Meet The Professor Optimizing the Clinical Management of Hodgkin and Non-Hodgkin Lymphomas

Andrew M Evens, DO, MSc

Associate Vice Chancellor, Clinical Innovation and Data Analytics
Rutgers Biomedical and Health Sciences, Rutgers University
Associate Director (Clinical Services), Rutgers Cancer Institute of New Jersey
Professor of Medicine, Rutgers Robert Wood Johnson Medical School
System Director of Medical Oncology, and Oncology Lead for the Combined
Medical Group, RWJBarnabas Health
New Brunswick, New Jersey



Commercial Support

This activity is supported by educational grants from ADC Therapeutics, Bayer HealthCare Pharmaceuticals, Bristol-Myers Squibb Company, Genentech, a member of the Roche Group, Novartis and Seagen Inc.



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, 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, Merck, Mersana 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, Tesaro, A GSK Company, TG Therapeutics Inc, Turning Point Therapeutics Inc, Verastem Inc and Zymeworks Inc.

Research To Practice CME Planning Committee Members, Staff and Reviewers

Planners, scientific staff and independent reviewers for Research To Practice have no relevant conflicts of interest to disclose.

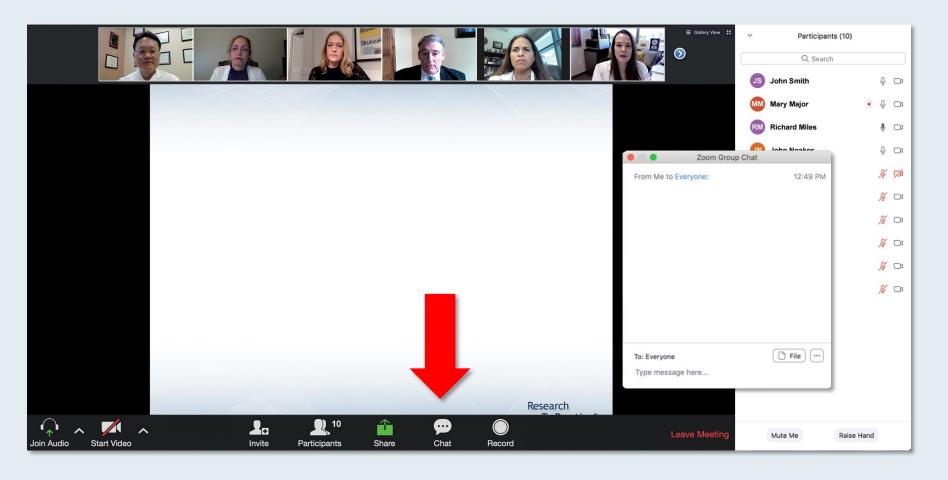


Dr Evens — Disclosures

| Advisory Committee | Epizyme Inc, HUTCHMED, Karyopharm Therapeutics, Miltenyi Biotec, MorphoSys, Pharmacyclics LLC, an AbbVie Company, Seagen Inc |
|--|--|
| Consulting Agreements | COTA, Curio Science, Patient Power |
| Data and Safety Monitoring Board/Committee | AbbVie Inc, Novartis, Pharmacyclics LLC, an AbbVie Company |



We Encourage Clinicians in Practice to Submit Questions

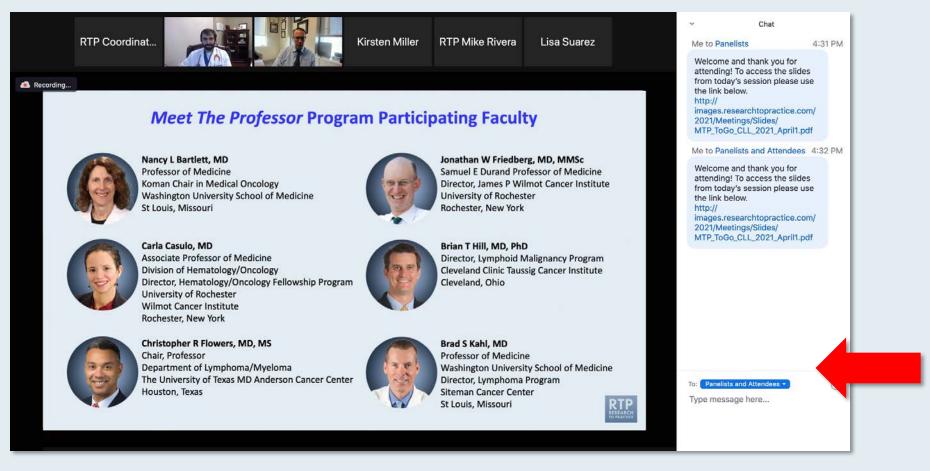


Feel free to submit questions now before the program begins and throughout the program.



Familiarizing Yourself with the Zoom Interface

Expand chat submission box

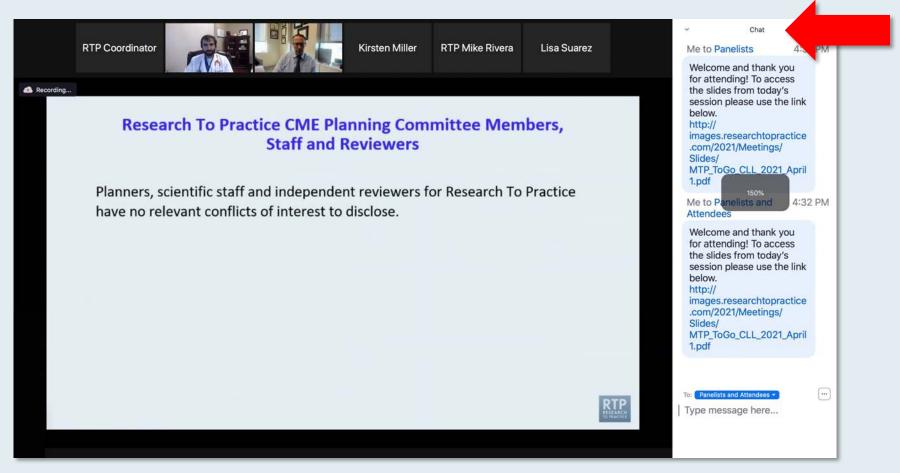


Drag the white line above the submission box up to create more space for your message.



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.



