### Challenging Cases from the Community: Investigators Provide Perspectives on the Optimal Management of Diffuse Large B-Cell Lymphoma

A CME/MOC-Accredited Virtual Event

Tuesday, September 13, 2022 5:00 PM - 6:00 PM ET

**Faculty** 

Jeremy Abramson, MD Sonali M Smith, MD Jason Westin, MD, MS



### **Faculty**



Jeremy Abramson, MD
Director, Center for Lymphoma
Massachusetts General Hospital
Associate Professor of Medicine
Harvard Medical School
Boston, Massachusetts



Jason Westin, MD, MS
Director, Lymphoma Clinical Research
Section Chief, Aggressive Lymphoma
Department of Lymphoma and Myeloma
The University of Texas
MD Anderson Cancer Center
Houston, Texas



Sonali M Smith, MD
Elwood V Jensen Professor of Medicine
Chief, Section of Hematology/Oncology
Co-Leader, Cancer Service Line
Co-Director, Lymphoma Program
The University of Chicago
Chicago, Illinois



MODERATOR
Neil Love, MD
Research To Practice



# This activity will also be featured as an "On Demand" session as part of the Society of Hematologic Oncology 2022 Annual Meeting.



# Management of DLBCL Where We Are, Where We're Headed

**PROLOGUE** 

**MODULE 1: First-Line Treatment** 

**MODULE 2: Bispecific Antibodies** 

**MODULE 3: CAR T-Cell Therapy** 

**MODULE 4: Sequencing of Novel Agents** 

**MODULE 5: Appendix** 



### **Accreditation Information**

#### **Target Audience**

This activity is intended for hematologists, hematology-oncology fellows, medical oncologists, radiation oncologists and other healthcare providers involved in the treatment of diffuse large B-cell lymphoma.

#### **Educational Objectives**

Upon completion of this activity, participants should be able to

- Apply available clinical research findings in the formulation of evidence-based therapeutic approaches for the treatment of newly diagnosed and relapsed/refractory (R/R) diffuse large B-cell lymphoma (DLBCL).
- Appraise published Phase III clinical trial data documenting the benefit of CD79b-targeted therapy as a component
  of first-line treatment for patients with DLBCL, and consider the implications of these findings for current clinical
  management algorithms.
- Appreciate long-term efficacy and safety data with FDA-approved chimeric antigen receptor (CAR) T-cell therapies directed at CD19, and identify patients with R/R DLBCL for whom this approach may be warranted.
- Assess Phase III clinical trial data documenting the benefit of various CAR T-cell platforms as second-line therapy for patients with R/R DLBCL, and consider the potential application of these findings in routine clinical decision-making.
- Review pivotal clinical trial findings leading to the FDA approval of other novel compounds with unique mechanisms of action for R/R DLBCL, and identify patients for whom treatment with these approaches would be appropriate.
- Compare and contrast the side effects associated with available and emerging therapeutic strategies for DLBCL, and formulate supportive care plans to minimize and manage these toxicities.
- Recall ongoing clinical research evaluating novel agents and strategies for DLBCL, and counsel appropriate patients
  regarding the potential benefits of trial participation.



### **Accreditation Information**



In support of improving patient care, this activity has been planned and implemented by Medical Learning Institute, Inc. and Research To Practice. Medical Learning Institute, Inc. is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

### **Physician Continuing Medical Education**

Medical Learning Institute, Inc. (MLI) designates this live activity for a maximum of 1.0 AMA PRA Category 1 Credit<sup>TM</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

#### **MOC Statement**

Successful completion of this CME activity, which includes participation in the evaluation component, enables the participant to earn up to 1.0 MOC point in the American Board of Internal Medicine's (ABIM) Maintenance of Certification (MOC) program. It is the CME activity provider's responsibility to submit participant completion information to ACCME for the purpose of granting ABIM MOC credit.

Participation information will be shared through the ACCME's Program and Activity Reporting System (PARS).

#### **Support Statement**

This CE activity is supported through educational grants from Genentech, a member of the Roche Group, and Kite, A Gilead Company.



### **Commercial Support**

This activity is supported by educational grants from Genentech, a member of the Roche Group, and Kite, A Gilead Company.



### Dr Love — Disclosures

**Dr Love** is president and CEO of Research To Practice. Research To Practice receives funds in the form of educational grants to develop CME activities from the following companies: AbbVie Inc, Adaptive Biotechnologies Corporation, ADC Therapeutics, Agios Pharmaceuticals Inc, Alexion Pharmaceuticals, Amgen Inc, Array BioPharma Inc, a subsidiary of Pfizer Inc, Astellas, AstraZeneca Pharmaceuticals LP, Aveo Pharmaceuticals, Bayer HealthCare Pharmaceuticals, BeiGene Ltd, BeyondSpring Pharmaceuticals Inc, Blueprint Medicines, Boehringer Ingelheim Pharmaceuticals Inc, Bristol-Myers Squibb Company, Celgene Corporation, Clovis Oncology, Coherus BioSciences, CTI BioPharma Corp, Daiichi Sankyo Inc, Eisai Inc, Elevation Oncology Inc, EMD Serono Inc, Epizyme Inc, Exact Sciences Corporation, Exelixis Inc, Five Prime Therapeutics Inc, Foundation Medicine, G1 Therapeutics Inc, Genentech, a member of the Roche Group, Genmab, Gilead Sciences Inc, GlaxoSmithKline, Grail Inc, Halozyme Inc, Helsinn Healthcare SA, ImmunoGen Inc, Incyte Corporation, Ipsen Biopharmaceuticals Inc, Janssen Biotech Inc, administered by Janssen Scientific Affairs LLC, Jazz Pharmaceuticals Inc, Karyopharm Therapeutics, Kite, A Gilead Company, Lilly, Loxo Oncology Inc, a wholly owned subsidiary of Eli Lilly & Company, MEI Pharma Inc, Merck, Mersana Therapeutics Inc, Mirati Therapeutics Inc, Natera Inc, Novartis, Novartis Pharmaceuticals Corporation on behalf of Advanced Accelerator Applications, Novocure Inc, Oncopeptides, Pfizer Inc, Pharmacyclics LLC, an AbbVie Company, Puma Biotechnology Inc, Regeneron Pharmaceuticals Inc, Sanofi Genzyme, Seagen Inc, Servier Pharmaceuticals LLC, Sumitomo Dainippon Pharma Oncology Inc, Taiho Oncology Inc, Takeda Pharmaceuticals USA Inc, TerSera Therapeutics LLC, Tesaro, A GSK Company, TG Therapeutics Inc, Turning Point Therapeutics Inc, Verastem Inc and Zymeworks Inc.

### **Dr Abramson — Disclosures**

Consulting Agreements	AbbVie Inc, AstraZeneca Pharmaceuticals LP, BeiGene Ltd, bluebird bio, Bristol-Myers Squibb Company, Caribou Biosciences Inc, Century Therapeutics, Epizyme Inc, Genentech, a member of the Roche Group, Genmab, Incyte Corporation, Janssen Biotech Inc, Kite, A Gilead Company, Kymera Therapeutics, Lilly, MorphoSys, Regeneron Pharmaceuticals Inc, Takeda Pharmaceuticals USA Inc
Contracted Research	AbbVie Inc, Bristol-Myers Squibb Company, Genentech, a member of the Roche Group, Seagen Inc



### **Dr Smith — Disclosures**

Consulting Agreements	Adaptive Biotechnologies Corporation, ADC Therapeutics, Bantam, Bristol-Myers Squibb Company, Gamida Cell, Gilead Sciences Inc, Janssen Biotech Inc, Karyopharm Therapeutics, MorphoSys
Contracted Research	Acerta Pharma — A member of the AstraZeneca Group, Bristol-Myers Squibb Company, Celgene Corporation, Epizyme Inc, Forty Seven Inc, Genentech, a member of the Roche Group, Karyopharm Therapeutics, Pharmacyclics LLC, an AbbVie Company, Portola Pharmaceuticals Inc, TG Therapeutics Inc
Speaking Engagement	ADC Therapeutics ICML



### **Dr Westin — Disclosures**

Advisory Committee and Consulting Agreements	AbbVie Inc, ADC Therapeutics, AstraZeneca Pharmaceuticals LP, Bristol-Myers Squibb Company, Calithera Biosciences, Genentech, a member of the Roche Group, Genmab, Incyte Corporation, Kite, A Gilead Company, Merck, Monte Rosa Therapeutics, MorphoSys, Novartis
Contracted Research	ADC Therapeutics, AstraZeneca Pharmaceuticals LP, Bristol- Myers Squibb Company, Calithera Biosciences, Genentech, a member of the Roche Group, Incyte Corporation, Kite, A Gilead Company, MorphoSys, Novartis



### **Planning Committee and Content/Peer Reviewers**

The planners and content/peer reviewers from Medical Learning Institute, Inc., the accredited provider, and Research To Practice, our educational partner, do not have any relevant financial relationship(s) to disclose with ineligible companies.



### **Disclosure and Conflict of Interest Policy**

Medical Learning Institute, Inc., is committed to providing high quality continuing education to healthcare professionals, as individuals and teams, with a protected space to learn, teach, and engage in scientific discourse free from influence from ineligible companies that may have an incentive to insert commercial bias into education. To that end, MLI requires faculty, presenters, planners, staff, and other individuals who are in a position to control the content of this CE activity to disclose all financial relationships they have had in the past 24 months with ineligible companies as defined by the ACCME, as related to the content of this CE activity, regardless of the amount or their view of the relevance to the education. All identified COI will be thoroughly vetted and mitigated according to MLI policy. These disclosures will be provided to learners prior to the start of the CE activity.



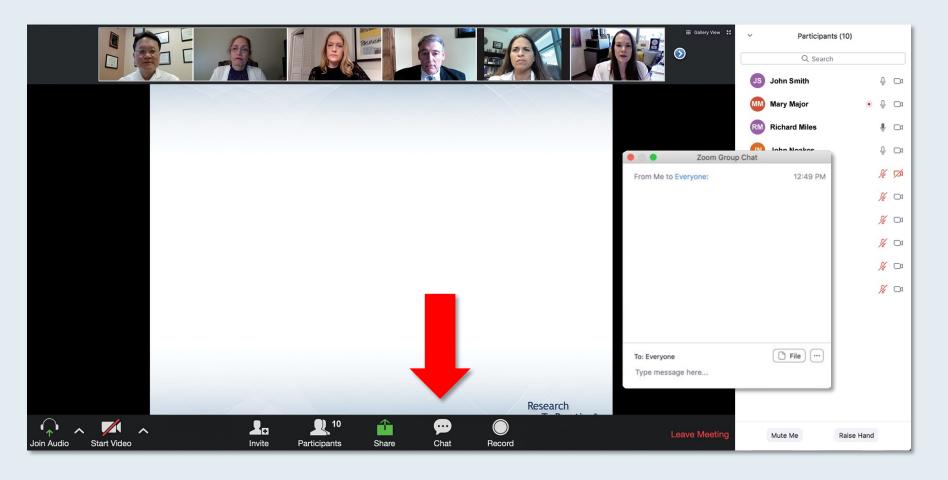
### **Disclosure of Unlabeled Use**

This educational activity may contain discussions of published and/or investigational uses of agents that are not indicated by the FDA. The planners of this CE activity do not recommend the use of any agent outside of the labeled indications. The opinions expressed in the CE activity are those of the presenters and do not necessarily represent the views of the planners. Please refer to the official prescribing information for each product for discussion of approved indications, contraindications, and warnings.

### **Disclaimer**

Participants have an implied responsibility to use the newly acquired information to enhance patient outcomes and their own professional development. The information presented in this CE activity is not meant to serve as a guideline for patient management. Any procedures, medications, or other courses of diagnosis or treatment discussed or suggested in this CE activity should not be used by clinicians without evaluation of their patient's conditions and possible contraindications and/or dangers in use, review of any applicable manufacturer's product information, and comparison with recommendations of other authorities.

### We Encourage Clinicians in Practice to Submit Questions

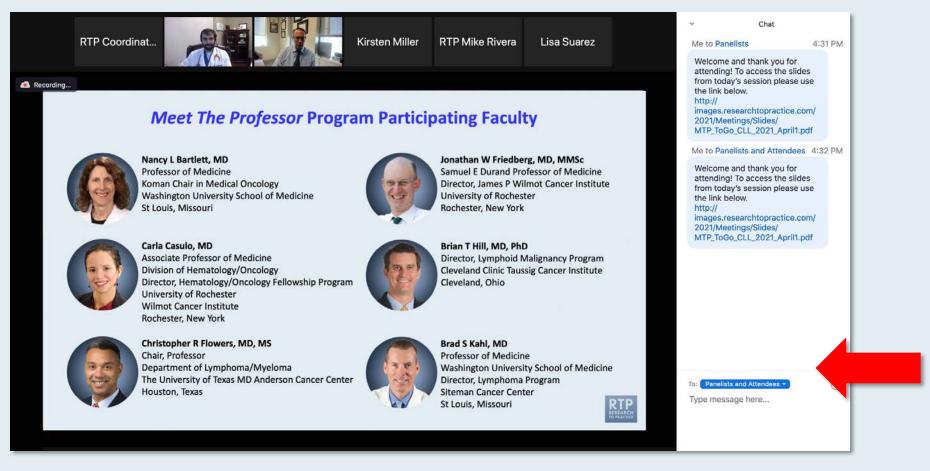


Feel free to submit questions now before the program begins and throughout the program.



### Familiarizing Yourself with the Zoom Interface

### **Expand chat submission box**



Drag the white line above the submission box up to create more space for your message.



### Familiarizing Yourself with the Zoom Interface

Increase chat font size



Press Command (for Mac) or Control (for PC) and the + symbol. You may do this as many times as you need for readability.



# Clinicians in the Audience, Please Complete the Pre- and Postmeeting Surveys







### ONCOLOGY TODAY<sup>TM</sup>

WITH DR NEIL LOVE

# **Current and Future Management of Follicular Lymphoma**











# Oncology Today<sup>TM</sup> with Dr Neil Love — Management of Endometrial Cancer

A CME/MOC-Accredited Virtual Event

Wednesday, September 14, 2022 5:00 PM - 6:00 PM ET

Faculty
Michael J Birrer, MD, PhD



# Meet The Professor Optimizing the Management of Head and Neck and Thyroid Cancers

Tuesday, September 20, 2022 5:00 PM - 6:00 PM ET

Faculty
Robert Haddad, MD



# Meet The Professor Optimizing the Management of Small Cell Lung Cancer

Wednesday, September 21, 2022 5:00 PM - 6:00 PM ET

Faculty
Carl M Gay, MD, PhD



# The Clinical Implications of Key Recent Data Sets in Oncology: A Daylong Multitumor Educational Symposium in Partnership with Florida Cancer Specialists

Saturday, October 22, 2022 7:30 AM – 5:30 PM ET

JW Marriott Orlando | Orlando, Florida

### **Faculty**

Ghassan Abou-Alfa, MD, MBA
Matthew P Goetz, MD
Ian E Krop, MD, PhD
Ann S LaCasce, MD, MMSc
Corey J Langer, MD
Prof Georgina Long, AO, BSc, PhD, MBBS
Christine M Lovly, MD, PhD
Wells A Messersmith, MD

Alicia K Morgans, MD, MPH
David M O'Malley, MD
Thomas Powles, MBBS, MRCP, MD
Mitchell R Smith, MD, PhD
John Strickler, MD
Shannon N Westin, MD, MPH
Evan Y Yu, MD
Saad Zafar Usmani, MD, MBA



## The Clinical Implications of Key Recent Data Sets in Oncology

A Daylong Multitumor Educational Symposium in Partnership with Florida Cancer Specialists

Saturday, October 22, 2022

**Lung Cancer** 

7:30 AM - 8:30 AM ET

**Faculty** 

Corey J Langer, MD
Christine M Lovly, MD, PhD

**CLL** and Lymphomas

8:30 AM - 9:30 AM ET

**Faculty** 

Ann S LaCasce, MD, MMSc Mitchell R Smith, MD, PhD



## The Clinical Implications of Key Recent Data Sets in Oncology

A Daylong Multitumor Educational Symposium in Partnership with Florida Cancer Specialists
Saturday, October 22, 2022

**Prostate and Bladder Cancers** 

10:00 AM - 11:00 AM ET

**Faculty** 

Alicia K Morgans, MD, MPH Evan Y Yu, MD **Renal Cell Carcinoma** 

11:00 AM - 11:20 AM ET

**Faculty** 

Thomas Powles, MBBS, MRCP, MD



## The Clinical Implications of Key Recent Data Sets in Oncology

A Daylong Multitumor Educational Symposium in Partnership with Florida Cancer Specialists

Saturday, October 22, 2022

CAR-T and Bispecific Therapy for Multiple Myeloma

11:20 AM - 11:40 AM ET

**Faculty** 

Saad Zafar Usmani, MD, MBA

**Hepatobiliary Cancer** 

11:40 AM - 12:00 PM ET

**Faculty** 

Ghassan Abou-Alfa, MD, MBA



## The Clinical Implications of Key Recent Data Sets in Oncology

A Daylong Multitumor Educational Symposium in Partnership with Florida Cancer Specialists
Saturday, October 22, 2022

**Breast Cancer** 

2:00 PM - 3:00 PM ET

**Faculty** 

Matthew P Goetz, MD Ian E Krop, MD, PhD

**Endometrial Cancer** 

3:00 PM - 3:20 PM ET

**Faculty** 

Shannon N Westin, MD, MPH



## The Clinical Implications of Key Recent Data Sets in Oncology

A Daylong Multitumor Educational Symposium in Partnership with Florida Cancer Specialists

Saturday, October 22, 2022

Ovarian Cancer and PARP Inhibitors

3:50 PM - 4:10 PM ET

Faculty I NA O'NA O'N

David M O'Malley, MD

**Gastrointestinal Cancers** 

4:10 PM - 5:10 PM ET

**Faculty** 

Wells A Messersmith, MD John Strickler, MD



## The Clinical Implications of Key Recent Data Sets in Oncology

A Daylong Multitumor Educational Symposium in Partnership with Florida Cancer Specialists

Saturday, October 22, 2022

Melanoma

5:10 PM - 5:30 PM ET

**Faculty** 

Prof Georgina Long, AO, BSc, PhD, MBBS



### Thank you for joining us!

CME and MOC credit information will be emailed to each participant within 5 business days.



### Challenging Cases from the Community: Investigators Provide Perspectives on the Optimal Management of Diffuse Large B-Cell Lymphoma

A CME/MOC-Accredited Virtual Event

Tuesday, September 13, 2022 5:00 PM - 6:00 PM ET

**Faculty** 

Jeremy Abramson, MD Sonali M Smith, MD Jason Westin, MD, MS



### **Faculty**



Jeremy Abramson, MD
Director, Center for Lymphoma
Massachusetts General Hospital
Associate Professor of Medicine
Harvard Medical School
Boston, Massachusetts



Jason Westin, MD, MS
Director, Lymphoma Clinical Research
Section Chief, Aggressive Lymphoma
Department of Lymphoma and Myeloma
The University of Texas
MD Anderson Cancer Center
Houston, Texas



Sonali M Smith, MD
Elwood V Jensen Professor of Medicine
Chief, Section of Hematology/Oncology
Co-Leader, Cancer Service Line
Co-Director, Lymphoma Program
The University of Chicago
Chicago, Illinois



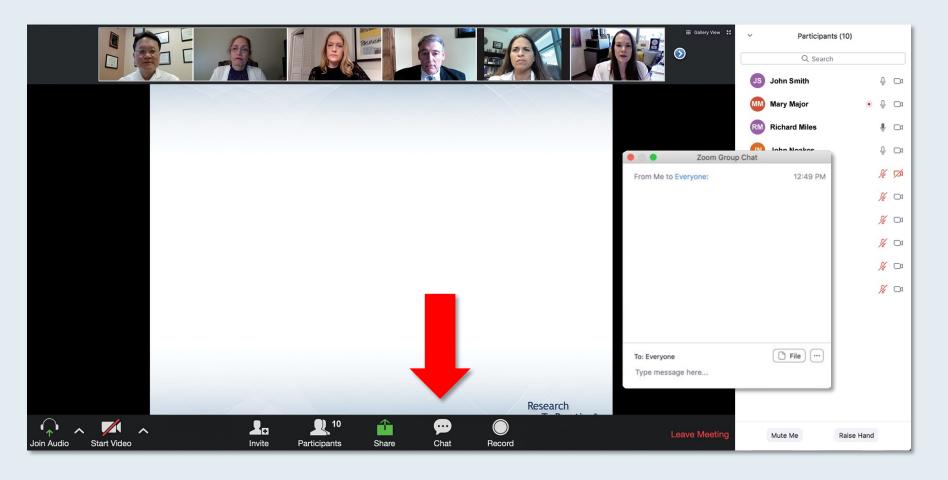
MODERATOR
Neil Love, MD
Research To Practice



# This activity will also be featured as an "On Demand" session as part of the Society of Hematologic Oncology 2022 Annual Meeting.



