma with increased large cells

Misdiagnosis as	Percent (%)	Main cause
DLBCL*	54.8	Overestimate large lymphoid cells in the small biopsies despite the lack of sheet of large B-cells
SLL*	2.4	Underestimate large cells; unaware of mucosal site biopsy
MCL*	2.4	Unaware of large transformed neoplastic cells that should not be present in MCL; fail to detect the morphologic features of MALT lymphoma
BL*	1.2	Retraction artifact of large cells; presence of small foci of starry sky appearance

* See abbreviation list

Table 4. Pitfalls in diagnosis of follicular lymphoma (FL)

Misdiagnosis as	Percent (%)	Main cause
DLBCL*	10.4	Fail to detect neoplastic follicle in FL grade 2/3 or 3/3; at times in suboptimal tissue or histologic sections
Reactive follicular hyperplasia	6.3	Fail to distinguish neoplastic follicle from reactive follicle;Misinterpret faint bcl-2 protein expression as negative
NLPHL*	5.2	Misinterpret neoplastic follicle as nodule in NLPHL despite the small neoplastic follicles typically found in FL
NMZL*	1.0	Overemphasize focal marginal zone differentiation in FL
SLL*	1.0	Misinterpret neoplastic follicle in FL as proliferation center despite the typical features of centrocytes

* See abbreviation list

Table 5. Common pitfalls in diagnosis of unspecified peripheral T-cell lymphoma (PTCL)

Misdiagnosis as	Percent (%)	Main cause
NK/T*	8.3	Overdiagnosis based on the biopsy site from nasal cavity without demonstration of cytotoxic granule-associated proteins or EBV
AITL*	6.3	Misinterpret some vascularity as typical morphologic feature in AITL
ALCL*	4.2	Misinterpret a small number of CD30+ cells as sufficient for making diagnosis of ALCL

* See abbreviation list

misdiagnosis as DLBCL was caused by overemphasis of focal large cell component; MALT lymphoma by the ignorance of systemic involvement and progressive clinical course that were against the diagnosis of MALT lymphoma; and SLL by underestimation of lymphoplasmacytic differentiation.

MCL showed pitfalls of 17% as it was misdiagnosed as MALT lymphoma, caused by the misinterpretation of mantle zone pattern as marginal zone pattern and misinterpretation of interspersed histiocytes as large transformed neoplastic cells that should not be present in MCL.

MLBCL showed pitfalls of 67% as it was misdiagnosed as DLBCL, caused by the ignorance of mediastinal site and lack of other lymph node or organ enlargement given in the requisition.

MF showed pitfalls of 67% as it was misdiagnosed as PTCL (50% of diagnosis made) and SPTCL. The former was caused by missing minimal epidermal infiltration and a small focus of Pautrier microabscess. The latter was caused by the overemphasis of focal involvement of subcutaneous tissue with unawareness of dermal and epidermal involvement.

AITL showed pitfalls of 50% as it was misdiagnosed as HL (42%) and reactive states (8%). The former was caused by misinterpretation of CD15+ and CD30+ large transformed cells as HRS cells, while the true neoplastic cells were interpreted as reactive lymphoid cells. The latter was caused by the minimal atypia of neoplastic T-cells.

ALCL showed pitfalls of 33% as it was misdiagnosed as primary cutaneous ALCL, non-lymphomatous malignancy, and SPTCL. This case had two specimens taken from the skin and lymph node. The misdiagnosis as primary cutaneous ALCL was caused by missing evidence of partial involvement of lymph node; non-lymphomatous malignancy by misinterpretation of CD3- CD20- lymphoma cells as non-lymphomatous phenotype, without further order of CD30; and SPTCL by overemphasis of focal subcutaneous involvement.

Discussion

In classifying lymphomas, knowledge of morphologic features influences and greatly enhances the accuracy of the interpretation of immunophenotypic findings; the immunophenotype of lymphoma cannot be predicted based on morphologic findings alone; and immunophenotypic findings improve the accuracy of interpretation of histological findings when diagnosis cannot be made from morphologic feature only[5]. WHO classification of lymphoma recommends clinical, morphologic, immunophenotypic, and genetic features for diagnosis of lymphoma[3]. Nevertheless, difficulty in classifying lymphomas occurs when a panel of antibodies is limited for immunophenotyping. Although this situation has been demonstrated to be feasible under the hand of a hematopathologist[4], it has never been tested in Thailand about the feasibility of WHO classification among general pathologists. The present study is thus designed to look at this problem in the aspect of pitfalls in classifying lymphomas.

