

淋巴癌診療指引

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112 年原版

何杰金氏症 (Hodgkin lymphoma)

CLASSICAL HODGKIN LYMPHOMA (CHL) 臨床分期

[淋巴癌診治共識] CLASSICAL HODGKIN LYMPHOMA (CHL) 臨床分期

Clinical Stage	Bulky Mediastinal Disease or >10 cm Adenopathy	ESR >50 or #Sites >3	Guidelines Page
I / IIA	No	NO	Favorable Disease
	No	Yes	Favorable /Unfavorable Disease
	Yes	Yes/NO	Unfavorable Disease
IB / IIB	Yes / No	Yes/NO	Unfavorable Disease
III - IV	Yes / No	N/A	Advanced Disease

《淋巴癌診治共識》—何杰金氏症 (Hodgkin's Lymphoma)

《組織型態：Classic Hodgkin's Lymphoma》page 415.

113 年修訂版

[淋巴癌診治共識-2] CLASSICAL HODGKIN LYMPHOMA (CHL) 臨床分期

Clinical Stage	Bulky Mediastinal Disease or >10 cm Adenopathy	ESR >50 or #Sites >3	Guidelines Page
IA / IIA	No	No	Favorable Disease
	No	Yes	Favorable /Unfavorable Disease
	Yes	Yes/No	Unfavorable Disease
IB / IIB	Yes / No	Yes/No	Unfavorable Disease
III - IV	Yes / No	N/A	Advanced Disease

修改成 [淋巴癌診治共識-3]—何杰金氏症 (Hodgkin's Lymphoma)

1). 在組織切片後建議之 4. 免疫治療，改為「免疫節點抑制劑」。

另外加註：

4. PET 評估若以 DEAUVILLE CRITERIA 計算，請依個案與核醫科醫師討論

5. PET 5-POINT SCALE (DEAUVILLE CRITERIA)，請參照 [淋巴癌診治共識-4] 何杰金氏症 (Hodgkin's Lymphoma).

112 年原版

NA

《淋巴瘤診療共識》- 何杰金氏症 (Hodgkin's Lymphoma, page 416)

113 年修訂版

新增：[淋巴瘤診治共識 -4] 何杰金氏症 (Hodgkin's Lymphoma)
PET 5-POINT SCALE (DEAUVILLE CRITERIA)

修改成 [淋巴瘤診治共識 -5 何杰金氏症 (Hodgkin's Lymphoma)

- 1). 起始治療：ABVD 改 2 療程，重新評估 (PET-CT) 後分作兩種路徑，為「完全反應 / 部分反應」、「疾病惡化 / 新病灶」。
- 2). 在「完全反應 / 部分反應」後建議綜合療法 (ABVD 2 個療程 + 放射線治療)，及單純化療 (ABVD 4 個療程)。
- 3). 在「疾病惡化 / 新病灶」部分，建議接受高劑量化學治療 2 個療程，即安排 PET-CT 重新評估。再依評估後結果，分別為「完全反應 / 部分反應」，給予「單純化療 - 高劑量化療 2 個療程」，或「綜合療法 + 放射線治療」。
- 4). 在「疾病惡化 / 新病灶」個案即建議安排組織切片，若是為陽性結果，則建議如指引上的方法。
- 5). 其中，原本「免疫治療」也更改為「免疫節點抑制劑」。
- 6). 加註
 3. PET 評估若以 DEAUVILLE CRITERIA 計算，請依個案與核醫科醫師討論
 4. PET 5-POINT SCALE (DEAUVILLE CRITERIA)，請參照 [淋巴瘤診治共識 -4] 何杰金氏症 (Hodgkin's Lymphoma).

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《淋巴瘤診療共識》- 何杰金氏症 (Hodgkin's Lymphoma,page417)

《淋巴瘤診療共識》- 何杰金氏症 (Hodgkin's Lymphoma,page418)

113 年修訂版

修改成 [淋巴瘤診治共識 -6-何杰金氏症 (Hodgkin's Lymphoma)

- 1). 原本「免疫治療」也更改為「免疫節點抑制劑」。
- 2). 加註
 - 3 .PET 評估若以 DEAUVILLE CRITERIA 計算，請依個案與核醫科醫師討論
 4. PET 5-POINT SCALE (DEAUVILLE CRITERIA)，請參照 [淋巴瘤診治共識 -4] 何杰金氏症 (Hodgkin's Lymphoma).

[淋巴瘤診治共識 -7-何杰金氏症 (Hodgkin's Lymphoma)

- 1). 將「臨床期別」，第 IA&IIA 整合為 non-bulky。而「起始治療」亦修改為「放射線治療 (首選) 及觀察」。第 I-IV 在重新評估都要做 PET-CT。
- 2). 在第 III,IV 期，其「起始治療」之 3. 觀察，加註 (無症狀)
- 3). 原本「免疫治療」也更改為「免疫節點抑制劑」。
- 4). 加註
 3. PET 評估若以 DEAUVILLE CRITERIA 計算，請依個案與核醫科醫師討論
 4. PET 5-POINT SCALE (DEAUVILLE CRITERIA)，請參照 [淋巴瘤診治共識 -4] 何杰金氏症 (Hodgkin's Lymphoma).

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《淋巴瘤診療共識》- 濾泡淋巴瘤 Follicular Lymphoma, page 420)

《淋巴瘤診治共識》— 瀰漫性大 B 細胞淋巴瘤 / 濾泡性淋巴瘤
Gr.III(DLBCL/FL Gr.III, page 421)

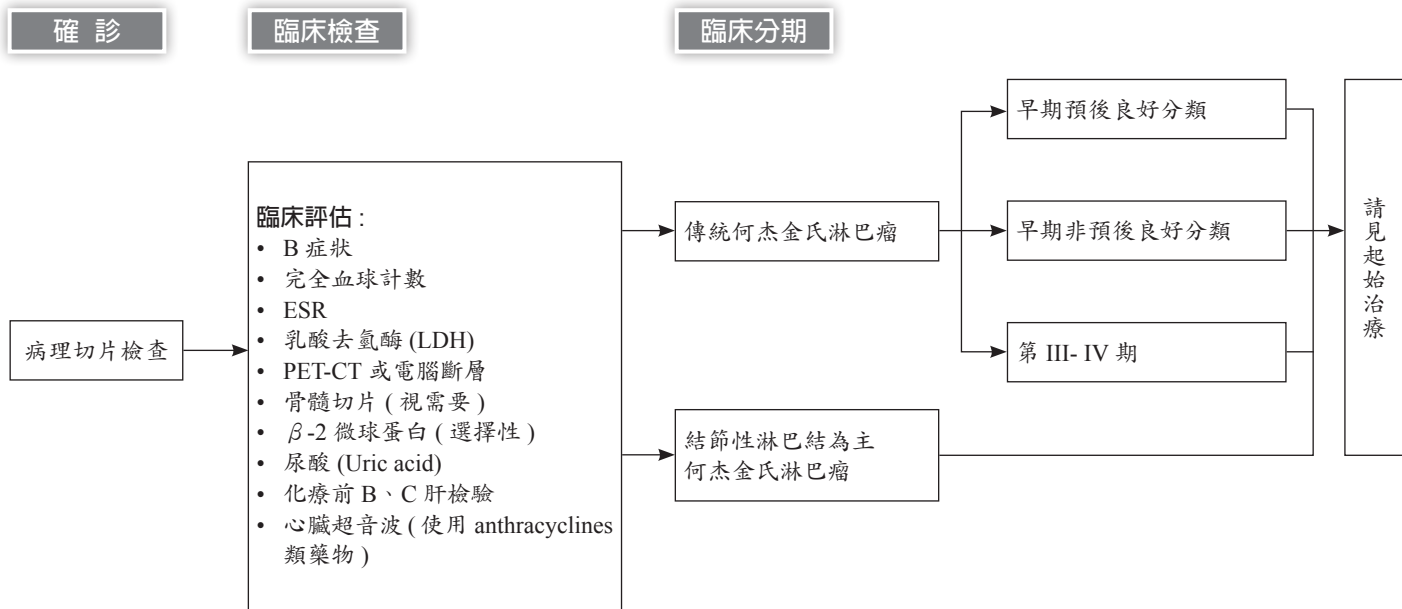
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[淋巴瘤診治共識 -9] — 濾泡淋巴瘤 (Follicular Lymphoma) Grade1-2
1). 在臨床檢查部分，增加「討論生育力保存、血清蛋白電泳 (SPEP) 和 / 或定量」。

[淋巴瘤診治共識 -10] — 瀰漫性大 B 細胞淋巴瘤 / 濾泡性淋巴瘤
Gr.III(DLBCL/FL Gr.III)

- 1). 在 Anti-CD20 單株抗體 + 化學治療 3~4 次後評估治療反應部分，都加上「± Polatuzumab or Bispecific antibody(Glofitamab)」
- 2). 在第 III-IV 期進入「SD+PD」, 增加「評估使用 CAR-T」。

[淋巴瘤診治共識 -1]—何杰金氏症 (Hodgkin's Lymphoma)



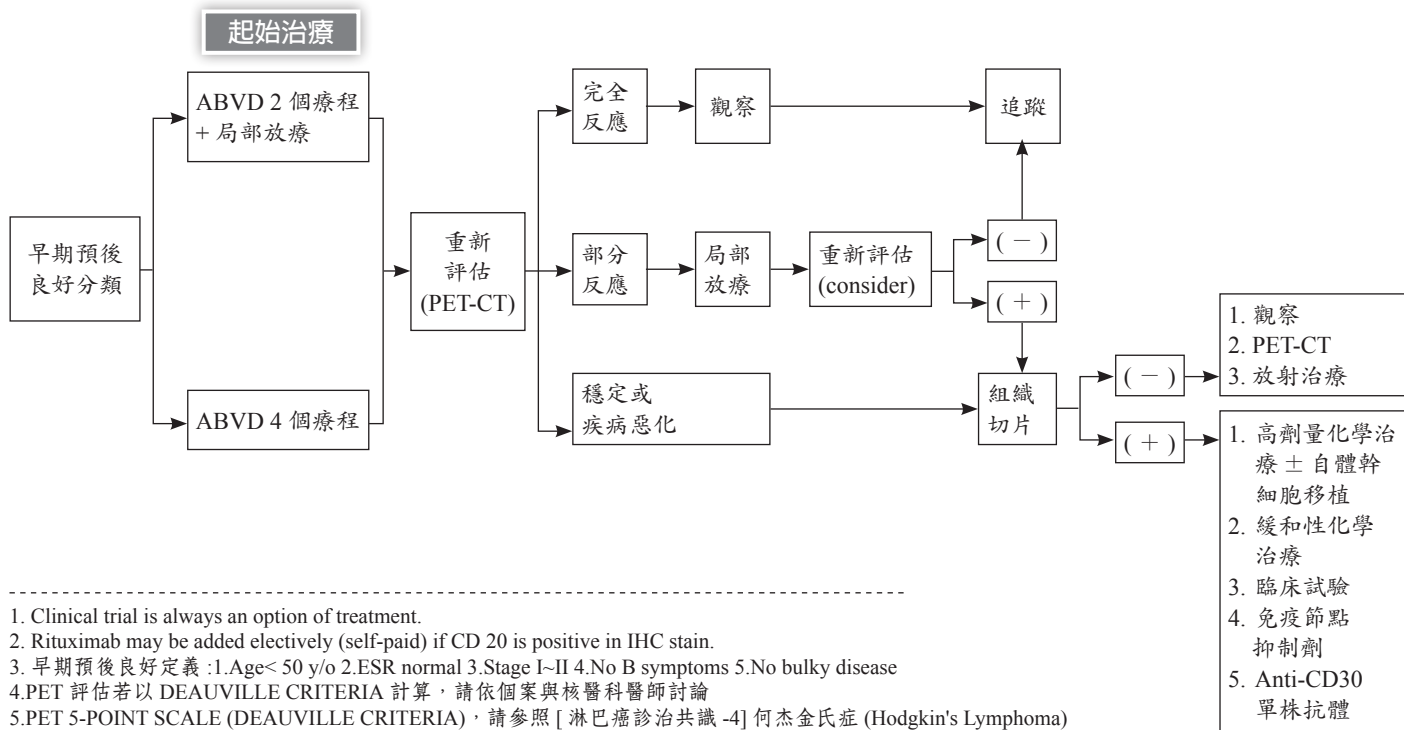
1. B symptoms : fever, night sweating, body weight loss.
2. 預後不良因子 : ESR>50, B symptoms, Nodal sites >3, bulky tumor (≥ 10 cm) or large mediastinum lesion(MMR>0.33).
3. Clinical trial is always an option of treatment.