### We Encourage Clinicians in Practice to Submit Questions



Feel free to submit questions now before the program begins and throughout the program.



# Clinicians in the Audience, Please Complete the Pre- and Postmeeting Surveys







### ONCOLOGY TODAY<sup>TM</sup>

WITH DR NEIL LOVE

# **Current and Future Management of Follicular Lymphoma**











# Oncology Today<sup>TM</sup> with Dr Neil Love — Management of Endometrial Cancer

A CME/MOC-Accredited Virtual Event

Wednesday, September 14, 2022 5:00 PM - 6:00 PM ET

Faculty
Michael J Birrer, MD, PhD



# Meet The Professor Optimizing the Management of Head and Neck and Thyroid Cancers

Tuesday, September 20, 2022 5:00 PM - 6:00 PM ET

Faculty
Robert Haddad, MD



# Meet The Professor Optimizing the Management of Small Cell Lung Cancer

Wednesday, September 21, 2022 5:00 PM - 6:00 PM ET

Faculty
Carl M Gay, MD, PhD



# The Clinical Implications of Key Recent Data Sets in Oncology: A Daylong Multitumor Educational Symposium in Partnership with Florida Cancer Specialists

Saturday, October 22, 2022 7:30 AM – 5:30 PM ET

JW Marriott Orlando | Orlando, Florida

#### **Faculty**

Ghassan Abou-Alfa, MD, MBA
Matthew P Goetz, MD
Ian E Krop, MD, PhD
Ann S LaCasce, MD, MMSc
Corey J Langer, MD
Prof Georgina Long, AO, BSc, PhD, MBBS
Christine M Lovly, MD, PhD
Wells A Messersmith, MD

Alicia K Morgans, MD, MPH
David M O'Malley, MD
Thomas Powles, MBBS, MRCP, MD
Mitchell R Smith, MD, PhD
John Strickler, MD
Shannon N Westin, MD, MPH
Evan Y Yu, MD
Saad Zafar Usmani, MD, MBA



# The Clinical Implications of Key Recent Data Sets in Oncology

A Daylong Multitumor Educational Symposium in Partnership with Florida Cancer Specialists

Saturday, October 22, 2022

**Lung Cancer** 

7:30 AM - 8:30 AM ET

**Faculty** 

Corey J Langer, MD
Christine M Lovly, MD, PhD

**CLL** and Lymphomas

8:30 AM - 9:30 AM ET

**Faculty** 

Ann S LaCasce, MD, MMSc Mitchell R Smith, MD, PhD



# The Clinical Implications of Key Recent Data Sets in Oncology

A Daylong Multitumor Educational Symposium in Partnership with Florida Cancer Specialists
Saturday, October 22, 2022

**Prostate and Bladder Cancers** 

10:00 AM - 11:00 AM ET

**Faculty** 

Alicia K Morgans, MD, MPH Evan Y Yu, MD **Renal Cell Carcinoma** 

11:00 AM - 11:20 AM ET

**Faculty** 

Thomas Powles, MBBS, MRCP, MD



## The Clinical Implications of Key Recent Data Sets in Oncology

A Daylong Multitumor Educational Symposium in Partnership with Florida Cancer Specialists

Saturday, October 22, 2022

CAR-T and Bispecific Therapy for Multiple Myeloma

11:20 AM - 11:40 AM ET

**Faculty** 

Saad Zafar Usmani, MD, MBA

**Hepatobiliary Cancer** 

11:40 AM - 12:00 PM ET

**Faculty** 

Ghassan Abou-Alfa, MD, MBA



# The Clinical Implications of Key Recent Data Sets in Oncology

A Daylong Multitumor Educational Symposium in Partnership with Florida Cancer Specialists
Saturday, October 22, 2022

**Breast Cancer** 

2:00 PM - 3:00 PM ET

**Faculty** 

Matthew P Goetz, MD Ian E Krop, MD, PhD

**Endometrial Cancer** 

3:00 PM - 3:20 PM ET

**Faculty** 

Shannon N Westin, MD, MPH



# The Clinical Implications of Key Recent Data Sets in Oncology

A Daylong Multitumor Educational Symposium in Partnership with Florida Cancer Specialists

Saturday, October 22, 2022

Ovarian Cancer and PARP Inhibitors

3:50 PM - 4:10 PM ET

Faculty I NA O'NA O'N

David M O'Malley, MD

**Gastrointestinal Cancers** 

4:10 PM - 5:10 PM ET

**Faculty** 

Wells A Messersmith, MD John Strickler, MD



# The Clinical Implications of Key Recent Data Sets in Oncology

A Daylong Multitumor Educational Symposium in Partnership with Florida Cancer Specialists

Saturday, October 22, 2022

Melanoma

5:10 PM - 5:30 PM ET

**Faculty** 

Prof Georgina Long, AO, BSc, PhD, MBBS



### Challenging Cases from the Community: Investigators Provide Perspectives on the Optimal Management of Diffuse Large B-Cell Lymphoma

A CME/MOC-Accredited Virtual Event

Tuesday, September 13, 2022 5:00 PM - 6:00 PM ET

**Faculty** 

Jeremy Abramson, MD Sonali M Smith, MD Jason Westin, MD, MS



# Management of DLBCL Where We Are, Where We're Headed

**PROLOGUE** 

**MODULE 1: First-Line Treatment** 

**MODULE 2: Bispecific Antibodies** 

**MODULE 3: CAR T-Cell Therapy** 

**MODULE 4: Sequencing of Novel Agents** 

**MODULE 5: Appendix** 



# Management of DLBCL Where We Are, Where We're Headed Clinical Cases

Dr Morganstein: 43-year-old man with newly diagnosed GCB-subtype Stage III DLBCL

**Dr Parsons:** 59-year-old woman with Stage IV double-hit DLBCL and extensive bone involvement

Dr Choksi: 77-year-old symptomatic man with longstanding CLL and Richter's transformation

Dr Ku: 66-year-old woman with newly diagnosed nonbulky Stage II DLBCL

**Dr Morganstein:** 75-year-old man with a history of severe CHF with a pulmonary nodule and regional adenopathy that on biopsy is proven to be DLBCL

**Dr Yang:** 73-year-old woman with rapid relapse after R-CHOP then R-ICE/ASCT achieves a CR with CAR T-cell therapy but experiences severe pancytopenia

**Dr Mushtaq:** 45-year-old man with R-CHOP-refractory DLBCL receives polatuzumab vedotin as bridging therapy → CAR T-cell therapy on protocol

**Dr Gupta:** 68-year-old man with cardiac comorbidities and relapsed DLBCL while on R-CHOP receives second-line polatuzumab vedotin/BR



#### **Accreditation Information**

#### **Target Audience**

This activity is intended for hematologists, hematology-oncology fellows, medical oncologists, radiation oncologists and other healthcare providers involved in the treatment of diffuse large B-cell lymphoma.

#### **Educational Objectives**

Upon completion of this activity, participants should be able to

- Apply available clinical research findings in the formulation of evidence-based therapeutic approaches for the treatment of newly diagnosed and relapsed/refractory (R/R) diffuse large B-cell lymphoma (DLBCL).
- Appraise published Phase III clinical trial data documenting the benefit of CD79b-targeted therapy as a component
  of first-line treatment for patients with DLBCL, and consider the implications of these findings for current clinical
  management algorithms.
- Appreciate long-term efficacy and safety data with FDA-approved chimeric antigen receptor (CAR) T-cell therapies directed at CD19, and identify patients with R/R DLBCL for whom this approach may be warranted.
- Assess Phase III clinical trial data documenting the benefit of various CAR T-cell platforms as second-line therapy for patients with R/R DLBCL, and consider the potential application of these findings in routine clinical decision-making.
- Review pivotal clinical trial findings leading to the FDA approval of other novel compounds with unique mechanisms of action for R/R DLBCL, and identify patients for whom treatment with these approaches would be appropriate.
- Compare and contrast the side effects associated with available and emerging therapeutic strategies for DLBCL, and formulate supportive care plans to minimize and manage these toxicities.
- Recall ongoing clinical research evaluating novel agents and strategies for DLBCL, and counsel appropriate patients
  regarding the potential benefits of trial participation.



#### **Accreditation Information**



In support of improving patient care, this activity has been planned and implemented by Medical Learning Institute, Inc. and Research To Practice. Medical Learning Institute, Inc. is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

#### **Physician Continuing Medical Education**

Medical Learning Institute, Inc. (MLI) designates this live activity for a maximum of 1.0 AMA PRA Category 1 Credit<sup>TM</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

#### **MOC Statement**

Successful completion of this CME activity, which includes participation in the evaluation component, enables the participant to earn up to 1.0 MOC point in the American Board of Internal Medicine's (ABIM) Maintenance of Certification (MOC) program. It is the CME activity provider's responsibility to submit participant completion information to ACCME for the purpose of granting ABIM MOC credit.

Participation information will be shared through the ACCME's Program and Activity Reporting System (PARS).

#### **Support Statement**

This CE activity is supported through educational grants from Genentech, a member of the Roche Group, and Kite, A Gilead Company.



#### **Dr Abramson — Disclosures**

Consulting Agreements	AbbVie Inc, AstraZeneca Pharmaceuticals LP, BeiGene Ltd, bluebird bio, Bristol-Myers Squibb Company, Caribou Biosciences Inc, Century Therapeutics, Epizyme Inc, Genentech, a member of the Roche Group, Genmab, Incyte Corporation, Janssen Biotech Inc, Kite, A Gilead Company, Kymera Therapeutics, Lilly, MorphoSys, Regeneron Pharmaceuticals Inc, Takeda Pharmaceuticals USA Inc	
Contracted Research	AbbVie Inc, Bristol-Myers Squibb Company, Genentech, a member of the Roche Group, Seagen Inc	



#### **Dr Smith — Disclosures**

Consulting Agreements	Adaptive Biotechnologies Corporation, ADC Therapeutics, Bantam, Bristol-Myers Squibb Company, Gamida Cell, Gilead Sciences Inc, Janssen Biotech Inc, Karyopharm Therapeutics, MorphoSys
Contracted Research	Acerta Pharma — A member of the AstraZeneca Group, Bristol-Myers Squibb Company, Celgene Corporation, Epizyme Inc, Forty Seven Inc, Genentech, a member of the Roche Group, Karyopharm Therapeutics, Pharmacyclics LLC, an AbbVie Company, Portola Pharmaceuticals Inc, TG Therapeutics Inc
Speaking Engagement	ADC Therapeutics ICML



#### **Dr Westin — Disclosures**

Advisory Committee and Consulting Agreements	AbbVie Inc, ADC Therapeutics, AstraZeneca Pharmaceuticals LP, Bristol-Myers Squibb Company, Calithera Biosciences, Genentech, a member of the Roche Group, Genmab, Incyte Corporation, Kite, A Gilead Company, Merck, Monte Rosa Therapeutics, MorphoSys, Novartis	
Contracted Research	ADC Therapeutics, AstraZeneca Pharmaceuticals LP, Bristol- Myers Squibb Company, Calithera Biosciences, Genentech, a member of the Roche Group, Incyte Corporation, Kite, A Gilead Company, MorphoSys, Novartis	



#### **Planning Committee and Content/Peer Reviewers**

The planners and content/peer reviewers from Medical Learning Institute, Inc., the accredited provider, and Research To Practice, our educational partner, do not have any relevant financial relationship(s) to disclose with ineligible companies.



#### **Disclosure and Conflict of Interest Policy**

Medical Learning Institute, Inc., is committed to providing high quality continuing education to healthcare professionals, as individuals and teams, with a protected space to learn, teach, and engage in scientific discourse free from influence from ineligible companies that may have an incentive to insert commercial bias into education. To that end, MLI requires faculty, presenters, planners, staff, and other individuals who are in a position to control the content of this CE activity to disclose all financial relationships they have had in the past 24 months with ineligible companies as defined by the ACCME, as related to the content of this CE activity, regardless of the amount or their view of the relevance to the education. All identified COI will be thoroughly vetted and mitigated according to MLI policy. These disclosures will be provided to learners prior to the start of the CE activity.



#### **Disclosure of Unlabeled Use**

This educational activity may contain discussions of published and/or investigational uses of agents that are not indicated by the FDA. The planners of this CE activity do not recommend the use of any agent outside of the labeled indications. The opinions expressed in the CE activity are those of the presenters and do not necessarily represent the views of the planners. Please refer to the official prescribing information for each product for discussion of approved indications, contraindications, and warnings.

#### **Disclaimer**

Participants have an implied responsibility to use the newly acquired information to enhance patient outcomes and their own professional development. The information presented in this CE activity is not meant to serve as a guideline for patient management. Any procedures, medications, or other courses of diagnosis or treatment discussed or suggested in this CE activity should not be used by clinicians without evaluation of their patient's conditions and possible contraindications and/or dangers in use, review of any applicable manufacturer's product information, and comparison with recommendations of other authorities.



Mamta Choksi, MD Florida Cancer Specialists New Port Richey, Florida



Shaachi Gupta, MD, MPH Florida Cancer Specialists Lake Worth, Florida



**Kimberly Ku, MD**Bloomington, Illinois



**Neil Morganstein, MD** Atlantic Health System Summit, New Jersey



Rao Mushtaq, MD National Jewish Health Thornton, Colorado



**Benjamin Parsons, DO**Gundersen Health System
Madison, Wisconsin



John Yang, MD Fall River, Massachusetts



# Management of DLBCL Where We Are, Where We're Headed

#### **PROLOGUE**

**MODULE 1: First-Line Treatment** 

**MODULE 2: Bispecific Antibodies** 

**MODULE 3: CAR T-Cell Therapy** 

**MODULE 4: Sequencing of Novel Agents** 

**MODULE 5: Appendix** 

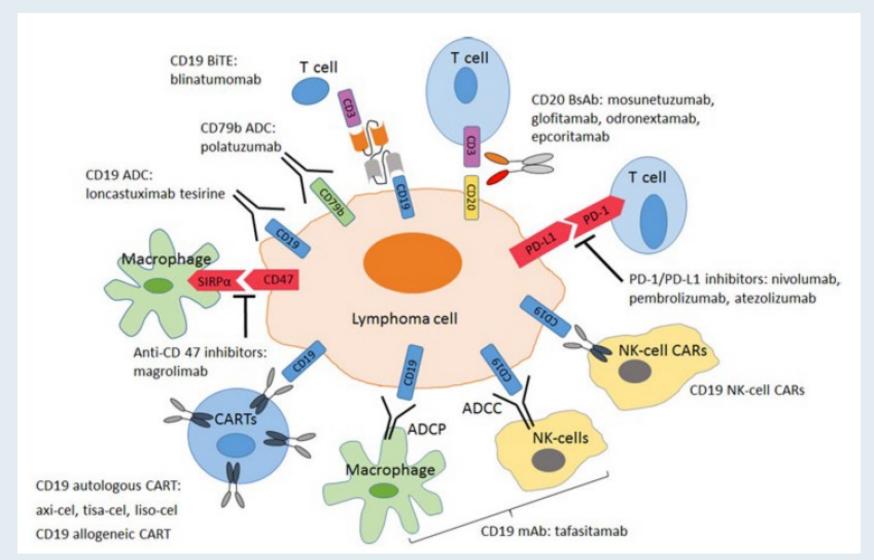


#### Randomized Phase III Trials Against R-CHOP for DLBCL

Trial	Comparator arm	N	Study population	PFS (experimental vs standard)
R-CHOP	R-CHOP14	602	60-80 y, aaIPI≥1	60% vs 62% (3y)
GOYA	G-CHOP	1,418	≥18 y, Stage II-IV	70% vs 67% (3y)
PHOENIX	R-CHOP + ibrutinib	838	≥18 y, Stage II-IV, non-GCB, IPI ≥2	71% vs 68% (3y)
ROBUST	R-CHOP + lenalidomide	570	≥18 y, Stage II-IV, non-GCB, IPI ≥2	67% vs 64% (3y)
CALGB-50203	DA-EPOCH-R	524	≥18 y, Stage II-IV	79% vs 76% (2y)
REMoDL-B	R-CHOP + bortezomib	918	≥18 y	75% vs 71% (2y)



# **Evolving Landscape of Customized Engineered and Off-the-Shelf Immunotherapies for Aggressive B-Cell Non-Hodgkin Lymphoma**



**ADCC** = antibody-dependent cell cytotoxicity

**ADCP** = antibody-dependent cellular phagocytosis

**BiTE** = bispecific T-cell engager

**PD-1** = programmed cell death 1

**PD-L1** = programmed cell death ligand 1



#### **Important Recent Developments in DLBCL**

#### POLARIX Phase III Trial

Polatuzumab vedotin

#### CAR T-Cell Therapy in the Second-Line Setting

- Axicabtagene ciloleucel
- Lisocabtagene maraleucel
- Tisagenlecleucel

#### Bispecific Antibodies

- Glofitamab
- Mosunetuzumab
- Epcoritamab
- Odronextamab



# Management of DLBCL Where We Are, Where We're Headed

#### **PROLOGUE**

#### **MODULE 1: First-Line Treatment**

**Dr Morganstein:** 43-year-old man with newly diagnosed GCB-subtype Stage III DLBCL

**Dr Parsons:** 59-year-old woman with Stage IV double-hit DLBCL and extensive bone involvement

Dr Choksi: 77-year-old symptomatic man with longstanding CLL and Richter's transformation

Dr Ku: 66-year-old woman with newly diagnosed nonbulky Stage II DLBCL

**MODULE 2: Bispecific Antibodies** 

**MODULE 3: CAR T-Cell Therapy** 

**MODULE 4: Sequencing of Novel Agents** 

**MODULE 5: Appendix** 



# Case Presentation: 43-year-old man with newly diagnosed GCB-subtype Stage III DLBCL



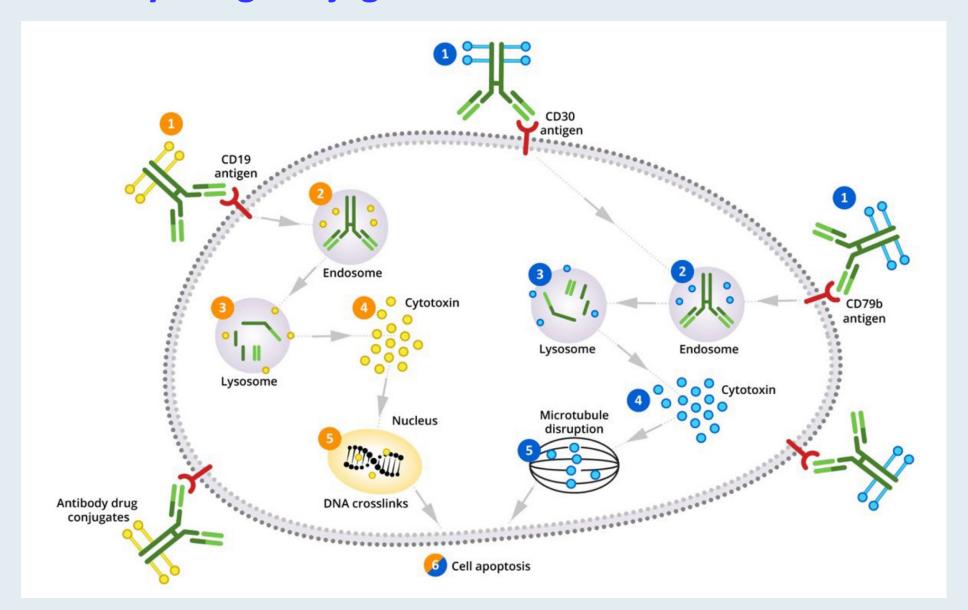
Dr Neil Morganstein (Summit, New Jersey)







