悪性リンパ腫

治療の変遷

さいたま赤十字病院　血液内科　佐藤　博之

発表者のＣＯＩ開示

演題発表内容に関連し、発表者に開示すべき
COI関係にある企業などはありません。

病理分類の変遷

ホジキンリンパ腫(ホジキン病):リンパ腫の5-10%

1832年 Thomas Hodgkinにより提唱
1865年 Hodgkin病の初めての報告
1947年 Jackson and Parker分類
1966年 Rye分類(LP,NS,MC,LD)
1994年 REAL分類(NLPHLとclassical HLに分けられる)
2001年 WHO分類(内容は変更なし)

非ホジキンリンパ腫

1900年頃 R-S細胞の有無でホジキン病と区別されるようになる。
1966年 NHLとして独立概念となる。
Rappaport分類(米国, 増殖patternを重視, 濾胞性,びまん性,組織球性,リンパ球性,混合型...)
1970年 Kiel分類(欧州, 細胞形態を重視, リンパ球型,リンパ形質細胞,濾胞中心芽球型,免疫芽球型...)
1978年 LSG分類(日本のみ, 濾胞性 vs びまん性, 細胞の大きさ)
1982年 Working Formulation分類(米国, 増殖pattern + 形態, B 14, T/NK 6)
1988年 up-date Kiel分類(欧州, 細胞形態 B 13, T/NK 11)
1994年 REAL分類(B 12, T/NK 11)
2001年 WHO分類第3版 (B 20, T/NK 17)
2008年 WHO分類第4版 (B 44, T/NK 23)
2017年 WHO分類改定第4版 (B 67, T/NK 35)
2023年 WHO分類改定第5版(B 77?,T/NK 39?)

REAL分類

Table 1. List of Lymphoid Neoplasms Recognized by the International Lymphoma Study Group

B-Cell Neoplasms

I. Precursor B-cell neoplasm: Precursor B-lymphoblastic leukemia/lymphoma

II. Peripheral B-cell neoplasms
1. B-cell chronic lymphocytic leukemia/prolymphocytic leukemia/small lymphocytic lymphoma
2. Lymphoplasmacytoid lymphoma/immunocytoma
3. Mantle cell lymphoma
4. Follicle center lymphoma, follicular
   Provisional cytologic grades: I (small cell), II (mixed small and large cell), III (large cell)
   Provisional subtype: diffuse, predominantly small cell type
5. Marginal zone B-cell lymphoma
   Extranodal (MALT-type +/− monocytoid B cells)
   Provisional subtype: Nodal (+/− monocytoid B cells)
6. Provisional entity: Splenic marginal zone lymphoma (+/− villous lymphocytes)
7. Hairy cell leukemia
8. Plasmacytoma/plasma cell myeloma
9. Diffuse Large B-cell lymphoma*
   Subtype: Primary mediastinal (thymic) B-cell lymphoma
10. Burkitt's lymphoma
11. Provisional entity: High-grade B-cell lymphoma, Burkitt-like*

T-Cell and Putative NK-Cell Neoplasms

I. Precursor T-cell neoplasm: Precursor T-lymphoblastic lymphoma/leukemia

II. Peripheral T-cell and NK-cell neoplasms
1. T-cell chronic lymphocytic leukemia/prolymphocytic leukemia
2. Large granular lymphocyte leukemia (LGL)
   T-cell type
   NK-cell type
3. Mycosis fungoides/Sezary syndrome
4. Peripheral T-cell lymphomas, unspecified*
   Provisional cytologic categories: medium-sized cell, mixed medium and large cell, large cell, lymphoepithelioid cell
   Provisional subtype: Hepatosplenic $\gamma\delta$ T-cell lymphoma
   Provisional subtype: Subcutaneous panniculitic T-cell lymphoma
5. Angioimmunoblastic T-cell lymphoma (AILD)
6. Angiocentric lymphoma
7. Intestinal T-cell lymphoma (+/− enteropathy associated)
8. Adult T-cell lymphoma/leukemia (ATL/L)
9. Anaplastic large cell lymphoma (ALCL), $CD30^+$, T- and null-cell types
10. Provisional entity: Anaplastic large-cell lymphoma, Hodgkin's-like

Hodgkin's Disease

I. Lymphocyte predominance

II. Nodular sclerosis

III. Mixed cellularity

IV. Lymphocyte depletion

VI. Provisional entity: Lymphocyte-rich classical HD

* These categories are thought likely to include more than one disease entity.

WHO分類第5版(案)

WHO Classification, 5th edition

Tumour-like lesions with B-cell predominance

Reactive B-cell-rich lymphoid proliferations that can mimic lymphoma
IgG4-related disease
Unicentric Castleman disease
Idiopathic multicentric Castleman disease
KSHV/HHV8-associated multicentric Castleman disease

Precursor B-cell neoplasms

B-cell lymphoblastic leukaemias/lymphomas

B-lymphoblastic leukaemia/lymphoma, NOS
B-lymphoblastic leukaemia/lymphoma with high hyperdiploidy
B-lymphoblastic leukaemia/lymphoma with hypodiploidy
B-lymphoblastic leukaemia/lymphoma with iAMP21
B-lymphoblastic leukaemia/lymphoma with *BCR::ABL1* fusion
B-lymphoblastic leukaemia/lymphoma with *BCR::ABL1*-like features
B-lymphoblastic leukaemia/lymphoma with *KMT2A* rearrangement
B-lymphoblastic leukaemia/lymphoma with *ETV6::RUNX1* fusion
B-lymphoblastic leukaemia/lymphoma with *ETV6::RUNX1*-like features
B-lymphoblastic leukaemia/lymphoma with *TCF3::PBX1* fusion
B-lymphoblastic leukaemia/lymphoma with *IGH::IL3 fusion*
B-lymphoblastic leukaemia/lymphoma with *TCF3::HLF* fusion
B-lymphoblastic leukaemia/lymphoma with other defined genetic abnormalities

Mature B-cell neoplasms

Pre-neoplastic and neoplastic small lymphocytic proliferations

Monoclonal B-cell lymphocytosis
Chronic lymphocytic leukaemia/small lymphocytic lymphoma
(Entity deleted)

Splenic B-cell lymphomas and leukaemias

Hairy cell leukaemia
Splenic marginal zone lymphoma
Splenic diffuse red pulp small B-cell lymphoma
Splenic B-cell lymphoma/leukaemia with prominent nucleoli

Lymphoplasmacytic lymphoma

Lymphoplasmacytic lymphoma

Marginal zone lymphoma

Extranodal marginal zone lymphoma of mucosa-associated lymphoid tissue
Primary cutaneous marginal zone lymphoma
Nodal marginal zone lymphoma
Paediatric marginal zone lymphoma

Follicular lymphoma

In situ follicular B-cell neoplasm
Follicular lymphoma
Paediatric-type follicular lymphoma
Duodenal-type follicular lymphoma

Cutaneous follicle centre lymphoma

Primary cutaneous follicle centre lymphoma

Mantle cell lymphoma

In situ mantle cell neoplasm
Mantle cell lymphoma
Leukaemic non-nodal mantle cell lymphoma

Transformations of indolent B-cell lymphomas

Transformations of indolent B-cell lymphomas

Large B-cell lymphomas

Diffuse large B-cell lymphoma, NOS
T-cell/histiocyte-rich large B-cell lymphoma
Diffuse large B-cell lymphoma/ high grade B-cell lymphoma with *MYC* and *BCL2* rearrangements
ALK-positive large B-cell lymphoma
Large B-cell lymphoma with *IRF4* rearrangement
High-grade B-cell lymphoma with 11q aberrations
Lymphomatoid granulomatosis
EBV-positive diffuse large B-cell lymphoma
Diffuse large B-cell lymphoma associated with chronic inflammation
Fibrin-associated large B-cell lymphoma
Fluid overload-associated large B-cell lymphoma
Plasmablastic lymphoma
Primary large B-cell lymphoma of immune-privileged sites
Primary cutaneous diffuse large B-cell lymphoma, leg type
Intravascular large B-cell lymphoma
Primary mediastinal large B-cell lymphoma
Mediastinal grey zone lymphoma
High-grade B-cell lymphoma, NOS

Burkitt lymphoma

Burkitt lymphoma

KSHV/HHV8-associated B-cell lymphoid proliferations and lymphomas

Primary effusion lymphoma
KSHV/HHV8-positive diffuse large B-cell lymphoma
KSHV/HHV8-positive germinotropic lymphoproliferative disorder

Lymphoid proliferations and lymphomas associated with immune deficiency and dysregulation

Hyperplasias arising in immune deficiency/dysregulation
Polymorphic lymphoproliferative disorders arising in immune deficiency/dysregulation
EBV-positive mucocutaneous ulcer
Lymphomas arising in immune deficiency / dysregulation
Inborn error of immunity-associated lymphoid proliferations and lymphomas

Hodgkin lymphoma

Classic Hodgkin lymphoma
Nodular lymphocyte predominant Hodgkin lymphoma

Plasma cell neoplasms and other diseases with paraproteins

Monoclonal gammopathies

Cold agglutinin disease
IgM monoclonal gammopathy of undetermined significance
Non-IgM monoclonal gammopathy of undetermined significance
Monoclonal gammopathy of renal significance

Diseases with monoclonal immunoglobulin deposition

Immunoglobulin-related (AL) amyloidosis
Monoclonal immunoglobulin deposition disease

Heavy chain diseases

Mu heavy chain disease
Gamma heavy chain disease
Alpha heavy chain disease

Plasma cell neoplasms

Plasmacytoma
Plasma cell myeloma
Plasma cell neoplasms with associated paraneoplastic syndrome
-POEMS syndrome
-TEMPI syndrome
-AESOP syndrome

Tumour-like lesions with T-cell predominance

Kikuchi-Fujimoto disease
Indolent T-lymphoblastic proliferation
Autoimmune lymphoproliferative syndrome

Precursor T-cell neoplasms

T-lymphoblastic leukaemia/lymphoma

T-lymphoblastic leukaemia / lymphoma, NOS
Early T-precursor lymphoblastic leukaemia / lymphoma
(Entity deleted)

Mature T-cell and NK-cell neoplasms

Mature T-cell and NK-cell leukaemias

T-prolymphocytic leukaemia
T-large granular lymphocytic leukaemia
NK-large granular lymphocytic leukaemia
Adult T-cell leukaemia/lymphoma
Sezary syndrome
Aggressive NK-cell leukaemia

Primary cutaneous T-cell lymphomas

Primary cutaneous CD4-positive small or medium T-cell lymphoproliferative disorder
Primary cutaneous acral CD8-positive lymphoproliferative disorder
Mycosis fungoides
Primary cutaneous CD30-positive T-cell lymphoproliferative disorder: Lymphomatoid papulosis
Primary cutaneous CD30-positive T-cell lymphoproliferative disorder: Primary cutaneous anaplastic large cell lymphoma
Subcutaneous panniculitis-like T-cell lymphoma
Primary cutaneous gamma/delta T-cell lymphoma
Primary cutaneous CD8-positive aggressive epidermotropic cytotoxic T-cell lymphoma
Primary cutaneous peripheral T-cell lymphoma, NOS

Intestinal T-cell and NK-cell lymphoid proliferations and lymphomas

Indolent T-cell lymphoma of the gastrointestinal tract
Indolent NK-cell lymphoproliferative disorder of the gastrointestinal tract
Enteropathy-associated T-cell lymphoma
Monomorphic epitheliotropic intestinal T-cell lymphoma
Intestinal T-cell lymphoma, NOS

Hepatosplenic T-cell lymphoma

Hepatosplenic T-cell lymphoma

Anaplastic large cell lymphoma

ALK-positive anaplastic large cell lymphoma
ALK-negative anaplastic large cell lymphoma
Breast implant-associated anaplastic large cell lymphoma

Nodal T-follicular helper (TFH) cell lymphoma

Nodal TFH cell lymphoma, angioimmunoblastic-type
Nodal TFH cell lymphoma, follicular-type
Nodal TFH cell lymphoma, NOS

Other peripheral T-cell lymphomas

Peripheral T-cell lymphoma, not otherwise specified

EBV-positive NK/T-cell lymphomas

EBV-positive nodal T- and NK-cell lymphoma
Extranodal NK/T-cell lymphoma

EBV-positive T- and NK-cell lymphoid proliferations and lymphomas of childhood

Severe mosquito bite allergy
Hydroa vacciniforme lymphoproliferative disorder
Systemic chronic active EBV disease
Systemic EBV-positive T-cell lymphoma of childhood

実臨床では？

低悪性度リンパ腫(indolent lymphoma)

年単位の進行

ただし原則根治は困難

代表的疾患：B細胞性ではFL, MZL, LPL, SLLなど(旧来はMCLも)

中等度～高悪性度リンパ腫(aggressive lymphoma)