[淋巴瘤診治共識 -2] CLASSICAL HODGKIN LYMPHOMA (CHL) 臨床分期

Clinical Stage	Bulky Mediastinal Disease or >10 cm Adenopathy	ESR>50 or #Sites>3	Guidelines Page
IA / IIA	No	No	Favorable Disease
	No	Yes	Favorable /Unfavorable Disease
	Yes	Yes/No	Unfavorable Disease
IB / IIB	Yes / No	Yes/No	Unfavorable Disease
III - IV	Yes / No	N/A	Advanced Disease

[淋巴瘤診治共識 -3]—何杰金氏症 (Hodgkin's Lymphoma)

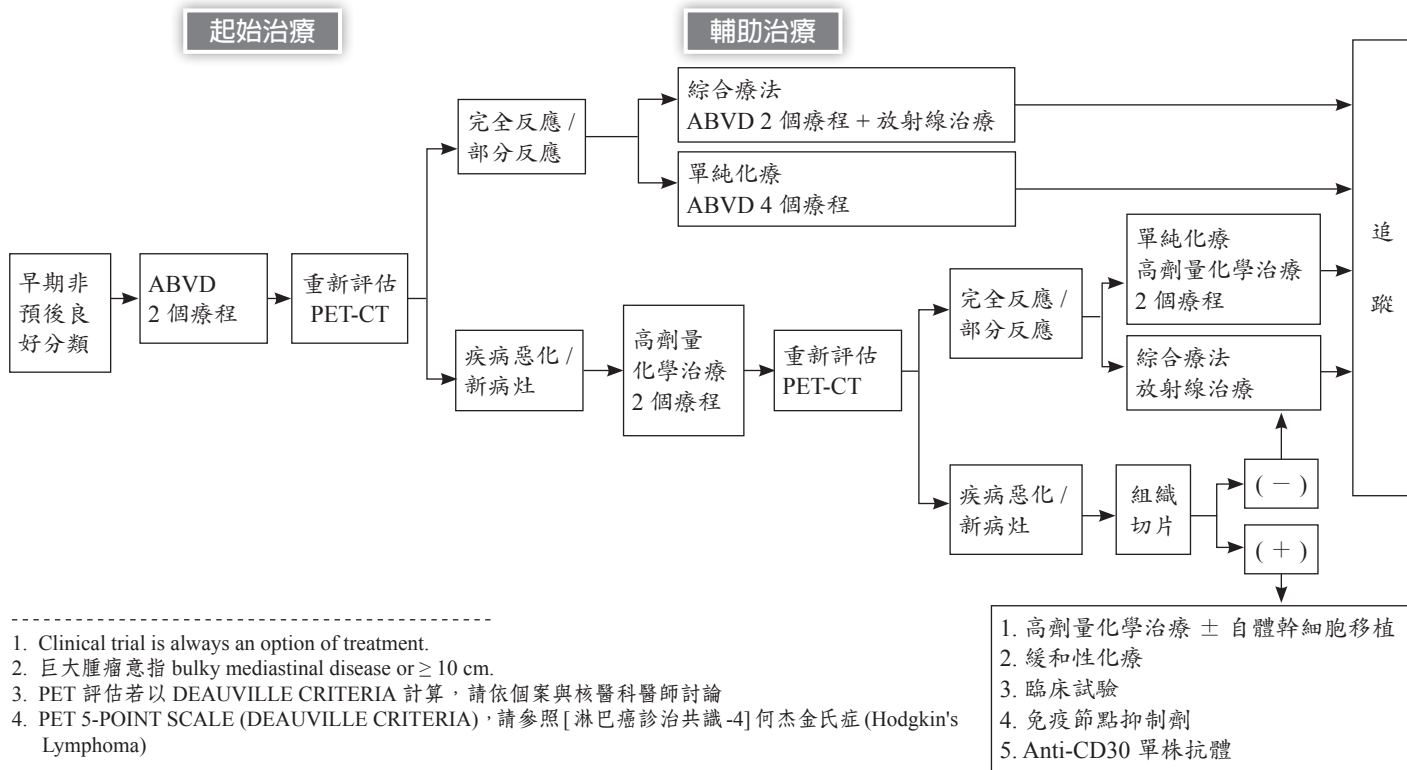
組織型態：Classic Hodgkin's Lymphoma



PET 5-POINT SCALE (DEAUVILLE CRITERIA)

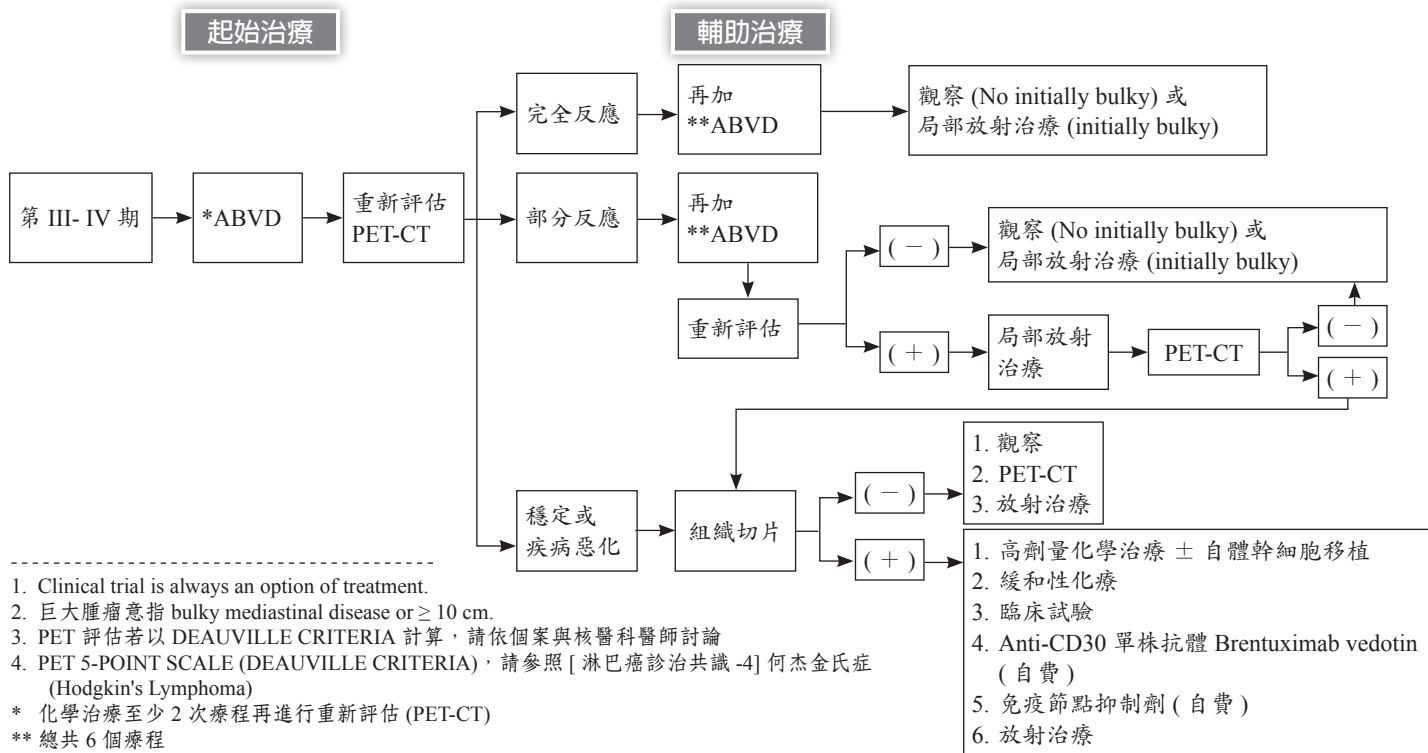
Score PET		CT Scan Result
Negative	1	No uptake(沒有顯影)
	2	Uptake \leq mediastinum(有顯影 ,SUV \leq 縱膈腔)
	3	Uptake $>$ mediastinum but \leq liver(有顯影 , SUV $>$ 縱膈腔 但 \leq 肝臟)
Positive	4	Uptake moderately higher than liver and visually above adjacent background activity(有顯影 , SUV 中度高於肝臟但比周圍背景值高)
	5	Uptake markedly higher than liver and/or new lesions(有顯影 ,SUV 明顯高於肝臟 或 / 和新病灶有顯影)
	X	New areas of uptake unlikely to be related to lymphoma(新的區域有顯影 , 不太可能與淋巴瘤有關)

組織型態：Classic Hodgkin's Lymphoma



[淋巴瘤診治共識 -6]—何杰金氏症 (Hodgkin's Lymphoma)

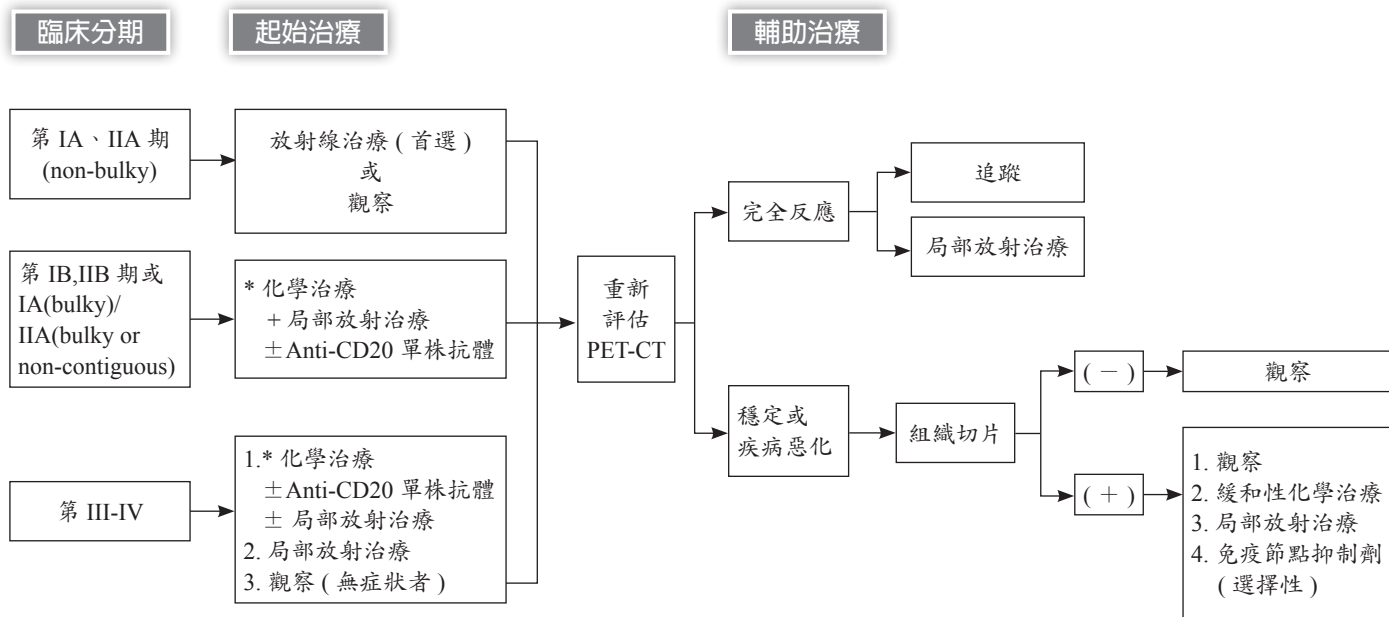
組織型態：Classic Hodgkin's Lymphoma



1. Clinical trial is always an option of treatment.
2. 巨大腫瘤意指 bulky mediastinal disease or ≥ 10 cm.
3. PET 評估若以 DEAUVILLE CRITERIA 計算，請依個案與核醫科醫師討論
4. PET 5-POINT SCALE (DEAUVILLE CRITERIA)，請參照 [淋巴瘤診治共識 -4] 何杰金氏症 (Hodgkin's Lymphoma)
- * 化學治療至少 2 次療程再進行重新評估 (PET-CT)
- ** 總共 6 個療程

[淋巴瘤診治共識 -7]—何杰金氏症 (Hodgkin's Lymphoma)

組織型態：Nodular lymphocyte-predominant Hodgkin's Lymphoma



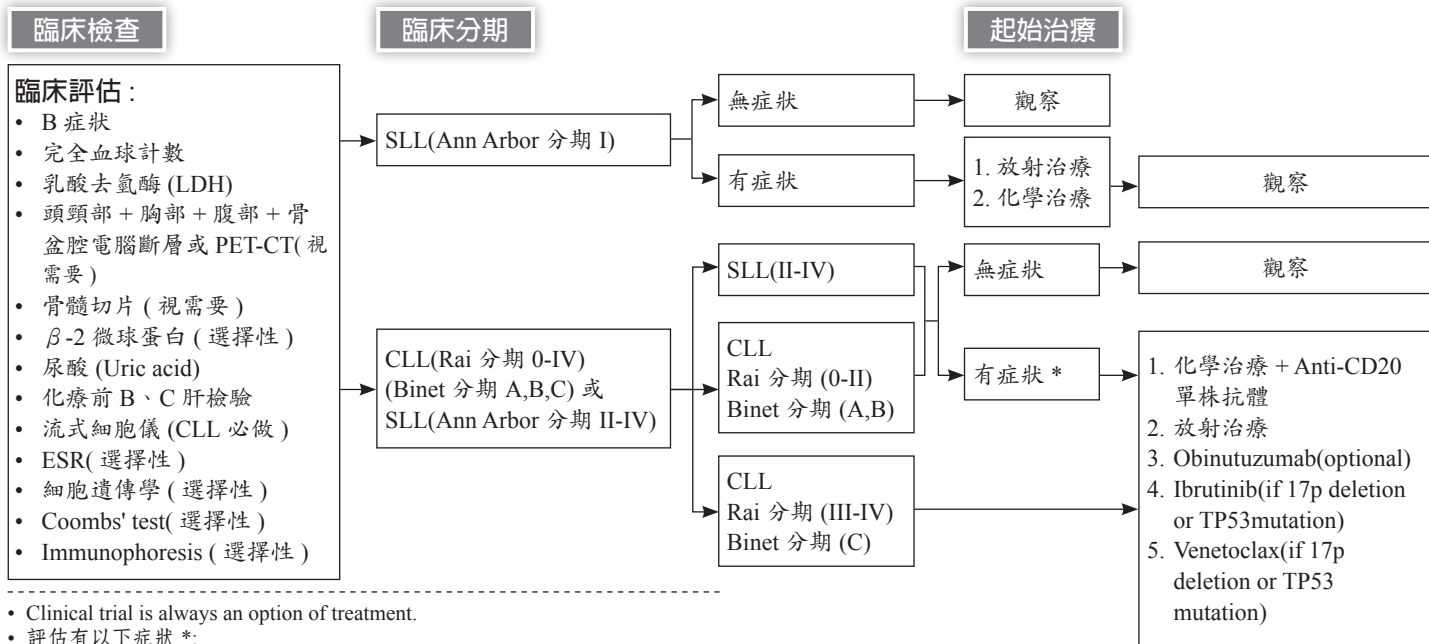
* 化學治療至少 2 次再進行重新評估 (PET-CT)

† Clinical trial is always an option of treatment.