#### **Antibody-Drug Conjugate Mechanism of Action in DLBCL**





#### N Engl J Med 2022;386(4):351-63.

The NEW ENGLAND JOURNAL of MEDICINE

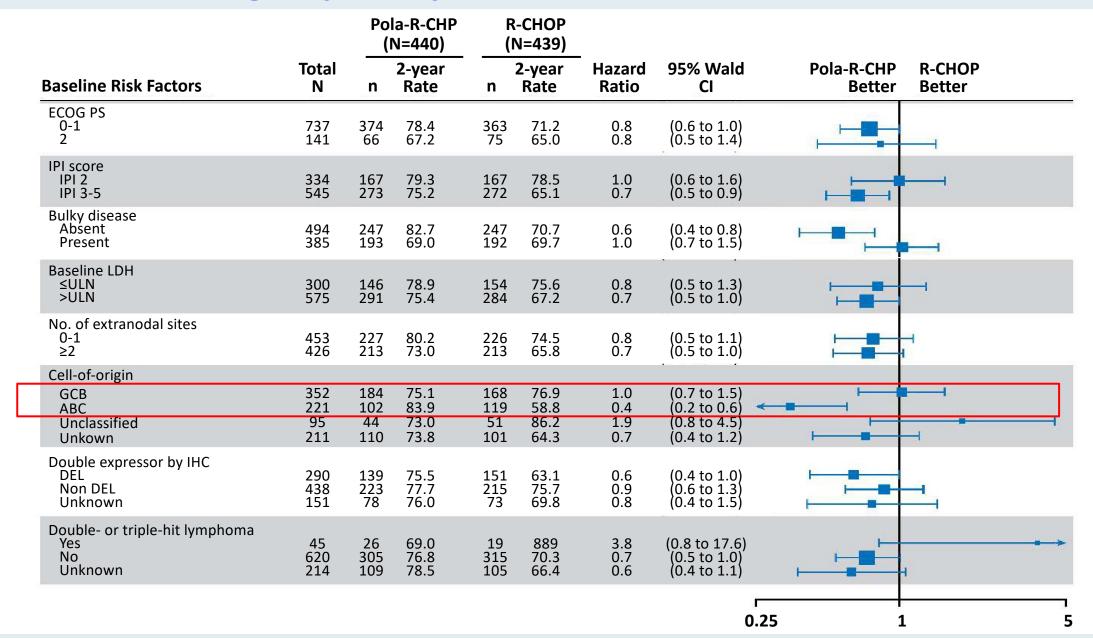
#### ORIGINAL ARTICLE

## Polatuzumab Vedotin in Previously Untreated Diffuse Large B-Cell Lymphoma

H. Tilly, F. Morschhauser, L.H. Sehn, J.W. Friedberg, M. Trněný, J.P. Sharman,
C. Herbaux, J.M. Burke, M. Matasar, S. Rai, K. Izutsu, N. Mehta-Shah, L. Oberic,
A. Chauchet, W. Jurczak, Y. Song, R. Greil, L. Mykhalska, J.M. Bergua-Burgués,
M.C. Cheung, A. Pinto, H.-J. Shin, G. Hapgood, E. Munhoz, P. Abrisqueta,
J.-P. Gau, J. Hirata, Y. Jiang, M. Yan, C. Lee, C.R. Flowers, and G. Salles



#### **POLARIX: Subgroup Analysis**





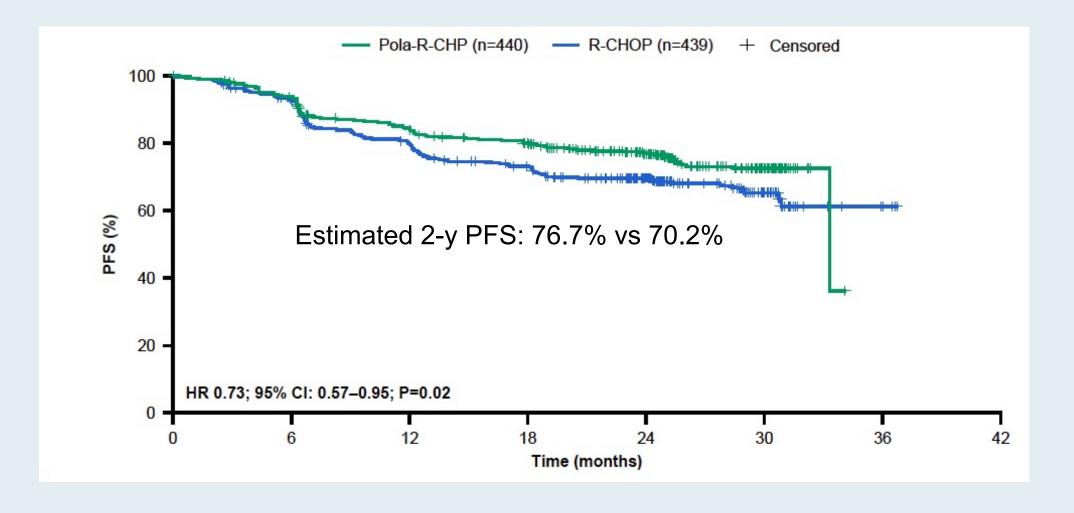
Polatuzumab Vedotin plus Rituximab, Cyclophosphamide, Doxorubicin, and Prednisone (Pola-R-CHP) Versus Rituximab, Cyclophosphamide, Doxorubicin, Vincristine and Prednisone (R-CHOP) Therapy in Patients with Previously Untreated Diffuse Large B-cell Lymphoma (DLBCL): Results from the Phase III POLARIX Study

Neha Mehta-Shah,<sup>1</sup> Hervé Tilly,<sup>2</sup> Franck Morschhauser,<sup>3</sup> Laurie H. Sehn,<sup>4</sup> Jonathan W. Friedberg,<sup>5</sup> Marek Trněný,<sup>6</sup> Jeff P. Sharman,<sup>7</sup> Charles Herbaux,<sup>8</sup> John M. Burke,<sup>9</sup> Matthew Matasar,<sup>10</sup> Shinya Rai,<sup>11</sup> Koji Izutsu,<sup>12</sup> Lucie Oberic,<sup>13</sup> Adrien Chauchet,<sup>14</sup> Wojciech Jurczak,<sup>15</sup> Yuqin Song,<sup>16</sup> Richard Greil,<sup>17</sup> Larysa Mykhalska,<sup>18</sup> Juan Miguel Bergua-Burgués,<sup>19</sup> Matthew C. Cheung,<sup>20</sup> Antonio Pinto,<sup>21</sup> Ho-Jin Shin,<sup>22</sup> Greg Hapgood,<sup>23</sup> Eduardo Munhoz,<sup>24</sup> Pau Abrisqueta,<sup>25</sup> Jyh-Pyng Gau,<sup>26</sup> Jamie Hirata,<sup>27</sup> Yanwen Jiang,<sup>27</sup> Mark Yan,<sup>28</sup> Calvin Lee,<sup>27</sup> Christopher Flowers,<sup>29</sup> Gilles Salles<sup>30</sup>



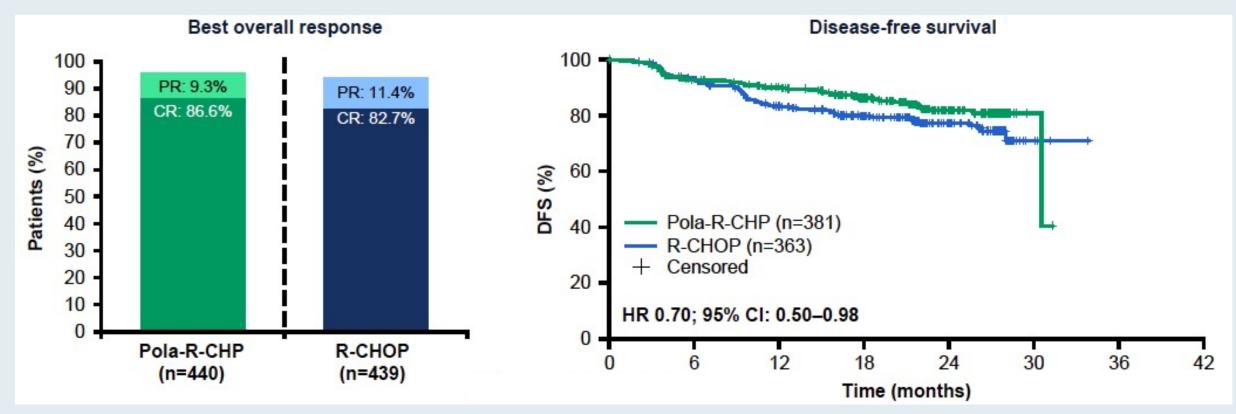


# POLARIX: Investigator-Assessed Progression-Free Survival (PFS) — Primary Endpoint





#### **POLARIX: Key Secondary Endpoints**



PR = partial response; CR = complete response

• There was no difference in overall survival between treatment arms



# Outcomes by BCL2 and MYC expression and rearrangements in untreated diffuse large B-cell lymphoma (DLBCL) from the POLARIX trial

**Franck Morschhauser**, <sup>1</sup> Yanwen Jiang, <sup>2</sup> Fabrice Jardin, <sup>3</sup> Alex F. Herrera, <sup>4</sup> Laurie H. Sehn, <sup>5</sup> Charles Herbaux, <sup>6</sup> Christopher Flowers, <sup>7</sup> Tycel Phillips, <sup>8</sup> Armando López Guillermo, <sup>9</sup> Catherine Diefenbach, <sup>10</sup> Gareth P. Gregory, <sup>11</sup> Austin Kim, <sup>12</sup> Anna Maria Barbui, <sup>13</sup> Sandhya Balasubramanian, <sup>2</sup> Will Harris, <sup>2</sup> Jamie Hirata, <sup>2</sup> Joseph N. Paulson, <sup>2</sup> Calvin Lee, <sup>2</sup> Georg Lenz <sup>14</sup>



#### **Summary**

POLARIX (NTC03274492) is a Phase III international study of

Pola-R-CHP vs R-CHOP in patients with previously untreated DLBCL and IPI 2–5.

This is a pre-specified exploratory analysis of the prognostic significance of BCL2 and MYC protein expression, and BCL2, BCL6, and MYC gene rearrangements.

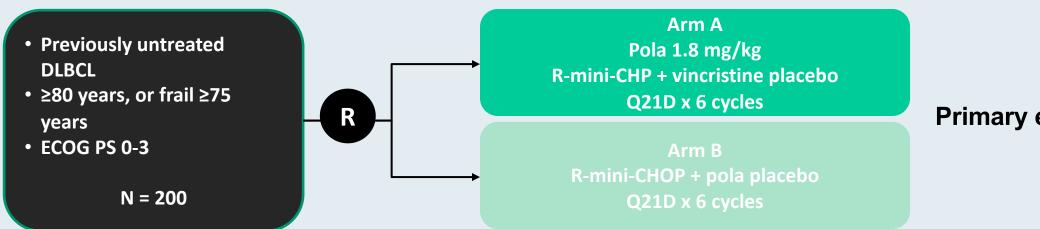
The poor prognostic impact associated with DEL appears reduced in patients receiving Pola-R-CHP vs R-CHOP.

DEL, double-expressor lymphoma

Multivariate analyses
support the benefit
of Pola-R-CHP in patients
with DLBCL that has
BCL2 or MYC
protein overexpression.



## POLAR BEAR Study Design: Adding Polatuzumab Vedotin to R-Mini-CHOP as Initial Therapy for Older Patients with DLBCL



**Primary endpoint: PFS** 



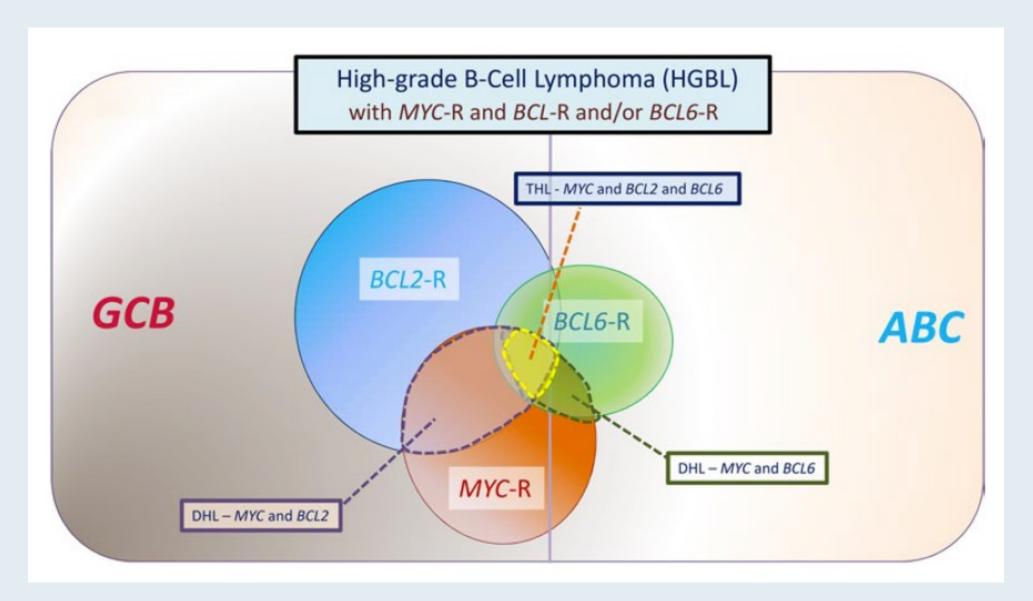
## Case Presentation: 59-year-old woman with Stage IV double-hit DLBCL and extensive bone involvement



Dr Benjamin Parsons (Madison, Wisconsin)

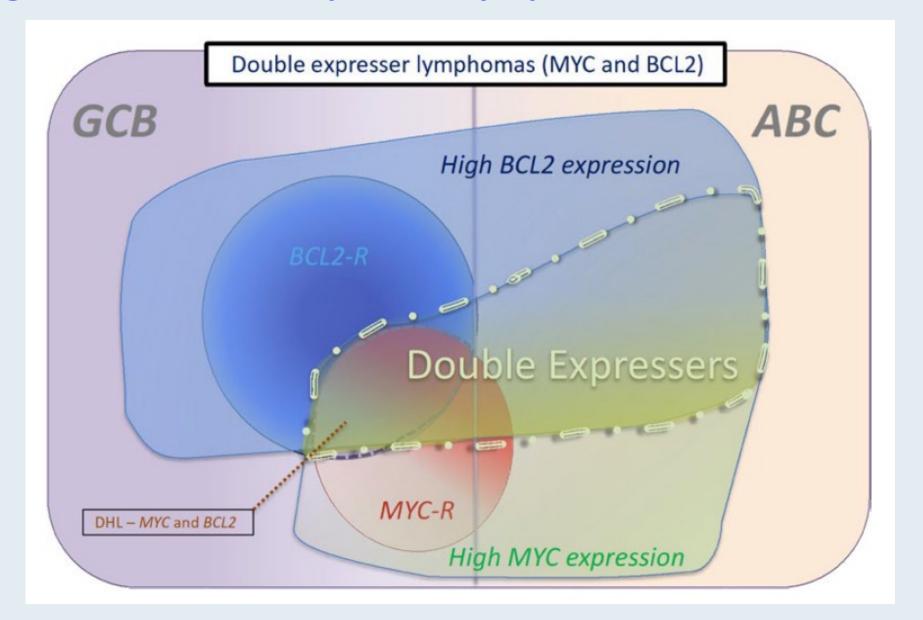


## **Categories of Aggressive B-Cell Lymphomas**





## **Categories of Double-Expressor Lymphomas**





## **Review Article**

## SOHO State of the Art Updates and Next Questions: Prophylaxis and Management of Secondary CNS Lymphoma

Jillian Simard, Mark Roschewski

Clin Lymphoma Myeloma Leuk 2022;[Online ahead of print].



"The prevention of SCNSL remains an unmet clinical need and the standard approaches of delivering MTX either as intrathecal therapy or as HD-MTX during frontline therapy are largely ineffective."



## medicine

## FOCUS | ARTICLES https://doi.org/10.1038/s41591-022-01731-4

#### **OPEN**

# Axicabtagene ciloleucel as first-line therapy in high-risk large B-cell lymphoma: the phase 2 ZUMA-12 trial

Sattva S. Neelapu <sup>1 ∞</sup>, Michael Dickinson <sup>2</sup>, Javier Munoz³, Matthew L. Ulrickson³,

Catherine Thieblemont <sup>4,5</sup>, Olalekan O. Oluwole<sup>6</sup>, Alex F. Herrera<sup>7</sup>, Chaitra S. Ujjani<sup>8</sup>, Yi Lin<sup>9</sup>,

Peter A. Riedell<sup>10</sup>, Natasha Kekre<sup>11</sup>, Sven de Vos<sup>12</sup>, Christine Lui<sup>13</sup>, Francesca Milletti<sup>13</sup>, Jinghui Dong<sup>13</sup>,

Hairong Xu<sup>13</sup> and Julio C. Chavez<sup>14</sup>

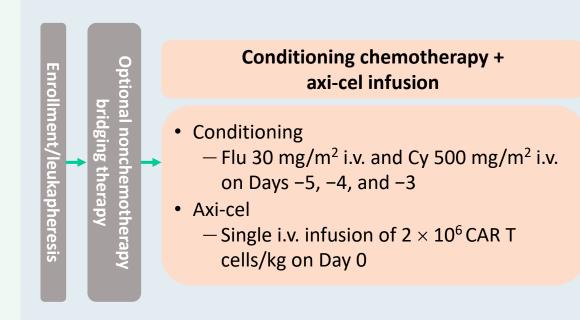
Nat Med 2022 April; 28(4):735-42.



#### Multicenter Phase II ZUMA-12 Schema: First-Line Therapy

#### **Eligibility criteria**

- Age ≥ 18 years
- High-risk LBCL
  - HGBCL, with MYC and BLCL2 and/or BCL6 translocations, or
  - LBCL with IPI score ≥ 3 any time before enrollment
- 2 cycles of anti-CD20 plus anthracycline-containing regimen
- Positive interim PET (DS 4 or 5)
- ECOG PS score 0 or 1



#### **Primary endpoint**

• CR (complete response)

#### **Key secondary endpoints**

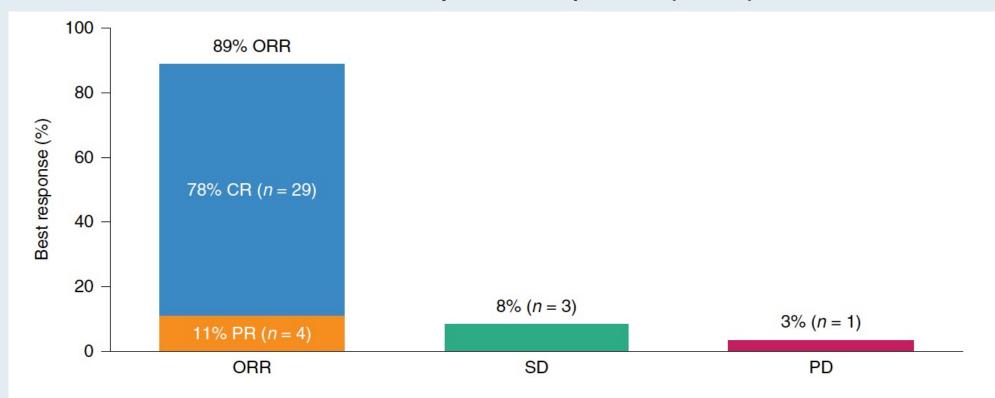
- ORR (objective response rate)
- DOR (duration of response)
- EFS (event-free survival)
- PFS
- OS
- Safety
- CAR T cells in blood and cytokine levels in serum

LBCL = large B-cell lymphoma; HGBCL = high-grade B-cell lymphoma



#### **ZUMA-12: Efficacy Results with Axi-Cel as First-Line Treatment**

#### **ORR and CR in efficacy-evaluable patients (N = 37)**



- At median follow-up of 15.9 months, 73% of patients remained in objective response
- Median DOR, EFS and PFS were not reached

ORR = objective response rate; CR = complete response; PR = partial response; SD = stable disease; PD = progressive disease; DOR = duration of response; EFS = event-free survival; PFS = progression-free survival



## **ZUMA-12: Adverse Events of Interest in ≥15% of Patients Receiving Treatment**

Adverse event <sup>a</sup> , n (%)	Grade 1	Grade 2	Grade≥3	Total
Subjects with any CRS <sup>a</sup>	27 (68)	10 (25)	3 (8)	40 (100)
Pyrexia	8 (20)	28 (70)	4 (10)	40 (100)
Hypotension	7 (18)	5 (13)	0(0)	12 (30)
Chills	9 (23)	1(3)	0(0)	10 (25)
Нурохіа	2 (5)	2 (5)	5 (13)	9 (23)
Sinus tachycardia	6 (15)	0(0)	0(0)	6 (15)
Subjects with any neurologic events	14 (35)	6 (15)	9 (23)	29 (73)
Confusional state	7 (18)	2 (5)	2 (5)	11 (28)
Encephalopathy	2 (5)	2 (5)	6 (15)	10 (25)
Tremor	8 (20)	2 (5)	0 (0)	10 (25)

<sup>&</sup>lt;sup>a</sup>Adverse events include those with onset on or after axi-cel infusion date and coded using MedDRA v.23.1. Neurologic events were identified using the modified blinatumomab registrational study<sup>35</sup>. CRS was graded according to Lee et al.<sup>36</sup>. The severity of all adverse events, including neurologic events and symptoms of CRS, was graded according to CTCAE v.5.0.