Based on the previous study on a similar issue, pitfall in diagnosis of lymphoma among hematopathologists is approximately 10%[5]. In pathology laboratory fully equipped with a complete immunophenotyping, the reproducibility of lymphoma diagnoses between an experienced general pathologist in a community hospital and experienced pathologists in an academic center is high (88.8% of cases)[6]. In other words, the pitfall is 11.2%, comparable to the study among hematopathologists mentioned above. The hematopathologist in the present study misdiagnosed 9.6% in the first round and 5.8% in the second round, thus comparable to the previous study. However, the non-hematopathologist group misdiagnosed 24.4% (average) in both rounds of slide review (27% in the first round and 21.8% in the second round). However, based on 49 cases with morphologic and paraffin-section immunohistochemical examination, the pitfall created by an experienced general pathologist is 16.3%[6] – lower than the results in the present study. The authors do not know how long this experienced general pathologist in that study has been practicing, but in the present study the two general pathologists (RR, AV) have been practicing for only 1 and 3 years, respectively. The lower pitfalls among pathology residents in the second round of slide review are presumably caused by knowledge and skill gaining during training.

The distribution of lymphoma types in the present study cannot be compared with the large series of lymphoma at Siriraj Hospital[4] because of different inclusion criteria. Although the present study concentrated on the issue of classifying lymphoma, all participants were aware of mimicry of lymphoma. At the outset of the present study, a case of thymoma type B1 misdiagnosed as T-LBL was found and excluded from the present study. This type of thymoma is well known for a pitfall in misdiagnosis of lymphoma, especially T-LBL, because it contains abundant thymocytes obscuring the neoplastic thymic epithelial cells [7].

In the present study, pitfalls in classifying lymphomas under a limited resource of immunostaining have been demonstrated. Pathology residents should learn how to obtain optimal histology for evaluation, to recognize important histological features (e.g. neoplastic follicles in FL, SLL, NLPHL, other growth patterns including mantle zone, marginal zone, interfollicular, and sinus growth patterns), to use appropriate special staining (PAS and immunostaining), to interpret immunostaining results, to correlate morphologic and immunophenotypic features with clinical information, and above all to create confidence by using all knowledge, skill in evaluation and interpretation for making a correct diagnosis. To lower pitfalls in classifying lymphomas among general pathologists, regular tutorial courses should be provided by a group of hematopathologists. Improvement in immunostaining techniques and expansion of antibody panel to cover all antibodies needed for a complete classification of lymphomas should apparently reduce the pitfalls in classifying lymphoma under the context of clinical, morphologic, immunophenotypic, and genetic features according to the WHO classification.

In conclusion, pitfalls in classifying lymphomas are common. Interest in hematopathology reduces misdiagnosis in lymphomas other than DLBCL. The information from the present study can be used for training program and promoting awareness among general pathologists in classifying lymphomas.

Acknowledgment

The authors wish to thank the Faculty of Medicine Siriraj Hospital for a partly financial support, Ms. Saowalak Hunnangkul for statistical analysis, and the Department of Pathology, Siriraj Hospital for all resources provided.

Abbreviation

AITL = Angioimmunoblastic T-cell lymphoma
ALCL = Anaplastic large cell lymphoma
BL = Burkitt lymphoma
DLBCL = Diffuse large B-cell lymphoma
FL = Follicular lymphoma
HL = Hodgkin lymphoma
LPL = Lymphoplasmacytic lymphoma
MALT lymphoma = Extranodal marginal zone lymphoma of mucosa-associated lymphoid tissue
MCHL = Mixed cellularity Hodgkin lymphoma
MCL = Mantle cell lymphoma
MF = Mycosis fungoides
NHL = Non-Hodgkin lymphoma
NLPHL = Nodular lymphocyte predominant Hodgkin lymphoma
NMZL = Nodal marginal zone B-cell lymphoma
NSHL = Nodular sclerosis Hodgkin lymphoma
PTCL = Peripheral T-cell lymphoma, unspecified
SLL = Small lymphocytic lymphoma
SPTCL = Subcutaneous panniculitis-like T-cell lymphoma
T-LBL = Precursor T-lymphoblastic lymphoma

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การศึกษาความผิดพลาดในการจำแนกชนิด lymphoma

ธวัชชัย พงศ์พฤฒิพันธ์, พนิตตา สิทธินามสุวรรณ, พิมพัฒนา รุ่งแก้ว, รุจิรา เรืองจิระอุไร, อัครรัช วงษ์จิราษฎร์, สัญญา สุขพณิชนันท์