ONCOLOGY TODAY

WITH DR NEIL LOVE

Advances in the Treatment of Hodgkin and Non-Hodgkin Lymphomas from ASH 2021



DR MATTHEW LUNNING

UNIVERSITY OF NEBRASKA MEDICAL CENTER









Meet The Professor Myelofibrosis

Thursday, April 7, 2022 5:00 PM - 6:00 PM ET Faculty Professor Claire Harrison

Special Topics

- FDA approval of pacritinib
- Long-term follow-up of COMFORT trials



Year in Review: Prostate Cancer

Tuesday, April 12, 2022 5:00 PM - 6:00 PM ET

Faculty

Emmanuel S Antonarakis, MD

Additional faculty to be announced

Special Topics

• ARASENS, PROPEL, MAGNITUDE trials



Year in Review: Hepatobiliary and Pancreatic Cancers

Wednesday, April 13, 2022 5:00 PM - 6:00 PM ET

Faculty

Tanios Bekaii-Saab, MD Philip A Philip, MD, PhD, FRCP

Special Topics

- HIMALAYA, COSMIC-312 trials
- ClarIDHy, TOPAZ-1 trials



Meet The Professor Chronic Lymphocytic Leukemia

Thursday, April 14, 2022 5:00 PM - 6:00 PM ET

Faculty

Jennifer R Brown, MD, PhD

Special Topics

- Pirtobrutinib
- GLOW study



Meet The Professor Non-Small Cell Lung Cancer with an Actionable Target Beyond EGFR

Monday, April 18, 2022 5:00 PM - 6:00 PM ET

Faculty

D Ross Camidge, MD, PhD

Special Topics

 ALK+ NSCLC: First-line treatment, resistance mutations



A Complimentary NCPD Hybrid Symposium Series Held During the 47th Annual ONS Congress

Prostate Cancer

Thursday, April 28, 2022 6:00 AM - 7:30 AM PT (9:00 AM - 10:30 AM ET)

Faculty

Kathy D Burns, RN, MSN, AGACNP-BC, OCN Robert Dreicer, MD, MS Ronald Stein, JD, MSN, NP-C, AOCNP Additional faculty to be announced

Ovarian Cancer

Thursday, April 28, 2022 12:15 PM - 1:45 PM PT (3:15 PM - 4:45 PM ET)

Faculty

Jennifer Filipi, MSN, NP Kathleen N Moore, MD, MS Krishnansu S Tewari, MD Deborah Wright, MSN, APRN, AGCNS-BC

Non-Small Cell Lung Cancer

Thursday, April 28, 2022 6:00 PM - 8:00 PM PT (9:00 PM - 11:00 PM ET)

Faculty

Edward B Garon, MD, MS Kelly EH Goodwin, MSN, RN, ANP-BC Tara Plues, APRN, MSN Anne S Tsao, MD, MBA

Hepatobiliary Cancers

Thursday, April 28, 2022 8:20 PM - 9:20 PM PT (11:20 PM - 12:20 AM ET)

Faculty

Amanda K Wagner, APRN-CNP, AOCNP Additional faculty to be announced

A Complimentary NCPD Hybrid Symposium Series Held During the 47th Annual ONS Congress

Small Cell Lung Cancer

Friday, April 29, 2022 6:00 AM - 7:30 AM PT (9:00 AM - 10:30 AM ET)

Faculty

Marianne J Davies, DNP, MSN, RN, APRN Matthew Gubens, MD, MS Lowell L Hart, MD Chaely J Medley, MSN, AGNP

Chronic Lymphocytic Leukemia

Friday, April 29, 2022 12:15 PM - 1:45 PM PT (3:15 PM - 4:45 PM ET)

Faculty

Lesley Camille Ballance, MSN, FNP-BC Amy Goodrich, CRNP Anthony R Mato, MD, MSCE Susan O'Brien, MD

Breast Cancer

Friday, April 29, 2022 6:00 PM - 8:00 PM PT (9:00 PM - 11:00 PM ET)

Faculty

Jamie Carroll, APRN, MSN, CNP Sara A Hurvitz, MD Kelly Leonard, MSN, FNP-BC Hope S Rugo, MD

Acute Myeloid Leukemia and Myelodysplastic Syndromes

Friday, April 29, 2022 8:20 PM – 9:20 PM PT (11:20 PM – 12:20 AM ET)

Faculty

Faculty to be announced

A Complimentary NCPD Hybrid Symposium Series Held During the 47th Annual ONS Congress

Cervical and Endometrial Cancer

Saturday, April 30, 2022

6:00 AM - 7:30 AM PT (9:00 AM - 10:30 AM ET)

Faculty

Paula J Anastasia, MN, RN, AOCN Robert L Coleman, MD David M O'Malley, MD Jaclyn Shaver, MS, APRN, CNP, WHNP

Bladder Cancer

Saturday, April 30, 2022

12:15 PM - 1:45 PM PT (3:15 PM - 4:45 PM ET)

Faculty

Monica Averia, MSN, AOCNP, NP-C Shilpa Gupta, MD Brenda Martone, MSN, NP-BC, AOCNP Sumanta Kumar Pal, MD

Thank you for joining us!

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



Meet The Professor Optimizing the Clinical Management of Hodgkin and Non-Hodgkin Lymphomas

Andrew M Evens, DO, MSc

Associate Vice Chancellor, Clinical Innovation and Data Analytics
Rutgers Biomedical and Health Sciences, Rutgers University
Associate Director (Clinical Services), Rutgers Cancer Institute of New Jersey
Professor of Medicine, Rutgers Robert Wood Johnson Medical School
System Director of Medical Oncology, and Oncology Lead for the Combined
Medical Group, RWJBarnabas Health
New Brunswick, New Jersey



Meet The Professor Program Participating Faculty



Nancy L Bartlett, MD
Professor of Medicine
Koman Chair in Medical Oncology
Washington University School of Medicine
St Louis, Missouri



Christopher R Flowers, MD, MS
Chair, Professor
Department of Lymphoma/Myeloma
The University of Texas MD Anderson
Cancer Center
Houston, Texas



Carla Casulo, MD
Associate Professor of Medicine
Division of Hematology/Oncology
Director, Hematology/Oncology Fellowship Program
University of Rochester
Wilmot Cancer Institute
Rochester, New York



Jonathan W Friedberg, MD, MMSc Samuel E Durand Professor of Medicine Director, James P Wilmot Cancer Institute University of Rochester Rochester, New York



Associate Vice Chancellor, Clinical Innovation and Data Analytics
Rutgers Biomedical and Health Sciences, Rutgers University
Associate Director (Clinical Services), Rutgers Cancer Institute of New Jersey
Professor of Medicine, Rutgers Robert Wood Johnson Medical School
System Director of Medical Oncology, and Oncology Lead for the Combined

Medical Group, RWJBarnabas Health New Brunswick, New Jersey

Andrew M Evens, DO, MSc



Meet The Professor Program Participating Faculty



Brian T Hill, MD, PhD
Director, Lymphoid Malignancy Program
Cleveland Clinic Taussig Cancer Institute
Cleveland, Ohio



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



Brad S Kahl, MD
Professor of Medicine
Washington University School of Medicine
Director, Lymphoma Program
Siteman Cancer Center
St Louis, Missouri



Michael E Williams, MD, ScM
Byrd S Leavell Professor of Medicine
Chief, Hematology/Oncology Division
Physician Lead, Cancer Service Line
University of Virginia School of Medicine
Charlottesville, Virginia