## Case Presentation: 77-year-old symptomatic man with longstanding CLL and Richter's transformation



Dr Mamta Choksi (New Port Richey, Florida)



## Case Presentation: 66-year-old woman with newly diagnosed nonbulky Stage II DLBCL



**Dr Kimberly Ku (Bloomington, Illinois)** 



## Management of DLBCL Where We're Headed

**PROLOGUE** 

**MODULE 1: First-Line Treatment** 

#### **MODULE 2: Bispecific Antibodies**

**Dr Morganstein:** 75-year-old man with a history of severe CHF with a pulmonary nodule and regional adenopathy that on biopsy is proven to be DLBCL

**MODULE 3: CAR T-Cell Therapy** 

**MODULE 4: Sequencing of Novel Agents** 

**MODULE 5: Appendix** 



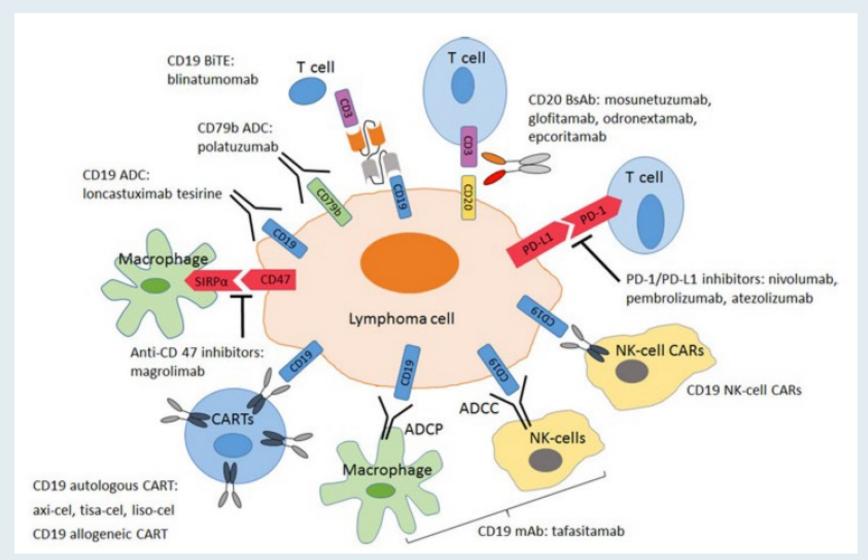
Case Presentation: 75-year-old man with a history of severe CHF with a pulmonary nodule and regional adenopathy that on biopsy is proven to be DLBCL



Dr Neil Morganstein (Summit, New Jersey)



## **Evolving Landscape of Customized Engineered and Off-the-Shelf Immunotherapies for Aggressive B-Cell Non-Hodgkin Lymphoma**



**ADCC** = antibody-dependent cell cytotoxicity

**ADCP** = antibody-dependent cellular phagocytosis

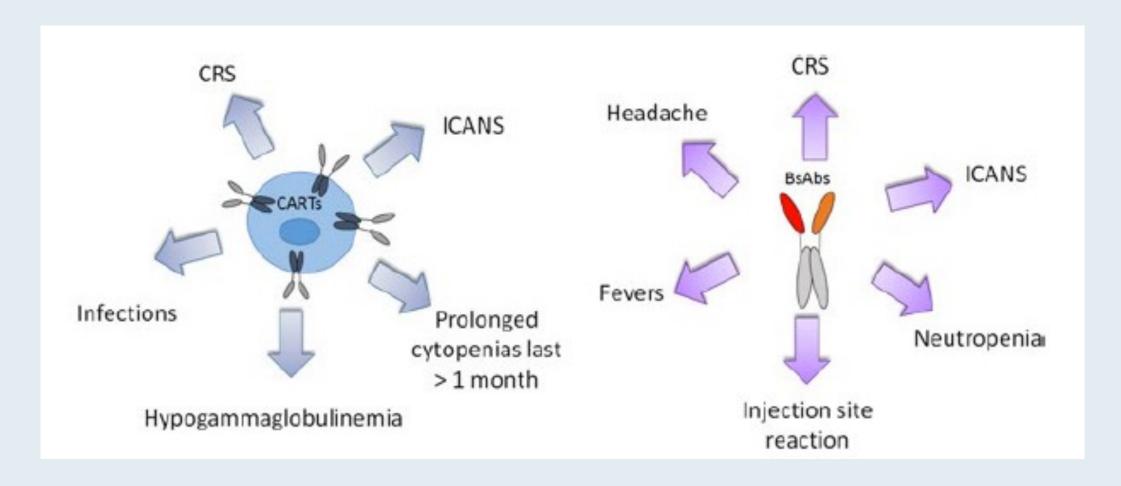
**BiTE** = bispecific T-cell engager

**PD-1** = programmed cell death 1

**PD-L1** = programmed cell death ligand 1



## CAR T or Bispecific T-Cell-Engaging Antibody Treatment-Related Adverse Effects of Interest with an Incidence of ≥10% or ≥5%



BsAb = Bispecific T-cell-engaging antibody



## **Emerging Bispecific Antibodies for DLBCL**

Bispecific antibody	Construct	Administration	
Glofitamab	CD3 (Fab) x CD20 (Fab x 2) Fc	IV	
Mosunetuzumab	CD3 x CD20 Knobs-into-holes Fc	IV, SC	
Epcoritamab	DuoBody®-CD3 x CD20	SC	
Odronextamab	CD3 x CD20 common LC Fc	IV	

IV = intravenous; SC = subcutaneous; LC = light chain



# Glofitamab in Patients with Relapsed/Refractory (R/R) Diffuse Large B-Cell Lymphoma (DLBCL) and ≥ 2 Prior Therapies: Pivotal Phase II Expansion Results

Dickinson M et al. ASCO 2022; Abstract 7500.



## **Glofitamab: Background and Mechanism of Action**

## Patients with R/R DLBCL (≥2 prior therapies) have a poor prognosis<sup>1,2</sup>

- poor outcomes are reported in patients with treatment failure after R-CHOP, particularly in those with refractory disease<sup>3</sup>
- CAR T-cell therapy is an option for patients with R/R DLBCL but its use may be limited by logistical challenges<sup>4,5</sup>

#### Glofitamab

off-the-shelf and fixed duration treatment<sup>6,7</sup>

#### Phase I experience (NCT03075696)<sup>7</sup>

- encouraging efficacy and manageable safety with glofitamab monotherapy in patients with R/R B-cell NHL<sup>6,7</sup>
- established a step-up dosing schedule and target dose (30mg) in patients with B-cell NHL in multiple cohorts<sup>8</sup>

Glofitamab: CD20xCD3 bispecific monoclonal antibody with 2:1 format for increased potency vs 1:1 format<sup>6</sup> High avidity binding to CD20 on B cells\* CD3 T-cell engagement Silent Fc region extends half-life and

reduces toxicity



## Response Rates with Glofitamab in Patients with R/R DLBCL (≥2 Prior Therapies)

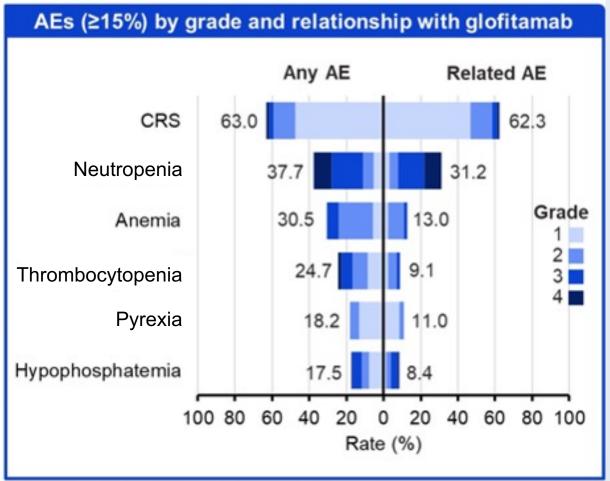
Efficacy endpoint	Glofitamab 2.5/10/30mg (n=155)		
CR rate	<b>61 (39.4%)</b> [95% CI: 31.6%, 47.5%]		
ORR	<b>80 (51.6%)</b> [95% CI: 43.5%, 59.7%]		
<ul> <li>Median duration of follow-up: 12.6 months (range: 0–22)</li> <li>Responses were achieved early: median time to first CR was 42 days (95% CI: 42, 44)</li> </ul>			
<ul> <li>At time of primary analysis, primary endpoint met in the primary efficacy population (n=108; 35.2% CR rate by IRC significantly greater (p&lt;0.0001) than 20% historical control CR rate</li> </ul>			
High CR/ORR rate at RP2D			



## Safety Profile of Glofitamab in Patients with R/R DLBCL (≥2 Prior Therapies)

n (%)	N=154
Median no. of cycles received (range)	5 (1–13)
Median relative dose intensity, % (range)	100 (94–100)
AE	152 (98.7)
Related AE	140 (90.9)
Grade 3-4 AE	87 (56.5)
Related AE	64 (41.6)
Serious AE	73 (47.4)
Related AE	46 (29.9)
Grade 5 (fatal AE)	8 (5.2)
Related AE	0
AE leading to treatment discontinuation	14 (9.1)
Related AE	5 (3.2)

.



Glofitamab was well tolerated, with a favorable safety profile



## Safety Profile of Glofitamab in Patients with R/R DLBCL (≥2 Prior Therapies) — Continued

n (%)	N=154
Infections (all grades)	59 (38.3)
Grade ≥3	23 (14.9)
Neutropenia (all grades)	58 (37.7)
Grade ≥3	41 (26.6)
Febrile neutropenia (all grades)	4 (2.6)
Grade ≥3	4 (2.6)
Tumor flare events (all grades)	17 (11.0)
Grade ≥3	4 (2.6)
Neurologic AEs (all grades)	59 (38.3)
Grade ≥3	5 (3.2)
ICANS (derived)	
All grades (CTCAE)	12 (7.8)
Grade ≥3 (CTCAE)	4 (2.6)

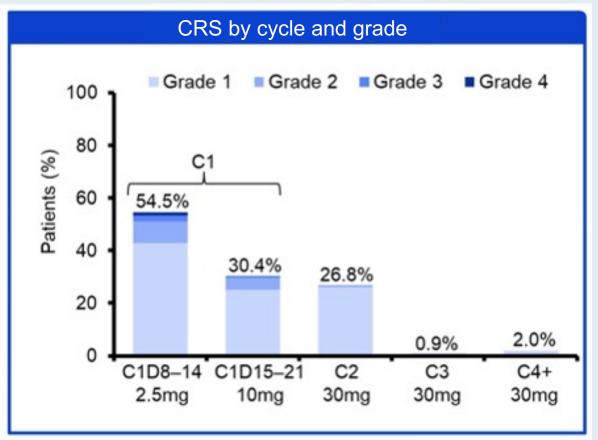
n (%)	N=154
AE leading to treatment discontinuation	14 (9.1)
Infections and infestations	6 (3.9)
Delirium	2 (1.3)
Neutropenia	2 (1.3)
Hepatobiliary disorders	1 (0.6)
Gastrointestinal hemorrhage	1 (0.6)
CRS	1 (0.6)
Melanoma recurrent	1 (0.6)

Low rate of treatment discontinuations due to AEs and low rate of ICANS events



## Incidence of Cytokine Release Syndrome with Glofitamab in Patients with R/R DLBCL (≥2 Prior Therapies)

n (%)	N=154
CRS (any grade)	97 (63.0)
Grade 1 (fever)	73 (47.4)
Grade 2	18 (11.7)
Grade 3	4 (2.6)
Grade 4	2 (1.3)
Median time to CRS onset from C1D8 dose, hours (range)	13.6 (6.2–51.8)
Corticosteroids for CRS management	27/97 (27.8)
Tocilizumab for CRS management	31/97 (32.0)



· CRS was mostly low grade, time of onset was predictable, and most events occurred during C1



## Single-Agent Mosunetuzumab Shows **Durable Complete Responses in Patients** With Relapsed or Refractory B-Cell Lymphomas: Phase I Dose-Escalation Study

Lihua E. Budde, MD1; Sarit Assouline, MD2; Laurie H. Sehn, MD3; Stephen J. Schuster, MD4; Sung-Soo Yoon, MD, PhD5; Dok Hyun Yoon, MD, PhD<sup>6</sup>; Matthew J. Matasar, MD<sup>7</sup>; Francesc Bosch, MD, PhD<sup>8</sup>; Won Seog Kim, MD, PhD<sup>9</sup>; Loretta J. Nastoupil, MD<sup>10</sup>; Ian W. Flinn, MD, PhD<sup>11</sup>; Mazyar Shadman, MD, MPH<sup>12</sup>; Catherine Diefenbach, MD<sup>13</sup>; Carol O'Hear, MD, PhD<sup>14</sup>; Huang Huang, MSc<sup>15</sup>; Antonia Kwan, MBBS, PhD14; Chi-Chung Li, PhD14; Emily C. Piccione, PhD14; Michael C. Wei, MD, PhD14; Shen Yin, PhD14; and Nancy L. Bartlett, MD16

J Clin Oncol 2022 February 10;40(5):481-91.



## Efficacy of Single-Agent Mosunetuzumab for Relapsed/Refractory B-Cell Lymphomas

Best Objective Response	Aggressive NHL <sup>b</sup> (n = 129)	Indolent NHL <sup>c</sup> (n = 68)	Post–CAR-T Therapy (n = 19)
ORR, No. (%) [95% CI]	45 (34.9) [26.7 to 43.8]	45 (66.2) [53.7 to 77.2]	7d (36.8) [16.3 to 61.6]
Complete response, No. (%) [95% CI]	25 (19.4) [13.0 to 27.3]	33 (48.5) [36.2 to 61.0]	5 (26.3) [9.2 to 51.2]
Partial response, No. (%) [95% CI]	20 (15.5) [9.7 to 22.9]	12 (17.6) [9.5 to 28.8]	2 (10.5) [1.3 to 33.1]
Stable disease, No. (%) [95% CI]	9 (7.0) [3.2 to 12.8]	13 (19.1) [10.6 to 30.5]	0 (0) [0.0 to 17.7]
Progressive disease, No. (%) [95% CI]	70 (54.3) [45.3 to 63.1]	9 (13.2) [6.2 to 23.6]	12 (63.2) [38.4 to 83.7]
Duration of response, median [95% CI], months	7.6 [5.6 to 22.8]	16.8 [11.7 to NE]	Not reported due to small sample size $(n = 7)^d$
Duration of response in patients with complete response, median [95% CI], months	22.8 [7.6 to NE]	20.4 [16.0 to NE]	Not reported due to small sample size (n = 5)

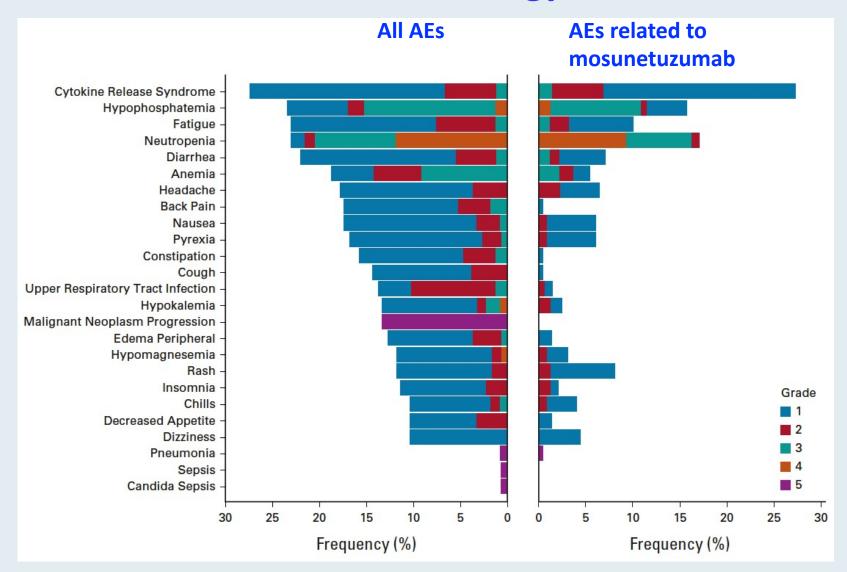
<sup>&</sup>lt;sup>a</sup> Response by computed tomography with or without fluorodeoxyglucose positron emission tomography. At data cutoff, among patients who had at least one tumor assessment, 86% had at least one positron emission tomography scan performed.



<sup>&</sup>lt;sup>b</sup> Includes patients with DLBCL (n = 82), transformed follicular lymphoma (FL; n = 26), mantle cell lymphoma (MCL; n = 13), Richter's transformation (n = 5), FL Grade IIIb (n = 1), transformed marginal zone lymphoma (MZL; n = 1) and mixed DLBCL and MCL (n = 1).

<sup>&</sup>lt;sup>c</sup> Includes patients with FL (Grade I-IIIa; n = 68), MZL (n = 2) and small lymphocytic lymphoma (n = 1).

## Adverse Events (AEs) with Incidence of Greater than 10% or National Cancer Institute-Common Terminology Criteria for AEs Grade





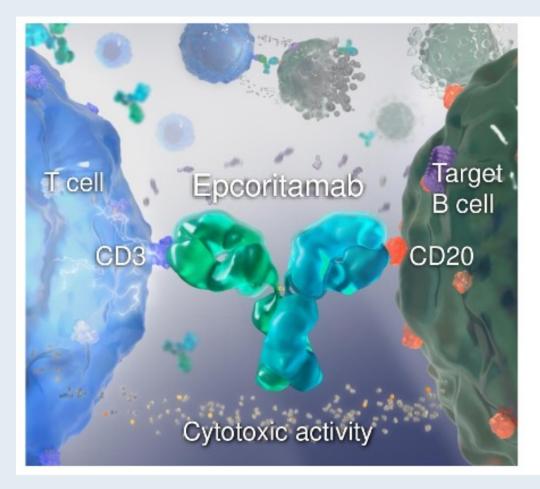
**7523** ASCO 2022

First-line treatment (Tx) with subcutaneous (SC) epcoritamab (epco) + R-CHOP in patients (pts) with high-risk diffuse large **B-cell lymphoma (DLBCL):** phase 1/2 data update

Lorenzo Falchi, MD, 1\* Fritz Offner, MD, PhD, 2 David Belada, MD, PhD, 3 Joshua Brody, MD, 4 Kim M. Linton, MBChB, PhD, 5 Yasmin Karimi, MD, 6 Raul Cordoba, MD, PhD, 7 Sylvia Snauwaert, MD, PhD, 8 Aqeel Abbas, MS, 9 Liwei Wang, PhD, 9 Jun Wu, MD, MS, 10 Brian Elliott, MD, 9 Michael Roost Clausen, MD, PhD, 11



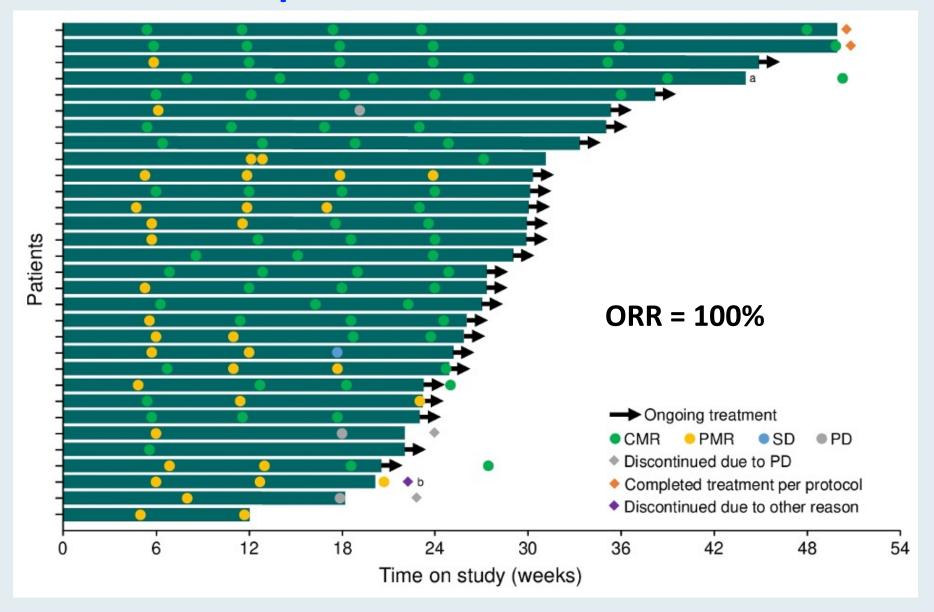
## **Epcoritamab: Background and Mechanism of Action**



- Patients with DLBCL, particularly those considered high/poor risk (ie, with 3–5 risk factors, based on the revised IPI), have poor outcomes with standard first-line therapy (R-CHOP), with 55% overall survival at 4 years<sup>1,2</sup>
  - A significant unmet need remains in this population, and new approaches are needed
- Epcoritamab is a subcutaneously administered (SC) bispecific antibody that binds to CD3 on T cells and CD20 on B cells to induce T-cell-mediated killing of CD20+ malignant B cells<sup>3,4</sup>
- Epcoritamab-mediated T-cell cytotoxicity is maintained in combination with R-CHOP<sup>3,5</sup>
- In the dose-escalation part of the EPCORE NHL-1 phase 1/2 trial, single-agent epcoritamab had a manageable safety profile and substantial antitumor activity in patients with heavily pretreated B-cell NHL<sup>6</sup>
- Epcoritamab is well suited for combination therapy due to its mechanism of action, distinct from that of the components of standard of care R-CHOP<sup>3,5,7</sup>



## **EPCORE NHL-2: Response Profile**





## **EPCORE NHL-2: Cytokine Release Syndrome (CRS)**

#### CRS Graded by Lee et al<sup>9</sup> 2019 Criteria

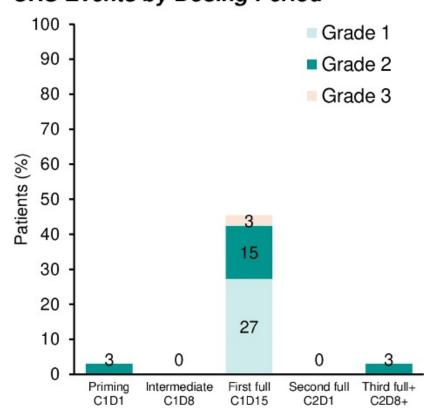
	Total N=33
CRS, n (%)	17 (52)
Grade 1	9 (27)
Grade 2	7 (21)
Grade 3	1 (3)
CRS resolution, n (%)	17 (100)
Median time to resolution, d (range) <sup>a</sup>	2 (1–11)
CRS leading to treatment discontinuation, n (%)	0
Tocilizumab use, n (%)	5 (15)

Data cutoff: March 25, 2022. 