*PET 評估若以 DEAUVILLE CRITERIA 計算，請依個案與核醫科醫師討論

*PET 5-POINT SCALE (DEAUVILLE CRITERIA)，請參照 [淋巴瘤診治共識 -4] 何杰金氏症 (Hodgkin's Lymphoma)

[淋巴瘤診治共識 -8] — 慢性淋巴細胞白血病 (CLL)/ 小淋巴細胞淋巴瘤 (SLL)



• Clinical trial is always an option of treatment.

• 評估有以下症狀*：

1. Fatigue(severe) 2. Night sweats 3. Weight loss 4. Fever without infection

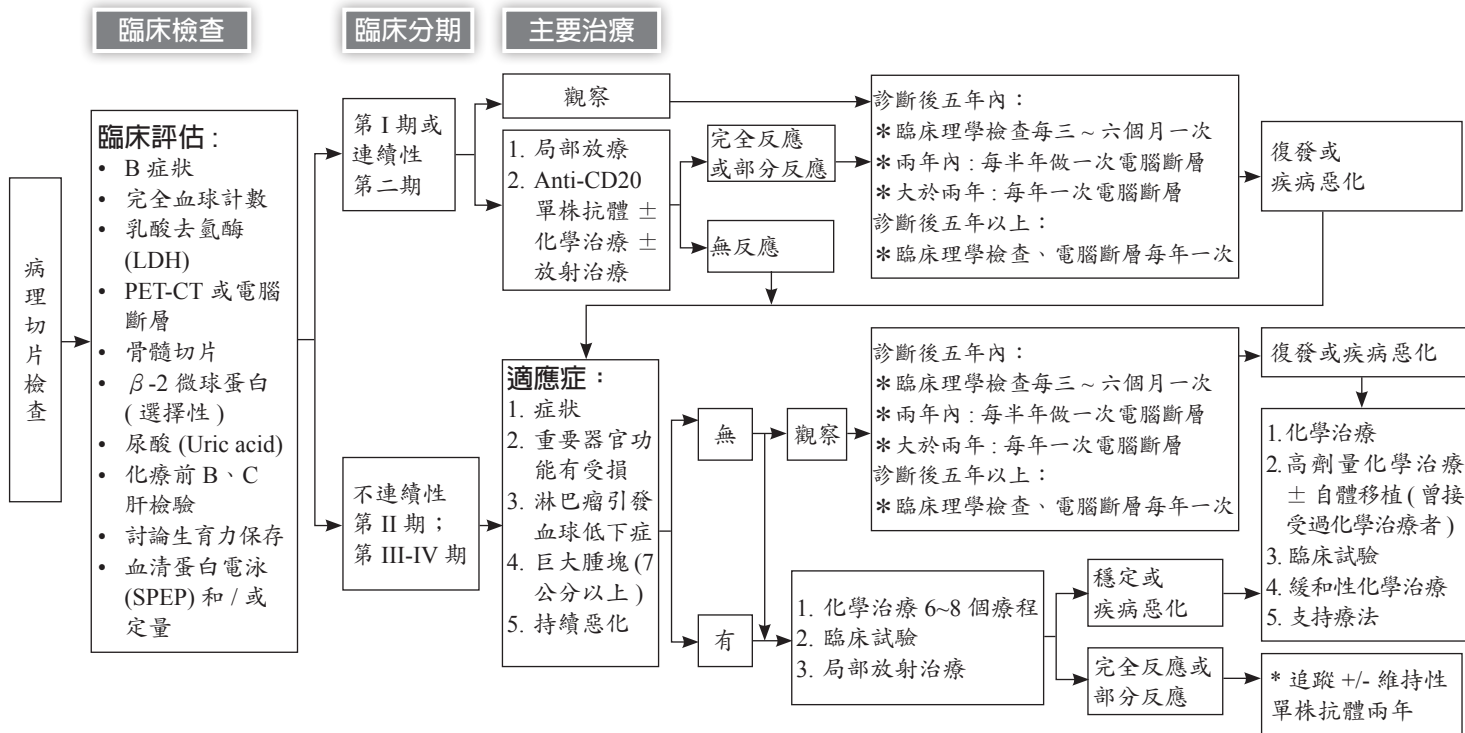
* Threatened end-organ function

* Progressive bulky disease(spleen>6cm below costal margin, lymph nodes>10cm)

* Progressive anemia

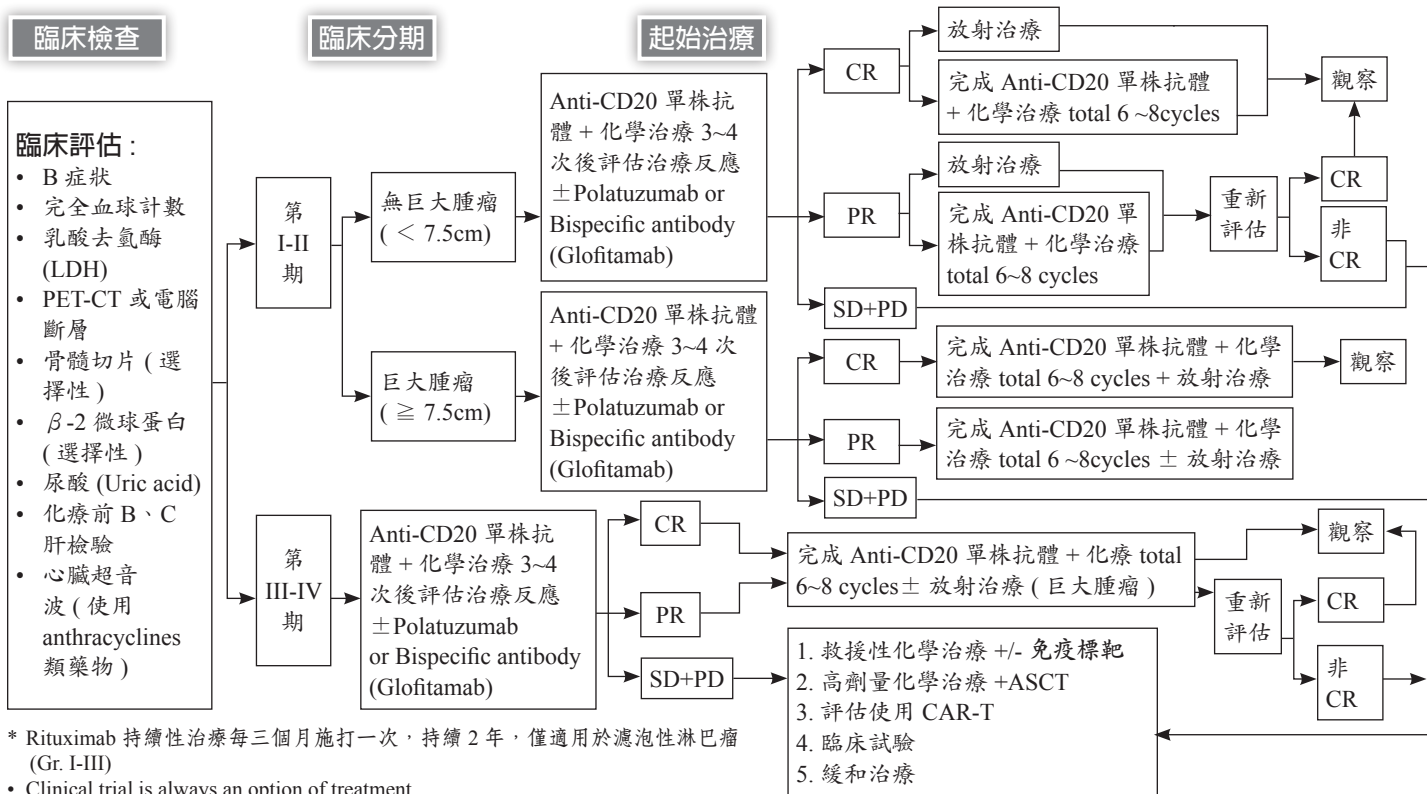
* Progressive thrombocytopenia

• Gazyva(Obinatuzumab)(optional)

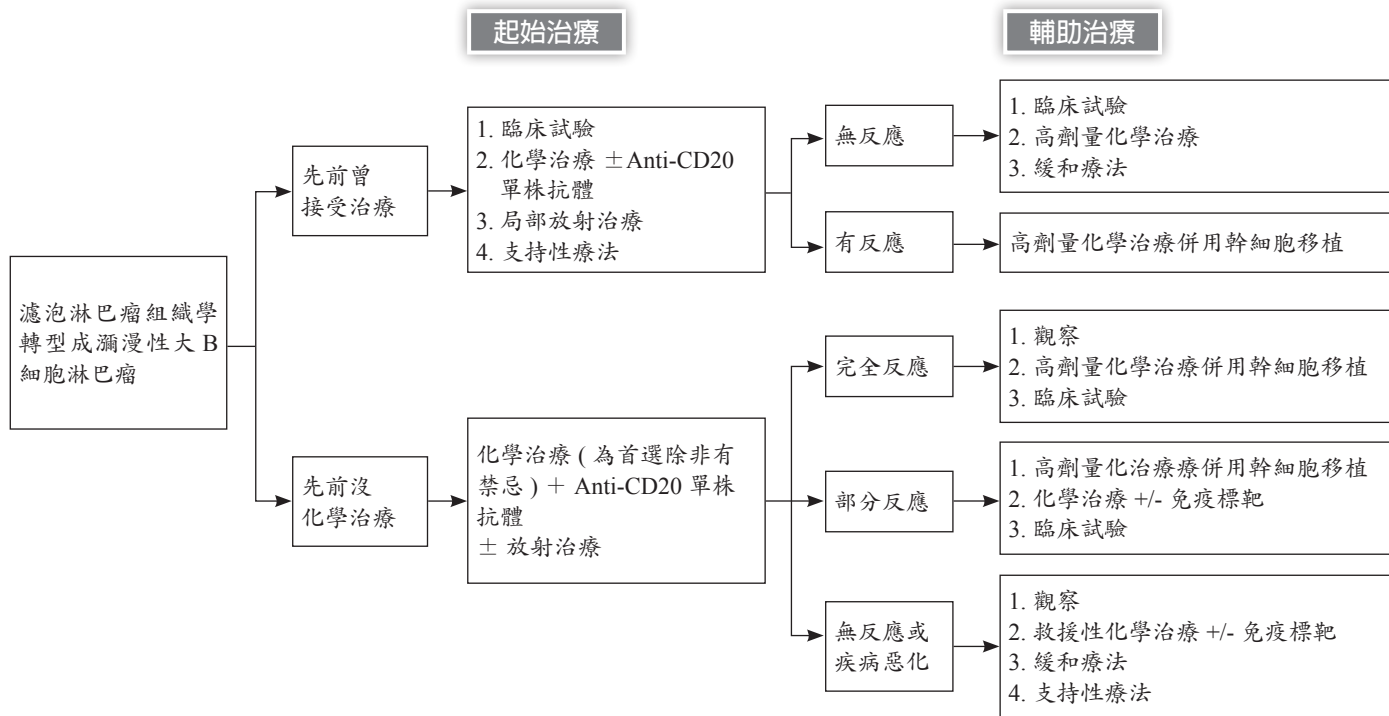


* Rituximab 持續性治療每三個月施打一次，持續 2 年，僅適用於濾泡性淋巴瘤 (Gr. I-III)
• Clinical trial is always an option of treatment.

[淋巴瘤診治共識 -10] — 瀰漫性大B細胞淋巴瘤 / 濾泡性淋巴瘤 Gr.III(DLBCL/FL Gr.III)



* Rituximab 持續性治療每三個月施打一次，持續 2 年，僅適用於濾泡性淋巴瘤 (Gr. I-III)
 • Clinical trial is always an option of treatment.