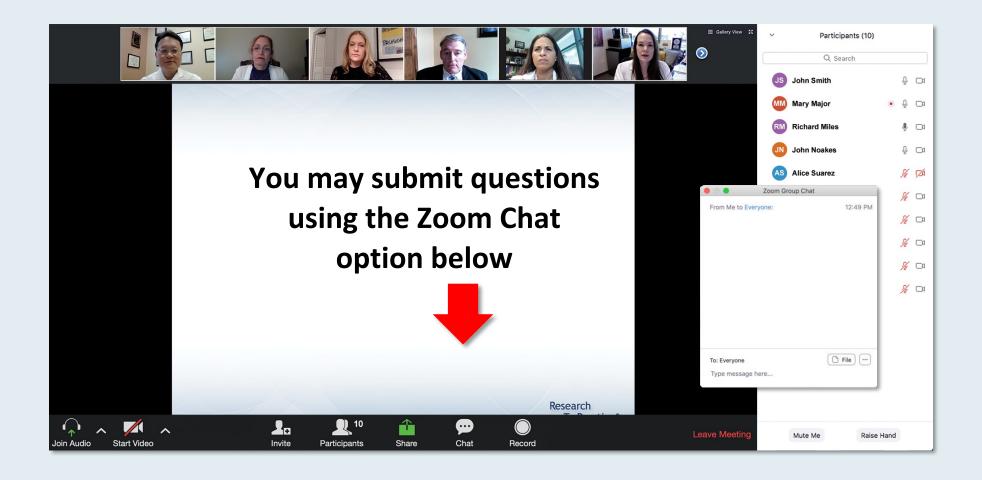
Loretta J Nastoupil, MD
Associate Professor
Section Chief, Indolent Lymphoma
Section Chief, New Drug Development
Department of Lymphoma/Myeloma
The University of Texas MD Anderson Cancer Center
Houston, Texas



Moderator
Neil Love, MD
Research To Practice
Miami, Florida



We Encourage Clinicians in Practice to Submit Questions



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



ONCOLOGY TODAY

WITH DR NEIL LOVE

Advances in the Treatment of Hodgkin and Non-Hodgkin Lymphomas from ASH 2021



DR MATTHEW LUNNING

UNIVERSITY OF NEBRASKA MEDICAL CENTER









Meet The Professor Myelofibrosis

Thursday, April 7, 2022 5:00 PM - 6:00 PM ET Faculty Professor Claire Harrison

Special Topics

- FDA approval of pacritinib
- Long-term follow-up of COMFORT trials



Year in Review: Prostate Cancer

Tuesday, April 12, 2022 5:00 PM - 6:00 PM ET

Faculty

Emmanuel S Antonarakis, MD

Additional faculty to be announced

Special Topics

• ARASENS, PROPEL, MAGNITUDE trials



Year in Review: Hepatobiliary and Pancreatic Cancers

Wednesday, April 13, 2022 5:00 PM - 6:00 PM ET

Faculty

Tanios Bekaii-Saab, MD Philip A Philip, MD, PhD, FRCP

Special Topics

- HIMALAYA, COSMIC-312 trials
- ClarIDHy, TOPAZ-1 trials



Meet The Professor Chronic Lymphocytic Leukemia

Thursday, April 14, 2022 5:00 PM - 6:00 PM ET

Faculty

Jennifer R Brown, MD, PhD

Special Topics

- Pirtobrutinib
- GLOW study



Meet The Professor Non-Small Cell Lung Cancer with an Actionable Target Beyond EGFR

Monday, April 18, 2022 5:00 PM - 6:00 PM ET

Faculty

D Ross Camidge, MD, PhD

Special Topics

 ALK+ NSCLC: First-line treatment, resistance mutations



A Complimentary NCPD Hybrid Symposium Series Held During the 47th Annual ONS Congress

Prostate Cancer

Thursday, April 28, 2022 6:00 AM - 7:30 AM PT (9:00 AM - 10:30 AM ET)

Faculty

Kathy D Burns, RN, MSN, AGACNP-BC, OCN Robert Dreicer, MD, MS Ronald Stein, JD, MSN, NP-C, AOCNP Additional faculty to be announced

Ovarian Cancer

Thursday, April 28, 2022 12:15 PM - 1:45 PM PT (3:15 PM - 4:45 PM ET)

Faculty

Jennifer Filipi, MSN, NP Kathleen N Moore, MD, MS Krishnansu S Tewari, MD Deborah Wright, MSN, APRN, AGCNS-BC

Non-Small Cell Lung Cancer

Thursday, April 28, 2022 6:00 PM - 8:00 PM PT (9:00 PM - 11:00 PM ET)

Faculty

Edward B Garon, MD, MS Kelly EH Goodwin, MSN, RN, ANP-BC Tara Plues, APRN, MSN Anne S Tsao, MD, MBA

Hepatobiliary Cancers

Thursday, April 28, 2022 8:20 PM - 9:20 PM PT (11:20 PM - 12:20 AM ET)

Faculty

Amanda K Wagner, APRN-CNP, AOCNP Additional faculty to be announced

A Complimentary NCPD Hybrid Symposium Series Held During the 47th Annual ONS Congress

Small Cell Lung Cancer

Friday, April 29, 2022 6:00 AM - 7:30 AM PT (9:00 AM - 10:30 AM ET)

Faculty

Marianne J Davies, DNP, MSN, RN, APRN Matthew Gubens, MD, MS Lowell L Hart, MD Chaely J Medley, MSN, AGNP

Chronic Lymphocytic Leukemia

Friday, April 29, 2022 12:15 PM - 1:45 PM PT (3:15 PM - 4:45 PM ET)

Faculty

Lesley Camille Ballance, MSN, FNP-BC Amy Goodrich, CRNP Anthony R Mato, MD, MSCE Susan O'Brien, MD

Breast Cancer

Friday, April 29, 2022 6:00 PM - 8:00 PM PT (9:00 PM - 11:00 PM ET)

Faculty

Jamie Carroll, APRN, MSN, CNP Sara A Hurvitz, MD Kelly Leonard, MSN, FNP-BC Hope S Rugo, MD

Acute Myeloid Leukemia and Myelodysplastic Syndromes

Friday, April 29, 2022 8:20 PM – 9:20 PM PT (11:20 PM – 12:20 AM ET)

Faculty

Faculty to be announced

A Complimentary NCPD Hybrid Symposium Series Held During the 47th Annual ONS Congress

Cervical and Endometrial Cancer

Saturday, April 30, 2022

6:00 AM - 7:30 AM PT (9:00 AM - 10:30 AM ET)

Faculty

Paula J Anastasia, MN, RN, AOCN Robert L Coleman, MD David M O'Malley, MD Jaclyn Shaver, MS, APRN, CNP, WHNP