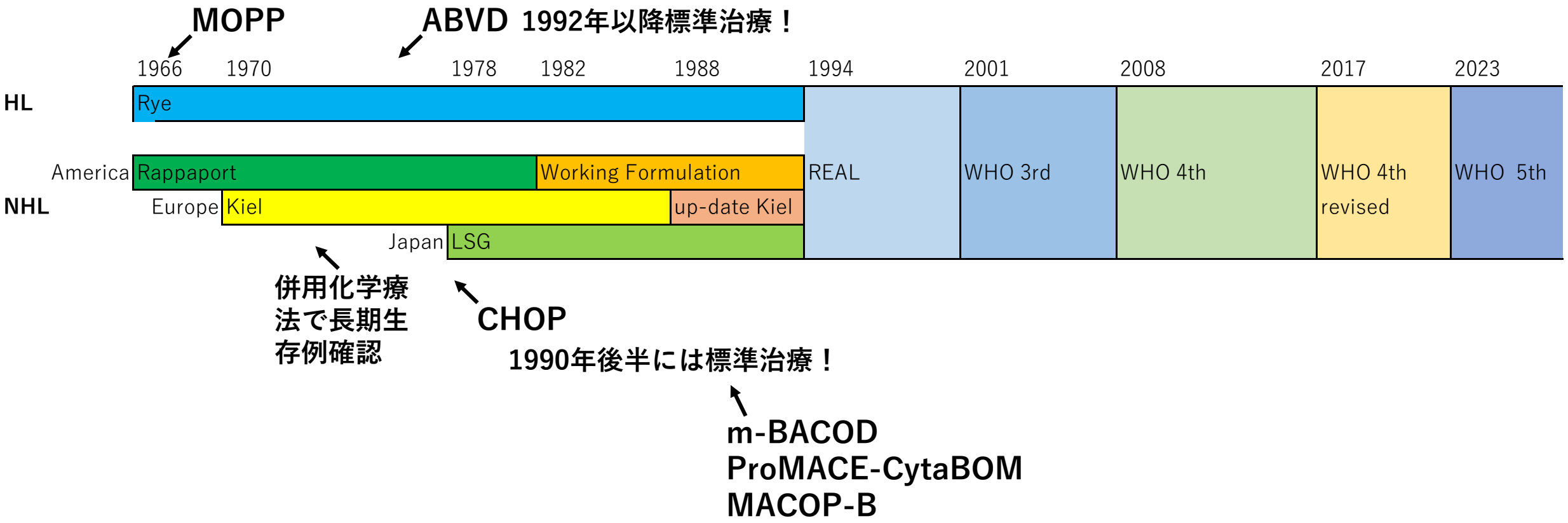
月～日単位の進行

ただし根治可能

代表的疾患：B細胞性ではDLBCL、T細胞性ではPTCL-NOS,ALCL,AITLなど

FL：濾胞性リンパ腫, MZL：辺縁帯リンパ腫, LPL：リンパ形質細胞性リンパ腫, SLL：小リンパ球性リンパ腫, MCL：マントル細胞リンパ腫,
DLBCL：びまん性大細胞型B細胞リンパ腫
PTCL-NOS：末梢性T細胞リンパ腫,分類不能型, ALCL:未分化大細胞型リンパ腫, AITL：血管免疫芽球性T細胞リンパ腫

病理分類の変遷


MOPP
ABVD
1992年以降標準治療！
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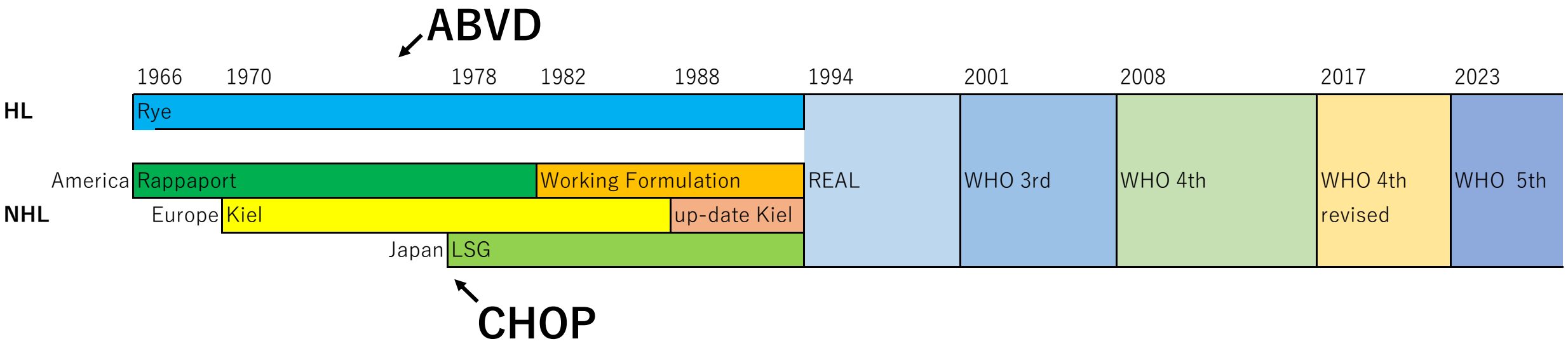
HL
Rye
America
Rappaport
Working Formulation
REAL
WHO 3rd
WHO 4th
WHO 4th revised
WHO 5th
NHL
Europe
Kiel
up-date Kiel
Japan
LSG
併用化学療法で長期生存例確認
CHOP
1990年後半には標準治療！
m-BACOD
ProMACE-CytaBOM
MACOP-B

レジメンの変遷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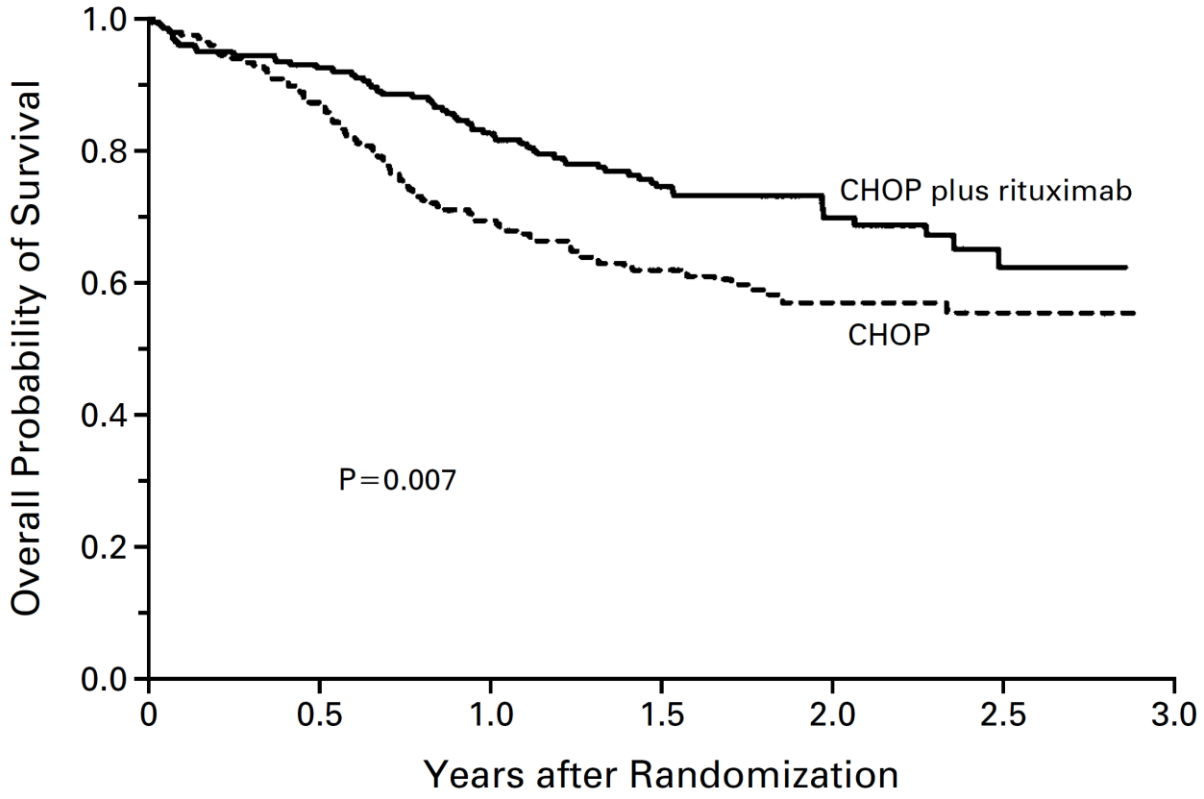
CHOP

R-CHOP vs CHOP for DLBCL

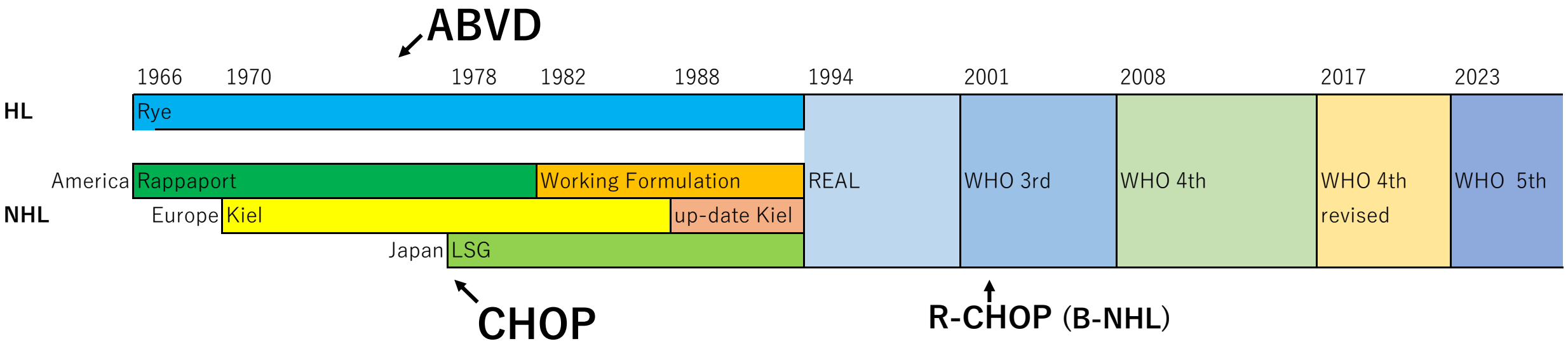


No. at Risk						
CHOP plus rituximab	202	187	167	118	64	21
CHOP	197	171	136	96	58	16

Figure 2. Overall Survival among 399 Patients Assigned to Chemotherapy with Cyclophosphamide, Doxorubicin, Vincristine, and Prednisone (CHOP) or with CHOP plus Rituximab.

NEJM 2002, 346:235-42

レジメンの変遷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Kiel
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LSG
CHOP
R-CHOP (B-NHL)

BR(Bendamustine + R) vs R-CHOP
for indolent NHL

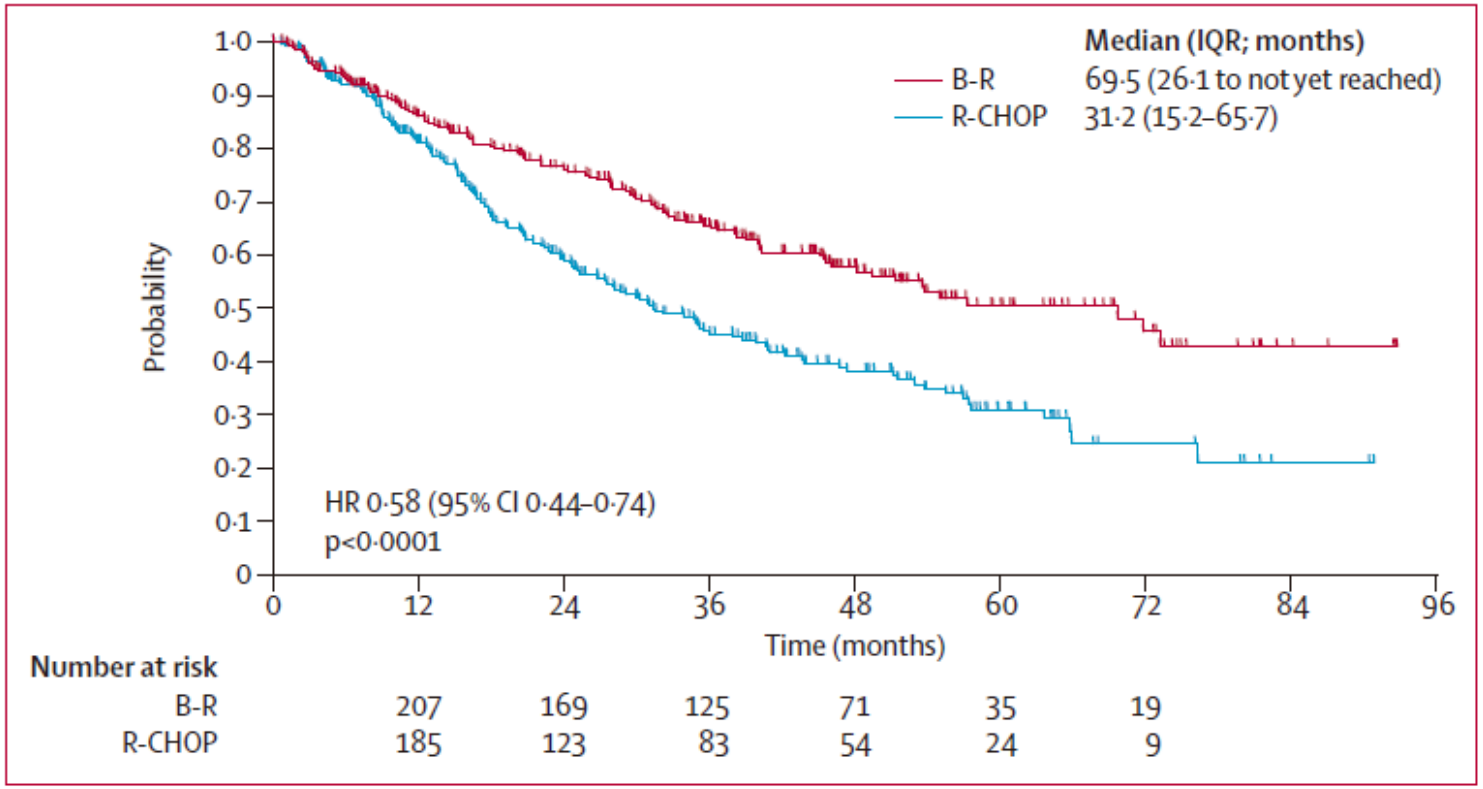
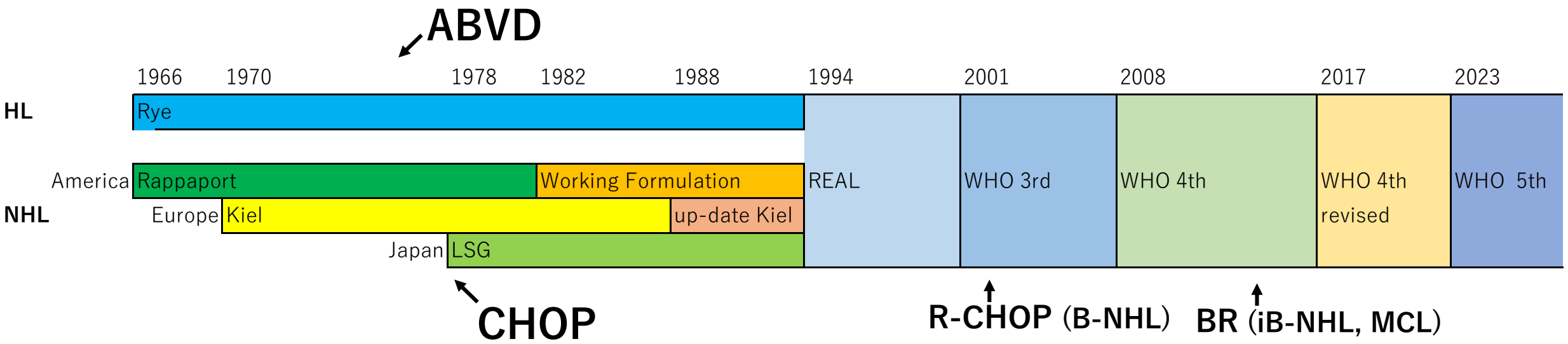