[淋巴瘤診治共識 -12] —胃黏膜淋巴組織相關淋巴瘤 (Gastric MALT lymphoma) Lugano Staging

Lugano Staging System for Gastrointestinal Lymphomas		Lugano Modification of Ann Arbor Staging System	TNM Staging System Adapted for Gastric Lymphoma	Tumor Extension
Stage I	Confined to GI tract ^a			
	I ₁ = mucosa, submucosa	I _E	T1 N0 M0	Mucosa, submucosa
	I ₂ = muscularis propria, serosa	I _E	T2 N0 M0	Muscularis propria
		I _E	T3 N0 M0	Serosa
Stage II	Extending into abdomen			
	II ₁ = local nodal involvement	II _E	T1-3 N1 M0	Perigastric lymph nodes
	II ₂ = distant nodal involvement	II _E	T1-3 N2 M0	More distant regional lymph nodes
Stage IIE	Penetration of serosa to involve adjacent organs or tissues	II _E	T4 N0 M0	Invasion of adjacent structures
Stage IV ^b	Disseminated extranodal involvement or concomitant supradiaphragmatic nodal involvement		T1-4 N3 M0	Lymph nodes on both sides of the diaphragm/ distant metastases (eg, bone marrow or additional extranodal sites)
		IV	T1-4 N0-3 M1	

[淋巴癌診治共識 -13] — 胃黏膜淋巴組織相關淋巴瘤 (Gastric MALT lymphoma)

臨床檢查

- 理學檢查、注意胃以外的部位 (眼、皮膚)
- 體能狀態 (ECOG PS)
- CBC、白血球分類、血小板計數
- 生化常規
- LDH
- 如組織病理學檢測幽門螺旋桿菌陰性、則行幽門螺旋桿菌非侵入性檢測 (糞便抗原檢測、尿素呼氣試驗、血液抗體檢測)
- 如果擬用 Rituximab、行 B 型肝炎相關檢測
- 胸腔 / 腹腔 / 骨盆腔併顯影劑電腦斷層檢查增強診斷品質
- 超音波內視鏡 (如有) 下多個部位檢體切片
- 育齡期婦女進行妊娠試驗 (如擬行化療)
- 骨髓穿刺切片 (視需要)
- 如果需要 Anthracycline 的療程需顯示 MUGA 掃描 / 心臟超音波數據
- C 型肝炎相關檢測

臨床分期

第 I、II、III 期
胃幽門桿菌 (+)

第 I、II、III 期
胃幽門桿菌 (-)

第 IV 期

起始治療

幽門螺旋桿菌減菌治療

1. 放射治療 (30-33Gy)
2. Anti-CD20 單株抗體 (自費)
3. 化療 ± Rituximab (自費)
4. 幽門螺旋桿菌減菌治療 (III 除外)

1. 化學治療 ± Anti-CD20 單株抗體
2. 放射治療
3. 觀察

評估

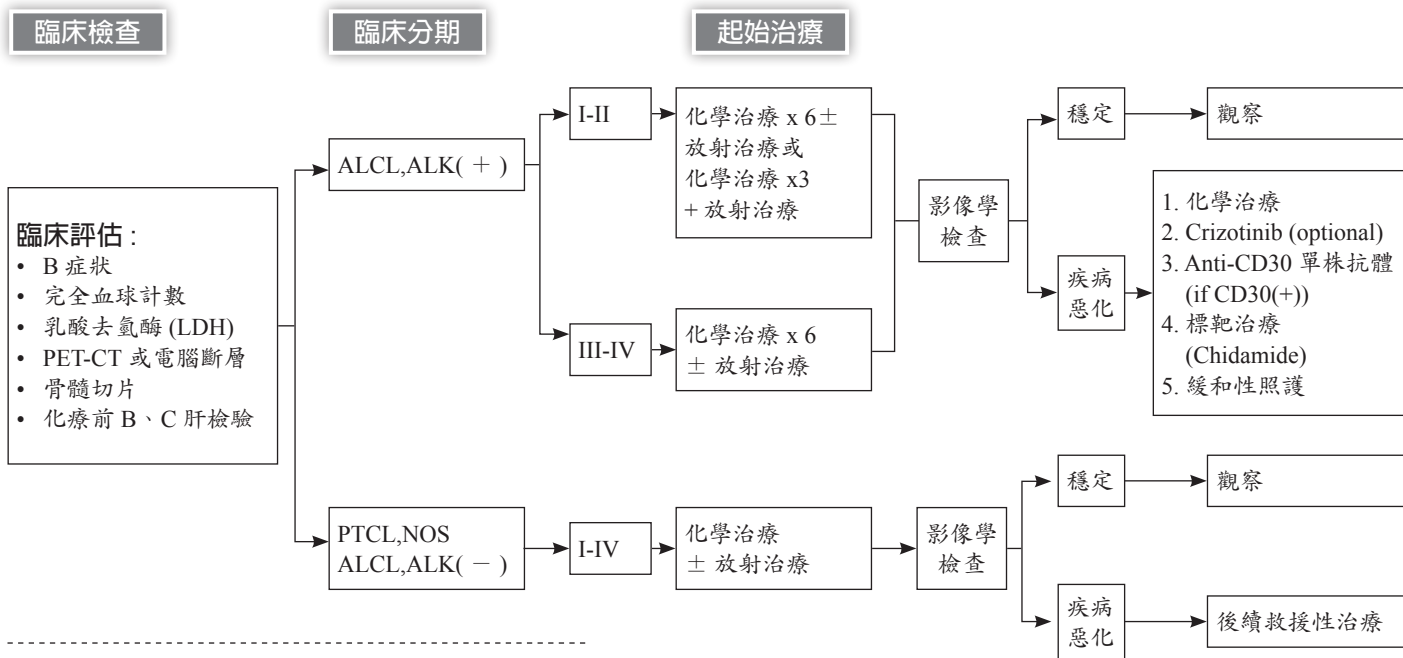
胃鏡評估

胃鏡評估

評估

- Clinical trial is always an option of treatment.

[淋巴瘤診治共識 -14] — T 細胞淋巴瘤 (Cutaneous T-cell lymphoma and T-immunoblastic lymphoma are not included)



1. Clinical trial is always an option of treatment.
 2. Treatment with diffuse large B cell lymphoma without rituximab.
 3. aaPI: 年齡調整國際預後指數

《參考文獻》

1. NCCN clinical practice guidelines in oncology-Hodgkin Lymphoma. version 1.2024.
2. NCCN clinical practice guidelines in oncology-B-cell Lymphoma. Version 6.2023.
3. NCCN clinical practice guidelines in oncology-T-cell Lymphoma. Version 1.2023.
4. NCCN clinical practice guidelines in oncology-Chronic Lymphocytic Leukemia/Small Lymphocytic Lymphoma. Version 3.2023.
5. Cheson BD, Fisher RI, Barrington SF, et al. Recommendations for initial evaluation, staging, and response assessment of Hodgkin and non-Hodgkin lymphoma: the Lugano classification. *J Clin Oncol* 2014;32:3059-3068.
6. Cunningham D, Hawkes EA, Jack A, et al. Rituximab plus cyclophosphamide, doxorubicin, vincristine, and prednisolone in patients with newly diagnosed diffuse large B-cell non-Hodgkin lymphoma: a phase 3 comparison of dose intensification with 14-day versus 21-day cycles. *Lancet* 2013;381:1817-1826.
7. Eichhorst B, Fink AM, Busch R, et al. Frontline chemoimmunotherapy with fludarabine (F), cyclophosphamide (C), and rituximab (R) (FCR) shows superior efficacy in comparison to bendamustine (B) and rituximab (BR) in previously untreated and physically fit patients (pts) with advanced chronic chronic lymphocytic leukemia (CLL): Final analysis of an international, randomized study of the German CLL Study Group (GCLLSG) (CLL10 Study)[abstract]. *Blood* 2014;124:Abstract 19.
8. Flinn IW, van der Jagt R, Kahl BS, et al. Open-label, randomized, noninferiority study of bendamustine-rituximab or R-CHOP/R-CVP in first-line treatment of advanced indolent NHL or MCL: the BRIGHT study. *Blood* 2014;123:2944-2952.
9. Rummel MJ, Niederle N, Maschmeyer G, et al. Bendamustine plus rituximab versus CHOP plus rituximab as first-line treatment for patients with indolent and mantle-cell lymphomas: an open-label, multicentre, randomised, phase 3 non-inferiority trial. *Lancet* 2013;381:1203-1210. Flinn IW, van der Jagt R, Kahl BS, et al. Open-label, randomized, noninferiority study of bendamustine-rituximab or R-CHOP/R-CVP in first-line treatment of advanced indolent NHL or MCL: the BRIGHT study. *Blood* 2014;123:2944-2952.
10. Salles, G, Seymour JF, Feugier P, et al. Updated 6 year follow-up of the PRIMA study confirms the benefit of 2-year rituximab maintenance in follicular lymphoma patients responding to frontline immunochemotherapy [abstract]. *Blood* 2013;122:Abstract 509.
11. Radford J, et al. Involved field radiotherapy versus no further treatment in patients with clinical stages IA and IIA Hodgkin Lymphoma and a negative PET scan after 3 cycles of ABVD. results of the UK NCRI RAPID Trial [abstract]. *Blood* 2012; 120:Abstract 547.

12. Fischer K, Cramer P, Busch R, et al. Bendamustine in combination with rituximab for previously untreated patients with chronic lymphocytic leukemia: A multicenter phase II trial of the German Chronic Lymphocytic Leukemia Study Group. *J Clin Oncol* 2012;30:3209-3216. Knauf WU, Lissichkov T, Aldaoud A, et al. Phase III randomized study of bendamustine
13. Meyer R, Gospodarowicz M, Connors J, et al. ABVD alone versus radiation-based therapy in limited-stage Hodgkin's lymphoma. *N Engl J Med* 2012;366:399-408.
14. Salles GA, Seymour JF, Offner F, et al. Rituximab maintenance for 2 years in patients with high tumour burden follicular lymphoma responding to rituximab plus chemotherapy (PRIMA): A phase 3, randomised controlled trial. *The Lancet* 2011;377:42-51.
15. Salles GA, Seymour JF, Offner F, et al. Rituximab maintenance for 2 years in patients with high tumour burden follicular lymphoma responding to rituximab plus chemotherapy (PRIMA): A phase 3, randomised controlled trial. *The Lancet* 2011;377:42-51.
16. Coiffier B, Thieblemont C, Van Den Neste E, et al. Long-term outcome of patients in the LNH-98.5 trial, the first randomized study comparing rituximab-CHOP to standard CHOP chemotherapy in DLBCL patients: a study by the Groupe d'Etudes des Lymphomes de l'Adulte. *Blood* 2010;116:2040-2045.
17. Gisselbrecht C, Glass B, Mounier N, et al. Salvage regimens with autologous transplantation for relapsed large B-cell lymphoma in the rituximab era. *J Clin Oncol* 2010;28:4184-4190.
18. WHO classification of tumours of haematopoietic and lymphoid tissues. In: Swerdlow SH, Campo E, Harris NL, et al., eds (ed 4). Lyon, France: IARC; 2008
19. Fernández de Larrea C, Martínez C, et al. Salvage chemotherapy with alternating MINE- ESHAP regimen in relapsed or refractory Hodgkin's lymphoma followed by autologous stem cell transplantation. *Ann Oncol* 2010;21(6):1211-1216.
20. Feugier P, Van Hoof A, Sebban C, et al. Long-term results of the R-CHOP study in the treatment of elderly patients with diffuse large B-cell lymphoma: a study by the Groupe d'Etude des Lymphomes de l'Adulte. *J Clin Oncol* 2005;23:4117-4126.

《 淋巴癌抗癌藥物治療指引 》

Hodgkin Lymphoma (Age ≥ 18 years)

Classical Hodgkin Lymphoma

ABVD (Doxorubicin, Bleomycin, Vinblastine, Dacarbazine) ± ISRT

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Doxorubicin	25	1, 15	Q4W	4	1-4
Bleomycin	10 unit/m ²	1, 15	Q4W	4	
Vinblastine	6	1, 15	Q4W	4	
Dacarbazine	375	1, 15	Q4W	4	

Escalated BEACOPP (Bleomycin, Etoposide, Doxorubicin, Cyclophosphamide, Vincristine, Procarbazine, Prednisone) followed by ABVD with ISRT10

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Bleomycin	10 unit/m ²	8	Q2W	2 + 2	5-6
Etoposide	200	1-3	Q2W	2 + 2	
Doxorubicin	35	1	Q2W	2 + 2	
Cyclophosphamide	1200	1	Q2W	2 + 2	
Vincristine	1.4	8	Q2W	2 + 2	
Procarbazine	100 HS	1-7	Q2W	2 + 2	
Prednisone	40 PO QD	1-14	Q2W	2 + 2	

Brentuximab vedotin+AVD (doxorubicin+ vinblastine+ dacarbazine)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Brentuximab vedotin	1.2 mg/kg	1, 15	Q4W	6	7
Doxorubicin	25	1, 15	Q4W	6	
Vinblastine	6	1, 15	Q4W	6	
Dacarbazine	375	1, 15	Q4W	6	

*三院有個別版本

參考文獻

1. Eich HT, Diehl V, Gorgen H, et al. Intensified chemotherapy and dose-reduced involved-field radiotherapy in patients with early unfavorable Hodgkin's lymphoma: final analysis of the German Hodgkin Study Group HD 11 trial. *J Clin Oncol* 2010;28:4199-4206.
2. Engert A, Plutschow A, Eich HT, et al. Reduced treatment intensity in patients with early-stage Hodgkin's lymphoma. *N Engl J Med* 2010;363:640-652.
3. Raemaekers JM, André MP, Federico M, et al. Omitting radiotherapy in early positron emission tomography-negative stage I/II Hodgkin lymphoma is associated with an increased risk of early relapse: clinical results of the preplanned interim analysis of the randomized EORTC/LYSA/FIL H10 trial. *J Clin Oncol* 2014;32:1188-1194.
4. Radford J, Illidge T, Counsell N, et al. Results of a trial of PET-directed therapy for early-stage Hodgkin's lymphoma. *N Engl J Med* 2015;372:1598-1607. Twelves C, Wong A, Nowacki MP, et al. Capecitabine as adjuvant treatment for stage III colon cancer. *N Engl J Med* 2005;352:2696-2704.
5. Engert A, Haverkamp H, Cobe C, et al. Reduced-intensity chemotherapy and PET-guided radiotherapy in patients with advanced stage Hodgkin's lymphoma (HD 15 trial): a randomized, open-label, phase 3 non-inferiority trial. *Lancet* 2012; 379(9828): 1791-1799

6. von Tresckow B, Plutschow A, Fuches M, et al. Dose-intensification in early unfavorable Hodgkin's lymphoma: final analysis of the German Hodgkin Study Group HD14 trial. *J Clin Oncol* 2012; 30: 907-913.
7. Connors JM, Jurczak W, Straus DJ, et al. Brentuximab Vedotin with Chemotherapy for Stage III or IV Hodgkin's Lymphoma. *New England Journal of Medicine*. 2018;378(4):331-344.