Bladder Cancer

Saturday, April 30, 2022

12:15 PM - 1:45 PM PT (3:15 PM - 4:45 PM ET)

Faculty

Monica Averia, MSN, AOCNP, NP-C Shilpa Gupta, MD Brenda Martone, MSN, NP-BC, AOCNP Sumanta Kumar Pal, MD

Meet The Professor Optimizing the Clinical Management of Hodgkin and Non-Hodgkin Lymphomas

Andrew M Evens, DO, MSc

Associate Vice Chancellor, Clinical Innovation and Data Analytics
Rutgers Biomedical and Health Sciences, Rutgers University
Associate Director (Clinical Services), Rutgers Cancer Institute of New Jersey
Professor of Medicine, Rutgers Robert Wood Johnson Medical School
System Director of Medical Oncology, and Oncology Lead for the Combined
Medical Group, RWJBarnabas Health
New Brunswick, New Jersey



Commercial Support

This activity is supported by educational grants from ADC Therapeutics, Bayer HealthCare Pharmaceuticals, Bristol-Myers Squibb Company, Genentech, a member of the Roche Group, Novartis and Seagen Inc.

Research To Practice CME Planning Committee Members, Staff and Reviewers

Planners, scientific staff and independent reviewers for Research To Practice have no relevant conflicts of interest to disclose.



Dr Evens — Disclosures

| Advisory Committee | Epizyme Inc, HUTCHMED, Karyopharm Therapeutics, Miltenyi Biotec, MorphoSys, Pharmacyclics LLC, an AbbVie Company, Seagen Inc |
|--|--|
| Consulting Agreements | COTA, Curio Science, Patient Power |
| Data and Safety Monitoring Board/Committee | AbbVie Inc, Novartis, Pharmacyclics LLC, an AbbVie Company |





Spencer Henick Bachow, MDFAU Schmidt College of Medicine
Boca Raton, Florida



Neil Morganstein, MD Atlantic Health System Summit, New Jersey



Justin Peter Favaro, MD, PhD
Oncology Specialists of Charlotte
Charlotte, North Carolina



Priya Rudolph, MD, PhD Georgia Cancer Specialists Athens, Georgia



Ranju Gupta, MD
LVPG Hematology Oncology Associates
Lehigh Valley Health Network
Bethlehem, Pennsylvania



Raman Sood, MD Brooks Memorial Hospital Dunkirk, New York



Laurie Matt-Amaral, MD, MPH
Northeast Ohio Medical University
College of Medicine
Akron, Ohio



Meet The Professor with Dr Evens

MODULE 1: Hodgkin Lymphoma (HL)

- Dr Gupta: A 21-year-old man with Stage IVB classical HL who is recovering from COVID-19
- Dr Bachow: An 87-year-old woman with Stage III classical HL
- Dr Rudolph: A 30-year-old woman with sclerosing HL who achieved a complete response to ABVD
- Dr Sood: A 28-year-old man with Stage IIA HL

MODULE 2: Burkitt Lymphoma

MODULE 3: Diffuse Large B-Cell Lymphoma (DLBCL), Follicular Lymphoma (FL)

- Dr Favaro: A 69-year-old woman with transformed DLBCL after R-CHOP with a complete response
- Dr Gupta: A 77-year-old woman with relapsed DLBCL
- Dr Morganstein: A 63-year-old woman with Stage IIA, Grade IIIB FL
- Dr Matt-Amaral: A 59-year-old man with Grade IIIA FL

MODULE 4: Journal Club with Dr Evens

MODULE 5: Faculty Survey Results

MODULE 6: Appendix of Key Data Sets



Why?

- 1. Love Anaheim
- 2. Wanted to see if the Marriott has Diet Coke yet
- 3. Missing airports and TSA
- 4. The music
- 5. Personality disorder
- 6. No clue





Meet The Professor with Dr Evens

MODULE 1: Hodgkin Lymphoma (HL)

- Dr Gupta: A 21-year-old man with Stage IVB classical HL who is recovering from COVID-19
- Dr Bachow: An 87-year-old woman with Stage III classical HL
- Dr Rudolph: A 30-year-old woman with sclerosing HL who achieved a complete response to ABVD
- Dr Sood: A 28-year-old man with Stage IIA HL

MODULE 2: Burkitt Lymphoma

MODULE 3: Diffuse Large B-Cell Lymphoma (DLBCL), Follicular Lymphoma (FL)

- Dr Favaro: A 69-year-old woman with transformed DLBCL after R-CHOP with a complete response
- Dr Gupta: A 77-year-old woman with relapsed DLBCL
- Dr Morganstein: A 63-year-old woman with Stage IIA, Grade IIIB FL
- Dr Matt-Amaral: A 59-year-old man with Grade IIIA FL

MODULE 4: Journal Club with Dr Evens

MODULE 5: Faculty Survey Results

MODULE 6: Appendix of Key Data Sets



Case Presentation: A 21-year-old man with Stage IVB classical HL who is recovering from COVID-19



Dr Ranju Gupta (Bethlehem, Pennsylvania)



Case Presentation: An 87-year-old woman with Stage III classical HL



Dr Spencer Henick Bachow (Boca Raton, Florida)



Case Presentation: A 30-year-old woman with sclerosing HL who achieved a complete response to ABVD



Dr Priya Rudolph (Athens, Georgia)



Case Presentation: A 28-year-old man with Stage IIA HL



Dr Raman Sood (Dunkirk, New York)



Br J Haematol 2020;190(6):837-50.

How I treat advanced Hodgkin lymphoma — a global view

Peter Hokland¹, Mansi Shah², Kevin David², Andrew Evens², Rebecca Auer³, Rifca Ledieu⁴, Stefanie Kreissl⁵, Paul J. Böckelmann⁵, Peter Borchmann⁵, Anu Korula⁶, Vikram Mathews⁶, Weerapat Owattanapanich⁷, Judith Trotman⁸





American Society of Hematology 2021; Abstract 231.

Helping hematologists conquer blood diseases worldwide



Frontline Treatment with Single Agent Pembrolizumab (PEM) Followed by AVD Chemotherapy for Classic Hodgkin Lymphoma: Updated Results and Correlative Analysis

P.B. Allen¹, X. Lu², Q. Chen², K.L. O'Shea², J.S. Chmiel², L. Barnea Slonim², M. Sukhanova², H. Savas², A.M. Evens³, R. Advani⁴, B. Pro², R. Karmali², B. Palmer², E. Mou⁴, G. Dillehay², L. I. Gordon², J.N. Winter² ¹Emory University Winship Cancer Institute, Atlanta, GA; ²Robert H. Lurie Comprehensive Cancer Center and Northwestern University, Chicago, IL; 3Rutgers Cancer Institute of New Jersey, New Brunswick, NJ; 4Stanford University, Palo Alto, CA, USA









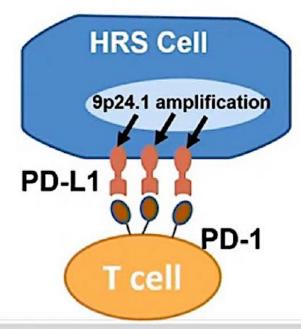
Cancer Institute of New Jersey





Background

Genomic copy number alterations (CNAs) of chromosome 9p24.1 characterize classic Hodgkin lymphoma (cHL) leading to increased expression of programmed cell death ligands -1 and -2 (PD-L1 and PD-L2).