Figure 2: **Progression-free survival**
B-R=bendamustine plus rituximab. R-CHOP=CHOP plus rituximab.

Lancet 2013, 381:1203–10

レジメンの変遷


ABVD
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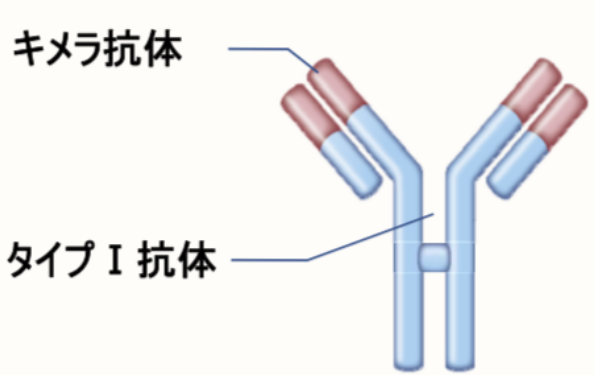
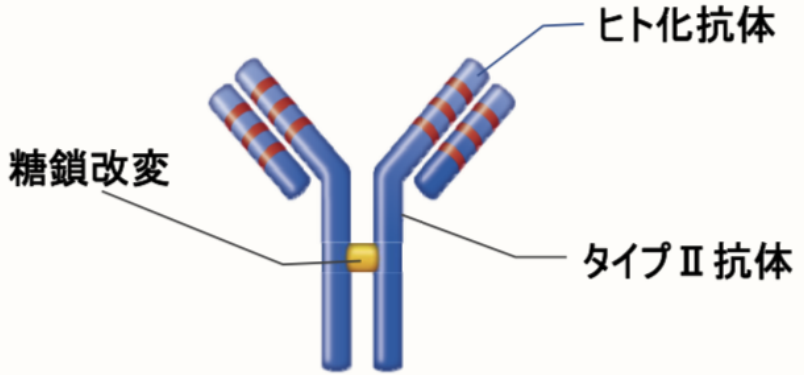
CHOP
R-CHOP (B-NHL)
BR (iB-NHL, MCL)

Obinutuzumab

	タイプⅠ／タイプⅡ抗体による違い		糖鎖改変による違い
	直接的な細胞死の誘導活性＊ 細胞死が認められた細胞の割合（%）	CDC活性＊ EC_{50}値（μg/mL）	ADCC活性＊ EC_{50}値（ng/mL）
リツキシマブ	6.5 ～ 36.5	0.027 ～ 0.062	4.32 ～ 26.18
オビヌツズマブ	19.1 ～ 73.5	2.7 ～ 12	0.459 ～ 2.471



リツキシマブ



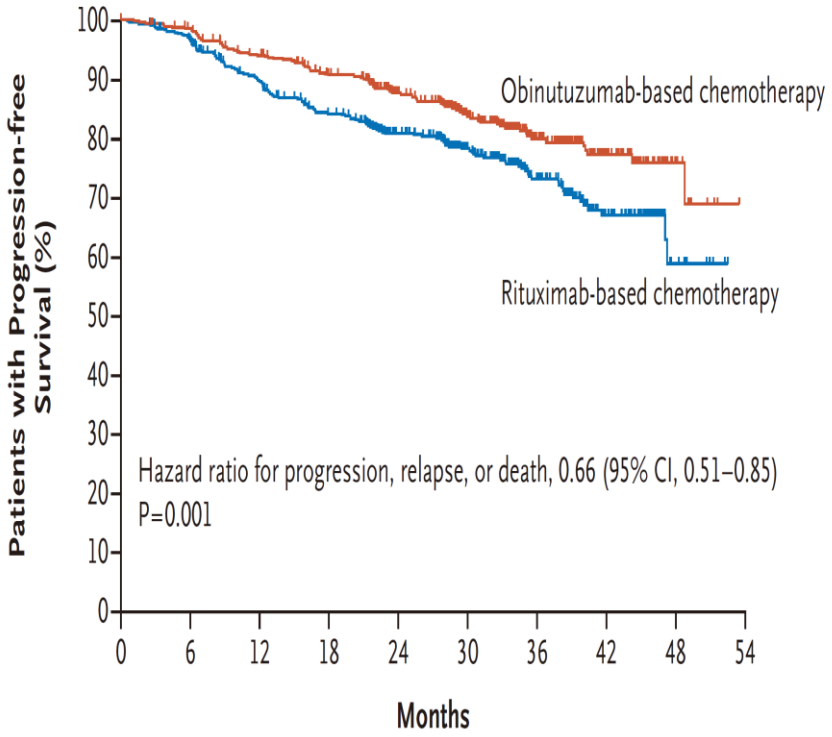
オビヌツズマブ

＊各種B-NHL由来細胞株に対するオビヌツズマブおよびリツキシマブの活性

中外製薬資料より

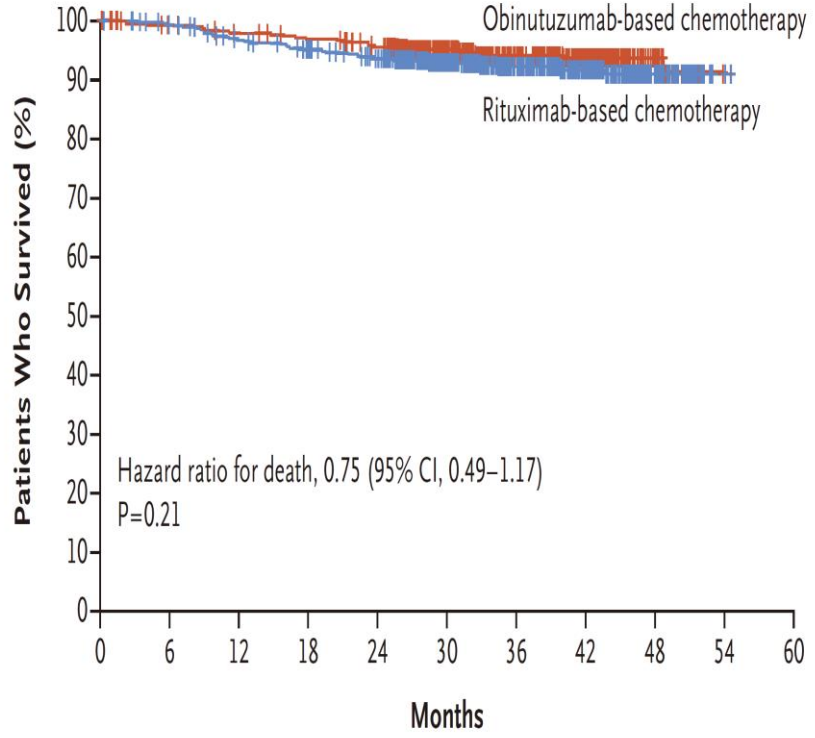
GB, G-CHOP for FL

A Progression-free Survival



No. at Risk										
Obinutuzumab-based chemotherapy	601	570	536	502	405	278	168	75	13	0
Rituximab-based chemotherapy	601	562	505	463	378	266	160	68	10	0

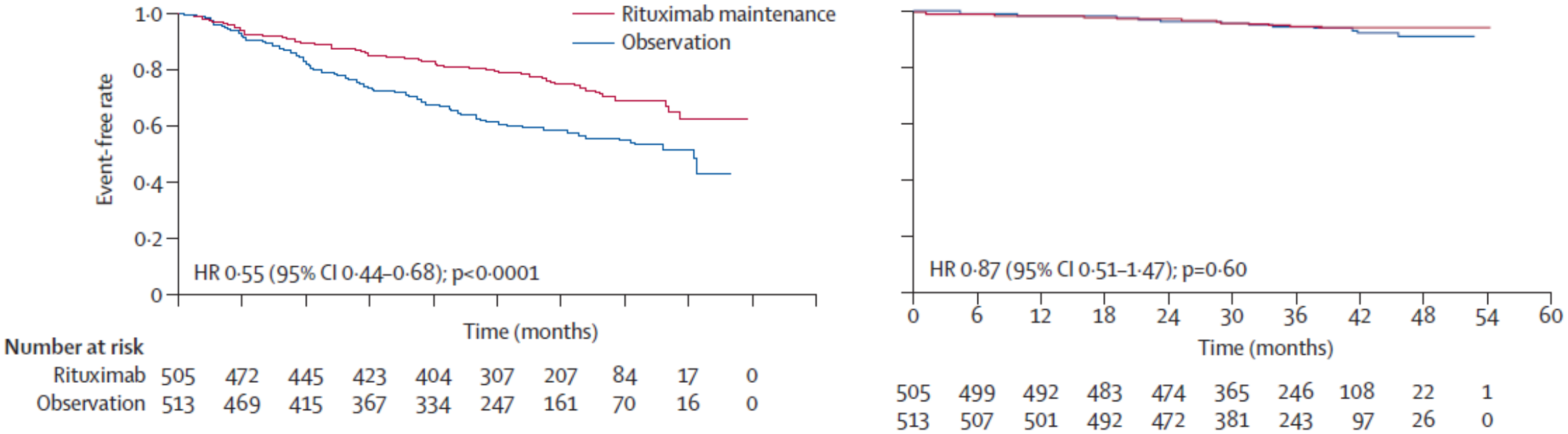
B Overall Survival



No. at Risk											
Obinutuzumab-based chemotherapy	601	584	573	563	549	416	271	161	55	0	0
Rituximab-based chemotherapy	601	588	566	549	527	399	265	160	58	2	0