Median is Kaplan-Meier estimate based on longest CRS duration in patients with CRS; range is defined by shortest and longest CRS duration.

CRS was mostly low grade; all cases resolved

#### CRS Events by Dosing Period 100



Data cutoff: March 25, 2022. Priming dose: n=33; intermediate dose: n=33; first full dose: n=33; second full dose: n=32; third full dose and later: n=32.

 CRS occurrence was predictable; most cases occurred following the first full dose with a median time to onset of 2 days (range, 1–4)



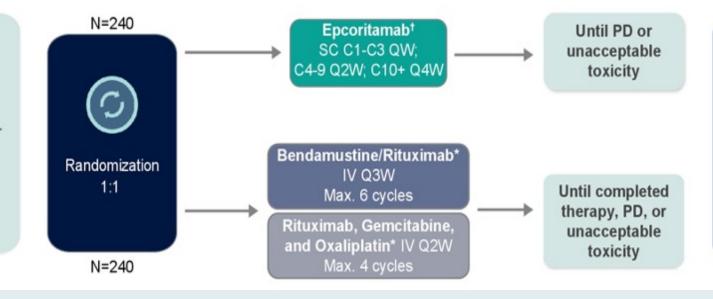
## **EPCORE DLBCL-1: Phase III Study Design**

EPCORE DLBCL-1, a pivotal phase 3, randomized, open-label, multicenter trial to evaluate the efficacy of epcoritamab compared to investigator's choice of chemotherapy in patients with R/R DLBCL, who have failed or are ineligible for HDT-ASCT



#### Key Eligibility Criteria

- R/R DLBCL or FL grade 3b
- o Failed or ineligible for HDT-ASCT
- o Received ≥1 prior systemic line
- o ECOG PS 0-2
- Measurable disease



#### **Primary Endpoint**

· Overall survival

#### Key Secondary Efficacy Endpoints<sup>‡</sup>

- · Overall response rate (ORR)
- Complete response (CR)
- Progression-free survival (PFS)
- Duration of response (DOR)
- Time to response (TTR)



## Management of DLBCL Where We Are, Where We're Headed

#### **PROLOGUE**

**MODULE 1: First-Line Treatment** 

**MODULE 2: Bispecific Antibodies** 

#### **MODULE 3: CAR T-Cell Therapy**

**Dr Yang:** 73-year-old woman with rapid relapse after R-CHOP then R-ICE/ASCT achieves a CR with CAR T-cell therapy but experiences severe pancytopenia

**Dr Mushtaq:** 45-year-old man with R-CHOP-refractory DLBCL receives polatuzumab vedotin as bridging therapy → CAR T-cell therapy on protocol

**MODULE 4: Sequencing of Novel Agents** 

**MODULE 5: Appendix** 



Case Presentation: 73-year-old woman with rapid relapse after R-CHOP then R-ICE/ASCT achieves a CR with CAR T-cell therapy but experiences severe pancytopenia



**Dr John Yang (Fall River, Massachusetts)** 



#### **Notable CAR T-Cell Therapy-Associated Toxicities**

- Cytokine Release Syndrome
- Neurologic Toxicity
  - CAR T-cell associated encephalopathy syndrome
  - ICANS (immune effector cell associated neurotoxicity syndrome)
- Prolonged Cytopenias
- B-Cell Aplasia
- Hypogammaglobulinemia



## Case Presentation: 45-year-old man with R-CHOP-refractory DLBCL receives polatuzumab vedotin as bridging therapy $\rightarrow$ CAR T-cell therapy on protocol



Dr Rao Mushtaq (Thornton, Colorado)



### **Key Issues in CAR T-Cell Therapy Selection**

- Turnaround Time for Manufacturing
- Bridging for Symptomatic or Progressive Disease
  - Radiation therapy
  - Polatuzumab vedotin
- Referral to Center for CAR T-Cell Therapy
  - Early referral is optimal after first treatment failure before initiating salvage therapy



# **Characteristics of Pivotal Trials of Axi-cel and Tisagenlecleucel**

Variable	ZUMA-1 (axi-cel)	JULIET (tisagenlecleucel)	ZUMA-7 (axi-cel group)	BELINDA (tisagenlecleucel group)	ZUMA-7 (standard-care group)	BELINDA (standard-care group)
Primary end point	Overall response rate	Overall response rate	Event-free survival	Event-free survival after wk 12	Event-free survival	Event-free survival after wk 12
Histologic type						
DLBCL, NOS — no. (%)	77 (76)	88 (79)	126 (70)	101 (62)	120 (67)	112 (70)
HGBL, DH — no./total no.	NR	19/70 (27)	31/180 (17)	32/162 (20)	25/179 (14)	19/160 (12)
HGBL, NOS — no. (%)	0	0	0	7 (4)	1 (1)	8 (5)
FL grade 3B — no. (%)	0	0	0	5 (3)	0	1 (1)
PMBL — no. (%)	8 (8)	0	0	12 (7)	0	13 (8)
Other or missing — no. (%)	0	2 (2)	23 (13)	5 (3)	33 (18)	7 (4)
Transformed lymphoma — no. (%)	16 (16)	21 (19)	19 (11)	27 (17)	27 (15)	22 (14)
Clinical outcomes						
Response — %	82	52 (efficacy cohort); 34 (ITT cohort)	83	46	50	42
Complete response — %	54	40 (efficacy cohort)	65	28	32	28
Median follow-up — mo	27.1	40.3	25	10	25	10
2-Yr progression-free survival — %	Approx. 40	Approx. 35	46	NR	27	NR
2-Yr progression-free survival among patients with com- plete response — %	72	Approx. 80	NR	NR	NR	NR
2-Yr overall survival — %	51	Approx. 45	61	NR	52	NR



# Recent FDA Approvals of CAR (Chimeric Antigen Receptor) T-Cell Therapy as Second-Line Treatment for Large B-Cell Lymphoma

June 24, 2022: "The FDA approved lisocabtagene maraleucel for adult patients with large B-cell lymphoma (LBCL) who have refractory disease to first-line chemoimmunotherapy or relapse within 12 months of first-line chemoimmunotherapy; or refractory disease to first-line chemoimmunotherapy or relapse after first-line chemoimmunotherapy and are not eligible for hematopoietic stem cell transplantation (HSCT) due to comorbidities or age. It is not indicated for the treatment of patients with primary central nervous system lymphoma." Based on the TRANSFORM study

April 1, 2022: "The FDA approved axicabtagene ciloleucel for adult patients with large B-cell lymphoma (LBCL) that is refractory to first-line chemoimmunotherapy or relapses within 12 months of first-line chemoimmunotherapy. It is not indicated for the treatment of patients with primary central nervous system lymphoma." Based on the ZUMA-7 study

www.fda.gov/drugs/resources-information-approved-drugs/fda-approves-lisocabtagene-maraleucel-second-line-treatment-large-b-cell-lymphoma





#### N Engl J Med 2022;386(7):640-54.

The NEW ENGLAND JOURNAL of MEDICINE

#### ORIGINAL ARTICLE

### Axicabtagene Ciloleucel as Second-Line Therapy for Large B-Cell Lymphoma

F.L. Locke, D.B. Miklos, C.A. Jacobson, M.-A. Perales, M.-J. Kersten, O.O. Oluwole, A. Ghobadi, A.P. Rapoport, J. McGuirk, J.M. Pagel, J. Muñoz, U. Faroog, T. van Meerten, P.M. Reagan, A. Sureda, I.W. Flinn, P. Vandenberghe, K.W. Song, M. Dickinson, M.C. Minnema, P.A. Riedell, L.A. Leslie, S. Chaganti, Y. Yang, S. Filosto, J. Shah, M. Schupp, C. To, P. Cheng, L.I. Gordon, and J.R. Westin, for All ZUMA-7 Investigators and Contributing Kite Members\*

#### Lancet 2022;399:2294-308.



🍾 📵 Lisocabtagene maraleucel versus standard of care with salvage chemotherapy followed by autologous stem cell transplantation as second-line treatment in patients with relapsed or refractory large B-cell lymphoma (TRANSFORM): results from an interim analysis of an open-label, randomised, phase 3 trial

Manali Kamdar, Scott R Solomon, Jon Arnason, Patrick B Johnston, Bertram Glass, Veronika Bachanova, Sami Ibrahimi, Stephan Mielke, Pim Mutsaers, Francisco Hernandez-Ilizaliturri, Koji Izutsu, Franck Morschhauser, Matthew Lunning, David G Maloney, Alessandro Crotta Sandrine Montheard, Alessandro Previtali, Lara Stepan, Ken Ogasawara, Timothy Mack\*, Jeremy S Abramson, for the TRANSFORM Investigators†

#### N Engl J Med 2022;386(7):629-39.

The NEW ENGLAND JOURNAL of MEDICINE

#### ORIGINAL ARTICLE

#### Second-Line Tisagenlecleucel or Standard Care in Aggressive B-Cell Lymphoma

M.R. Bishop, M. Dickinson, D. Purtill, P. Barba, A. Santoro, N. Hamad, K. Kato, A. Sureda, R. Greil, C. Thieblemont, F. Morschhauser, M. Janz, I. Flinn, W. Rabitsch, Y.-L. Kwong, M.J. Kersten, M.C. Minnema, H. Holte, E.H.L. Chan, J. Martinez-Lopez, A.M.S. Müller, R.T. Maziarz, J.P. McGuirk, E. Bachy, S. Le Gouill, M. Dreyling, H. Harigae, D. Bond, C. Andreadis, P. McSweeney, M. Kharfan-Dabaja, S. Newsome, E. Degtyarev, R. Awasthi, C. del Corral, G. Andreola, A. Masood, S.J. Schuster, U. Jäger, P. Borchmann, and J.R. Westin



# Randomized Trials Comparing Second-Line CAR T-Cell to Standard Therapy for Patients with Transplant-Eligible DLBCL with Primary Refractory Disease or Relapse within 1 Year of First-Line Therapy

	ZUMA-7	TRANSFORM	BELINDA
CAR T-cell therapy	Axicabtagene ciloleucel	Lisocabtagene maraleucel	Tisagenlecleucel
n	359	184	322
Patients infused in CAR arm	94%	98%	96%
Median EFS	8.3 mo vs 2 mo	10.1 mo vs 2.3 mo	3 mo vs 3 mo
Hazard ratio	0.398 ( <i>p</i> < 0.0001)	0.349 ( <i>p</i> < 0.0001)	1.07 ( <i>p</i> = 0.69)
Median follow-up	25 mo	6 mo	10 mo
CR rate	65% vs 32%	66% vs 39%	28% vs 28%
Grade ≥3 CRS/NT	6%/21%	1%/4%	5%/3%
	Locke et al. ASH 2021;Abstract 2.	Kamdar et al. ASH 2021;Abstract 91.	Bishop et al. ASH 2021;Abstract LBA-6.



### N Engl J Med 2022;386(7):640-54.

The NEW ENGLAND JOURNAL of MEDICINE

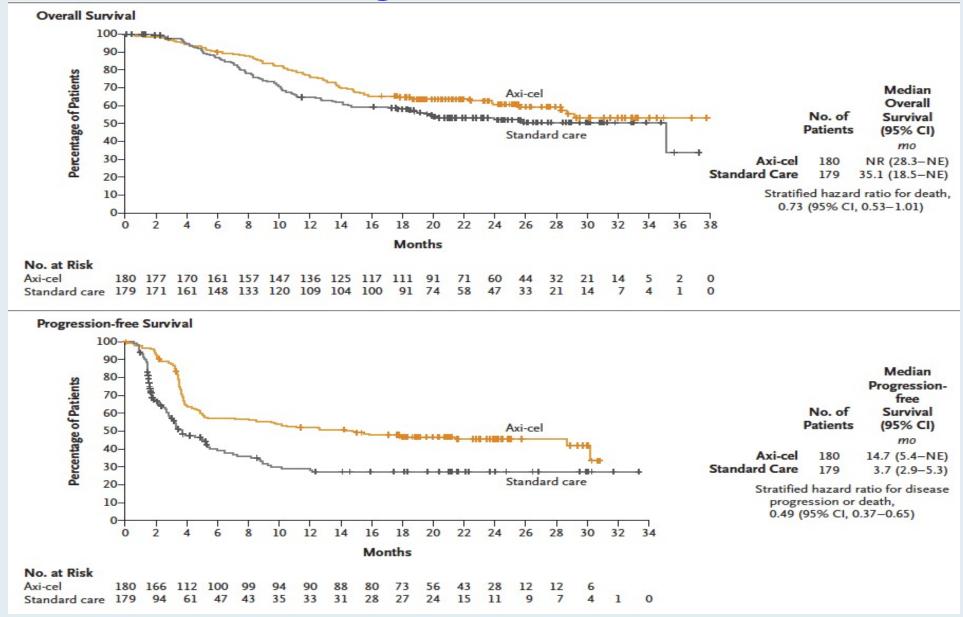
#### ORIGINAL ARTICLE

# Axicabtagene Ciloleucel as Second-Line Therapy for Large B-Cell Lymphoma

F.L. Locke, D.B. Miklos, C.A. Jacobson, M.-A. Perales, M.-J. Kersten, O.O. Oluwole, A. Ghobadi, A.P. Rapoport, J. McGuirk, J.M. Pagel, J. Muñoz, U. Farooq, T. van Meerten, P.M. Reagan, A. Sureda, I.W. Flinn, P. Vandenberghe, K.W. Song, M. Dickinson, M.C. Minnema, P.A. Riedell, L.A. Leslie, S. Chaganti, Y. Yang, S. Filosto, J. Shah, M. Schupp, C. To, P. Cheng, L.I. Gordon, and J.R. Westin, for All ZUMA-7 Investigators and Contributing Kite Members\*



### **ZUMA-7: Overall and Progression-Free Survival**







# **EHA2022**

### **HYBRID** XXX JUNE 9-17 XXX VIENNA

# Clinical and Patient-Reported Outcomes in a Phase 3 Study of Axicabtagene Ciloleucel Versus Standard of Care in Elderly Patients With Relapsed/Refractory Large B-Cell Lymphoma (ZUMA-7)

Anna Sureda, MD, PhD¹; Jason R. Westin, MD, MS, FACP²; Frederick L. Locke, MD³; Michael Dickinson, MBBS, DMEdSc⁴; Armin Ghobadi, MD⁵; Mahmoud Elsawy, MD, MSc⁶; Tom van Meerten, MD, PhD³; David B. Miklos, MD, PhD®; Matthew Ulrickson, MD⁰; Miguel-Angel Perales, MD¹0; Umar Farooq, MD¹¹; Luciano Wannesson, MD¹²; Lori Leslie, MD¹³; Marie José Kersten, MD, PhD¹⁴; Caron A. Jacobson, MD, MMSc¹⁵; John M. Pagel, MD, PhD, DSc¹⁶; Gerald Wulf, MD, PhD¹¹; Patrick Johnston, MD, PhD¹³; Aaron P. Rapoport, MD¹⁰; Leo I. Gordon, MD²⁰; Yin Yang, MD, MS²¹; Andrew Peng, MS²¹; Linqiu Du, MS²¹; Julia T. Snider, PhD²¹; Jina Shah, MD, MPH²¹\*; Marco Schupp, MD²¹; Paul Cheng, MD, PhD²¹†; Christina To, MD²¹; and Olalekan O. Oluwole, MBBS, MPH²²

<sup>1</sup>Hematology Department, Institut Català d'Oncologia-Hospitalet, IDIBELL, Universitat de Barcelona, Spain; <sup>2</sup>The University of Texas MD Anderson Cancer Center, Houston, TX, USA; <sup>3</sup>Moffitt Cancer Center, Tampa, FL, USA; <sup>4</sup>Peter MacCallum Cancer Centre, Royal Melbourne Hospital and the University of Melbourne, Melbourne, Victoria, Australia; <sup>5</sup>Washington University School of Medicine, St Louis, MO, USA; <sup>6</sup>Division of Hematology, Department of Medicine, Dalhousie University, Halifax, Nova Scotia, Canada; <sup>7</sup>University Medical Center Groningen, Groningen, The Netherlands, on behalf of HOVON/LLPC; <sup>8</sup>Stanford University School of Medicine, Stanford, CA, USA; <sup>9</sup>Banner MD Anderson Cancer Center, Gilbert, AZ, USA; <sup>10</sup>Memorial Sloan Kettering Cancer Center, New York, NY, USA; <sup>11</sup>University of lowa, lowa City, IA, USA; <sup>12</sup>Istituto Oncologico della Svizzera Italiana, Bellinzona, Switzerland; <sup>13</sup>John Theurer Cancer Center, Hackensack, NJ, USA; <sup>14</sup>Amsterdam UMC, University of Amsterdam, Amsterdam, Netherlands, on behalf of HOVON/LLPC; <sup>15</sup>Dana-Farber Cancer Institute, Boston, MA, USA; <sup>16</sup>Swedish Cancer Institute, Seattle, WA, USA; <sup>17</sup>University Medicine Göttingen, Göttingen, Germany; <sup>18</sup>Mayo Clinic, Rochester, MN, USA; <sup>19</sup>University of Maryland School of Medicine and Marlene and Stewart Greenebaum Comprehensive Cancer Center, Baltimore, MD, USA; <sup>20</sup>Northwestern University Feinberg School of Medicine, Chicago, IL, USA; <sup>21</sup>Kite, a Gilead Company, Santa Monica, CA, USA; <sup>22</sup>Vanderbilt University Cancer Center, Nashville, TN, USA