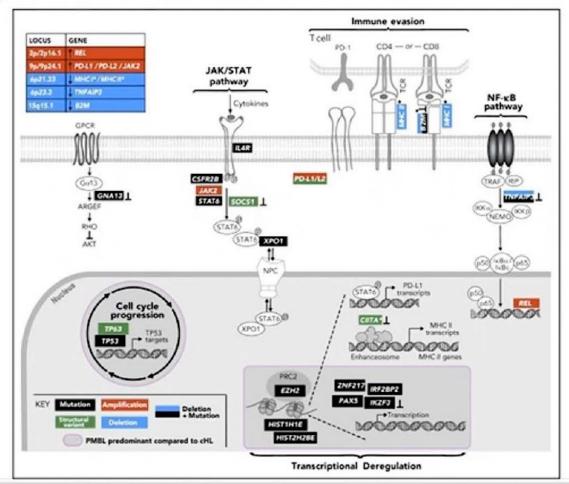




Roemer et al. J. Clin Oncol 2016; 34(23): 2690-2697



9p24.1 alterations increase PD-L1 and STAT expression



The 9p24.1 amplicon also includes *JAK2*, which further augments JAK/STAT signaling and PD-1 ligand expression



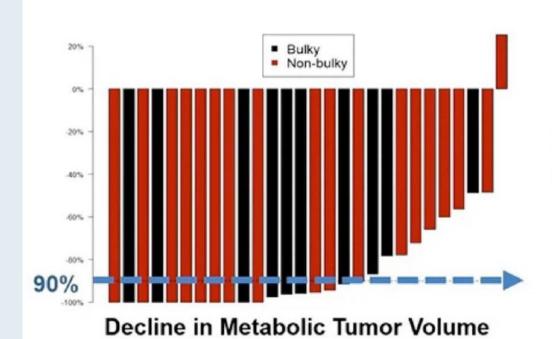


Kirsty Wienand, A. Shipp, Genomic analyses of flow-sorted Hodgkin Reed-Sternberg cells reveal complementary mechanisms of immune evasion, Blood Adv, 2019

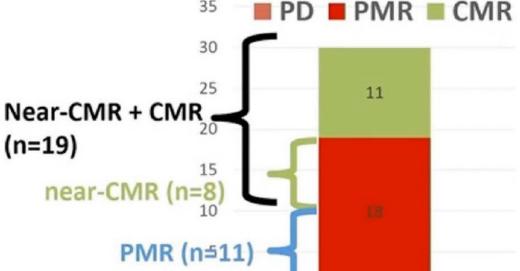




Summary of Response to Single Agent Pembrolizumab



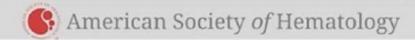
*Near-CMR = > 90% reduction in metabolic tumor volume



0

Pembrolizumab monotherapy

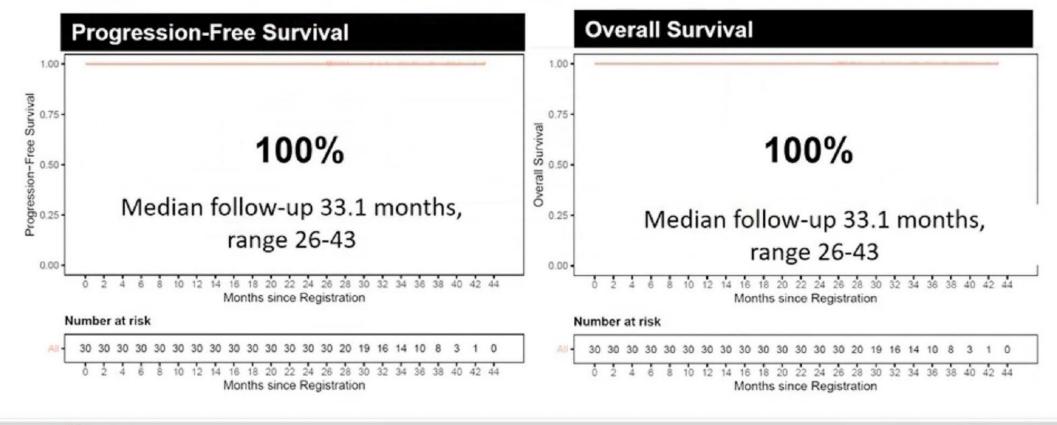
Metabolic Response



Allen PB et al. Blood (2021) 137(10): 1318-1326



Sequential pembrolizumab and AVD is associated with excellent outcomes with extended follow up







Highlights in Hodgkin Lymphoma From the 62nd American Society of Hematology Annual Meeting and Exposition: Commentary

Andrew M. Evens, DO, MSc, FACP

Clin Adv Hematol Oncol 2021;19 Suppl 7(2):20-3.



LEUKEMIA & LYMPHOMA 2020, VOL. 61, NO. 7, 1555–1564 https://doi.org/10.1080/10428194.2020.1731497



ORIGINAL ARTICLE

A systematic review of therapeutic regimens for older patients with newly diagnosed Hodgkin lymphoma

Pamela B. Allen^a, Amy Ayers^a, Madhusmita Behera^b, Andrew M. Evens^c and Christopher Flowers^d



Lymphoma (DO Persky, Section Editor)

Current Treatment Options for Older Patients with Hodgkin Lymphoma

Jordan Carter, MD¹
Kevin A. David, MD¹
Athena Kritharis, MD¹
Andrew M. Evens, DO, MSc¹,





Journal of The Ferrata Storti Foundation

Haematologica 2021;[Online ahead of print].

Older patients (aged ≥60 years) with previously untreated advanced-stage classical Hodgkin lymphoma: a detailed analysis from the phase III ECHELON-1 study

by Andrew M. Evens, Joseph M. Connors, Anas Younes, Stephen M. Ansell, Won Seog Kim, John Radford, Tatyana Feldman, Joseph Tuscano, Kerry J. Savage, Yasuhiro Oki, Andrew Grigg, Christopher Pocock, Monika Dlugosz-Danecka, Keenan Fenton, Andres Forero-Torres, Rachael Liu, Hina Jolin, Ashish Gautam, and Andrea Gallamini



Continuum of Care for Hodgkin Lymphoma: Impact of Modern Therapy on Postacute Morbidity and Mortality

Andrew M. Evens, DO, MSc¹ and Susan K. Parsons, MD, MRP²

J Clin Oncol 2020;38(35):4131-4.