ภูมิหลัง: *ถึงแม้ว่าการจำแนกชนิด lymphoma ใน WHO classification (2001) ต้องใช้ morphology, immunophenotype, genetics และข้อมูลทางคลินิกประกอบร่วมกัน ซึ่งอาจมีข้อจำกัดโดยเฉพาะในกรณีที่มีแอนติบอดีให้ใช้อย่างจำกัด แต่ก็ได้รับการพิสูจน์แล้วว่าการจำแนกนี้ยังคงใช้ได้*

วัตถุประสงค์: *การศึกษานี้ต้องการทราบความผิดพลาดในการจำแนกชนิด lymphoma ที่เกิดขึ้นจากโลหิตพยาธิแพทย์, พยาธิแพทย์ทั่วไป และแพทย์ประจำบ้านสาขาพยาธิวิทยากายวิภาค ในภาวะอันจำกัดนี้*

วัสดุและวิธีการ: *รวบรวมสไลด์, บล็อกชิ้นเนื้อและข้อมูลทางคลินิกที่ได้จากใบขอส่งตรวจทางพยาธิวิทยาของผู้ป่วย lymphoma รายใหม่ที่ได้รับการวินิจฉัยในโรงพยาบาลศิริราชตั้งแต่วันที่ 1 กรกฎาคม พ.ศ. 2545 ถึงวันที่ 30 มิถุนายน พ.ศ. 2546 โดยมีโลหิตพยาธิแพทย์ 1 คน, พยาธิแพทย์ทั่วไป 2 คน และแพทย์ประจำบ้านสาขาพยาธิวิทยากายวิภาค 3 คน ให้แต่ละคนจำแนกชนิด lymphoma ด้วยตนเองรวม 2 รอบ โดยไม่ทราบการวินิจฉัยดั้งเดิมหรือที่ตนให้ไว้ในรอบแรก ชนิดของ lymphoma แต่ละรายได้จากการวินิจฉัยร่วมกันของผู้ร่วมวิจัยทุกคน ความผิดพลาดในการจำแนกชนิดที่เกิดขึ้น จะถูกรวบรวมเป็นความถี่ของจำนวนครั้งที่เกิดขึ้นในแต่ละราย คน อ่าน 1 กรกฎาคม พ.ศ. 2545 ถึงวันที่ 30 มิถุนายน พ.ศ. 2546*

ผลการศึกษา: *มี lymphoma ทั้งหมด 104 ราย โดยจำแนกได้ดังนี้ diffuse large B-cell lymphoma 61 ราย (DLBCL, 58.6%), MALT lymphoma 12 ราย (11.5%), follicular lymphoma 8 ราย (FL, 7.7%), classical Hodgkin lymphoma 7 ราย (HL, 6.7%), unspecified peripheral T-cell lymphoma 4 ราย (PTCL, 3.8%), Burkitt lymphoma 3 ราย (BL, 2.9%), subcutaneous panniculitis-like T-cell lymphoma 2 ราย (SPTCL, 1.9%) และ lymphoma ชนิดอื่น ๆ ที่พบไม่บ่อย 7 ราย (ชนิดละ 1%) พบว่า มีความผิดพลาดน้อยในการจำแนกชนิด DLBCL, nodular sclerosis HL และ SPTCL เพียงชนิดละ 8% แต่มีเพียง DLBCL เท่านั้นที่ความผิดพลาดในการจำแนกชนิดระหว่าง ผู้ร่วมวิจัยทั้งหกคนไม่มีความแตกต่างกัน ความผิดพลาดในการจำแนกชนิดพบมากใน MALT lymphoma, mixed cellularity HL, BL, unspecified PTCL และ FL โดยพบ 60%, 50%, 33%, 29% และ 24% ตามลำดับ พบว่าความผิดพลาดในการจำแนกชนิดโดยโลหิตพยาธิแพทย์ต่ำกว่ากลุ่มที่ไม่ใช่โลหิตพยาธิแพทย์โดยเฉพาะอย่างยิ่งใน lymphoma ที่พบไม่บ่อย*

สรุป: *ความผิดพลาดในการจำแนกชนิด lymphoma เกิดขึ้นได้บ่อย นอกจากนี้ยังพบว่าความสนใจในโลหิตพยาธิวิทยาจะช่วยลดความผิดพลาดในการจำแนก lymphoma ชนิดอื่นที่ไม่ใช่ DLBCL ได้*