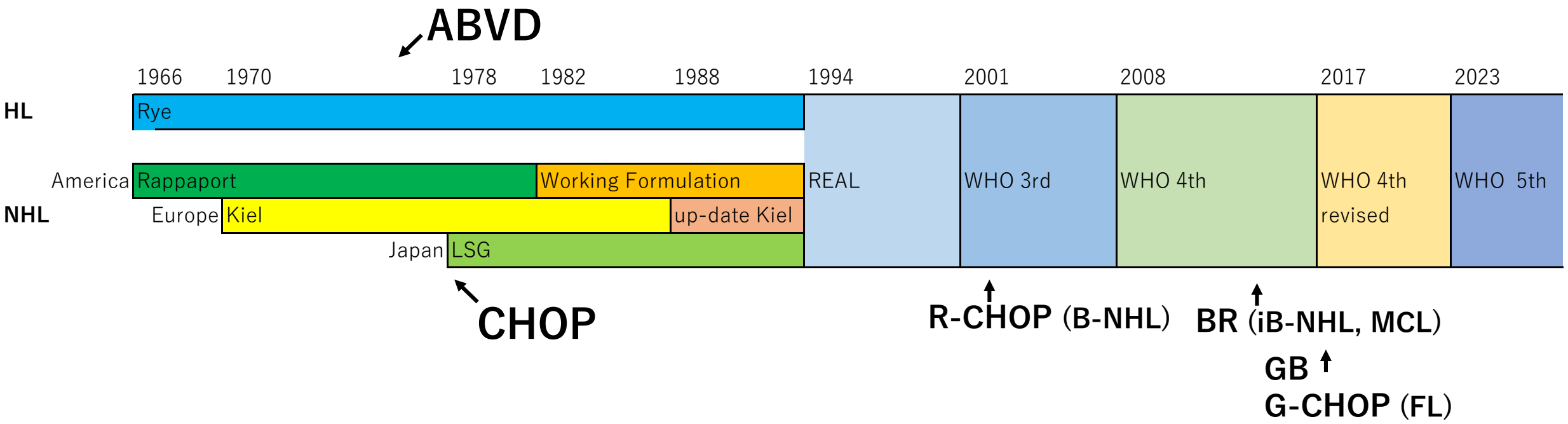
NEJM 2017, 377:1331-44

Maintenance therapy with Rituximab



Lancet 2011,377:42-51

レジメンの変遷


ABVD
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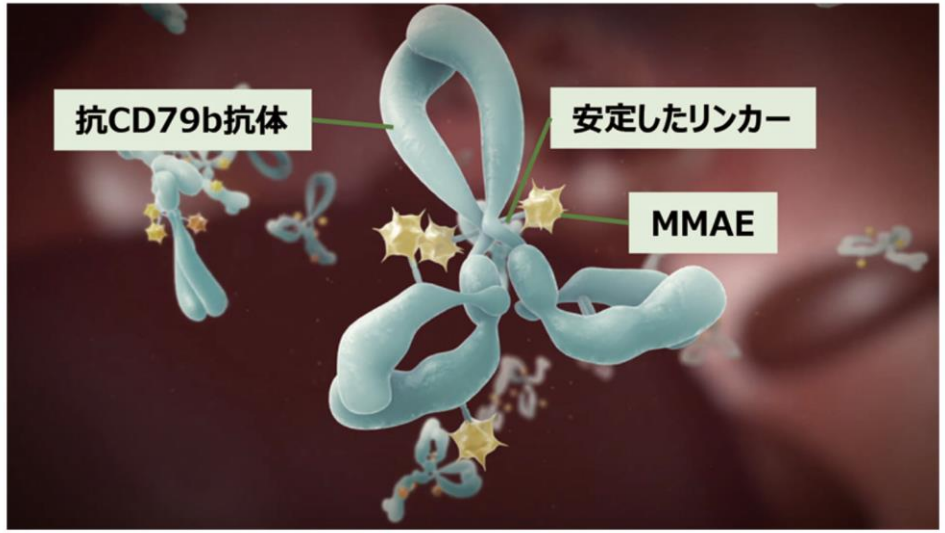
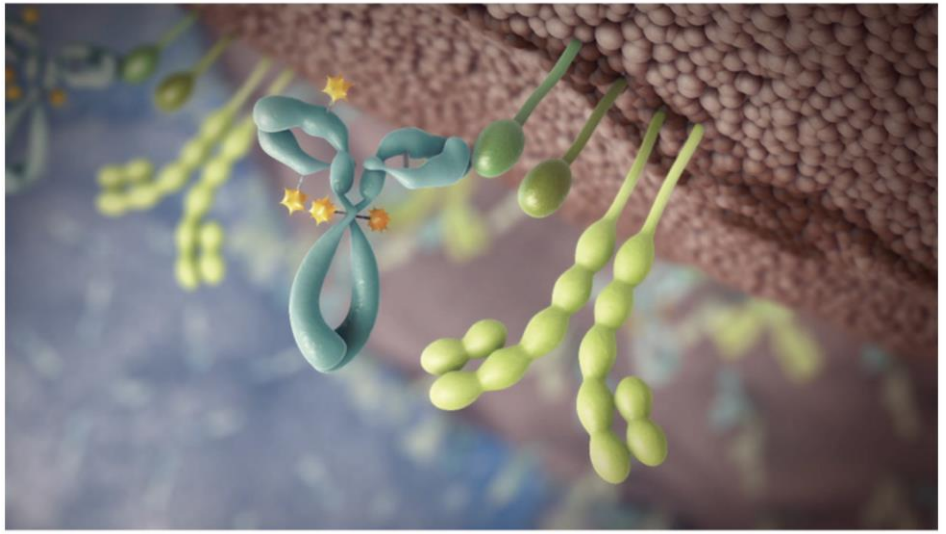
CHOP
R-CHOP (B-NHL)
BR (iB-NHL, MCL)
GB
G-CHOP (FL)

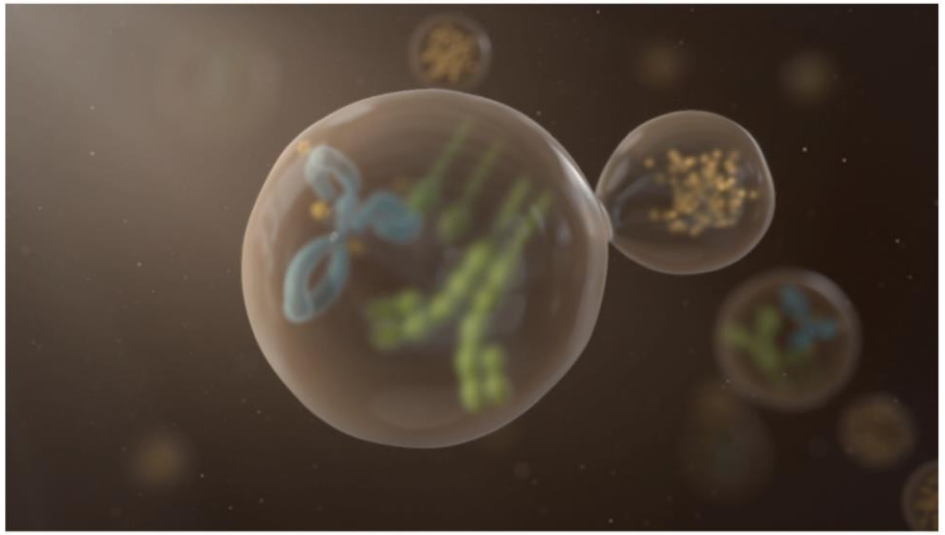
Polatuzumab vedotin



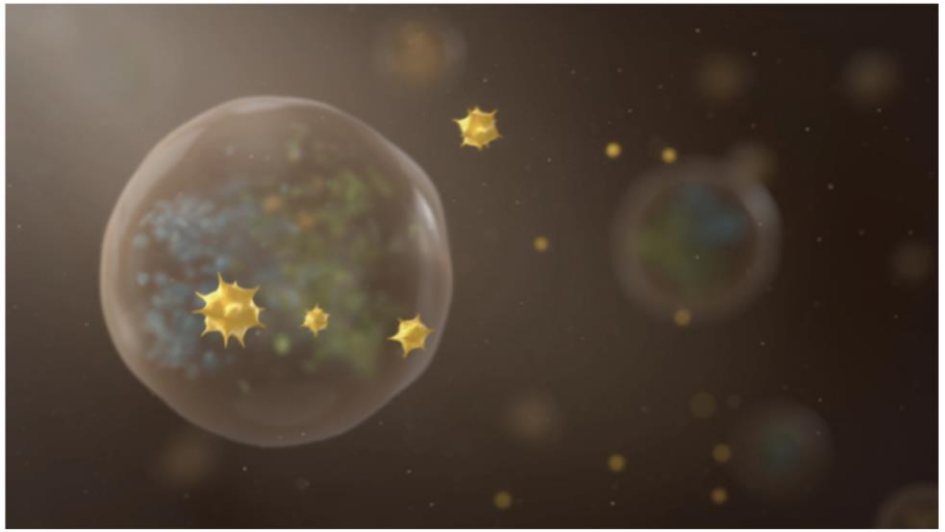
ポラツズマブ ベドチンは、抗CD79bヒト化IgG1モノクローナル抗体と有糸分裂阻害剤のMMAEをプロテアーゼ切断性リンカーを介して共有結合させた抗体薬物複合体（ADC）である[1)]。



（1）ポラツズマブ ベドチンは、CD79bに特異的に結合すると、速やかに細胞内に移行する[2-4)]。



（2）リンカーはリソソームプロテアーゼにより切断され、MMAEが細胞内に放出される[5)]。

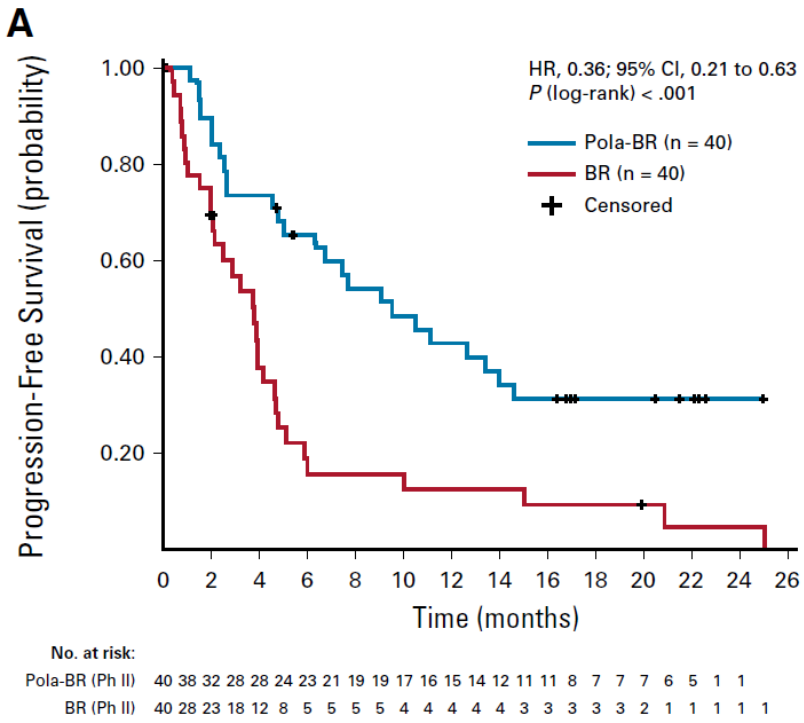


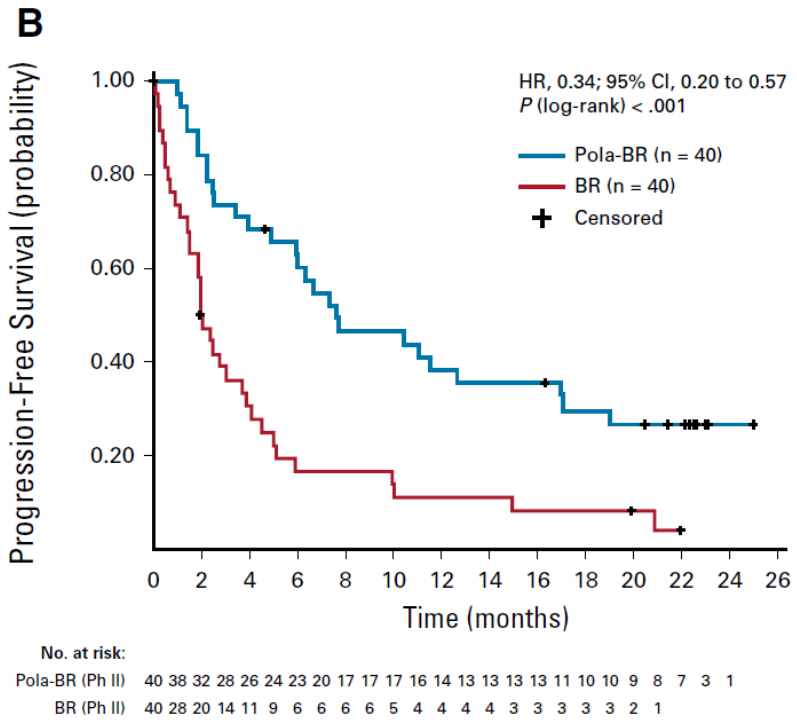
（3）放出されたMMAEは微小管に結合し、細胞分裂を阻害してアポトーシスを誘導する[6-8)]。