Classical Hodgkin Lymphoma; Real-World Observations from Physicians, Patients, and Caregivers on the Disease and Its Treatment (CONNECT)—a Cross-Sectional Survey of Patients with Stage III or IV Classical Hodgkin Lymphoma Compared By Age

Flora DR et al.

ASH 2021; Abstract 1966.



Survivorship transition care experiences and preparedness for survivorship among a diverse population of cancer survivors in New Jersey

Eur J Cancer Care (Engl) 2022;31(2):e13553.



Leuk Lymphoma. 2020 October; 61(10): 2442-2447.

Potential Impact of Consolidation Radiation Therapy for Advanced Hodgkin Lymphoma: a Secondary Analysis of SWOG S0816

Chul S. Ha, MD¹, Michael LeBlanc, PhD², Heiko Schöder, MD³, Chelsea C. Pinnix, MD,Ph.D⁴, Nancy L. Bartlett, MD⁵, Andrew M. Evens, DO, MSc⁶, Eric D. Hsi, MD⁷, Lisa Rimsza, MD⁸, Michael V. Knopp, MD, PhD⁹, Jun Zhan, PhD⁹, John P. Leonard, MD¹⁰, Brad S. Kahl, MD⁵, Hongli Li, MS², Sonali Smith, MD¹¹, Louis S. Constine, MD^{12,*}, Jonathan W. Friedberg, MD^{12,*}



Outcomes Among Classical Hodgkin Lymphoma Patients After an Interim PET Scan: A Real-World Experience

Muhammad Saad Hamid,¹ Sarah C. Rutherford,² Hyejeong Jang,³ Seongho Kim,³ Krish Patel,⁴ Nancy L. Bartlett,⁵ Mary-Kate Malecek,⁵ Marcus P. Watkins,⁵ Kami J. Maddocks,⁶ David A. Bond,⁶ Tatyana A. Feldman,⁷ Gabriela Magarelli,⁷ Ranjana H Advani,⁸ Michael A Spinner,⁸ Andrew M. Evens,⁹ Mansi Shah,⁹ Sairah Ahmed,¹⁰ Deborah M. Stephens,¹¹ Pamela Allen,¹² Michael T. Tees,¹³ Reem Karmali,¹⁴ Bruce D. Cheson,¹⁵ Maryam Sarraf Yazdy,¹⁵ Christopher Strouse,¹⁶ Neil A. Bailey,⁴ John M. Pagel,⁴ Radhakrishnan Ramchandren¹⁷

Clin Lymphoma Myeloma Leuk 2021:[Online ahead of print].



Meet The Professor with Dr Evens

MODULE 1: Hodgkin Lymphoma (HL)

- Dr Gupta: A 21-year-old man with Stage IVB classical HL who is recovering from COVID-19
- Dr Bachow: An 87-year-old woman with Stage III classical HL
- Dr Rudolph: A 30-year-old woman with sclerosing HL who achieved a complete response to ABVD
- Dr Sood: A 28-year-old man with Stage IIA HL

MODULE 2: Burkitt Lymphoma

MODULE 3: Diffuse Large B-Cell Lymphoma (DLBCL), Follicular Lymphoma (FL)

- Dr Favaro: A 69-year-old woman with transformed DLBCL after R-CHOP with a complete response
- Dr Gupta: A 77-year-old woman with relapsed DLBCL
- Dr Morganstein: A 63-year-old woman with Stage IIA, Grade IIIB FL
- Dr Matt-Amaral: A 59-year-old man with Grade IIIA FL

MODULE 4: Journal Club with Dr Evens

MODULE 5: Faculty Survey Results

MODULE 6: Appendix of Key Data Sets



Burkitt Lymphoma International Prognostic Index

Adam J. Olszewski, MD¹; Lasse H. Jakobsen, PhD²; Graham P. Collins, MD, DPhil³; Kate Cwynarski, MBBS, PhD⁴; Veronika Bachanova, MD⁵; Kristie A. Blum, MD⁶; Kirsten M. Boughan, DO⁷; Mark Bower, MD˚; Alessia Dalla Pria, MD˚; Alexey Danilov, MD, PhD⁰; Kevin A. David, MD¹0; Catherine Diefenbach, MD¹¹; Fredrik Ellin, MD, PhD¹²; Narendranath Epperla, MD, MS¹³; Umar Farooq, MD¹⁴; Tatyana A. Feldman, MD¹⁵; Alina S. Gerrie, MD, MPH¹⁶; Deepa Jagadeesh, MD¹⁷; Manali Kamdar, MD, MBBS¹³; Reem Karmali, MD, MSc¹⁰; Shireen Kassam, MBBS, PhD²⁰; Vaishalee P. Kenkre, MD²¹; Nadia Khan, MD²²; Seo-Hyun Kim, MD²³; Andreas K. Klein, MD²⁴; Izidore S. Lossos, MD²⁵; Matthew A. Lunning, DO²⁶; Peter Martin, MD, MS²⁷; Nicolas Martinez-Calle, MD, PhD²³; Silvia Montoto, MD²⁰; Seema Naik, MD³⁰; Neil Palmisiano, MD, MS³¹; David Peace, MD³²; Elizabeth H. Phillips, MBBS, BSc³³; Tycel J. Phillips, MD³⁴; Craig A. Portell, MD³⁵; Nishitha Reddy, MD, MBBS³⁶; Anna Santarsieri, MBBS³⁷; Maryam Sarraf Yazdy, MD³³; Knut B. Smeland, MD³⁰; Scott E. Smith, MD, PhD⁴⁰; Stephen D. Smith, MD⁴¹; Suchitra Sundaram, MD⁴²; Adam S. Zayac, MD¹; Xiao-Yin Zhang, PhD³; Catherine Zhu, MD⁴; Chan Y. Cheah, MBBS⁴³; Tarec C. El-Galaly, MD⁴⁴; Andrew M. Evens, DO, MSc¹⁰; on behalf of The Burkitt Lymphoma International Prognostic Index consortium

J Clin Oncol 2021;39(10):1129-38.



Outcomes of Burkitt Lymphoma (BL) Managed in Academic (Acad) or Community (Comm) Centers: Real-world Evidence (RWE) from 30 US sites

Olszewski AJ et al.

ASCO 2020; Abstract 8043.