Nodular Lymphocyte-Predominant Hodgkin Lymphoma

ABVD (Doxorubicin, Bleomycin, Vinblastine, Dacarbazine) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Doxorubicin	25	1, 15	Q4W		1, 2
Bleomycin	10 unit/m ²	1, 15	Q4W		
Vinblastine	6	1, 15	Q4W		
Dacarbazine	375	1, 15	Q4W		
± Rituximab	375	1	Q4W		

CHOP (Cyclophosphamide, Doxorubicin, Vincristine, Prednisone) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Cyclophosphamide	750	1	Q3W		3
Doxorubicin	50	1	Q3W		
Vincristine	1.4	1	Q3W		
Prednisone	40	1-5	Q3W		
± Rituximab	375	1	Q3W		

CVP (Cyclophosphamide, Vinblastine, Prednisone) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Cyclophosphamide	500	1	Q2-3W		4
Vinblastine	6	1, 8	Q2-3W		
Prednisone	40	1-7	Q2-3W		
± Rituximab	375	1	Q2-3W		

Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Rituximab	375	1	QW		5-9

參考文獻

1. Savage KJ, Skinnider B, Al-Mansour M, et al. Treating limited stage nodular lymphocyte predominant Hodgkin lymphoma similarly to classical Hodgkin lymphoma with ABVD may improve outcome. *Blood* 2011;118:4585-4590.
2. Canellos GP, Mauch P. What is the appropriate systemic chemotherapy for lymphocyte-predominant Hodgkin's Lymphoma? *J Clin Oncol* 2010;28:e8.
3. Fanale MA, Lai C-M, McLaughlin P, et al. Outcomes of Nodular Lymphocyte Predominant Hodgkin's Lymphoma (NLPHL) Patients Treated with R-CHOP. *ASH Annual Meeting Abstracts* 2010;116:2812.
4. Shankar A, Hall GW, Gorde-Grosjean S, et al. Treatment outcome after low intensity chemotherapy [CVP] in children and adolescents with early stage nodular lymphocyte predominant Hodgkin's lymphoma - an Anglo-French collaborative report. *Eur J Cancer* 2012;48:1700-1706.
5. Advani RH, Hoppe RT. How I treat nodular lymphocyte predominant Hodgkin lymphoma. *Blood* 2013;122:4182-4188.
6. Advani RH, Horning SJ, Hoppe RT, et al. Mature results of a phase II study of rituximab therapy for nodular lymphocyte-predominant Hodgkin lymphoma. *J Clin Oncol* 2014;32:912-918.
7. Schulz H, Rehwald U, Morschhauser F, et al. Rituximab in relapsed lymphocyte-predominant Hodgkin lymphoma: long-term results of a phase 2 trial by the German Hodgkin Lymphoma Study Group (GHSg). *Blood* 2008;111(1):109-111.
8. Eichenauer DA, Fuchs M, Plutschow A, et al. Phase 2 study of rituximab in newly diagnosed stage IA nodular lymphocyte-predominant Hodgkin lymphoma: a report from the German Hodgkin Study Group. *Blood* 2011;118:4363-4365.
9. Eichenauer DA, Plutschow A, Fuchs M, et al. Long-Term Course of Patients With Stage IA Nodular Lymphocyte-Predominant Hodgkin Lymphoma: A Report From the German Hodgkin Study Group. *J Clin Oncol* 2015;33:2857-2862.

Systemic therapy for relapsed or refractory disease

Second-Line or Subsequent Therapy Options

CHL

DHAP (Dexamethasone, Cisplatin, high-dose Cytarabine)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Dexamethasone	40 mg QD	1-4	Q3-4W		1, 2
Cisplatin	100	1	Q3-4W		
Cytarabine	2000 Q12H	2	Q3-4W		

ESHAP (Etoposide, Methylprednisolone, Cisplatin, high-dose Cytarabine)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Etoposide	40	1-4	Q3-4W		3, 4, 5
Methylprednisolone	500	1-4	Q3-4W		
Cisplatin	25	1-4	Q3-4W		
Cytarabine	2000	5	Q3-4W		

Gemcitabine/Bendamustine/Vinorelbine

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Gemcitabine	800	1, 4	Q3W	4	22
Bendamustine	100	2, 3	Q3W	4	
Vinorelbine	20	1	Q3W	4	
Prednisolone	100 mg PO	1-4	Q3W	4	

GCD (Gemcitabine, Carboplatin, Dexamethasone)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Gemcitabine	1000	1, 8	Q3W		6, 7
Carboplatin	AUC 5	1	Q3W		
Dexamethasone	40 mg	1-4	Q3W		

GVD (Gemcitabine, Vinorelbine, Lipo-Doxorubicin)

1. For transplant- naïve patients

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Gemcitabine	1000	1, 8	Q3W		8
Vinorelbine	20	1, 8	Q3W		
Lipo-Doxorubicin	15	1, 8	Q3W		

2. For post-transplant patients

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Gemcitabine	800	1, 8	Q3W		8
Vinorelbine	15	1, 8	Q3W		
Lipo-Doxorubicin	10	1, 8	Q3W		

GVD + Pembrolizumab (Transplant eligible patients)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Pembrolizumab	200 mg	1	Q3W	2-4	28
Gemcitabine	1000	1, 8	Q3W		
Vinorelbine	20	1, 8	Q3W		
Lipo-Doxorubicin	15	1, 8	Q3W		

ICE (Ifosfamide, Carboplatin, Etoposide)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Etoposide	100	1-3	Q3W		9, 10
Carboplatin	AUC 5	2	Q3W		
Ifosfamide	5000	2	Q3W		

ICE + Brentuximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Brentuximab	1.5 mg/kg*	1, 8	Q3W		29
Etoposide	100	1-3	Q3W		
Carboplatin	AUC 5	2	Q3W		
Ifosfamide	5000	2	Q3W		

*capped at 150 mg

ICE + Nivolumab (bridging most patients to AHCT)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Nivolumab	240 mg	1	Q2W	Up to 6	30
Etoposide	100	1-3	Q3W		
Carboplatin	AUC 5	2	Q3W		
Ifosfamide	5000	2	Q3W		

ICE + Pembrolizumab (eligible for an autologous stem cell transplant)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Pembrolizumab	200 mg	1	Q3W		34
Etoposide	100	1-3	Q3W		
Carboplatin	AUC 5	2	Q3W		
Ifosfamide	5000	2	Q3W		

IGEV (Ifosfamide, Gemcitabine, Vinorelbine, Prednisolone)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Ifosfamide	2000	1-4	Q3W		11
Gemcitabine	800	1, 4	Q3W		
Vinorelbine	20	1	Q3W		
Prednisolone	100 mg	1-4	Q3W		

Mini-BEAN (Carmustine, Cytarabine, Etoposide, Mephalan)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Carmustine	60	1	Q4-6W		12, 13
Cytarabine	100	2-5	Q4-6W		
Etoposide	75	2-5	Q4-6W		
Mephalan	30	6	Q4-6W		

MINE (Etoposide, Ifosfamide, Mesna, Mitoxantrone)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Mesna	1300	1-3	Q3-4W		14
Ifosfamide	1300	1-3	Q3-4W		
Mitoxantrone	8	1	Q3-4W		
Etoposide	65	1-3	Q3-4W		

Brentuximab vedotin (only for CHL)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Brentuximab vedotin*	1.8 mg/kg	1	Q3W		15

*alone or in combination with the second-line regimens below

Brentuximab vedotin + Bendamustine

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Brentuximab vedotin	1.8 mg/kg	1	Q3W		23
Bendamustine	90 (70-90)	1, 2	Q3W		

Brentuximab vedotin + Nivolumab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Brentuximab vedotin	1.8 mg/kg	1	Q3W		24
Nivolumab	3 mg/kg	8	Q3W	1 st	
Nivolumab	3 mg/kg	1	Q3W	2 nd ~4 th	

Additional Therapy Options: (only for CHL)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Bendamustine	120	1, 2	Q4W		16

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Everolimus	10 mg PO QD				17

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Lenalidomide	25 mg PO QD	1-21	Q4W		18

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Nivolumab	3 mg/kg	1	Q2W		19, 20

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Pembrolizumab	10 mg/kg	1	Q2W		21

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Pembrolizumab	200 mg	1	Q2W		31, 32

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Vinblastine	0.1 mg/kg	1	Q2W		33

Bendamustine + Carboplatin + Etoposide (CD20(+)) + Rituximab 375 mg/m²)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Bendamustine	60-120	1, 2	Q3W		25
Carboplatin	AUC 5	1	Q3W		
Etoposide	100	1-3	Q3w		

* capped at 800 mg

Gemcitabine + Oxaliplatin

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Gemcitabine	1000	1	Q2W or Q3W		26
Oxaliplatin	100	1	Q2W or Q3W		

NLPHL

DHAP (Dexamethasone, Cisplatin, high-dose Cytarabine) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	1			1, 2
Dexamethasone	40 mg QD	1-4	Q3-4W		
Cisplatin	100	1	Q3-4W		
Cytarabine	2000 Q12H	2	Q3-4W		

ESHAP (Etoposide, Methylprednisolone, Cisplatin, high-dose Cytarabine) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	1			3, 4, 5
Etoposide	40	1-4	Q3-4W		
Methylprednisolone	500	1-4	Q3-4W		
Cisplatin	25	1-4	Q3-4W		
Cytarabine	2000	5	Q3-4W		

ICE (Ifosfamide, Carboplatin, Etoposide) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	1			9, 10
Etoposide	100	1-3	Q3W		
Carboplatin	AUC 5	2	Q3W		
Ifosfamide	5000	2	Q3W		

IGEV (Ifosfamide, Gemcitabine, Vinorelbine, Prednisolone) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	1			11
Ifosfamide	2000	1-4	Q3W		
Gemcitabine	800	1, 4	Q3W		
Vinorelbine	20	1	Q3W		
Prednisolone	100 mg	1-4	Q3W		

Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Rituximab	375	1	QW	4	35

R-Bendamustine

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Bendamustine	90	1, 2	Q3W		27
Rituximab	375	1			

*三院有個別版本

參考文獻

1. Josting A, Rudolph C, Reiser M, et al. Time-intensified dexamethasone/cisplatin/cytarabine: an effective salvage therapy with low toxicity in patients with relapsed and refractory Hodgkin's disease. *Ann Oncol* 2002;13(10):1628-1635.
2. Abali H, Urün Y, Oksüzoğlu B, Budakoğlu B, et al. Comparison of ICE (ifosfamide-carboplatin-etoposide) versus DHAP (cytosine arabinoside-cisplatin-dexamethasone) as salvage chemotherapy in patients with relapsed or refractory lymphoma. *Cancer Invest* 2008;26(4):401-406.
3. Aparicio J, Segura A, Garcera S, et al. ESHAP is an active regimen for relapsing Hodgkin's disease. *Ann Oncol* 1999;10(5):593-595.
4. Fernández de Larrea C, Martínez C, et al. Salvage chemotherapy with alternating MINEESHAP regimen in relapsed or refractory Hodgkin's lymphoma followed by autologous stem cell transplantation. *Ann Oncol* 2010;21(6):1211-1216.
5. Labrador J, Cabrero-Calvo M, Perez-Lopez E, et al. ESHAP as salvage therapy for relapsed or refractory Hodgkin's lymphoma. *Ann Hematol* 2014;93:1745-1753.
6. Crump M, Kuruvilla J, Couban S, et al. Randomized comparison of gemcitabine, dexamethasone, and cisplatin versus dexamethasone, cytarabine, and cisplatin chemotherapy before autologous stem-cell transplantation for relapsed and refractory aggressive lymphomas: NCIC-CTG LY.12. *J Clin Oncol* 2014;32:3490-3496.