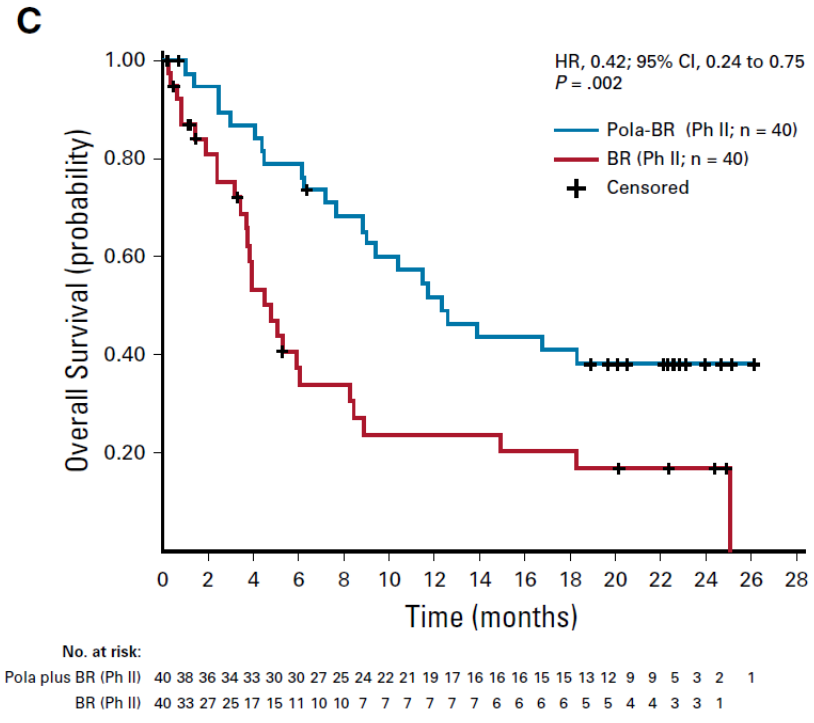
中外製薬資料より

Pola-BR vs BR

for relapsed/refractory DLBCL

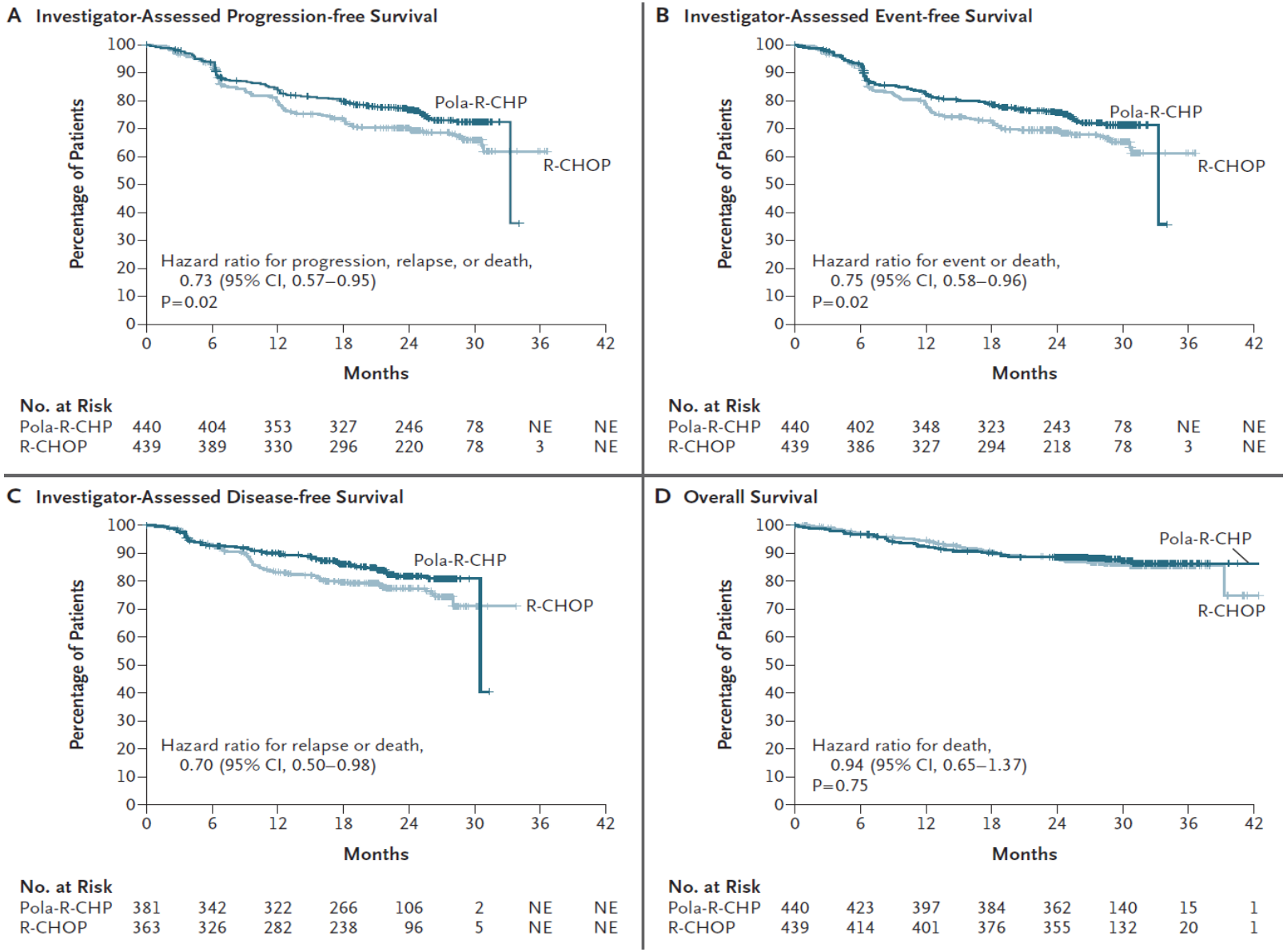






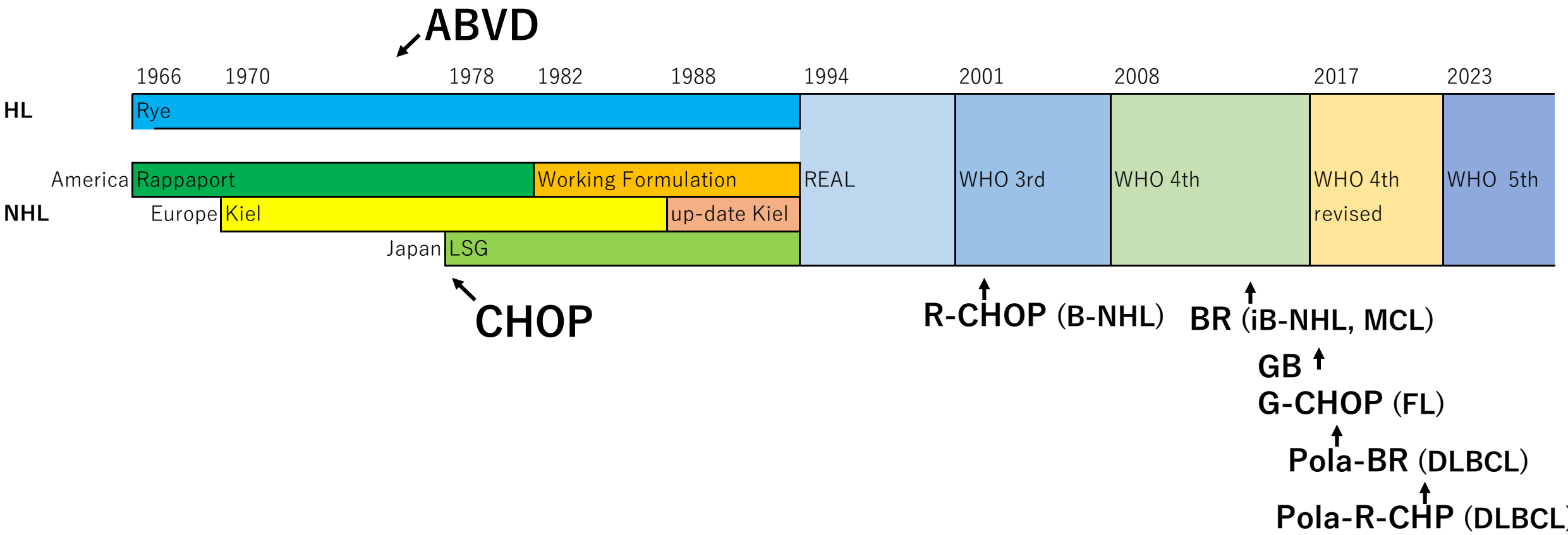
JCO 2019,38:155-65

Pola-R-CHP vs R-CHOP for newly diagnosed DLBCL



NEJM 2022,386:351-63

レジメンの変遷


ABVD
1966
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LSG
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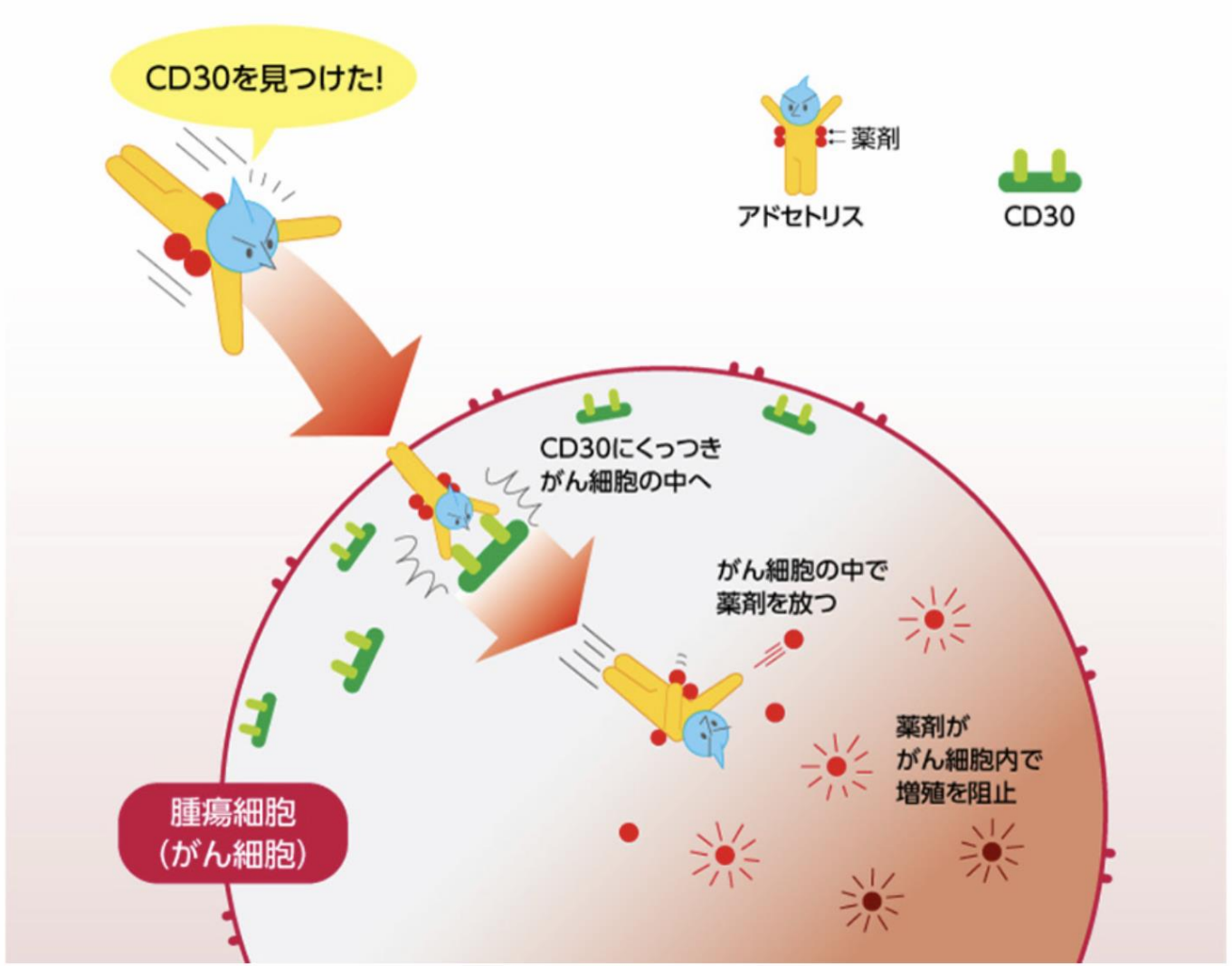
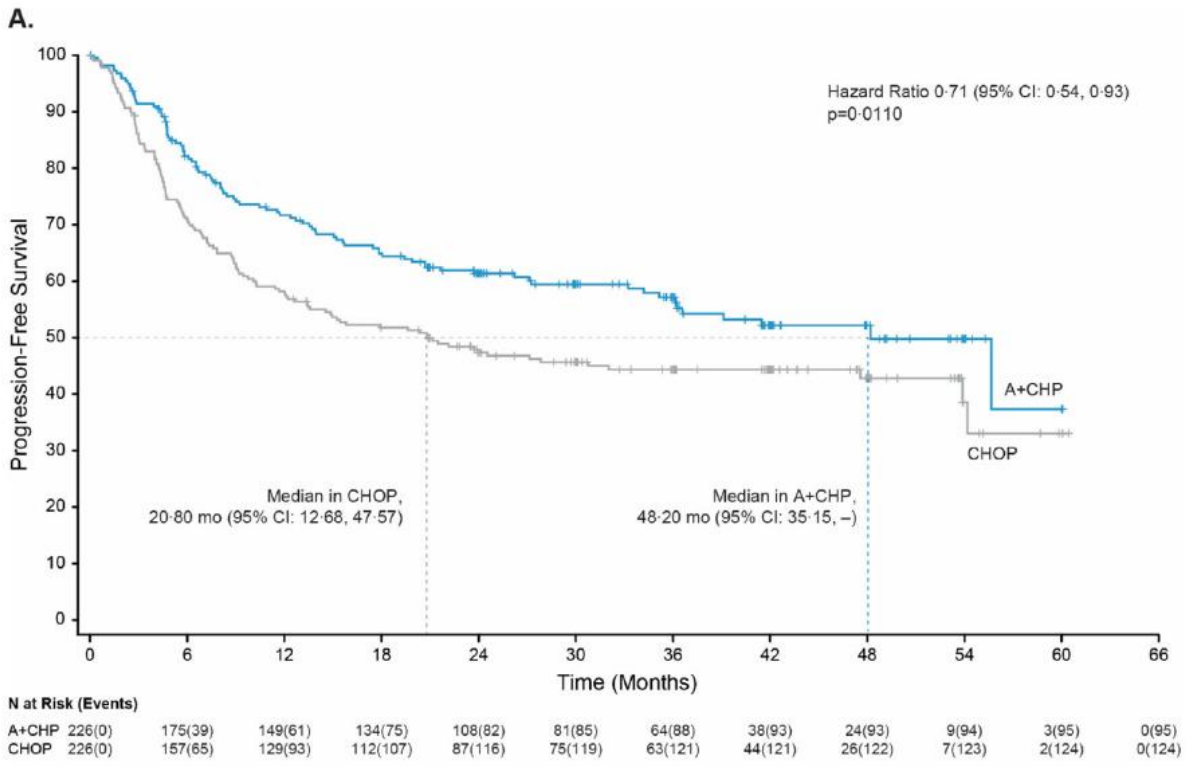
R-CHOP (B-NHL)
BR (iB-NHL, MCL)
GB
G-CHOP (FL)
Pola-BR (DLBCL)
Pola-R-CHP (DLBCL)