Haematologica 2021 Volume 106(7):1932-1942

Outcomes of Burkitt lymphoma with central nervous system involvement: evidence from a large multicenter cohort study

Adam S. Zayac,^{1*} Andrew M. Evens,^{2*} Alexey Danilov,³ Stephen D. Smith,⁴ Deepa Jagadeesh,⁵ Lori A. Leslie,⁶ Catherine Wei,² Seo-Hyun Kim,⁷ Seema Naik,⁸ Suchitra Sundaram,⁹ Nishitha Reddy,¹⁰ Umar Farooq,¹¹ Vaishalee P Kenkre,¹² Narendranath Epperla,¹³ Kristie A. Blum,¹⁴ Nadia Khan,¹⁵ Daulath Singh,¹⁶ Juan P. Alderuccio,¹⁷ Amandeep Godara,¹⁸ Maryam Sarraf Yazdy,¹⁹ Catherine Diefenbach,²⁰ Emma Rabinovich,²¹ Gaurav Varma,²² Reem Karmali,²³ Yusra Shao,⁵ Asaad Trabolsi,¹⁷ Madelyn Burkart,²³ Peter Martin,²² Sarah Stettner,²¹ Ayushi Chauhan,¹⁹ Yun Kyong Choi,²⁰ Allandria Straker-Edwards,¹⁵ Andreas Klein,¹⁸ Michael C. Churnetski,¹⁴ Kirsten M. Boughan,²⁴ Stephanie Berg,¹⁶ Bradley M Haverkos,²⁵ Victor M. Orellana-Noia,²⁶ Christopher D'Angelo,¹² David A Bond,¹³ Seth M. Maliske,¹¹ Ryan Vaca,⁸ Gabriella Magarelli,⁶ Amy Sperling,⁴ Max J. Gordon,³ Kevin A. David,² Malvi Savani,²⁷ Paolo Caimi,²⁴ Manali Kamdar,²⁵ Matthew A. Lunning,²⁸ Neil Palmisiano,²⁹ Parameswaran Venugopal,⁷ Craig A Portell,²⁶ Veronika Bachanova,²⁷ Tycel Phillips,³⁰ Izidore S. Lossos¹⁷ and Adam J. Olszewski¹



REGULAR ARTICLE



HIV-associated Burkitt lymphoma: outcomes from a US-UK collaborative analysis

Juan Pablo Alderuccio, ^{1,*} Adam J. Olszewski, ^{2,*} Andrew M. Evens, ^{3,*} Graham P. Collins, ⁴ Alexey V. Danilov, ⁵ Mark Bower, ⁶ Deepa Jagadeesh, ⁷ Catherine Zhu, ⁸ Amy Sperling, ⁹ Seo-Hyun Kim, ¹⁰ Ryan Vaca, ¹¹ Catherine Wei, ³ Suchitra Sundaram, ¹² Nishitha Reddy, ¹³ Alessia Dalla Pria, ⁶ Christopher D'Angelo, ¹⁴ Umar Farooq, ¹⁵ David A. Bond, ¹⁶ Stephanie Berg, ¹⁷ Michael C. Churnetski, ¹⁸ Amandeep Godara, ¹⁹ Nadia Khan, ²⁰ Yun Kyong Choi, ²¹ Shireen Kassam, ²² Maryam Yazdy, ²³ Emma Rabinovich, ²⁴ Frank A. Post, ²² Gaurav Varma, ²⁵ Reem Karmali, ²⁶ Madelyn Burkart, ²⁶ Peter Martin, ²⁵ Albert Ren, ²⁴ Ayushi Chauhan, ²³ Catherine Diefenbach, ²¹ Allandria Straker-Edwards, ²⁰ Andreas Klein, ¹⁹ Kristie A. Blum, ¹⁸ Kirsten Marie Boughan, ²⁷ Agrima Mian, ⁷ Bradley M. Haverkos, ²⁸ Victor M. Orellana-Noia, ¹⁸ Vaishalee P. Kenkre, ¹⁴ Adam Zayac, ² Seth M. Maliske, ¹⁵ Narendranath Epperla, ¹⁶ Paolo Caimi, ²⁷ Scott E. Smith, ¹⁷ Manali Kamdar, ²⁸ Parameswaran Venugopal, ¹⁰ Tatyana A. Feldman, ²⁹ Daniel Rector, ²⁹ Stephen D. Smith, ⁹ Andrzej Stadnik, ³⁰ Craig A. Portell, ³¹ Yong Lin, ³ Seema Naik, ¹¹ Silvia Montoto, ³² Izidore S. Lossos, ^{1,†} and Kate Cwynarski^{8,†}





Blood. 2021 Jan 21; 137(3): 374-386.

doi: 10.1182/blood.2020006926: 10.1182/blood.2020006926

Burkitt lymphoma in the modern era: real-world outcomes and prognostication across 30 US cancer centers

Andrew M. Evens, Alexey Danilov, Deepa Jagadeesh, Amy Sperling, Seo-Hyun Kim, Ryan Vaca, Catherine Wei, Daniel Rector, Suchitra Sundaram, Nishitha Reddy, Yong Lin, Mary Farooq, Christopher D'Angelo, David A. Bond, Stephanie Berg, Michael C. Churnetski, Amandeep Godara, Nadia Khan, Kyun Kyong Choi, Maryam Yazdy, Emma Rabinovich, Gaurav Varma, Reem Karmali, Agrima Mian, Malvi Savani, Malvi Savani, Madelyn Burkart, Peter Martin, Albert Ren, Albert Ren, Albert Ren, Albert Ren, Kirsten Marie Boughan, Scott E. Smith, Marad M. Haverkos, Victor M. Orellana-Noia, Kristie A. Blum, Kirsten Marie Boughan, Scott E. Smith, Maliske, Narendranath Epperla, Narendranath Epperla, Parameswaran Venugopal, Tatyana A. Feldman, Stephen D. Smith, Andrzej Stadnik, Kevin A. David, Seema Naik, Izidore S. Lossos, Matthew A. Lunning, Paolo Caimi, Manali Kamdar, Nalle Palmisiano, Veronika Bachanova, Craig A. Portell, Tycel Phillips, Adam J. Olszewski, Stephen D. Albert Renders Amandar, Andrzej Stadnik, Andrzej Stylen Renders Rend



Meet The Professor with Dr Evens

MODULE 1: Hodgkin Lymphoma (HL)

- Dr Gupta: A 21-year-old man with Stage IVB classical HL who is recovering from COVID-19
- Dr Bachow: An 87-year-old woman with Stage III classical HL
- Dr Rudolph: A 30-year-old woman with sclerosing HL who achieved a complete response to ABVD
- Dr Sood: A 28-year-old man with Stage IIA HL

MODULE 2: Burkitt Lymphoma

MODULE 3: Diffuse Large B-Cell Lymphoma (DLBCL), Follicular Lymphoma (FL)

- Dr Favaro: A 69-year-old woman with transformed DLBCL after R-CHOP with a complete response
- Dr Gupta: A 77-year-old woman with relapsed DLBCL
- Dr Morganstein: A 63-year-old woman with Stage IIA, Grade IIIB FL
- Dr Matt-Amaral: A 59-year-old man with Grade IIIA FL

MODULE 4: Journal Club with Dr Evens

MODULE 5: Faculty Survey Results

MODULE 6: Appendix of Key Data Sets



Case Presentation: A 69-year-old woman with transformed DLBCL after R-CHOP with a complete response