7. Gopal AK, Press OW, Shustov AR, et al. Efficacy and safety of gemcitabine, carboplatin, dexamethasone, and rituximab in patients with relapsed/refractory lymphoma: a prospective multicenter phase II study by Puget Sound Oncology Consortium. *Leuk Lymphoma* 2010;51:1523-1529.
8. Bartlett N, Niedzwiecki D, Johnson J, et al. Gemcitabine, vinorelbine, and pegylated liposomal doxorubicin (GVD), a salvage regimen in relapsed Hodgkin's lymphoma: CALGB 59804. *Ann Oncol* 2007;18(6):1071-1079.
9. Moskowitz CH, Nimer SD, Zelenetz AD, et al. A 2-step comprehensive high-dose chemoradiotherapy second-line program for relapsed and refractory Hodgkin disease: analysis by intent to treat and development of a prognostic model. *Blood* 2001;97(3):616-623.
10. Abali H, Urün Y, Oksüzoğlu B, Budakoğlu B, et al. Comparison of ICE (ifosfamide-carboplatin-etoposide) versus DHAP (cytosine arabinoside-cisplatin-dexamethasone) as salvage chemotherapy in patients with relapsed or refractory lymphoma. *Cancer Invest* 2008;26(4):401-406.
11. Santoro A, Magagnoli M, Spina M, et al. Ifosfamide, gemcitabine, and vinorelbine: a new induction regimen for refractory and relapsed Hodgkin's lymphoma. *Haematologica* 2007;92(1):35-41.
12. Colwill R, Crump M, Couture F, et al. Mini-BEAM as salvage therapy for relapsed or refractory Hodgkin's disease before intensive therapy and autologous bone marrow transplantation. *J Clin Oncol* 1995;13:396-402.
13. Martín A, Fernández-Jiménez MC, Caballero MD, et al. Long-term follow-up in patients treated with Mini-BEAM as salvage therapy for relapsed or refractory Hodgkin's disease. *Br J Haematol* 2001;113(1):161-171.
14. Rodriguez MA, Cabanillas FC, Hagemeister FB, et al. A phase II trial of mesna/ifosfamide, mitoxantrone and etoposide for refractory lymphomas. *Ann Oncol* 1995;6(6):609-611.
15. Younes A, Gopal AK, Smith SE, et al. Results of a pivotal phase II study of brentuximab vedotin for patients with relapsed or refractory Hodgkin's lymphoma. *J Clin Oncol* 2012;30:2183-2189.
16. Moskowitz AJ, Hamlin PA, Perales M-A, et al. Phase II study of bendamustine in relapsed and refractory Hodgkin lymphoma. *J Clin Oncol* 2013;31:456-460.
17. Johnston PB, Inwards DJ, Colgan JP, et al; A Phase II trial of the oral mTOR inhibitor everolimus in relapsed Hodgkin lymphoma. *Am J Hematol.* 2010;85(5):320-4.

18. Fehniger TA, Larson S, Trinkaus K, et al; A phase 2 multicenter study of lenalidomide in relapsed or refractory classical Hodgkin lymphoma. *Blood* 2011;118(19):5119-25.
19. Ansell SM, Lesokhin AM, Borrello I, et al. PD-1 Blockade with nivolumab in relapsed or refractory Hodgkin's lymphoma. *N Engl J Med* 2015;372:311-9.
20. Timmerman J, Armand P, Lesokhin AM, et al. Nivolumab in patients with relapsed or refractory lymphoid malignancies and classical Hodgkin lymphoma: Updated results of a phase 1 study (CA 209-039) [abstract]. *Hematol Oncol* 2015;33:Abstract 010.
21. Moskowitz CH, Ribrag V, Michot J-M, et al. PD-1 blockade with the monoclonal antibody pembrolizumab (MK-3475) in patients with classical Hodgkin lymphoma after brentuximab vedotin failure: preliminary results from a phase 1b study (KEYNOTE-013) [abstract]. *Blood* 2014;124:Abstract 290.
22. Santoro A, Mazza R, Pulsoni A, et al. Bendamustine in Combination With Gemcitabine and Vinorelbine Is an Effective Regimen As Induction Chemotherapy Before Autologous Stem-Cell Transplantation for Relapsed or Refractory Hodgkin Lymphoma: Final Results of a Multicenter Phase II Study. *J Clin Oncol* 2016;34:3293-3299.
23. O'Connor OA, Lue JK, et al. Brentuximab vedotin plus bendamustine in relapsed or refractory Hodgkin's lymphoma: an international, multicentre, single-arm, phase 1-2 trial. *Lancet Oncol* 2018; 19: 257-66.
24. Herrera AF, Moskowitz AJ, et al. Interim results of brentuximab vedotin in combination with nivolumab in patients with relapsed or refractory Hodgkin lymphoma. *Blood* (2018) 131 (11): 1183-1194.
25. Budde LE, Wu D, Martin DB, et al. Bendamustine with rituximab, etoposide and carboplatin (T(R)EC) in relapsed or refractory aggressive lymphoma: a prospective multicentre phase 1/2 clinical trial. *Br J Haematol* 2018;183:601-607.
26. Gutierrez A, Rodriguez J, Martinez-Serra J, et al. Gemcitabine and oxaliplatin: an effective regimen in patients with refractory and relapsing Hodgkin lymphoma. *Onco Targets Ther* 2014;7:2093-2100.
27. Prusila REI, Haapasari KM, Marin K, et al. R-Bendamustine in the treatment of nodular lymphocyte-predominant Hodgkin lymphoma. *Acta Oncol* 2018;57:1265-1267.
28. Moskowitz AJ, Shah G, Schöder H, et al. Phase II trial of pembrolizumab plus gemcitabine, vinorelbine, and liposomal doxorubicin as second-line therapy for relapsed or refractory classical Hodgkin lymphoma. *J Clin Oncol* 2021;39:3109-3117.
29. Lynch RC, Cassaday RD, Smith SD, et al. Dose-dense brentuximab vedotin plus ifosfamide, carboplatin, and etoposide for

- second-line treatment of relapsed or refractory classical Hodgkin lymphoma: a single centre, phase 1/2 study. *Lancet Haematol* 2021;8:e562-e571.
30. Mei MG, Lee HJ, Palmer J, et al. Response-adapted anti-PD1-based salvage therapy for Hodgkin lymphoma with nivolumab alone or in combination with ICE. *Blood* 2022;139:3605-3616.
 31. Kuruvilla J, Ramchandren R, Santoro A, et al. Pembrolizumab versus brentuximab vedotin in relapsed or refractory classical Hodgkin lymphoma (KEYNOTE-204): an interim analysis of a multicentre, randomised, open-label, phase 3 study. *Lancet Oncol.* 2021 Apr;22(4):512-524.
 32. Chen R, Zinzani PL, Fanale MA, et al. Phase II study of the efficacy and safety of pembrolizumab for relapsed/refractory classic Hodgkin lymphoma. *J Clin Oncol* 2017;35:2125-2132.
 33. Neoplastic disease. Treatment with vinblastine. A cooperative study. *Arch Intern Med* 1965;116:856-852.
 34. Bryan LJ, Casulo C, Allen PB, et al. Pembrolizumab added to ifosfamide, carboplatin, and etoposide chemotherapy for relapsed or refractory classic Hodgkin lymphoma: A multi-institutional phase 2 investigator-initiated nonrandomized clinical trial. *JAMA Oncol* 2023;9:683-691.
 35. Mature Results of a Phase II Study of Rituximab Therapy for Nodular Lymphocyte–Predominant Hodgkin Lymphoma. DOI: 10.1200/JCO.2013.53.2069 *Journal of Clinical Oncology* 32, no. 9 (March 20, 2014) 912-918.

Hodgkin's Lymphoma (Age > 60 years)**A(B)VD ± ISRT**

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Doxorubicin	25	1, 15	Q4W	#	1-4, 7
Bleomycin*	10 unit/m ²	1, 15	Q4W	#	
Vinblastine	6	1, 15	Q4W	#	
Dacarbazine	375	1, 15	Q4W	#	

* Bleomycin should be used with caution as it may not be tolerated in older adults.

A(B)VD (2 cycles) followed by AVD (4 cycles), if PET scan is negative after 2 cycles of ABVD.

If stage I-II unfavorable, consider a total of 4 cycles

CHOP ± ISRT

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Cyclophosphamide	750	1	Q3W	*	5
Doxorubicin	50	1	Q3W	*	
Vincristine	1.4	1	Q3W	*	
Prednisone	40	1-5	Q3W	*	

* Stage I-II favorable disease: 4; Stage I-II favorable or III-IV: 6

Brentuximab vedotin followed by AVD, conditionally followed by brentuximab vedotin in responding patients with CR or PR

The first lead-in phase

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Brentuximab vedotin	1.8 mg/kg	1	Q3W	2	8

The second phase

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Doxorubicin	25	1, 15	Q4W	6	8
Vinblastine	6	1, 15	Q4W	6	
Dacarbazine	375	1, 15	Q4W	6	

The third phase

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Brentuximab vedotin	1.8 mg/kg	1	Q3W	4	8

#Stage I-II unfavorable or III-IV

Brentuximab vedotin + DTIC (dacarbazine) (for low EF patient)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Brentuximab vedotin	1.8 mg/kg	1	Q3W	12	9, 10
Dacarbazine	375	1	Q3W	12	
Followed by					
Brentuximab vedotin	1.8 mg/kg	1	Q3W	13-16 or more	

#Stage I-II unfavorable or III-IV

Relapsed or Refractory Disease

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Bendamustine	120	1, 2	Q4W		11

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Brentuximab vedotin	1.8 mg/kg	1	Q3W	12	12

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Nivolumab	3 mg/kg	1	Q2W		13, 14

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Pembrolizumab	10 mg/kg	1	Q2W		15

參考文獻

- Engert A, Plutschow A, Eich HT, et al. Reduced treatment intensity in patients with early-stage Hodgkin's lymphoma. *N Engl J Med* 2010;363:640-652.
- Stamatoullas A, Brice P, Bouabdallah R, et al. Outcome of patients older than 60 years with classical Hodgkin lymphoma treated with front line ABVD chemotherapy: frequent pulmonary events suggest limiting the use of bleomycin in the elderly. *Br J Haematol* 2015;170:179-184.
- Behringer K, Goergen H, Hitz F, et al. Omission of dacarbazine or bleomycin, or both, from the ABVD regimen in treatment of early-stage favourable Hodgkin's lymphoma (GHSg HD13): an open-label, randomised, non-inferiority trial. *Lancet* 2015;385:1418-1427.
- Johnson P, Federico M, Fossa A, et al. Response-adapted therapy based on interim FDG-PET scans in advanced Hodgkin lymphoma: first analysis of the safety of de-escalation and efficacy of escalation in the international RATHL study (CRUK/07/033) [abstract]. *Hematol Oncol* 2015;33 (Suppl S1):Abstract 008.
- Kolstad A, Nome O, Delabie J, et al. Standard CHOP-21 as first line therapy for elderly patients with Hodgkin's lymphoma. *Leuk Lymphoma* 2007;48:570-576.
- Boll B, Bredenfeld H, Gorgen H, et al. Phase 2 study of PVAG (prednisone, vinblastine, doxorubicin, gemcitabine) in elderly patients with early unfavorable or advanced stage Hodgkin lymphoma. *Blood* 2011;118:6292-6298.

7. Johnson P, Federico M, Fossa A, et al. Response-adapted therapy based on interim FDG-PET scans in advanced Hodgkin lymphoma: first analysis of the safety of de-escalation and efficacy of escalation in the international RATHL study (CRUK/07/033) [abstract]. *Hematol Oncol* 2015;33 (Suppl S1): Abstract 008.
8. Evens AM, Advani RH, Helenowski IB, et al. Multicenter phase II study of sequential brentuximab vedotin and doxorubicin, vinblastine, and dacarbazine chemotherapy for older patients with untreated classical Hodgkin lymphoma. *J Clin Oncol* 2018;36:3015-3022.
9. Friedberg JW, Forero-Torres A, Bordoni RE, et al. Frontline brentuximab vedotin in combination with dacarbazine or bendamustine in patients aged ≥ 60 years with HL. *Blood* 2017;130:2829-2837
10. Friedberg JW, Forero-Torres A, Holkova B, et al. Long-term follow-up of brentuximab vedotin \pm dacarbazine as first line therapy in elderly patients with Hodgkin lymphoma [abstract]. *J Clin Oncol* 2018;36 (Suppl 15): Abstract 7542.
11. Moskowitz AJ, Hamlin PA, Perales M-A, et al. Phase II study of bendamustine in relapsed and refractory Hodgkin lymphoma. *J Clin Oncol* 2013;31:456-460.
12. Younes A, Gopal AK, Smith SE, et al. Results of a pivotal phase II study of brentuximab vedotin for patients with relapsed or refractory Hodgkin's lymphoma. *J Clin Oncol* 2012;30:2183-2189.
13. Ansell SM, Lesokhin AM, Borrello I, et al. PD-1 Blockade with nivolumab in relapsed or refractory Hodgkin's lymphoma. *N Engl J Med* 2015;372:311-9.
14. Timmerman J, Armand P, Lesokhin AM, et al. Nivolumab in patients with relapsed or refractory lymphoid malignancies and classical Hodgkin lymphoma: Updated results of a phase 1 study (CA 209-039) [abstract]. *Hematol Oncol* 2015;33:Abstract 010.
15. Moskowitz CH, Ribrag V, Michot J-M, et al. PD-1 blockade with the monoclonal antibody pembrolizumab (MK-3475) in patients with classical Hodgkin lymphoma after brentuximab vedotin failure: preliminary results from a phase 1b study (KEYNOTE-013) [abstract]. *Blood* 2014;124:Abstract 290.