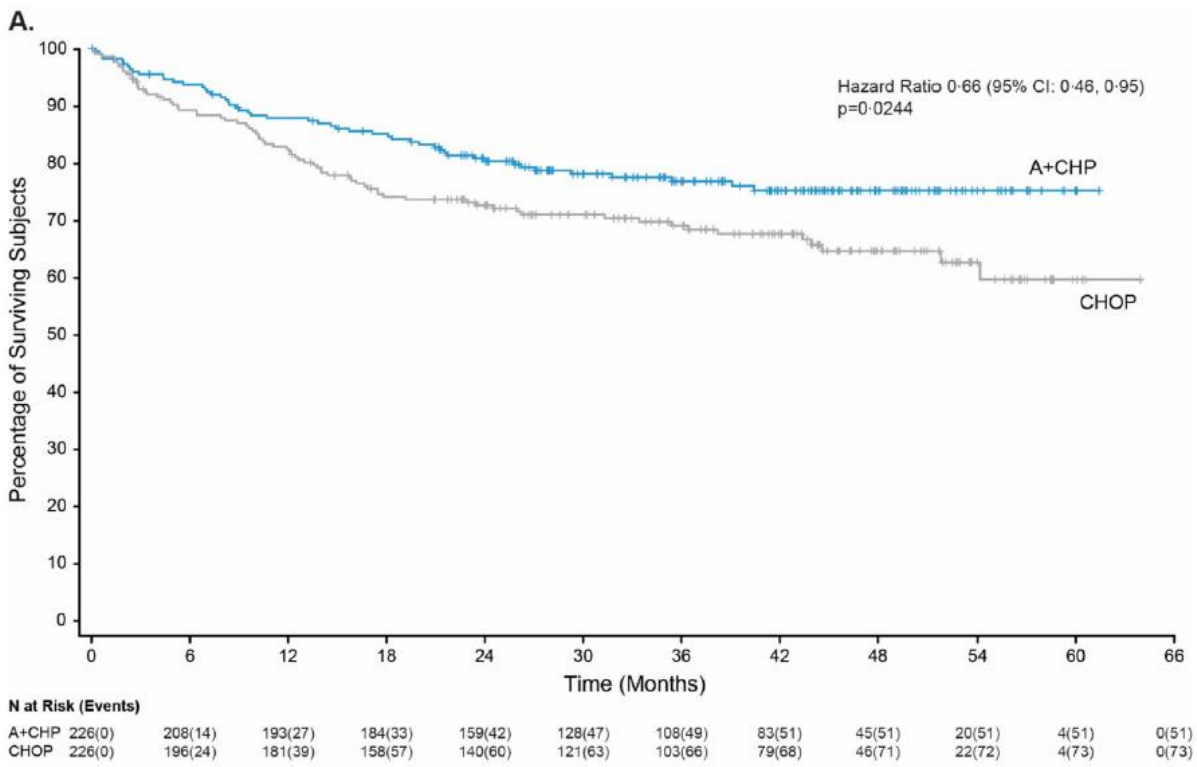
Brentuximab vedotin



武田薬品資料より

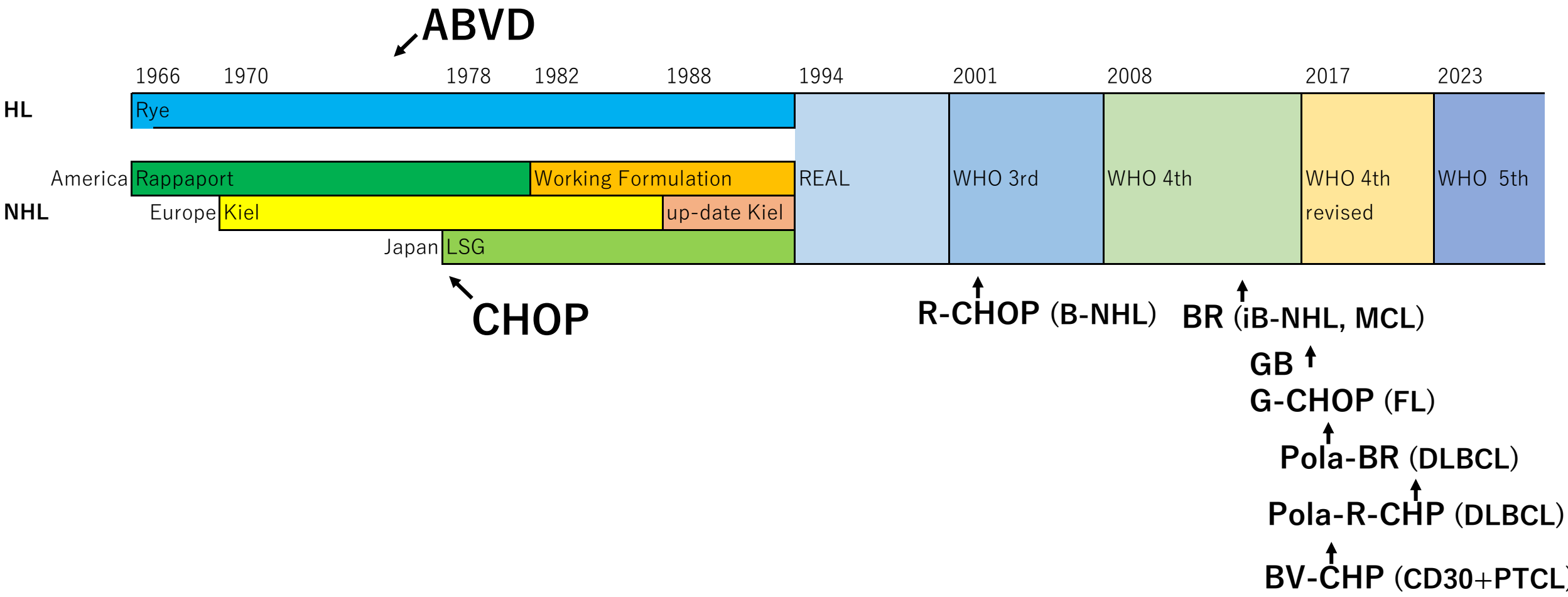
BV-CHP vs CHOP
for CD30+PTCL





Lancet 2019,393:229-40

レジメンの変遷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BV-CHP (CD30+PTCL)

SUGGESTED TREATMENT REGIMENS[a]
PTCL-NOS; EATL; MEITL[f]

SECOND-LINE THERAPY AND SUBSEQUENT THERAPY (INTENTION TO PROCEED TO TRANSPLANT)

- **Clinical trial preferred**

Preferred regimens

- **Single agents (alphabetical order)**
  - **Belinostat**
  - **Brentuximab vedotin for CD30+ PTCL[d,g]**
  - **Pralatrexate**
  - **Romidepsin**
- **Combination regimens (alphabetical order)**
  - **DHA (dexamethasone and cytarabine) + platinum (carboplatin, cisplatin, or oxaliplatin)**
  - **ESHAP (etoposide, methylprednisolone, and cytarabine) + platinum (cisplatin or oxaliplatin)**
  - **GDP (gemcitabine, dexamethasone, and cisplatin)**
  - **GemOx (gemcitabine and oxaliplatin)**
  - **ICE (ifosfamide, carboplatin, and etoposide)**

Other recommended regimens

- **Single agents (alphabetical order)**
  - **Bendamustine[d]**
  - **Duvelisib[k]**
  - **Gemcitabine**
  - **Lenalidomide[d]**
  - **Ruxolitinib (category 2B)**
- **Combination regimen**
  - **GVD (gemcitabine, vinorelbine, and liposomal doxorubicin)[p]**

SECOND-LINE AND SUBSEQUENT THERAPY (NO INTENTION TO PROCEED TO TRANSPLANT)

- **Clinical trial preferred**

Preferred regimens (alphabetical order)

- **Belinostat**
- **Brentuximab vedotin for CD30+ PTCL[d,g]**
- **Pralatrexate**
- **Romidepsin**

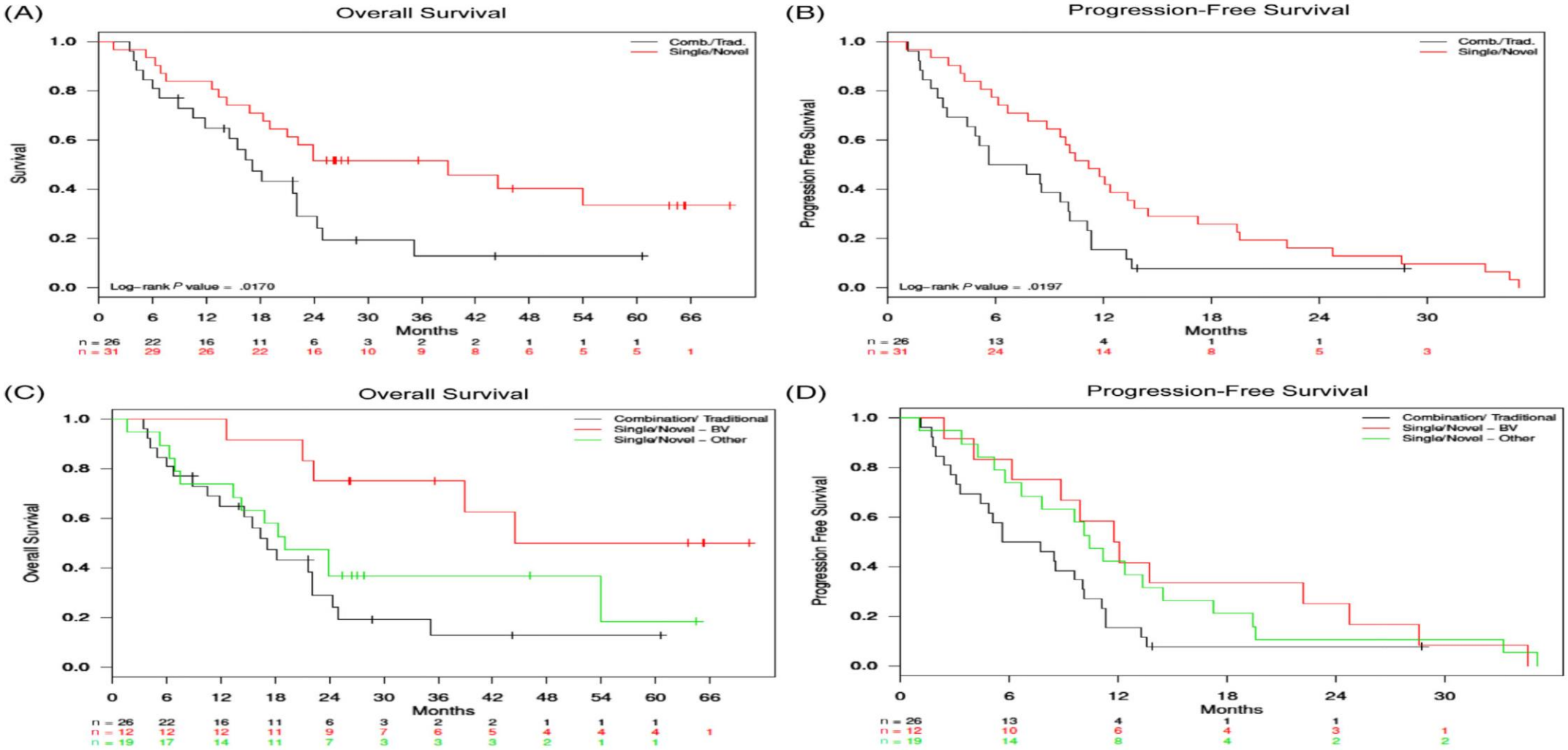
Other recommended regimens (alphabetical order)

- **Alemtuzumab[i]**
- **Bendamustine[d]**
- **Bortezomib[j] (category 2B)**
- **Cyclophosphamide and/or etoposide (IV or PO)**
- **Duvelisib[k]**
- **Gemcitabine**
- **Lenalidomide[d]**
- **RT[l]**
- **Ruxolitinib (category 2B)**

See First-line Therapy on PTCL-B 1 of 7.
See Second-line and Subsequent Therapy:
AITL, including nodal PTCL, TFH, and FTCL (PTCL-B 4 of 7)
ALCL (PTCL-B 5 of 7)

[a] See references for regimens on PTCL-B 6 of 7 and PTCL-B 7 of 7.
[d] See Supportive Care (TCLYM-B).
[f] MEITL has only recently been separated as its own entity and optimal treatment has not been defined.
[g] Interpretation of CD30 expression is not universally standardized. Responses have been seen in patients with a low level of CD30-positivity.
[i] While alemtuzumab is no longer commercially available, it may be obtained for clinical use. CMV monitoring or prophylaxis is recommended. (See TCLYM-B).
[j] Activity has been demonstrated in small clinical trials and additional larger trials are needed.
[k] In the phase II study, the preferred dosing regimen of duvelisib was 75 mg BID for 2 cycles followed by 25 mg BID for long-term disease control.
[l] See Principles of Radiation Therapy (TCLYM-D).
[p] Data suggest there may be excessive pulmonary toxicity with GVD (gemcitabine, vinorelbine, and liposomal doxorubicin) regimen when used in combination with unconjugated anti-CD30 monoclonal antibodies for the treatment of Hodgkin lymphoma (Blum KA, et al. Ann Oncol 2010;21:2246-2254). A similar regimen, gemcitabine and liposomal doxorubicin, may be used for mature T-cell lymphoma; however, it is recommended to wait 3 to 4 weeks following treatment with brentuximab vedotin before initiation.