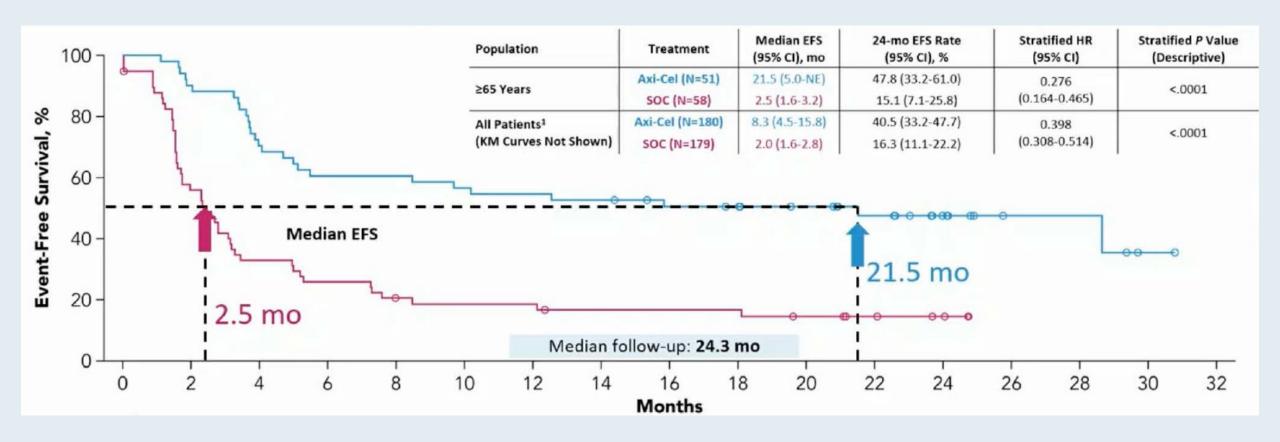


**Anna Sureda** 

**Abstract S211** 



# **ZUMA-7: Event-Free Survival per Blinded Central Review in Patients Aged ≥65 Years**





### **ZUMA-7: Select Grade ≥3 Adverse Events**

Adverse event	Axi-cel (N = 170)	SOC (N = 168)
Pyrexia	9%	1%
Neutropenia	69%	41%
Fatigue	6%	2%
Anemia	30%	39%
Thrombocytopenia	15%	57%
Febrile neutropenia	2%	27%
Cytokine release syndrome	6%	0
Neurologic event	21%	1%
Vomiting	0	1%

SOC = standard of care





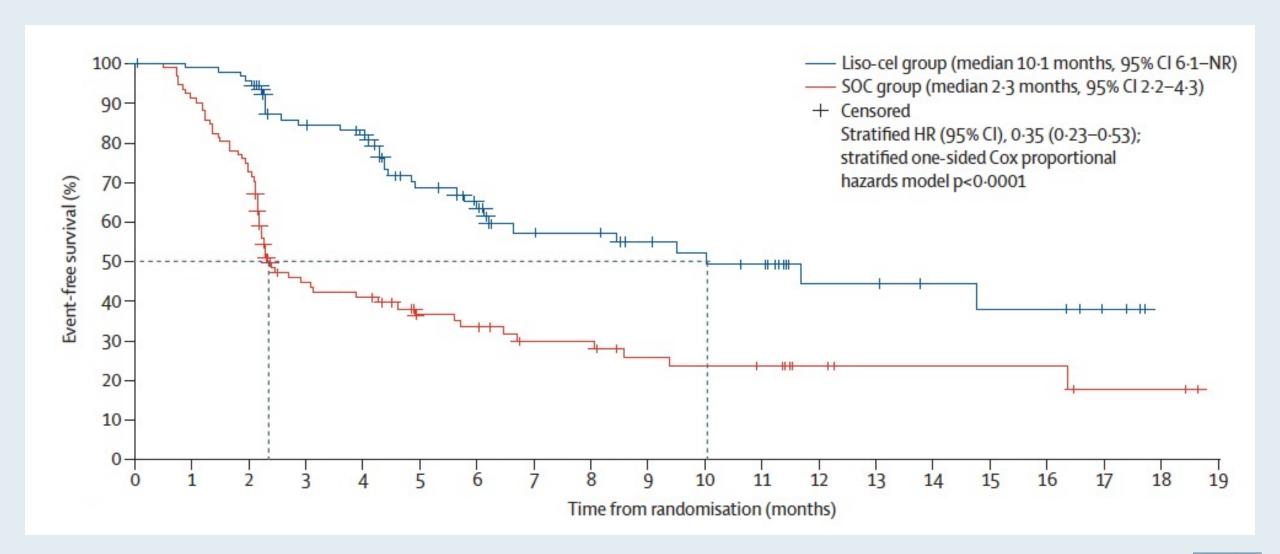
Lisocabtagene maraleucel versus standard of care with salvage chemotherapy followed by autologous stem cell transplantation as second-line treatment in patients with relapsed or refractory large B-cell lymphoma (TRANSFORM): results from an interim analysis of an open-label, randomised, phase 3 trial

Manali Kamdar, Scott R Solomon, Jon Arnason, Patrick B Johnston, Bertram Glass, Veronika Bachanova, Sami Ibrahimi, Stephan Mielke, Pim Mutsaers, Francisco Hernandez-Ilizaliturri, Koji Izutsu, Franck Morschhauser, Matthew Lunning, David G Maloney, Alessandro Crotta, Sandrine Montheard, Alessandro Previtali, Lara Stepan, Ken Ogasawara, Timothy Mack\*, Jeremy S Abramson, for the TRANSFORM Investigators†

Lancet 2022; 399: 2294-308



### **TRANSFORM:** Event-Free Survival (ITT Population, Primary Endpoint)





### N Engl J Med 2022;386(7):629-39.

The NEW ENGLAND JOURNAL of MEDICINE

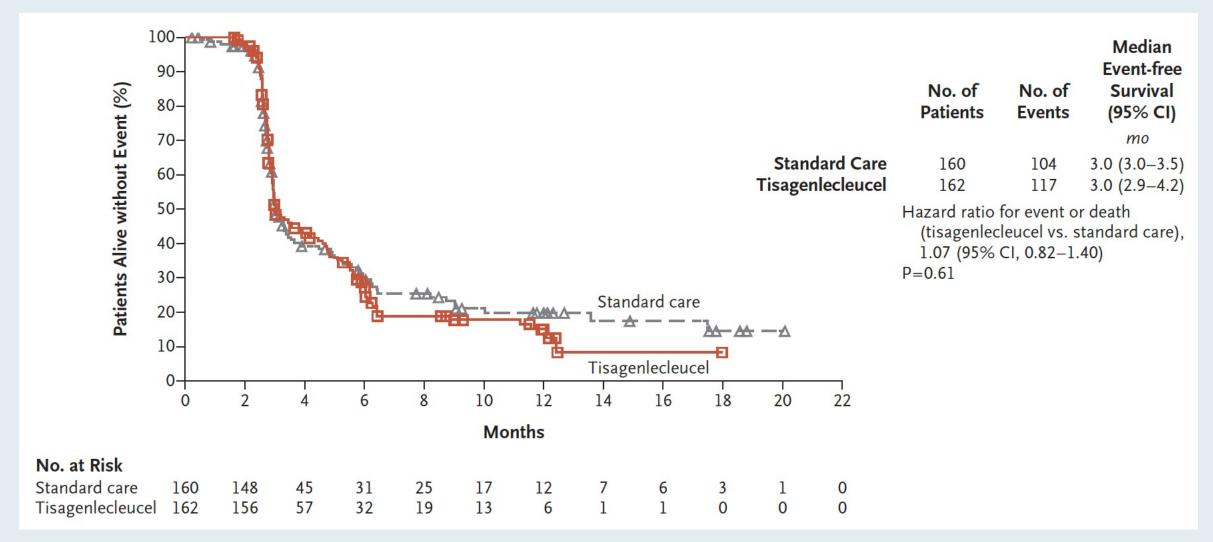
#### ORIGINAL ARTICLE

# Second-Line Tisagenlecleucel or Standard Care in Aggressive B-Cell Lymphoma

- M.R. Bishop, M. Dickinson, D. Purtill, P. Barba, A. Santoro, N. Hamad, K. Kato, A. Sureda, R. Greil, C. Thieblemont, F. Morschhauser, M. Janz, I. Flinn,
- W. Rabitsch, Y.-L. Kwong, M.J. Kersten, M.C. Minnema, H. Holte, E.H.L. Chan, J. Martinez-Lopez, A.M.S. Müller, R.T. Maziarz, J.P. McGuirk, E. Bachy,
- S. Le Gouill, M. Dreyling, H. Harigae, D. Bond, C. Andreadis, P. McSweeney, M. Kharfan-Dabaja, S. Newsome, E. Degtyarev, R. Awasthi, C. del Corral,
- G. Andreola, A. Masood, S.J. Schuster, U. Jäger, P. Borchmann, and J.R. Westin



## **BELINDA: Event-Free Survival (Primary Endpoint)**





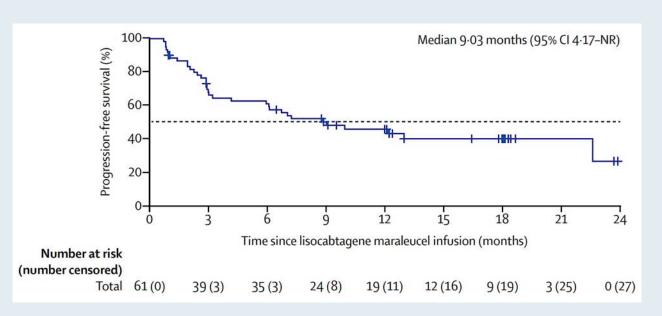


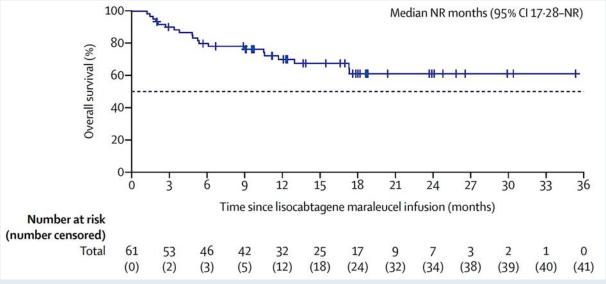
Lisocabtagene maraleucel as second-line therapy in adults with relapsed or refractory large B-cell lymphoma who were not intended for haematopoietic stem cell transplantation (PILOT): an open-label, phase 2 study

Alison Sehgal, Daanish Hoda, Peter A Riedell, Nilanjan Ghosh, Mehdi Hamadani, Gerhard C Hildebrandt, John E Godwin, Patrick M Reagan, Nina Wagner-Johnston, James Essell, Rajneesh Nath, Scott R Solomon, Rebecca Champion, Edward Licitra, Suzanne Fanning, Neel Gupta, Ronald Dubowy, Aleco D'Andrea, Lei Wang, Ken Ogasawara, Jerill Thorpe, Leo I Gordon



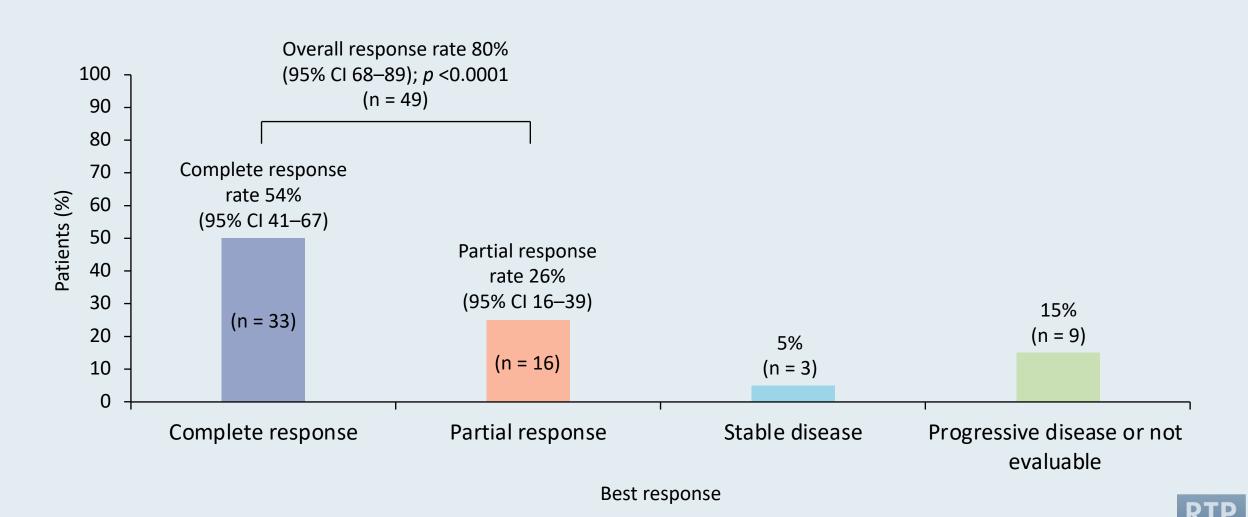
## **PILOT: Progression-Free and Overall Survival**







# PILOT: Best Response by Independent Review Committee Assessment in the Efficacy Analysis Set



### **PILOT: Patients Who Received Lisocabtagene Maraleucel (n = 61)**

Transplantation not intended criteria		
Cytokine release syndrome	30 (49%)	
Any grade	23 (38%)	
Grade 1	11 (18%)	
Grade 2	11 (18%)	
Grade 3	1 (2%)	
Grade 4 or 5	0	
Time to onset,* days	4 (3-7)	
Time to resolution,† days	4 (2-5)	
Tocilizumab, corticosteroids, or both for cytokine release syndrome	16 (26%)	
Tocilizumab only	6 (10%)	
Tocilizumab and corticosteroids	10 (16%)	
Corticosteroids only	0	

<sup>\*</sup>Time to onset was calculated from the lisocabtagene maraleucel infusion date to the first onset of cytokine release syndrome or a neurological event. Any cytokine release syndrome or a neurological event that started and stopped within 7 days was considered as a single episode.

<sup>&</sup>lt;sup>†</sup> Time to resolution of cytokine release syndrome or a neurological event was defined as the number of days from onset to when the last event of the first episode ended. Patients with an unresolved event in the first episode were excluded from the summary.



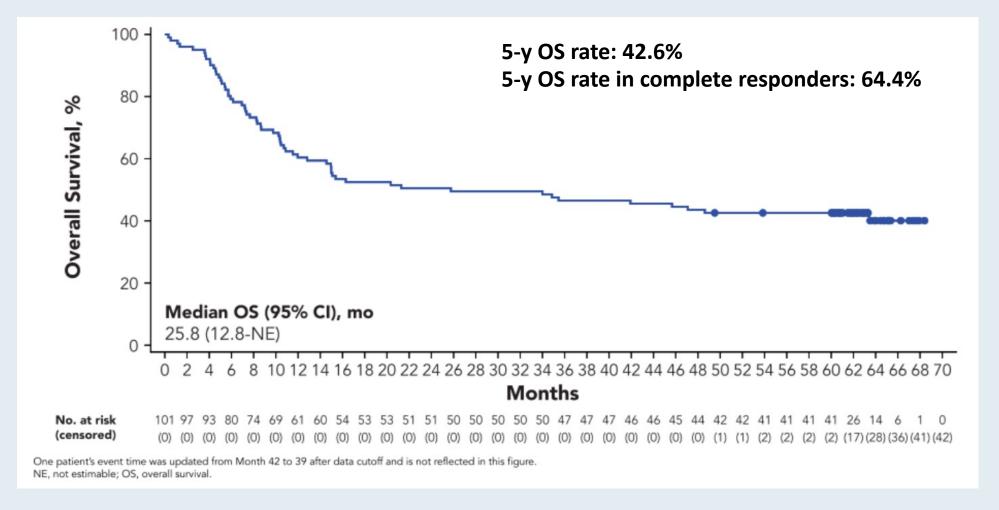
Long-Term (4- and 5-Year) Overall Survival in ZUMA-1, the Pivotal Study of Axicabtagene Ciloleucel (Axi-Cel) in Patients with Refractory Large B-Cell Lymphoma (LBCL)

Jacobson C et al.

ASH 2021; Abstract 1764.



### **ZUMA-1: Five-Year Update**



- Median time to next cancer therapy: 8.7 months
- Safety findings were similar to those in previous reports



# Management of DLBCL Where We're Headed

**PROLOGUE** 

**MODULE 1: First-Line Treatment** 

**MODULE 2: Bispecific Antibodies** 

**MODULE 3: CAR T-Cell Therapy** 

#### **MODULE 4: Sequencing of Novel Agents**

**Dr Gupta:** 68-year-old man with cardiac comorbidities and relapsed DLBCL while on R-CHOP receives second-line polatuzumab vedotin/BR

**MODULE 5: Appendix** 



# Case Presentation: 68-year-old man with cardiac comorbidities and relapsed DLBCL while on R-CHOP receives second-line polatuzumab vedotin/BR



Dr Shaachi Gupta (Lake Worth, Florida)



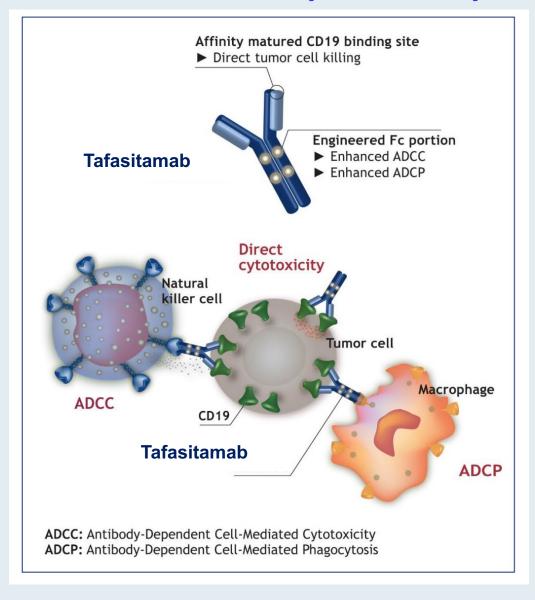
## **Novel Agents Recently Approved for Relapsed/Refractory DLBCL**

	Pola-BR	Selinexor	Tafasitamab/ lenalidomide	Loncastuximab tesirine
Mechanism of action	Anti-CD79b ADC	XPO-1 inhibitor	Anti-CD19 MAb/immunomodulator	Anti-CD19 ADC
ORR	45%	28%	58%	48%
CR rate	40%	10%	40%	24%
PFS	9.2 mo	2.6 mo	11.6 mo	4.9 mo
DOR	12.6 mo	9.3 mo	43.9 mo	10.3 mo
os	12.4 mo	NR	33.5 mo	9.9 mo

MAb = monoclonal antibody; ADC = antibody-drug conjugate



# Tafasitamab (MOR208)



Lenalidomide enhances
NK function with
enhanced ADCC in vitro



### Lancet Oncol 2020;21(7):978-88.



# Tafasitamab plus lenalidomide in relapsed or refractory diffuse large B-cell lymphoma (L-MIND): a multicentre, prospective, single-arm, phase 2 study

Gilles Salles\*, Johannes Duell\*, Eva González Barca, Olivier Tournilhac, Wojciech Jurczak, Anna Marina Liberati, Zsolt Nagy, Aleš Obr, Gianluca Gaidano, Marc André, Nagesh Kalakonda, Martin Dreyling, Johannes Weirather, Maren Dirnberger-Hertweck, Sumeet Ambarkhane, Günter Fingerle-Rowson, Kami Maddocks

As a result of the L-MIND trial, tafasitamab in combination with lenalidomide was FDA approved for patients with relapsed or refractory DLBCL not otherwise specified, including DLBCL arising from low-grade lymphoma, who are not eligible for autologous stem cell transplant.



# L-MIND: Best Objective Response According to Independent Radiology Committee or Clinical Review Committee

	Patients treated with tafasitamab plus lenalidomide (n=80)*
Best objective response	
Complete response	34 (43%; 32–54)
Partial response	14 (18%; 10–28)
Stable disease	11 (14%; 7–23)
Progressive disease	13 (16%; 9–26)
Not evaluable†	8 (10%; 4–19)
PET-confirmed complete response	30/34 (88%; 73-97)
Objective response‡	48 (60%; 48–71)
Disease control§	59 (74%; 63–83)

Data are n (%; 95% CI) or n/N (%). \*One patient received tafasitamab only. †Patients had no valid postbaseline response assessments. ‡Complete response plus partial response. §Complete response plus partial response plus stable disease.