Non-Hodgkin's Lymphoma

Diffuse Large B-Cell Lymphoma

First-line Therapy

RCHOP (Rituximab, Cyclophosphamide, Doxorubicin, Vincristine, Prednisone)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Rituximab	375	1	Q3W	6	1-3
Cyclophosphamide	750	1	Q3W	6	
Doxorubicin	50	1	Q3W	6	
Vincristine	1.4	1	Q3W	6	
Prednisone	100 mg	1-5	Q3W	6	

Dose-dense RCHOP 14

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Rituximab	375	1	Q2W	6	4
Cyclophosphamide	750	1	Q2W	6	
Doxorubicin	50	1	Q2W	6	
Vincristine	1.4	1	Q2W	6	
Prednisone	100 mg	1-5	Q2W	6	

Dose-adjusted EPOCH + Rituximab
(Etoposide, Prednisone, Vincristine, Cyclophosphamide, Doxorubicin) + Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Rituximab	375	1	Q3W	6-8	5, 6
Etoposide	50	1-4	Q3W	6-8	
Doxorubicin	10	1-4	Q3W	6-8	
Vincristine	0.4	1-4	Q3W	6-8	
Cyclophosphamide	750	5	Q3W	6-8	
Prednisone	60	1-5	Q3W	6-8	

Pola-R-CHP (Polatuzumab vedotin-piiq, Rituximab, Cyclophosphamide, Doxorubicin, Prednisone)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Polatuzumab	1.8 mg/kg	1	Q3W	8	33
Rituximab	375	1	Q3W	6	
Cyclophosphamide	750	1	Q3W	6	
Doxorubicin	50	1	Q3W	6	
Prednisone	100 mg	1-5	Q3W	6	

First-line Therapy for Patients with Poor Left Ventricular Function

CDOP (Cyclophosphamide, Lipo-Doxorubicin, Vincristine, Prednisone) + Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Rituximab	375	1	Q3W	6-8	7, 8
Cyclophosphamide	750	1	Q3W	6-8	
Lipo-Doxorubicin	30	1	Q3W	6-8	
Vincristine	1.4	1	Q3W	6-8	
Prednisone	60	1-5	Q3W	6-8	

RGCVP (Rituximab, Gemcitabine, Cyclophosphamide, Vincristine, Prednisone)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Rituximab	375	1	Q3W	6	10
Cyclophosphamide	750	1	Q3W	6	
Gemcitabine	750-1000	1,8	Q3W	6	
Vincristine	1.4	1	Q3W	6	
Prednisone	100 mg	1-5	Q3W	6	

DA-EPOCH (Etoposide, Prednisone, Vincristine, Cyclophosphamide, Doxorubicin) + Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Rituximab	375	1	Q3W	6-8	5, 6
Etoposide	50	1-4	Q3W	6-8	
Doxorubicin	10	1-4	Q3W	6-8	
Vincristine	0.4	1-4	Q3W	6-8	
Cyclophosphamide	750	5	Q3W	6-8	
Prednisone	60	1-5	Q3W	6-8	

RCEOP (Rituximab, Cyclophosphamide, Etoposide, Vincristine, Prednisone)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Rituximab	375	1	Q3W	*	9
Cyclophosphamide	750	1	Q3W	*	
Etoposide	50	1	Q3W	*	
Etoposide	100 PO	2, 3	Q3W	*	
Vincristine	1.4	1	Q3W	*	
Prednisone	100 mg	1-5	Q3W	*	

*limited stage: 3-4, advanced stage: 6

TREC (Rituximab, Bendamustine, Etoposide, Carboplatin)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Rituximab	375	1	Q3W	2	15
Bendamustine	90-120	1-2	Q3W	2	
Etoposide	100	1-3	Q3W	2	
Carboplatin	AUC 5	1	Q3W	2	

Patients >80years of age with comorbidities
R-mini-CHOP

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Rituximab	375	1	Q3W	6	11
Cyclophosphamide	400	1	Q3W	6	
Doxorubicin	25	1	Q3W	6	
Vincristine	1 mg	1	Q3W	6	
Prednisone	40	1-5	Q3W	6	

R-COP

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Rituximab	375	1	Q3W		23, 24
Cyclophosphamide	750	1	Q3W		
Vincristine	1.4 mg	1	Q3W		
Prednisone	100	1-5	Q3W		

RGCVP (Rituximab, Gemcitabine, Cyclophosphamide, Vincristine, Prednisolone)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Rituximab	375	1	Q3W	6	10
Cyclophosphamide	750	1	Q3W	6	
Gemcitabine	750	1, 8	Q3W	6	
Vincristine	1.4	1	Q3W	6	
Prednisone	100 mg	1-5	Q3W	6	

CDOP (Cyclophosphamide, Lipo-Doxorubicin, Vincristine, Prednisone) + Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Rituximab	375	1	Q3W	6-8	7, 8
Cyclophosphamide	750	1	Q3W	6-8	
Lipo-Doxorubicin	30	1	Q3W	6-8	
Vincristine	1.4	1	Q3W	6-8	
Prednisone	60	1-5	Q3W	6-8	

Concurrent presentation with CNS disease

Parenchymal

3 g/m² or more of systemic Methotrexate given on Day 15 of a 21-day RCHOP cycle that has been supported by growth factors.

Leptomeningeal

IT methotrexate/cytarabine, consider Ommaya reservoir placement and/or systemic methotrexate (3-3.5 g/m²)

Second-line Therapy and Subsequent Therapy (intention to proceed to high-dose therapy)

DHAP (Dexamethasone, Cisplatin, Cytarabine) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	1	Q3-4W		12
Cisplatin	100	1	Q3-4W		
Cytarabine	2000 Q12H	2	Q3-4W		
Dexamethasone	40 mg	1-4	Q3-4W		

DHAX (dexamethasone, cytarabine, oxaliplatin) ± rituximab

藥品名*	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	1	Q3W		25
Oxaliplatin	100	1	Q3W		
Cytarabine	2000 Q12H	2	Q3W		
Dexamethasone	40 mg	1-4	Q3W		

DHAX (dexamethasone, cytarabine, Carboplatin) ± rituximab

藥品名*	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	1	Q3W		32
Carboplatin	AUC5	1	Q3W		
Cytarabine	2000 Q12H	2	Q3W		
Dexamethasone	40 mg	1-4	Q3W		

ESHAP (Etoposide, Methylprednisolone, Cytarabine, Cisplatin) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	1	Q3-4W		13
Etoposide	40	1-4	Q3-4W		
Methylprednisolone	500 mg	1-4	Q3-4W		
Cytarabine	2000	5	Q3-4W		
Cisplatin	25	1-4	Q3-4W		

GDP (Gemcitabine, Dexamethasone, Cisplatin) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	8	Q3W		19
Gemcitabine	1000	1, 8	Q3W		
Dexamethasone	40 mg	1-4	Q3W		
Cisplatin	75	1	Q3W		

GDP (Gemcitabine, Dexamethasone, Carboplatin) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	8	Q3W		14
Gemcitabine	1000	1, 8	Q3W		
Dexamethasone	40 mg	1-4	Q3W		
Carboplatin	AUC 5	1	Q3W		

GemOx (Gemcitabine, Oxaliplatin) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	1	Q2-3W		15, 22
Gemcitabine	1000	2	Q2-3W		
Oxaliplatin	100	2	Q2-3W		

ICE (Ifosfamide, Carboplatin, Etoposide) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	1	Q2W		12
Etoposide	100	1-3	Q2W		
Carboplatin	AUC 5	2	Q2W		
Ifosfamide	5000	2	Q2W		

MINE (Mesna, Ifosfamide, Mitoxatrone, Etoposide) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	1	Q3-4W		17
Mesna	1330	1-3	Q3-4W		
Ifosfamide	1330	1-3	Q3-4W		
Mitoxantrone	8	1	Q3-4W		
Etoposide	65	1-3	Q3-4W		

Second-line Therapy (non-candidates for high-dose therapy)**CEOP (Cyclophosphamide, Etoposide, Vincristine, Prednisone) ± Rituximab**

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	1	Q3W		16
Cyclophosphamide	750	1	Q3W		
Etoposide	50	1	Q3W		
Etoposide	100 PO	2-3	Q3W		
Vincristine	1.4	1	Q3W		
Prednisone	100	1-5	Q3W		

DA-EPOCH (Etoposide, Prednisone, Vincristine, Cyclophosphamide, Doxorubicin) + Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Rituximab	375	1	Q3W		18
Etoposide	50	1-4	Q3W		
Doxorubicin	10	1-4	Q3W		
Vincristine	0.4	1-4	Q3W		
Cyclophosphamide	750	5	Q3W		
Prednisone	60	1-5	Q3W		

GDP (Gemcitabine, Dexamethasone, Cisplatin) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	8	Q3W		19
Gemcitabine	1000	1, 8	Q3W		
Dexamethasone	40 mg	1-4	Q3W		
Cisplatin	75	1	Q3W		

GDP (Gemcitabine, Dexamethasone, Carboplatin) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	8	Q3W		14
Gemcitabine	1000	1, 8	Q3W		
Dexamethasone	40 mg	1-4	Q3W		
Carboplatin	AUC 5	1	Q3W		

GemOx (Gemcitabine, Oxaliplatin) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	1	Q2W		20
Gemcitabine	1000-1200	1	Q2W		
Oxaliplatin	100-120	2	Q2W		

Lenalidomide ± Rituximab (non-GCB DLBCL)

藥品名*	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	1	Q4W		26
Lenalidomide	20	1-21	Q4W		

Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Rituximab	375	1	QW		21

Bendamustine, Rituximab, Polatuzumab vedotin-piiq

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Polatuzumab vedotin-piiq	1.8 mg/kg	1	Q3W	6	28
Bendamustine	90	1, 2	Q3W	6	
Rituximab	375	1	Q3W	6	

Brentuximab for CD30+ disease

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Brentuximab	1.8 mg/kg	1	Q3W		27

Ibrutinib (non GCB-DLBCL)

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Ibrutinib	560 mg PO QD	1	Q3W		29

Anti-CD19 CAR T-cell therapy (only after ≥ 2 prior chemoimmunotherapy regimens)

Tisagenlecleucel *

Second-line Therapy (relapsed disease <12 mo or primary refractory disease)

DHAP (Dexamethasone, Cisplatin, Cytarabine) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	1	Q3-4W		12
Cisplatin	100	1	Q3-4W		
Cytarabine	2000 Q12H	2	Q3-4W		
Dexamethasone	40 mg	1-4	Q3-4W		

DHAX (dexamethasone, cytarabine, oxaliplatin) ± rituximab

藥品名*	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	1	Q3W		25
Oxaliplatin	100	1	Q3W		
Cytarabine	2000 Q12H	2	Q3W		
Dexamethasone	40 mg	1-4	Q3W		

DHAX (dexamethasone, cytarabine, Carboplatin) ± rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	1	Q3W		32
Carboplatin	AUC5	1	Q3W		
Cytarabine	2000 Q12H	2	Q3W		
Dexamethasone	40 mg	1-4	Q3W		

GDP (Gemcitabine, Dexamethasone, Cisplatin) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	8	Q3W		19
Gemcitabine	1000	1, 8	Q3W		
Dexamethasone	40 mg	1-4	Q3W		
Cisplatin	75	1	Q3W		

GDP (Gemcitabine, Dexamethasone, Cisplatin) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	8	Q3W		14
Gemcitabine	1000	1, 8	Q3W		
Dexamethasone	40 mg	1-4	Q3W		
Carboplatin	AUC 5	1	Q3W		

GemOx (Gemcitabine, Oxaliplatin) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	1	Q2W		15, 23
Gemcitabine	1000-1200	1	Q2W		
Oxaliplatin	100-120	2	Q2W		

ICE (Ifosfamide, Carboplatin, Etoposide) ± Rituximab

藥品名	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
± Rituximab	375	1	Q2W		12
Etoposide	100	1-3	Q2W		
Carboplatin	AUC 5	2	Q2W		
Ifosfamide	5000	2	Q2W		

Bendamustine, Polatuzumab vedotin-piiq, ± Rituximab

藥品名*	劑量 mg/m ²	給藥日	頻率	週期	參考文獻
Polatuzumab vedotin-piiq	1.8 mg/kg	1	Q3W	6	28, 34
Bendamustine	90	1, 2	Q3W	6	
± Rituximab	375	1	Q3W	6	

*三院有個別版本

參考文獻

1. Coiffier B, Thieblemont C, Van Den Neste E, et al. Long-term outcome of patients in the LNH-98.5 trial, the first randomized study comparing rituximab-CHOP to standard CHOP chemotherapy in DLBCL patients: a study by the Groupe d'Etudes des Lymphomes de l'Adulte. *Blood* 2010;116:2040-2045.
2. Feugier P, Van hoof A, Sebban C, et al. Long-term results of the R-CHOP study in the treatment of elderly patients with diffuse large B-cell lymphoma: a study by the Groupe d'Etude des Lymphomes de l'Adulte. *J Clin Oncol* 2005;23:4117-4126.
3. Pfreundschuh M, Trumper L, Osterborg A, et al. CHOP-like chemotherapy plus rituximab versus CHOP-like chemotherapy alone in young patients with good-prognosis diffuse large-B-cell lymphoma: a randomized controlled trial by the MabThera International Trial (MInT) Group. *Lancet Oncol* 2006; 7:379-391.