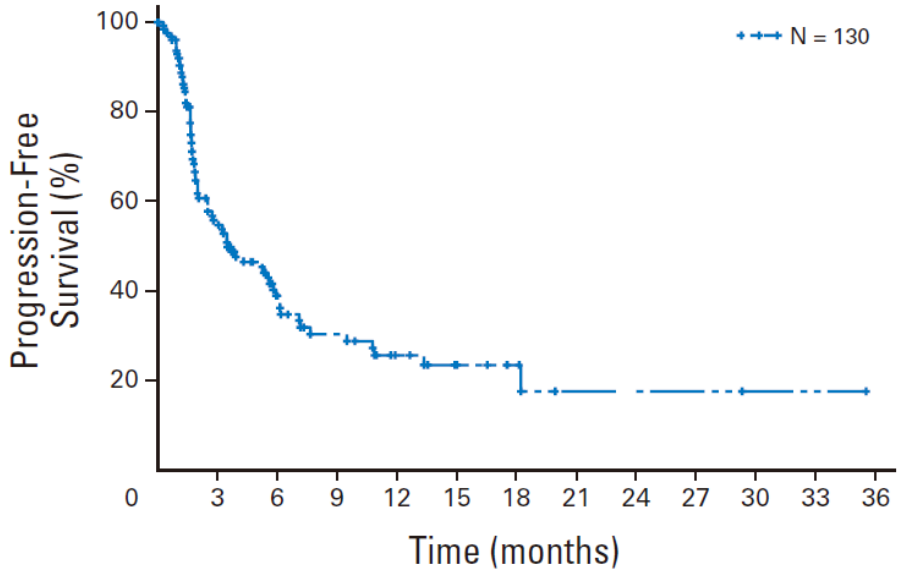
single agent vs combination chemotherapy
for R/R PTCL



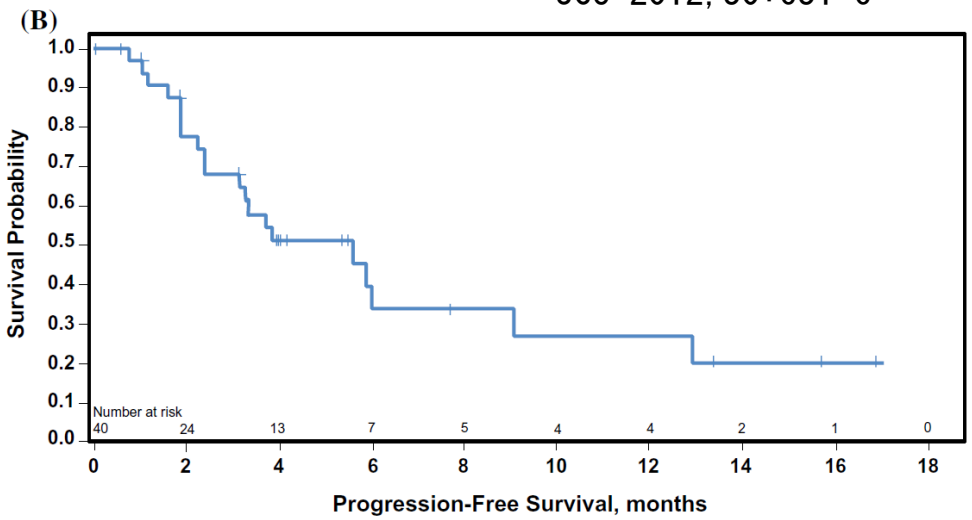
Am.J.Hematol 2019,94:641-9

Romidepsin for R/R PTCL

- ヒストン脱アセチル化酵素(HDAC)阻害剤：癌抑制遺伝子発現を促し、腫瘍の増殖抑制、細胞周期制御、apoptosisなどを介し作用。
- 再発難治PTCL(PTCL-NOS, AITL, ALK⁻ALCL含む)に対して単剤でORR 25%, CR/CRu rate 15%, median PFS 4ヶ月(海外)、ORR 43%, CR/CRu rate 25%, median PFS 5.6ヶ月(国内)。
- Objective responseまでの期間が1.8ヶ月と短く、CR/CRu例でのmedian DORが17ヶ月, 11.1ヶ月(海外, 国内)と、有効例で長期効果が持続。
- AITLなどfollicular helper T由来のものに特に有効。
- 国内臨床試験では26%が有害事象(血球減少、不整脈など心合併症)のため治療中断となったが、治療関連死亡はごく少数。

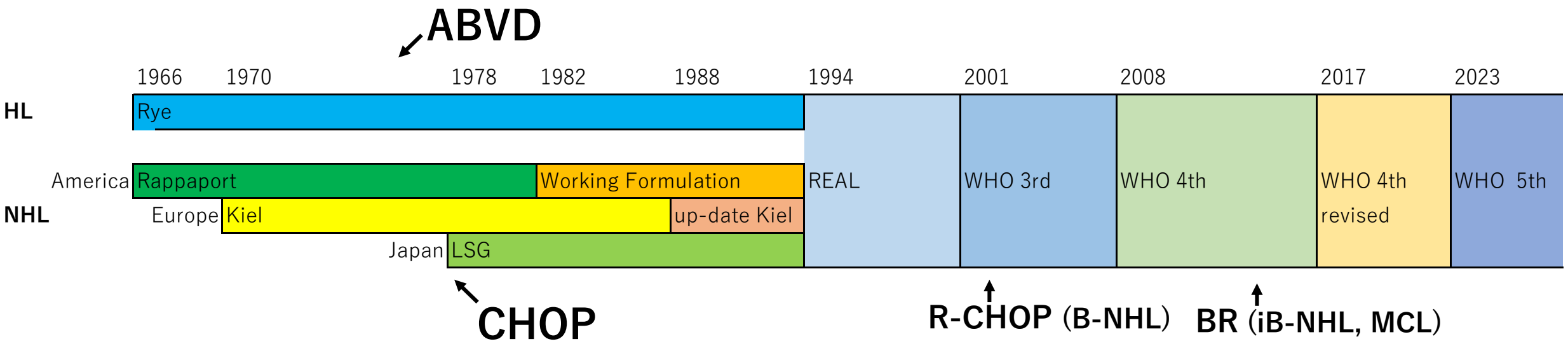


JCO 2012, 30:631-6



Int. J. Hematol, 2017, 5:655-65

レジメンの変遷



R-CHOP (B-NHL)

BR (iB-NHL, MCL)

GB

G-CHOP (FL)

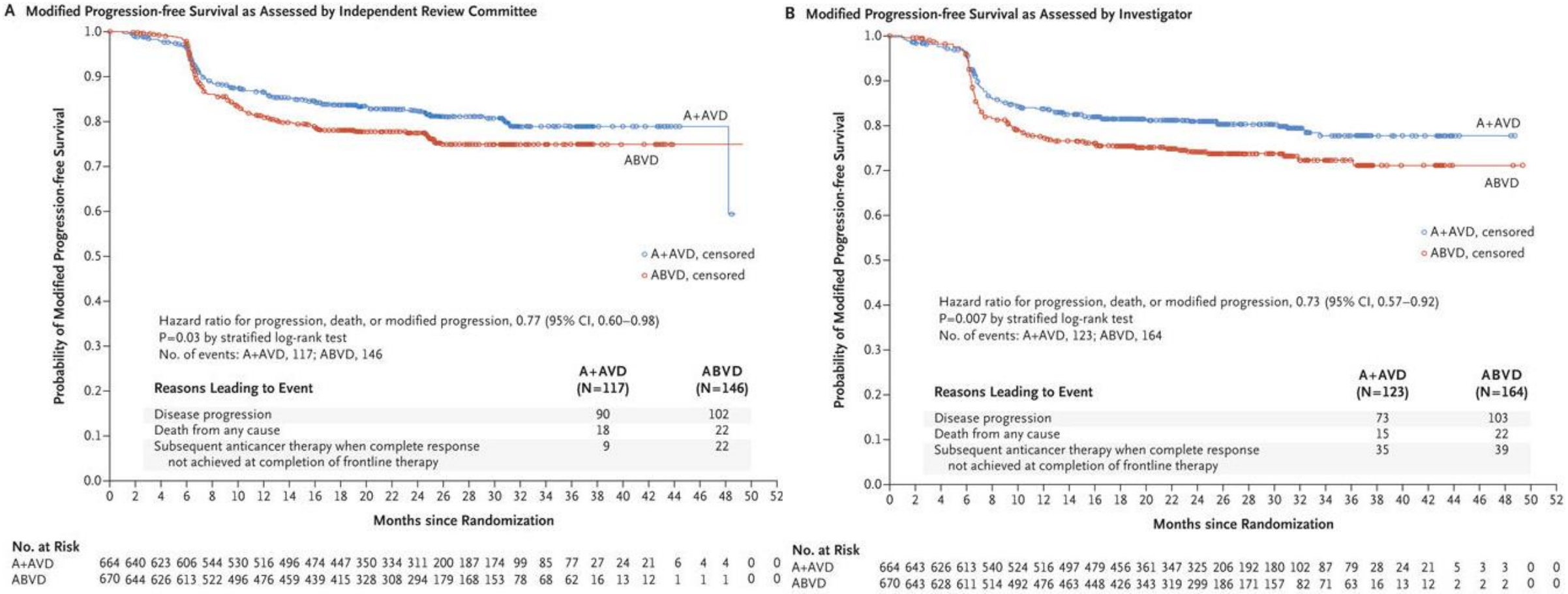
Pola-BR (DLBCL)

Pola-R-CHP (DLBCL)

BV-CHP (CD30+PTCL)

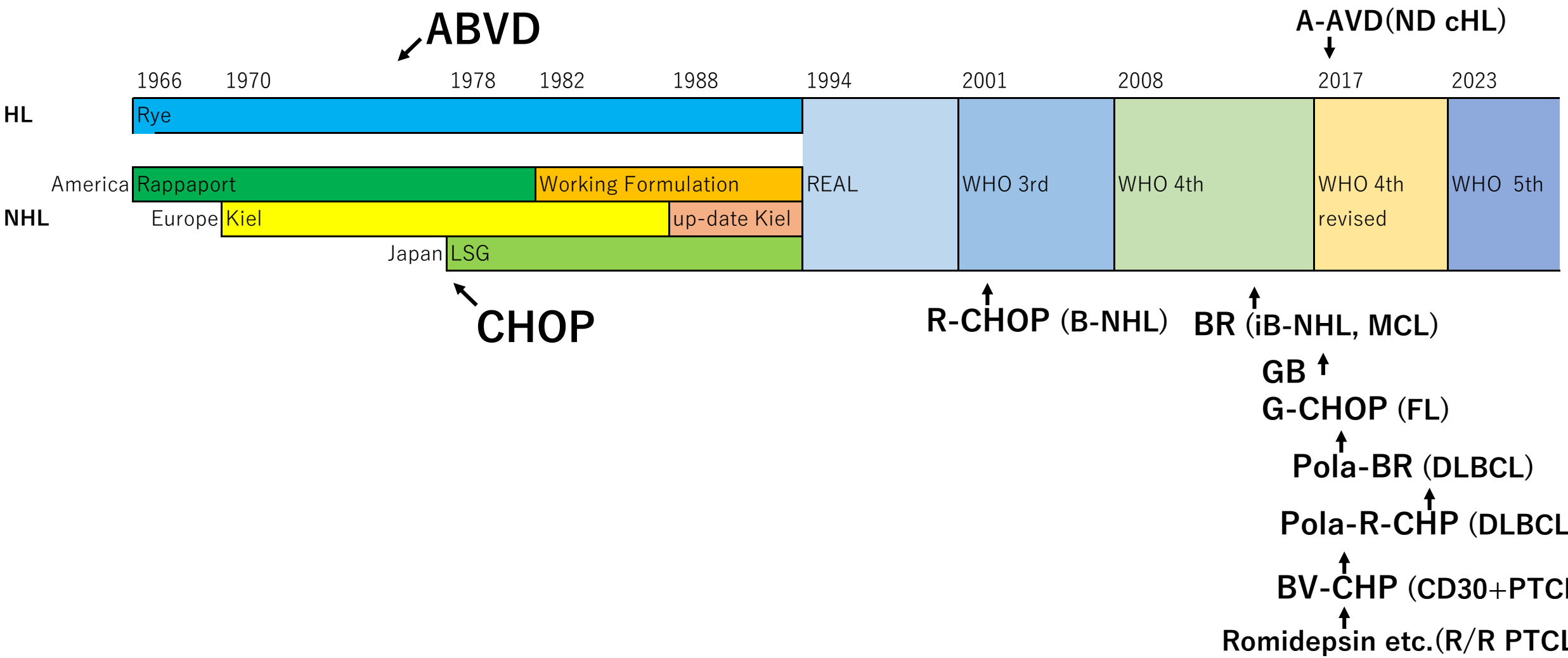
Romidepsin etc.(R/R PTCL)

A-AVD vs ABVD
for cHL



NEJM 2018,378:331-44

レジメンの変遷


ABVD
A-AVD(ND cHL)
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Europe
Kiel
up-date Kiel
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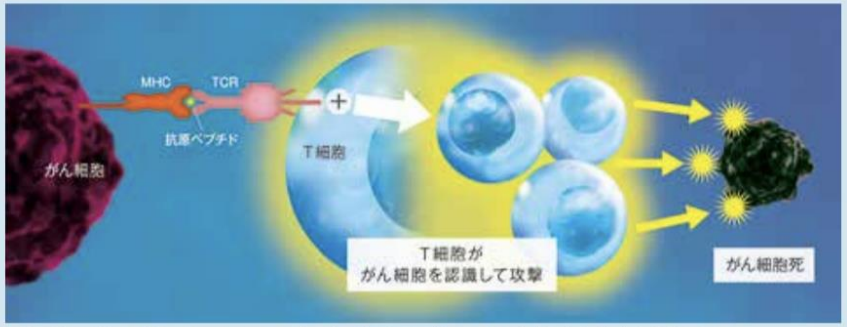
R-CHOP (B-NHL)
BR (iB-NHL, MCL)
GB
G-CHOP (FL)
Pola-BR (DLBCL)
Pola-R-CHP (DLBCL)
BV-CHP (CD30+PTCL)
Romidepsin etc.(R/R PTCL)