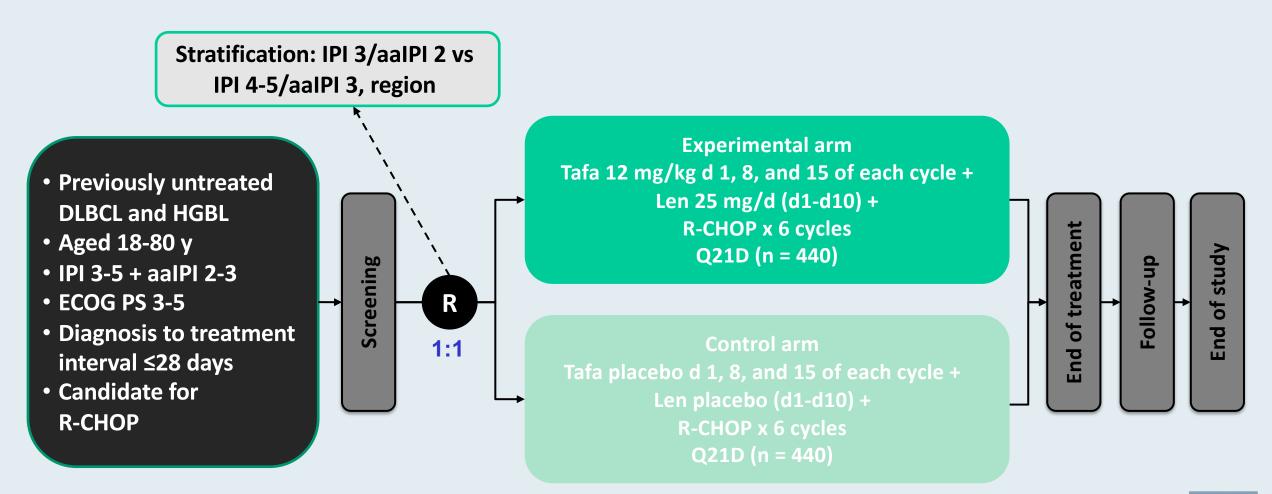
# L-MIND: Select Adverse Events and Incidence of Infusion-Related Reactions

	Grade 1-2	Grade 3-4
Neutropenia	1 (1%)	39 (49%)
Anemia	22 (27%)	6 (7%)
Thrombocytopenia	11 (14%)	14 (18%)
Febrile neutropenia	0	10 (13%)
Pneumonia	1 (1%)	5 (6%)
Pulmonary embolism	0	4 (5%)

- Treatment-emergent adverse events that led to discontinuation of tafasitamab included pneumonia, bronchitis, deep vein thrombosis and allergic dermatitis.
- Infusion-related reactions (all Grade 1) were observed in 5 (6%) patients. All occurred
  once during the first infusion and no discontinuation of infusion was required.



## frontMIND: Phase III Trial Design for Newly Diagnosed DLBCL





### Lancet Oncol 2021;22(6):790-800.



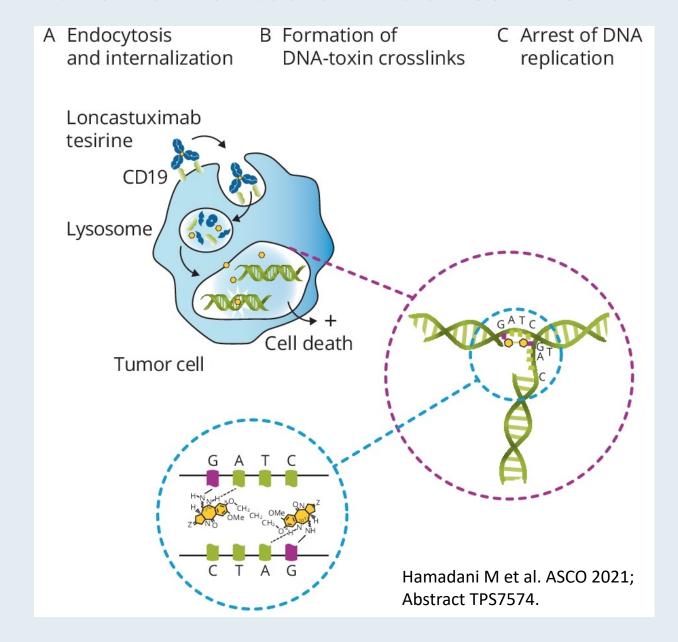
# Loncastuximab tesirine in relapsed or refractory diffuse large B-cell lymphoma (LOTIS-2): a multicentre, open-label, single-arm, phase 2 trial

Paolo F Caimi, Weiyun Ai, Juan Pablo Alderuccio, Kirit M Ardeshna, Mehdi Hamadani, Brian Hess, Brad S Kahl, John Radford, Melhem Solh, Anastasios Stathis, Pier Luiqi Zinzani, Karin Havenith, Jay Feingold, Shui He, Yajuan Qin, David Ungar, Xiaoyan Zhang, Carmelo Carlo-Stella

As a result of the LOTIS-2 trial, loncastuximab tesirine was FDA approved for patients with relapsed or refractory large B-cell lymphoma after 2 or more lines of systemic therapy, including DLBCL not otherwise specified, DLBCL arising from low-grade lymphoma and high-grade B-cell lymphoma.



### **Mechanism of Action of Loncastuximab Tesirine**





# LOTIS-2: Response and Survival with Loncastuximab Tesirine for R/R DLBCL

Response	As-treated population (N = 145)	
Overall response rate	70/145 (48.3%)	
Complete response rate	35/145 (24.1%)	
Complete response	35 (24%)	
Partial response	35 (24%)	
Stable disease	22 (15%)	
Progressive disease	30 (21%)	
Not evaluable	23 (16%)	
Survival	As-treated population (N = 145)	
Median progression-free survival	4.9 months	
Median overall survival	9.9 months	



## **LOTIS-2: Select Treatment-Emergent Adverse Events (AEs)**

Treatment-emergent AEs	Grade 1-2	Grade 3-4
Peripheral edema*	19%	1%
Anemia	16%	10%
Thrombocytopenia	15%	18%
Neutropenia	14%	26%
Pleural effusion*	8%	2%
Leukopenia	6%	9%

<sup>\*</sup> Treatment-emergent AEs considered likely to be related to the the agent's payload included edema or effusion, symptoms in the skin or nails and liver enzyme abnormalities



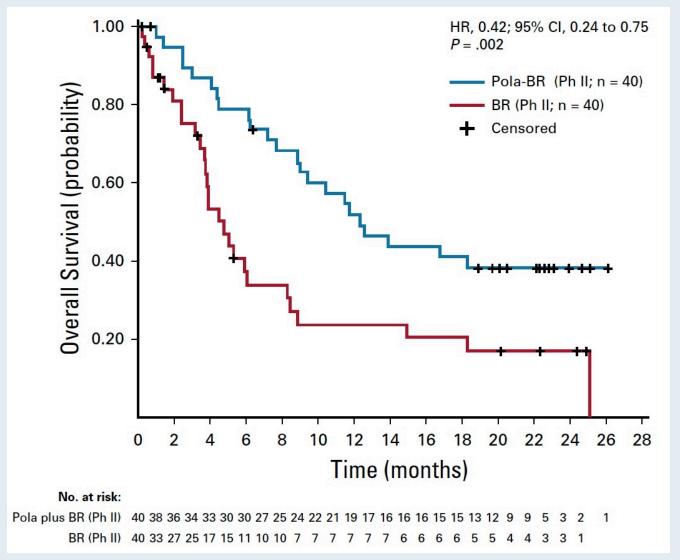
# Polatuzumab vedotin plus bendamustine and rituximab in relapsed/ refractory DLBCL: survival update and new extension cohort data

Laurie H. Sehn,<sup>1</sup> Mark Hertzberg,<sup>2</sup> Stephen Opat,<sup>3</sup> Alex F. Herrera,<sup>4</sup> Sarit Assouline,<sup>5</sup> Christopher R. Flowers,<sup>6</sup> Tae Min Kim,<sup>7</sup> Andrew McMillan,<sup>8</sup> Muhit Ozcan,<sup>9</sup> Violaine Safar,<sup>10</sup> Gilles Salles,<sup>10</sup> Grace Ku,<sup>11</sup> Jamie Hirata,<sup>11</sup> Yi Meng Chang,<sup>12</sup> Lisa Musick,<sup>11</sup> and Matthew J. Matasar<sup>13</sup>

Blood Adv 2022;6(2):533-43.



# Polatuzumab Vedotin with BR for Transplant-Ineligible R/R DLBCL: Overall Survival





# Management of DLBCL Where We Are, Where We're Headed

**PROLOGUE** 

**MODULE 1: First-Line Treatment** 

**MODULE 2: Bispecific Antibodies** 

**MODULE 3: CAR T-Cell Therapy** 

**MODULE 4: Sequencing of Novel Agents** 

**MODULE 5: Appendix** 



### **Overview of DLBCL**

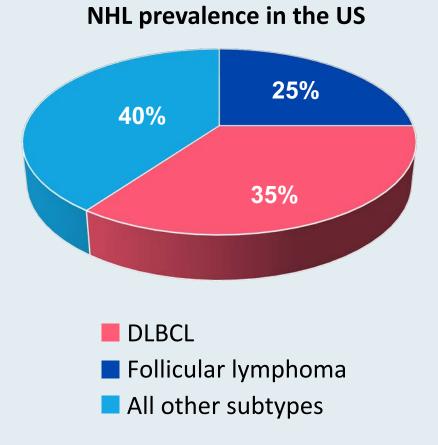


# DLBCL Is the Most Common Non-Hodgkin Lymphoma (NHL) Subtype

#### **United States patients with DLBCL**

Newly diagnosed ~28,000 per year

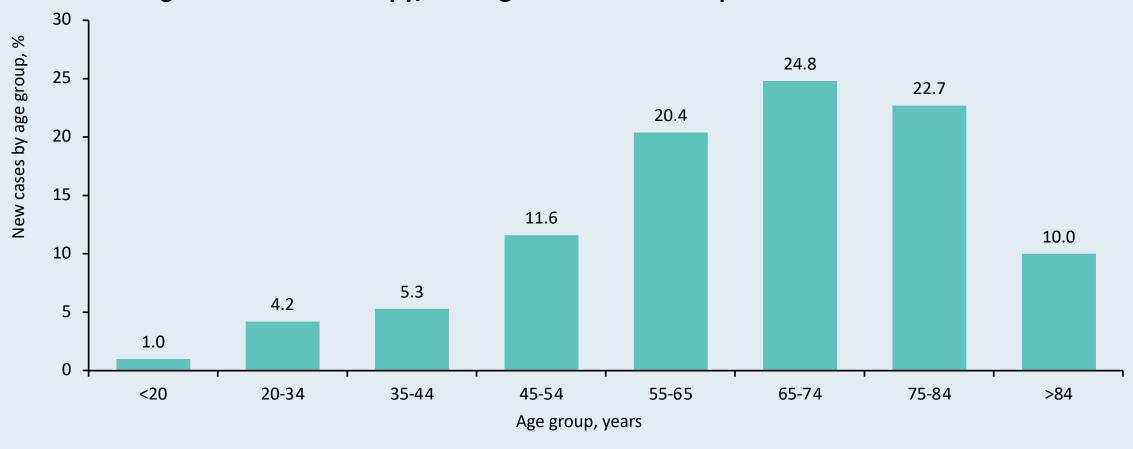
Relapsed/refractory ~11,000 per year





## **DLBCL** Incidence Increases with Age

Average patient at diagnosis is 60-65 years of age (median age = 69 years), and most are not fit for high-dose chemotherapy/autologous stem cell transplant<sup>1-4</sup>





1. https://seer.cancer.gov/statfacts/html/dlbcl.html; 2. https://www.leukaemia.org.au/wp-content/uploads/2011/11/Factsheet-Lymphoma-DLBCL.pdf; 3. Martelli M et al. *Crit Rev Oncol Hematol* 2013;87(2):146-71; 4. Broccoli A et al. *Oncologist* 2019;24(9):1246-52.

## **DLBCL: Prognosis**

#### 5-year overall survival

Germinal center: 76%

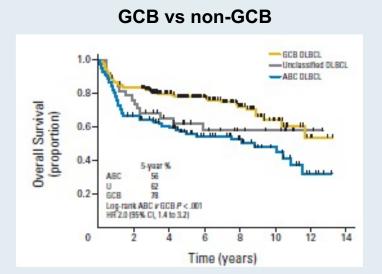
Nongerminal center: 56%

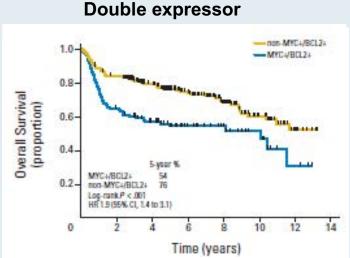
"Double expressor": 54%

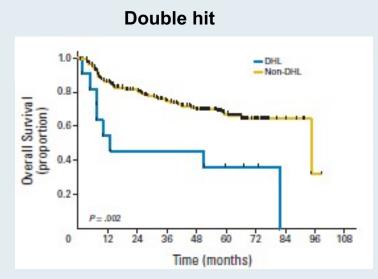
Overexpression of c-MYC and BCL2 or BCL6

Double hit: ~35%

Translocation of c-MYC and BCL2













## Double-hit lymphoma: optimizing therapy

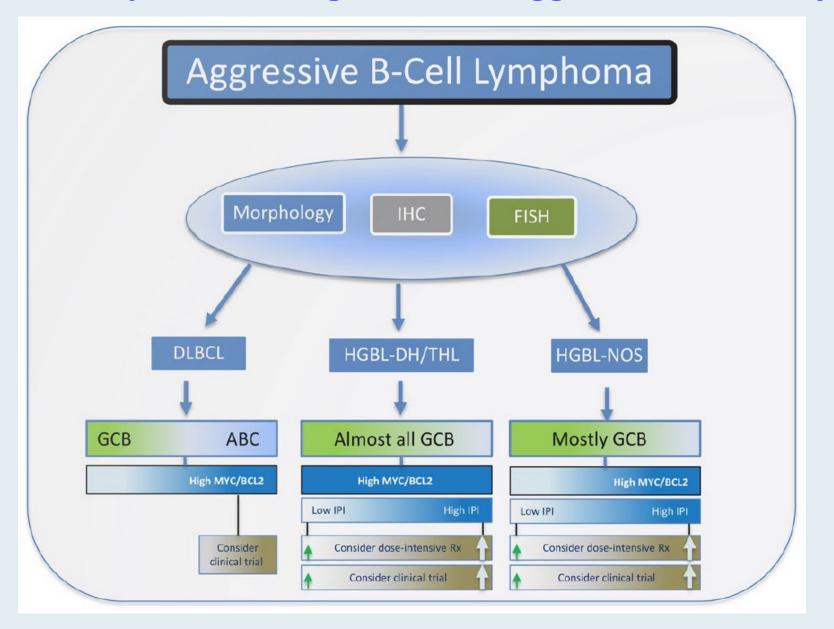
#### **Kieron Dunleavy**

Division of Hematology and Oncology, Georgetown Lombardi Comprehensive Cancer Center, Georgetown University Hospital, Washington, DC

**ASH 2021 Education Program.** 



### Outline for Workup and Management of Aggressive B-Cell Lymphomas





### R-CHOP Became the Standard Treatment >20 Years Ago

Three large randomized trials (n ≈ 2,000) in advanced-stage DLBCL for patients
 ≥60 years old show improved OS with R-CHOP versus CHOP:

At 3 years: 70% versus 57%

At 5 years: 58% versus 45%

At 10 years: 44% versus 28%

• Similar trial in advanced-stage DLBCL for patients <60 years old showed improved OS with R-CHOP versus CHOP (n = 824):

At 3 years: 93% versus 84%

At 5 years: 90% versus 80%



## **Bispecific Antibodies**





# Relapsed disease: off-the-shelf immunotherapies vs customized engineered products

#### Reem Karmali

Northwestern University Feinberg School of Medicine, Chicago, IL

**ASH 2021 Education Program.** 



# Algorithm for Preferred and Alternative Treatment Options for R/R DLBCL



- Standard:
  - high dose chemotherapy with stem cell rescue (autoSCT)
- · Alternatives for transplant ineligible
  - tafasitamab + lenalidomide (less preferred if CART planned)
  - clinical trial with high consideration for CART
- · Standard:
  - CART
- · Alternatives if prior CART or CART ineligible
  - polatuzumab +/- bendamustine +/- rituximab
  - tafasitamab + lenalidomide (less preferred if potential that patient may become eligible for CART)
  - loncastuximab tesirine (less preferred if potential that patient may become eligible for CART)
  - selinexor
  - clinical trial with high consideration for BsAb
- · Standard:
  - CART if not yet received
  - clinical trial with high consideration for BsAb if prior CART\*
- Alternatives if prior CART or CART ineligible\*
  - polatuzumab +/- bendamustine +/- rituximab
  - tafasitamab + lenalidomide (less preferred if potential that patient may become eligible for CART)
  - loncastuximab tesirine (less preferred if potential that patient may become eligible for CART)
  - selinexor



<sup>\*</sup>consider as bridge to allogeneic stem cell transplantation if appropriate

**7523** ASCO 2022

First-line treatment (Tx) with subcutaneous (SC) epcoritamab (epco) + R-CHOP in patients (pts) with high-risk diffuse large **B-cell lymphoma (DLBCL):** phase 1/2 data update

Lorenzo Falchi, MD, 1\* Fritz Offner, MD, PhD, 2 David Belada, MD, PhD, 3 Joshua Brody, MD, 4 Kim M. Linton, MBChB, PhD, 5 Yasmin Karimi, MD, 6 Raul Cordoba, MD, PhD, 7 Sylvia Snauwaert, MD, PhD, 8 Aqeel Abbas, MS, 9 Liwei Wang, PhD, 9 Jun Wu, MD, MS, 10 Brian Elliott, MD, 9 Michael Roost Clausen, MD, PhD, 11



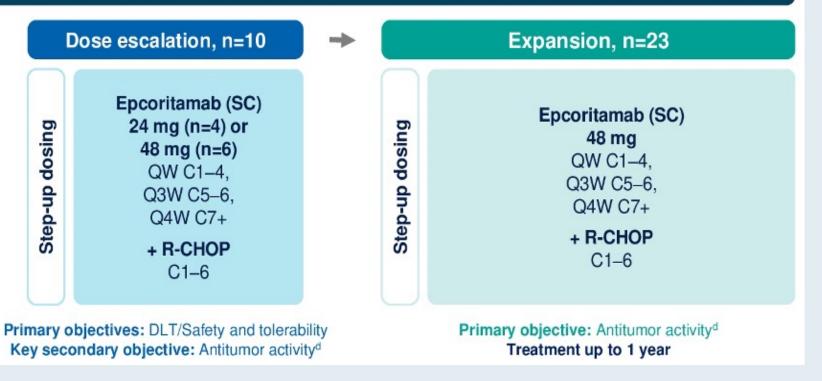
## **EPCORE NHL-2 Arm 1 Study Design**

Arm 1 of EPCORE NHL-2, a phase 1b/2, open-label, multicenter trial, is evaluating the safety and antitumor activity of SC epcoritamab + standard R-CHOP for 6 cycles of 21 days, followed by epcoritamab monotherapy for a total of 1 year, in adults with previously untreated DLBCL with high-risk features<sup>a</sup>

#### Key inclusion criteria

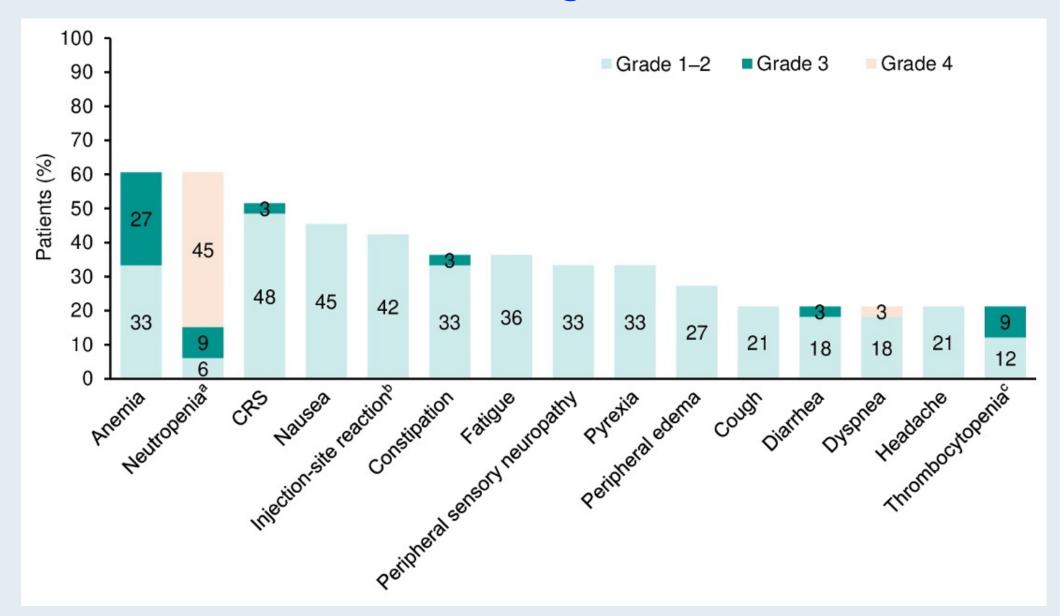
- Newly diagnosed CD20+ DLBCLb
  - DLBCL, NOS
  - T-cell/histiocyte-rich DLBCL
  - "Double-" or "triple-hit" DLBCL°
  - FL grade 3B
- IPI score ≥3
- ECOG PS 0–2
- Measurable disease by CT or MRI
- Adequate organ function