4. Pfreundschuh M, Schubert J, Ziepert M, et al. Six versus eight cycles of bi-weekly CHOP-14 with or without rituximab in elderly patients with aggressive CD20+ B-cell lymphomas: a randomized controlled trial (RICOVER-60). *Lancet Oncol* 2008;9:105-116.
5. Purroy N, Bergua J, Gallur L, et al. Long-term follow-up of dose-adjusted EPOCH plus rituximab (DA-EPOCH-R) in untreated patients with poor prognosis large B-cell lymphoma. A phase II study conducted by the Spanish PETHEMA Group. *Br J Haematol* 2015;169:188-198.
6. EPOCH-rituximab in untreated diffuse large B-cell lymphoma with analysis of outcome by molecular subtype. *Haematologica* 2012;97:758-765.
7. Martino R, Perea G, Caballero MD, et al. Cyclophosphamide, pegylated liposomal doxorubicin (Caelyx), vincristine and prednisone (CCOP) in elderly patients with diffuse large B-cell lymphoma: Results from a prospective phase II study. *Haematologica* 2002;87:822-827.
8. Zaja F, Tomadini V, Zaccaria A, et al. CHOP-rituximab with pegylated liposomal doxorubicin for the treatment of elderly patients with diffuse large B-cell lymphoma. *Leuk Lymphoma* 2006; 47:2174-2180.
9. Moccia A, Schaff K, Hoskins P, et al. R-CHOP with etoposide substituted for doxorubicin (R-CEOP): Excellent outcome in diffuse large B cell lymphoma for patients with a contraindication to anthracyclines [abstract]. *Blood* 2009;114:Abstract 408.
10. Fields PA, Townsend W, Webb A, et al. De novo treatment of diffuse large B-cell lymphoma with rituximab, cyclophosphamide, vincristine, gemcitabine, and prednisolone in patients with cardiac comorbidity: a United Kingdom National Cancer Research Institute trial. *J Clin Oncol* 2014;32:282-287.
11. Peyrade F, Jardin F, Thieblemont C, et al. Attenuated immunochemotherapy regimen (R-miniCHOP) in elderly patients older than 80 years with diffuse large B-cell lymphoma: a multicentre, single-arm, phase 2 trial. *Lancet Oncol* 2011;12:460-468.
12. Gisselbrecht C, Glass B, Mounier N, et al. Salvage regimens with autologous transplantation for relapsed large B-cell lymphoma in the rituximab era. *J Clin Oncol* 2010;28:4184-4190.
13. Martin A, Conde E, Arnan M, et al. R-ESHAP as salvage therapy for patients with relapsed or refractory diffuse large B-cell lymphoma: the influence of prior exposure to rituximab on outcome. A GEL/TAMO study. *Haematologica* 2008;93:1829-1836.

14. Gopal AK, Press OW, Shustov AR, et al. Efficacy and safety of gemcitabine, carboplatin, dexamethasone, and rituximab in patients with relapsed/refractory lymphoma: a prospective multicenter phase II study by the Puget Sound Oncology Consortium. *Leuk Lymphoma* 2010;51:1523-1529.
15. Lopez A, Gutierrez A, Palacios A, et al. GEMOX-R regimen is a highly effective salvage regimen in patients with refractory/relapsing diffuse large-cell lymphoma: a phase II study. *Eur J Haematol* 2008;80:127-132.
16. Gisselbrecht C, Glass B, Mounier N, et al. Salvage regimens with autologous transplantation for relapsed large B-cell lymphoma in the rituximab era. *J Clin Oncol* 2010;28:4184-4190.
17. Rodriguez MA, Cabanillas FC, Hagemester FB, et al. A phase II trial of mesna/ ifosfamide, mitoxantrone and etoposide for refractory lymphomas. *Ann Oncol* 1995;6(6):609-611.
18. Wilson WH, Jung SH, Porcu P, et al. A Cancer and Leukemia Group B multi-center study of DAEPOCH- rituximab in untreated diffuse large B-cell lymphoma with analysis of outcome by molecular subtype. *Haematologica* 2012;97:758-765.
19. Crump M, Baetz T, Couban S, et al. Gemcitabine, dexamethasone, and cisplatin in patients with recurrent or refractory aggressive histology B-cell non-Hodgkin lymphoma: a Phase II study by the National Cancer Institute of Canada Clinical Trials Group (NCIC-CTG). *Cancer* 2004;101:1835-1842.
20. Corazzelli G, Capobianco G, Arcamone M, et al. Long-term results of gemcitabine plus oxaliplatin with and without rituximab as salvage treatment for transplant-ineligible patients with refractory/relapsing B-cell lymphoma. *Cancer Chemother Pharmacol* 2009;64:907-916.
21. Maloney DG, Grillo= Lopez AJ, White CA, et al. IDEC-C2B8 (Rituximab) Anti-CD20 Monoclonal Antibody Therapy in Patients With Relapsed Low-Grade Non-Hodgkin's Lymphoma. *Blood* 1997;90(6):2188-2195.
22. El Gnaoui T, Dupuis J, Belhadj K, et al. Rituximab, gemcitabine and oxaliplatin: An effective salvage regimen for patients with relapsed or refractory B-cell lymphoma not candidates for high-dose therapy. *Ann Oncol* 2007;18:1363-1368.
23. Hiroaki A, Ippai S, Yasufumi M, et al. 3A Comparison between R-THP-COP and R-CHOP Regimens for the Treatment of Diffuse Large B-cell Lymphoma in Old Patients: A Single-institution Analysis. *Intern Med* August 21, 2017.
24. Laribi K, Denizon N, Bolle D, et al. R-CVP regimen is active in frail elderly patients aged 80 or over with diffuse large B cell lymphoma. *Ann Hematol.* 2016;95(10):1705–1714.

25. Julie Lignon, David Sibon,, et al. Rituximab, Dexamethasone, Cytarabine, and Oxaliplatin (R-DHAX) Is an Effective and Safe Salvage Regimen in Relapsed/Refractory B-Cell Non-Hodgkin Lymphoma. *Clinical Lymphoma, Myeloma & Leukemia*, Vol. 10, No. 4, 262-269, 2010.
26. Wang M, Fowler N, Wagner-Bartak N, et al. Oral lenalidomide with rituximab in relapsed or refractory diffuse large cell, follicular, and transformed lymphoma: a phase II clinical trial. *Leukemia*. 2013;27:1902-1909.
27. Jacobsen ED, Sharman JP, Oki Y, et al. Brentuximab vedotin demonstrates objective responses in a phase 2 study of relapsed/refractory DLBCL with variable CD30 expression. *Blood* 2015;125:1394-1402.
28. Sehn LH, Herrera AF, Matasar MJ, et al. Polatuzumab vedotin (Pola) plus bendamustine (B) with rituximab (R) or obinutuzumab (G) in relapsed/refractory (R/R) Diffuse Large B-Cell Lymphoma (DLBCL): Updated results of a phase (Ph) Ib/II study [abstract]. *Blood* 2018;132: Abstract 1683.
29. Wilson WH, Young RM, Schmitz R, et al. Targeting B cell receptor signaling with ibrutinib in diffuse large B cell lymphoma. *Nat Med* 2015;21:922-926.
30. Neste, Andre Goy, Brian T. Hill, Catherine Thieblemont, et al. Single Agent Oral Selinexor Demonstrates Deep and Durable Responses in Relapsed/Refractory Diffuse Large B-Cell Lymphoma (DLBCL) in Both GCB and Non-GCB Subtypes: The Phase 2b Sadal Study. *Blood* 2018; 132 (Supplement 1): Abstract 1677
31. Salles G, et al. Tafasitamab plus lenalidomide in relapsed or refractory diffuse large B-cell lymphoma (L-MIND): a multicentre, prospective, single-arm, phase 2 study. *Lancet Oncol* 2020. Published online June 5, 2020.
32. Tessoulin, B., Thomare, P., Delande, E. et al. Carboplatin instead of cisplatin in combination with dexamethasone, high-dose cytarabine with or without rituximab (DHAC+/-R) is an effective treatment with low toxicity in Hodgkin's and non-Hodgkin's lymphomas. *Ann Hematol* 96, 943–950 (2017). <https://doi.org/10.1007/s00277-017-2981-2>.
33. Tilly H, Morschhauser F, Sehn L, et al Polatuzumab vedotin in previously untreated diffuse large B-cell therapy. *N Eng J Med* 2022;386:351-363.
34. Sehn LH, Herrera AF, Flowers CR, et al. Polatuzumab vedotin in relapsed or refractory diffuse large B-cell lymphoma. *J Clin Oncol* 2020;38:155-165.

《 淋巴癌放射治療共識 》

一、治療範圍

1. 淋巴腫瘤
2. 淋巴腫瘤侵犯高風險範圍

二、治療劑量 / 次數

1. 總劑量

▲何杰金氏淋巴瘤：

- (1) 非局部大型腫瘤：劑量：20-30 Gy, 次數：10-20 次, 單次劑量 1.5-2.0 Gy
- (2) 局部大型腫瘤：30-36Gy, 次數：15-24 次, 單次劑量 1.5-2.0 Gy
- (3) 化療後部分反應：36-45Gy, 次數：18-30 次 單次劑量 1.5-2.0 Gy

▲非何杰金氏淋巴瘤：

濾泡淋巴瘤

- (1) 劑量：24-30 Gy, 次數：12-20 次, 單次劑量 1.5-2.0 Gy

早期被套細胞淋巴瘤

- (1) 劑量：24-36 Gy, 次數：12-20 次, 單次劑量 1.5-2.0 Gy

邊緣區型淋巴瘤

- (1) 劑量：24-30 Gy, 次數：12-20 次, 單次劑量 1.5-2.0 Gy
- (2) 胃部：30Gy, 次數：20 次, 單次劑量 1.5 Gy

瀰漫性大型 B 細胞淋巴瘤

- (1) 化療後完全反應：劑量：30-36 Gy, 次數：15-24 次
- (2) 化療後部分反應：劑量：36-50 Gy, 次數：18-34 次
- (3) 對化療反應不佳或不適合化療：劑量：40-55Gy, 次數：20-37 次
- (4) 與 stem cell transplantation 合併：劑量：20-36Gy, 次數：10-24 次

NK/T 細胞淋巴瘤

- (1) 單獨使用 RT：劑量：50-55 Gy, 次數：25-31 次,
- (2) RT 合併其他治療：劑量：45-56Gy, 次數：22-32 次

周邊 T 細胞淋巴瘤

- (1) 化療後完全反應：劑量：30-36 Gy, 次數：15-20fx
- (2) 化療後部分反應：劑量：40-50Gy, 次數：20-34fx
- (3) 對化療反應不佳或不適合化療：劑量：40-55Gy, 次數：20-37fx
- (4) 與 HCT 合併：劑量：20-36Gy, 次數：10-24fx

PCMZL & PCFCL

- (1) 單獨使用 RT：劑量：24-30 Gy, 次數：12-17fx

MF & SS

- (1) Individual plaque and tumor lesions：劑量：8-12 Gy, 次數：1-6fx
- (2) Unilesional MF：劑量：24-30Gy, 次數：12-20fx
- (3) TSEBT：劑量：12-36Gy, 次數：2-9fx, general 4-6 Gy per week

Primary cutaneous ALCL

- (1) 治癒性劑量：劑量：24-36 Gy, 次數：12-24fx

Primary CNS Lymphoma

- (1) 全腦放射線治療 劑量：23.4Gy-36Gy, 次數：13-20fx
- (2) 考慮局部加強至 45Gy

Breast implant associated anaplastic large cell lymphoma, (BIA-ALCL)

- (1) 局部殘留腫瘤 劑量：24-36Gy, 次數：15-20fx

三、治療方式：

使用強度調控放射治療技術，包含弧形及螺旋放射規畫，可考慮搭配影像導引治療，治療選擇可使用同步照射高與低危險部位的方式或先給予整個照射部位部份劑量照射後，再針對高危險部位加強劑量。

四、參考文獻：

1. International Commission on Radiation Units and Measurements. ICRU Report No 62: Prescribing, Recording and Reporting Photon Beam Therapy (Supplement to ICRU Report 50) . Bethesda, MD: ICRU Publications 1999.
2. Emami B, et al: Tolerance of normal tissue to therapeutic irradiation. Int J Radiat Oncol Biol Phys 1991, 21:109-22.
3. Bentzen SM, Constine LS, Deasy JO, et al. Quantitative Analyses of Normal Tissue Effects in the Clinic (QUANTEC): an introduction to the scientific issues. International journal of radiation oncology, biology, physics 2010; 76(3 Suppl): S3-9.
4. Marc P.E. André, Théodore Girinsky, Massimo Federico, et al. Early Positron Emission Tomography Response-Adapted Treatment in Stage I and II Hodgkin Lymphoma: Final Results of the Randomized EORTC/LYSA/FIL H10 Trial. Journal of Clinical Oncology 2017 35:16, 1786-1794
5. NCCN clinical practice guidelines in oncology for Hodgkin lymphoma, version 1.2024, website: www.nccn.org
6. NCCN clinical practice guidelines in oncology for B-Cell lymphomas, version 1.2024, website: www.nccn.org
7. NCCN clinical practice guidelines in oncology for Primary Cutaneous Lymphomas, version 1.2024, website: www.nccn.org
8. NCCN clinical practice guidelines in oncology for T-Cell lymphomas, version 1.2024, website: www.nccn.org
9. NCCN clinical practice guidelines in oncology for Central Nervous System Cancers, version 1.2024, website: www.nccn.org