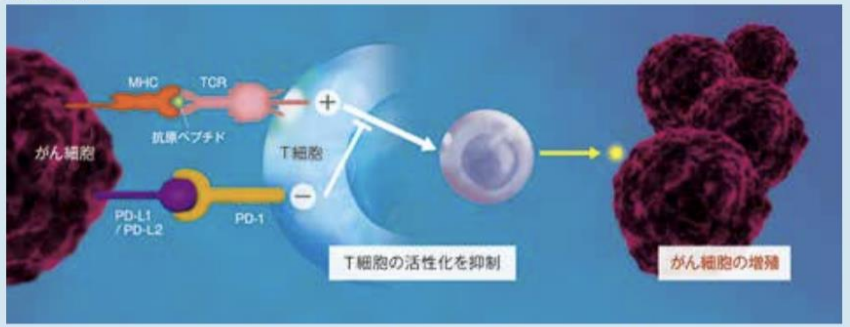
Nivolumab

免疫監視機構



T細胞は抗原提示しているがん細胞を認識し、細胞傷害活性を発揮する

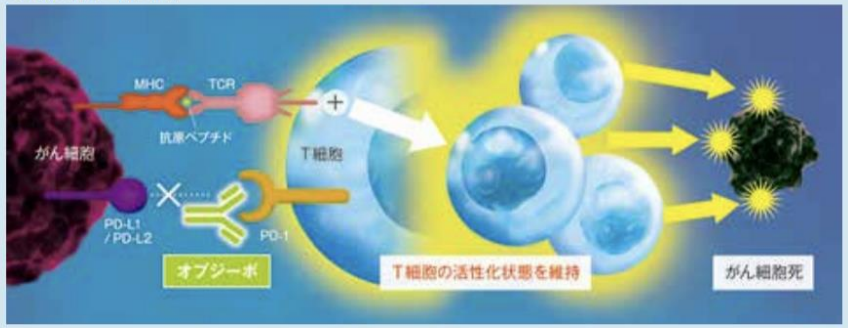
がんの免疫逃避



がん細胞はPD-L1及びPD-L2を発現して、活性化されたT細胞に発現するPD-1と結合し、T細胞に抑制性シグナルを伝達する

オプジーボの作用

T細胞の免疫応答維持

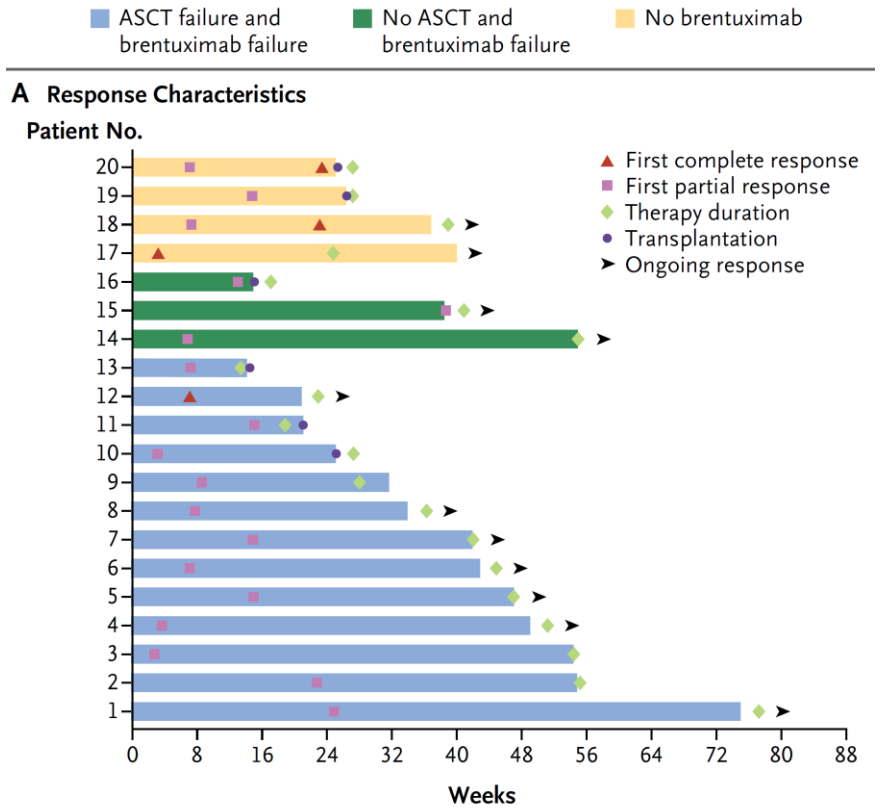


オプジーボは、PD-L1及びPD-L2とPD-1との結合を阻害し、T細胞への抑制性シグナルを減少させる

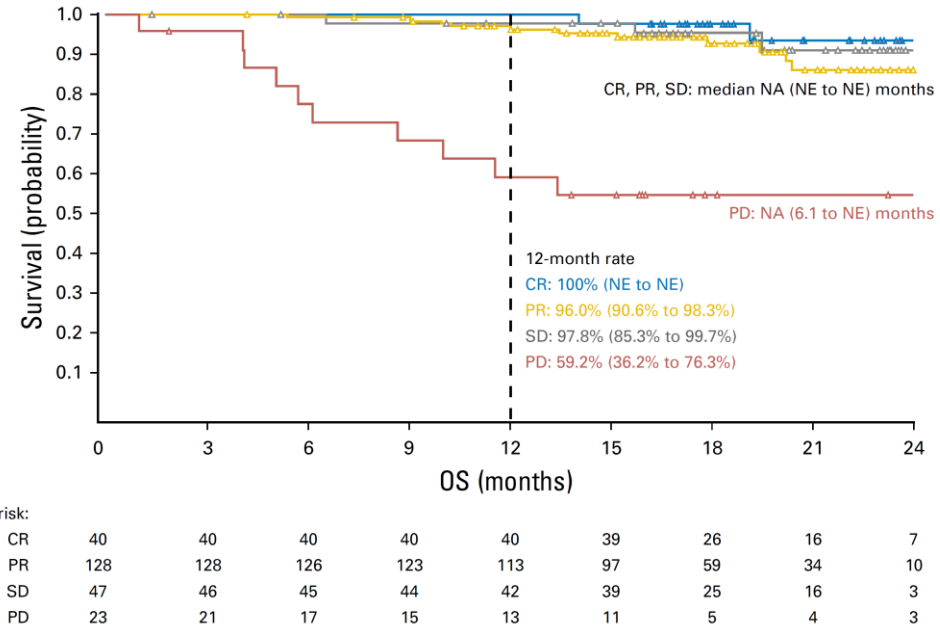
MHC：主要組織適合遺伝子複合体　TCR：T細胞受容体

小野薬品資料より

Nivolumab
for R/R cHL

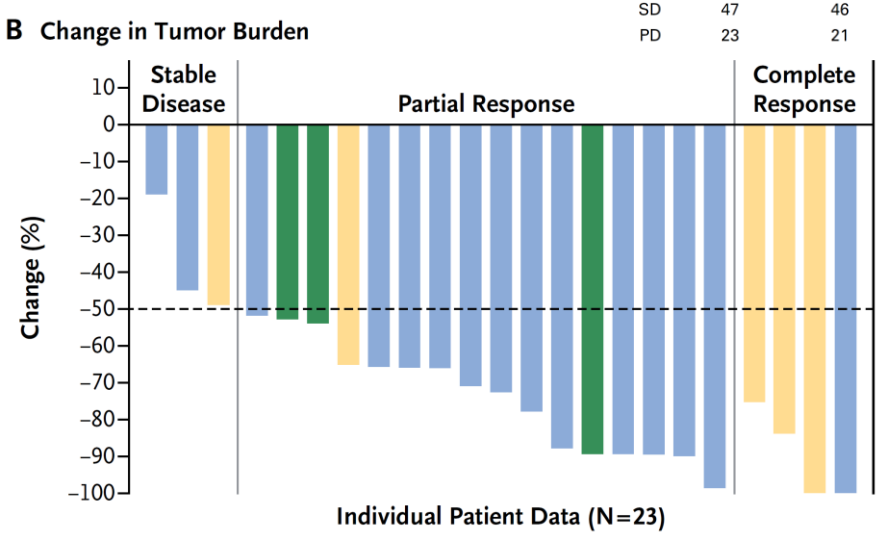


NEJM 2015, 372:311-9



No. at risk:

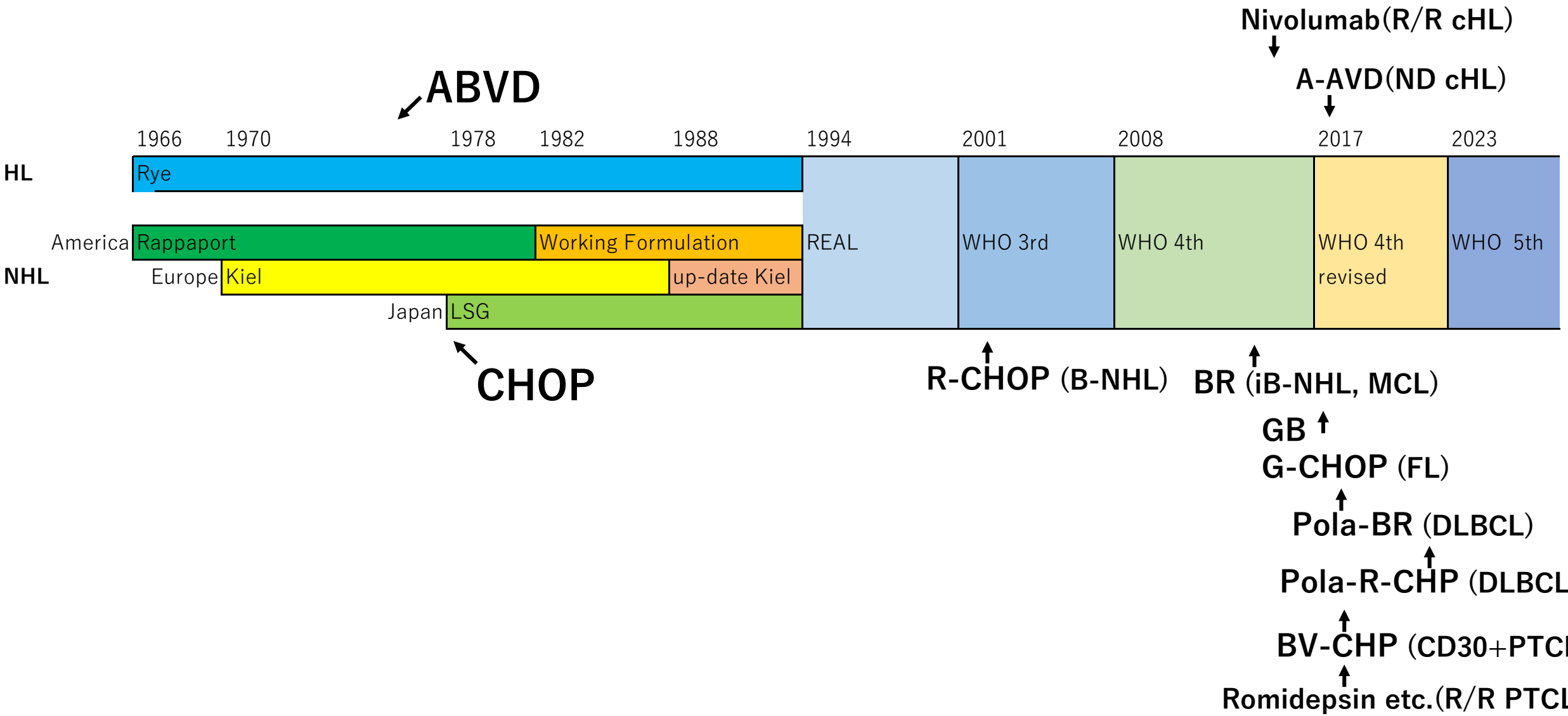
CR	40	40	40	40	40	39	26	16	7
PR	128	128	126	123	113	97	59	34	10
SD	47	46	45	44	42	39	25	16	3
PD	23	21	17	15	13	11	5	4	3



JCO 2018, 36:1428-39

Figure 1. Response Characteristics and Changes in Tumor Burden in Patients with Hodgkin's Lymphoma Receiving Nivolumab.

レジメンの変遷


Nivolumab(R/R cHL)
A-AVD(ND cHL)
ABVD
1966
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BV-CHP (CD30+PTCL)
Romidepsin etc.(R/R PTCL)

結　語

- 悪性リンパ腫はHLとNHLに分けられ、現在は形態のみならず、免疫形質、遺伝子検査などからさらに詳細な亜型に分類されるようになったが、治療方針決定などの際には悪性度が重要。
- 1990年代にABVD, CHOP療法が初発HL, NHLの標準療法として確立され、以後も基本の治療である。
- 2000年代以降様々な分子標的薬剤や、旧来からあるBendamustineなどの薬剤を組み込んだregimenが開発され、支持療法の進歩もあり、徐々に治療成績は改善してきている。
- ただし、初発のCD30陰性中悪性度T/NK細胞リンパ腫はいまだにCHOP療法が標準治療であり成績の向上が見られないため、今後の展開が待たれる。