Data cutoff: March 25, 2022 Median follow-up: 6.9 mo





## **EPCORE NHL-2: Treatment-Emergent Adverse Events**





## **CAR T-Cell Therapy**





Lisocabtagene maraleucel versus standard of care with salvage chemotherapy followed by autologous stem cell transplantation as second-line treatment in patients with relapsed or refractory large B-cell lymphoma (TRANSFORM): results from an interim analysis of an open-label, randomised, phase 3 trial

Manali Kamdar, Scott R Solomon, Jon Arnason, Patrick B Johnston, Bertram Glass, Veronika Bachanova, Sami Ibrahimi, Stephan Mielke, Pim Mutsaers, Francisco Hernandez-Ilizaliturri, Koji Izutsu, Franck Morschhauser, Matthew Lunning, David G Maloney, Alessandro Crotta, Sandrine Montheard, Alessandro Previtali, Lara Stepan, Ken Ogasawara, Timothy Mack\*, Jeremy S Abramson, for the TRANSFORM Investigators†

Lancet 2022; 399: 2294-308



## **TRANSFORM: Summary of Primary and Key Secondary Endpoints**

	Liso-cel group (n=92)	Standard-of-care group (n=92)	Stratified HR (95% CI)*	p value			
Event-free survival based on IRC assessment (primary endpoint)							
Number of patients with events (%)	35 (38%)	63 (68%)					
Median (95% CI), months†	10·1 (6·1-NR)	2-3 (2-2-4-3)	0.35 (0.23-0.53)	<0.0001			
6-month rate (95% CI‡)	63.3% (52.0-74.7)	33-4% (23-0-43-8)					
12-month rate (95% CI‡)	44.5% (29.4-59.6)	23.7% (13.4-34.1)					
Complete response rate§ based on IRC assessment (key secondary endpoint)							
n (%, 95% CI)	61 (66%; 56–76)	36 (39%; 29–50)		<0.0001			
Progression-free survival based on IRC assessment (key secondary endpoint)							
Number of patients with events (%)	28 (30%)	43 (47%)					
Median (95% CI), months†	14-8 (6-6-NR)	5.7 (3.9-9.4)	0.41 (0.25-0.66)	0.0001			
6-month rate (95% CI‡)	69.4% (58.1-80.6)	47.8% (35.0-60.6)					
12-month rate (95% CI‡)	52.3% (36.7-67.9)	33.9% (20.1-47.7)					
Overall survival (key secondary endpoint)							
Number of patients with events (%)	13 (14%)	24 (26%)					
Median (95% CI), months	NR (15·8-NR)	16-4 (11-0-NR)	0.51 (0.26-1.00)	0.026			
6-month rate (95% CI‡)	91.8% (85.4-98.2)	89.4% (82.9-96.0)					
12-month rate (95% CI‡)	79.1% (67.1–91.1)	64-2% (50-5-77-9)					
Overall response rate (secondary endpoint)							
n (%, 95% CI)	79 (86%; 77–92)	44 (48%; 37–59)					



### **TRANSFORM: Select Adverse Events**

	Liso-cel group (n=92)		Standard-of-care group (n=91)	
	Grade 1–2	Grade ≥3	Grade 1–2	Grade ≥3
Any treatment-emergent adverse event	90 (98%)	85 (92%)	90 (99%)	79 (87%)
Any serious treatment-emergent adverse event	24 (26%)	31 (34%)	16 (18%)	39 (43%)
Deaths due to treatment-emergent adverse event	NA	1 (1%)*	NA	2 (2%)*
Most common treatment-emergent adverse events (	occurring in ≥10% of pa	atients in either group)		
Neutropenia	43 (47%)	74 (80%)	17 (19%)	46 (51%)
Anaemia	36 (39%)	45 (49%)	34 (37%)	45 (49%)
Thrombocytopenia	30 (33%)	45 (49%)	35 (38%)	58 (64%)
Nausea	49 (53%)	3 (3%)	52 (57%)	3 (3%)
Cytokine release syndrome	45 (49%)	1 (1%)	0	0
Prolonged cytopenia†	NA	40 (43%)	NA	3 (3%)
Headache	39 (42%)	4 (4%)	19 (21%)	1 (1%)
Fatigue	36 (39%)	0	34 (37%)	2 (2%)
Constipation	31 (34%)	2 (2%)	22 (24%)	0
Diarrhoea	23 (25%)	0	37 (41%)	3 (3%)



#### N Engl J Med 2022;386(7):629-39.

The NEW ENGLAND JOURNAL of MEDICINE

#### ORIGINAL ARTICLE

# Second-Line Tisagenlecleucel or Standard Care in Aggressive B-Cell Lymphoma

- M.R. Bishop, M. Dickinson, D. Purtill, P. Barba, A. Santoro, N. Hamad, K. Kato, A. Sureda, R. Greil, C. Thieblemont, F. Morschhauser, M. Janz, I. Flinn,
- W. Rabitsch, Y.-L. Kwong, M.J. Kersten, M.C. Minnema, H. Holte, E.H.L. Chan, J. Martinez-Lopez, A.M.S. Müller, R.T. Maziarz, J.P. McGuirk, E. Bachy,
- S. Le Gouill, M. Dreyling, H. Harigae, D. Bond, C. Andreadis, P. McSweeney, M. Kharfan-Dabaja, S. Newsome, E. Degtyarev, R. Awasthi, C. del Corral,
- G. Andreola, A. Masood, S.J. Schuster, U. Jäger, P. Borchmann, and J.R. Westin



### **BELINDA: Select Grade ≥3 Adverse Events**

Adverse event	Tisagenlecleucel (N = 162)	SOC (N = 160)	
Anemia	33.3%	57.5%	
Nausea	1.2%	6.3%	
Thrombocytopenia	32.1%	47.5%	
Neutropenia	40.1%	39.4%	
Cytokine release syndrome	4.9%	0	
Hypokalemia	4.9%	8.8%	
Diarrhea	1.9%	3.8%	
Pyrexia	0	1.9%	
Vomiting	0.6%	1.9%	



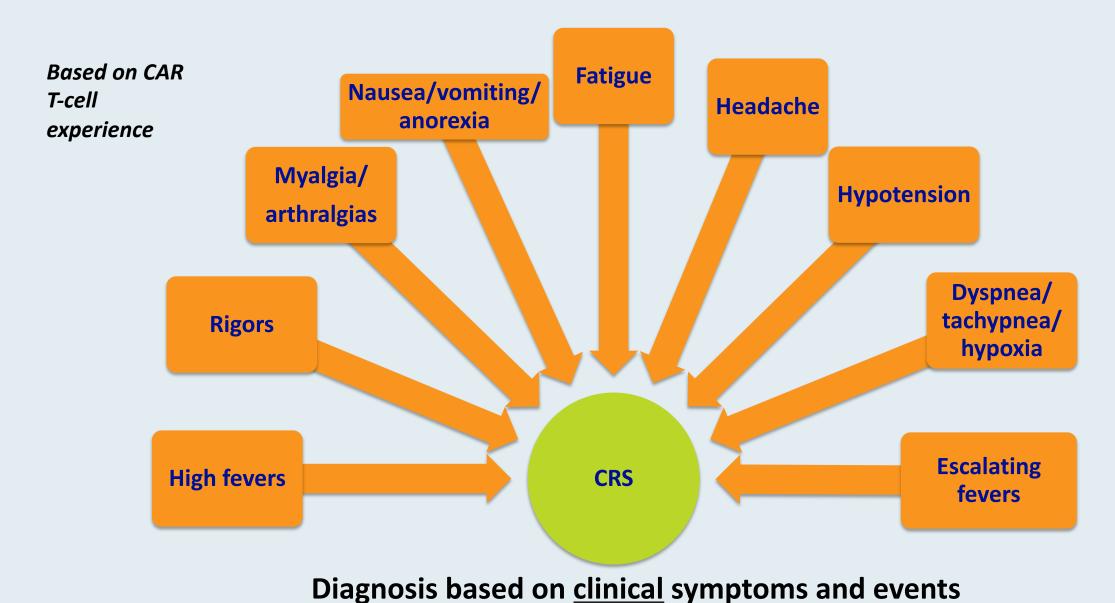
### **CAR T-Cell Therapy-Associated Cytokine Release Syndrome (CRS)**

#### **CRS** — May be mild or life-threatening

- Occurs with CART19 activation and expansion
- Dramatic cytokine elevations (IL-6, IL10, IFNy, CRP, ferritin)
- Fevers initially (can be quite high: 105°F)
- Myalgias, fatigue, nausea/anorexia
- Capillary leak, headache, hypoxia and hypotension
- CRS-related mortality 3% to 10%



## **Cytokine Release Syndrome (CRS): Common Symptoms**





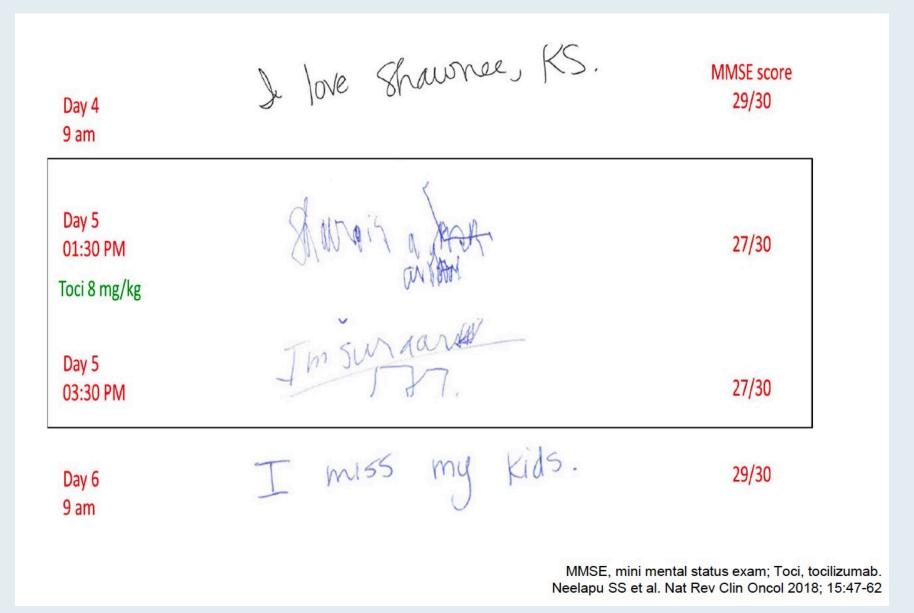
### **CAR T-Cell Therapy-Associated Neurologic Toxicity**

#### Neurologic toxicity — May be mild or life-threatening

- Mechanism unclear, referred to as immune effector cell-associated neurotoxicity syndrome (ICANS)
- Encephalopathy
- Seizures
- Delirium, confusion, aphasia, agitation, sedation, coma



# **Example of Handwriting Deterioration Associated with Neurotoxicity from CAR T-Cell Therapy**

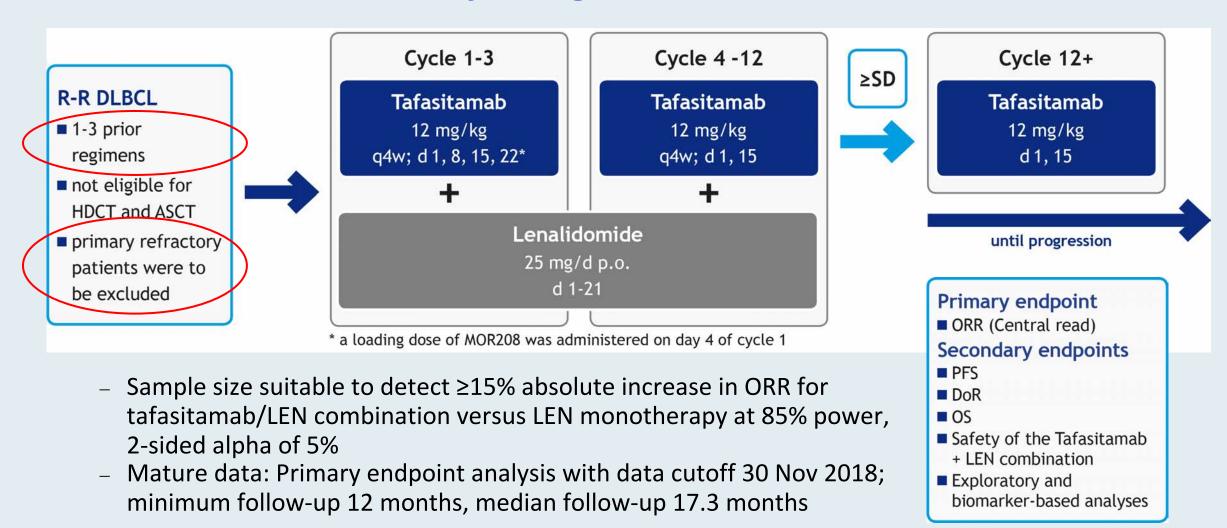




## **Sequencing of Novel Agents**



## L-MIND: Phase II Study Design



ORR = objective response rate; PFS = progression-free survival; DoR = duration of response; OS = overall survival



#### **LOTIS-2: Phase II Trial Design**

#### **Patient population:**

Patients with R/R DLBCL following ≥2 lines of prior systemic therapy

#### **Primary objective:**

Evaluate efficacy, using ORR (central review), and safety of the full Phase 2 study population



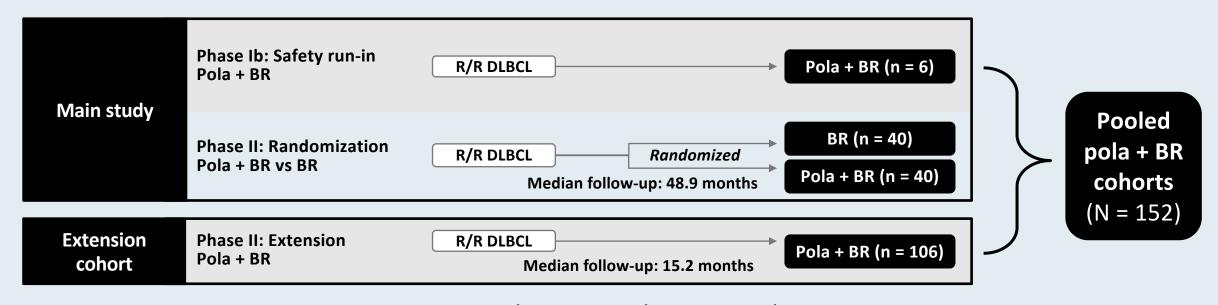
ORR = overall response rate; Lonca = loncastuximab tesirine



## GO29365: Phase Ib/II Study Design

**Inclusion:** transplant-ineligible DLBCL, ≥1 line of therapy

**Exclusion:** prior allo-SCT, history of transformation, current Grade >1 peripheral neuropathy

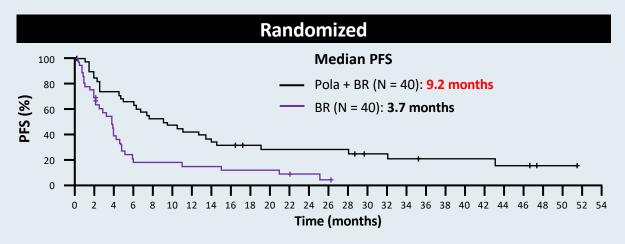


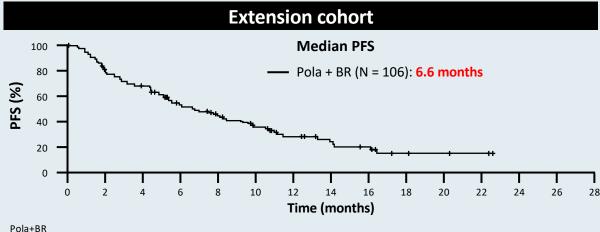
Pola = polatuzumab vedotin; BR = bendamustine/rituximab; R/R = relapsed/refractory

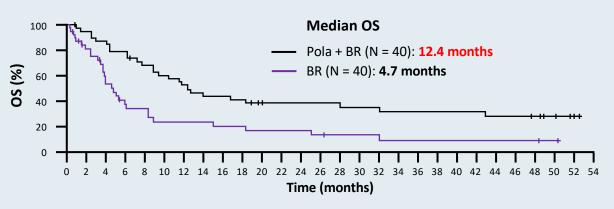
Pola 1.8 mg/kg on day 1 of each cycle of BR; up to 6 cycles at 3-weekly interval

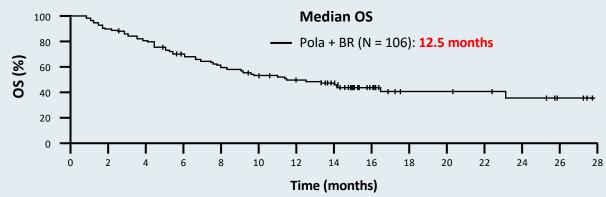


### **GO29365: PFS and OS in Randomized and Extension Cohorts**









#### **Randomized cohort:**

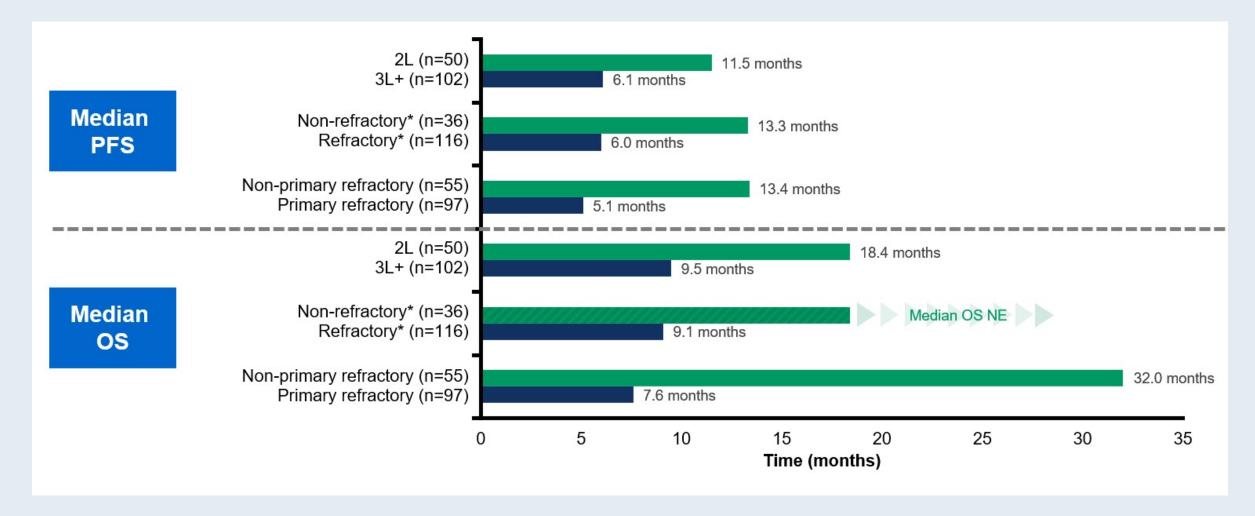
- Survival benefit persists with longer follow-up
- 2-y PFS 28.4%, 2-y OS 38.2%

#### **Pooled cohort**

Non-primary refractory:
 Median PFS 13.4 mo, median OS 32 mo



# GO29365: Median PFS and OS in the Pooled Pola + BR Cohort According to Line of Therapy and Refractory Status





# Oncology Today<sup>TM</sup> with Dr Neil Love — Management of Endometrial Cancer

A CME/MOC-Accredited Virtual Event

Wednesday, September 14, 2022 5:00 PM - 6:00 PM ET

Faculty
Michael J Birrer, MD, PhD

**Moderator Neil Love, MD** 



## Thank you for joining us!

CME and MOC credit information will be emailed to each participant within 5 business days.