Dr Justin Peter Favaro (Charlotte, North Carolina)



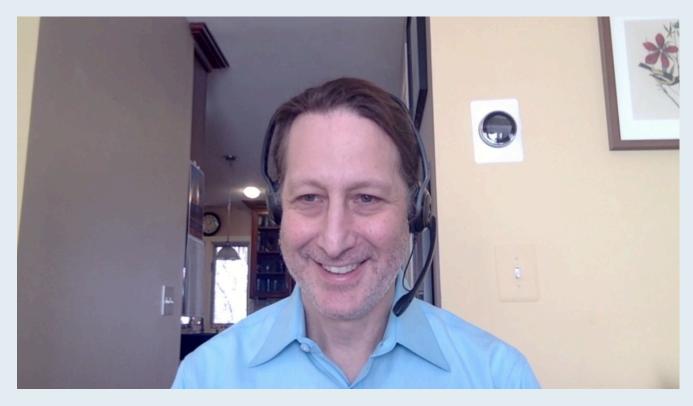
Case Presentation: A 77-year-old woman with relapsed DLBCL



Dr Ranju Gupta (Bethlehem, Pennsylvania)



Case Presentation: A 63-year-old woman with Stage IIA, Grade IIIB FL



Dr Neil Morganstein (Summit, New Jersey)



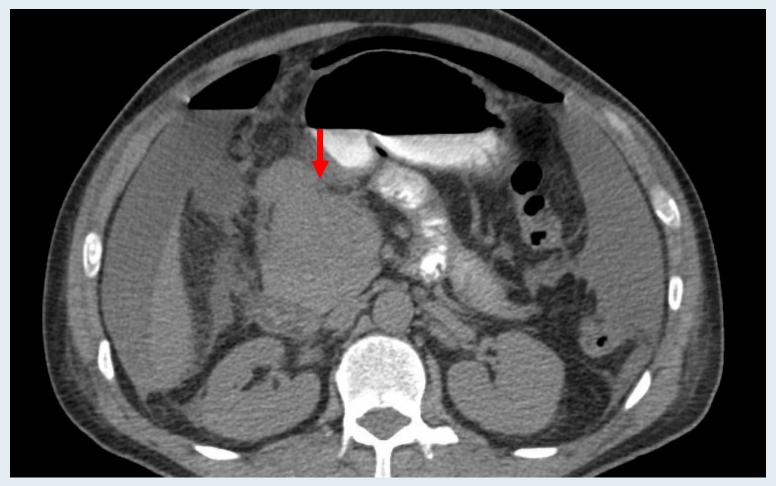
Case Presentation: A 59-year-old man with Grade IIIA FL



Dr Laurie Matt-Amaral (Akron, Ohio)



Case Presentation: A 59-year-old man with Grade IIIA FL (continued)



CT with perforation at diagnosis



Meet The Professor with Dr Evens

MODULE 1: Hodgkin Lymphoma (HL)

- Dr Gupta: A 21-year-old man with Stage IVB classical HL who is recovering from COVID-19
- Dr Bachow: An 87-year-old woman with Stage III classical HL
- Dr Rudolph: A 30-year-old woman with sclerosing HL who achieved a complete response to ABVD
- Dr Sood: A 28-year-old man with Stage IIA HL

MODULE 2: Burkitt Lymphoma

MODULE 3: Diffuse Large B-Cell Lymphoma (DLBCL), Follicular Lymphoma (FL)

- Dr Favaro: A 69-year-old woman with transformed DLBCL after R-CHOP with a complete response
- Dr Gupta: A 77-year-old woman with relapsed DLBCL
- Dr Morganstein: A 63-year-old woman with Stage IIA, Grade IIIB FL
- Dr Matt-Amaral: A 59-year-old man with Grade IIIA FL

MODULE 4: Journal Club with Dr Evens

MODULE 5: Faculty Survey Results

MODULE 6: Appendix of Key Data Sets



Real World (RW) Outcomes and Prognostication of Older Patients with Primary Central Nervous System Lymphoma (PCNSL) in the Contemporary Era

David KA et al.

ASH 2020; Abstract 476.



A Multi-Institution Analysis of Relapsed Lymphoma Occurring During Pregnancy Including Pharmacokinetics with Antenatal Checkpoint Inhibitor Therapy

Farooq F et al.

ASH 2021; Abstract 2457.



Current Oncology Reports (2020) 22: 113 https://doi.org/10.1007/s11912-020-00972-1

LYMPHOMAS (MR SMITH, SECTION EDITOR)

Lymphoma Occurring During Pregnancy: Current Diagnostic and Therapeutic Approaches

Mansi R. Shah¹ · Justin S. Brandt² · Kevin A. David¹ · Andrew M. Evens¹



Leuk Lymphoma 2021;[Online ahead of print].

LEUKEMIA & LYMPHOMA https://doi.org/10.1080/10428194.2021.2012660





ORIGINAL ARTICLE

Treatment patterns for relapsed and refractory Hodgkin lymphoma in a community oncology setting

Anita J. Kumar^{a,b} , Chun R. Chao^c , Angie Mae Rodday^a, Hong Chang^a, Lanfang Xu^d, Andrew M. Evens^e and Susan K. Parsons^{a,b,f}



Classical Hodgkin Lymphoma; Real-World
Observations from Physicians, Patients, and
Caregivers on the Disease and Its Treatment
(CONNECT): Observations of Physicians on Treatment
and Interim PET-Adapted Regimens

Parons SK et al.

ASH 2021; Abstract 1390.



Treatment Strategies for Advanced Classical Hodgkin Lymphoma in the Classical Hodgkin Lymphoma in the Times of **Dacarbazine Shortage**

Pallawi Torka, MBBS, MD1; Eugene Przespolewski, PharmD1; and Andrew M. Evens, DO2

JCO Oncol Pract 2022; [Online ahead of print].



Meet The Professor with Dr Evens

MODULE 1: Hodgkin Lymphoma (HL)

- Dr Gupta: A 21-year-old man with Stage IVB classical HL who is recovering from COVID-19
- Dr Bachow: An 87-year-old woman with Stage III classical HL
- Dr Rudolph: A 30-year-old woman with sclerosing HL who achieved a complete response to ABVD
- Dr Sood: A 28-year-old man with Stage IIA HL

MODULE 2: Burkitt Lymphoma

MODULE 3: Diffuse Large B-Cell Lymphoma (DLBCL), Follicular Lymphoma (FL)

- Dr Favaro: A 69-year-old woman with transformed DLBCL after R-CHOP with a complete response
- Dr Gupta: A 77-year-old woman with relapsed DLBCL
- Dr Morganstein: A 63-year-old woman with Stage IIA, Grade IIIB FL
- Dr Matt-Amaral: A 59-year-old man with Grade IIIA FL

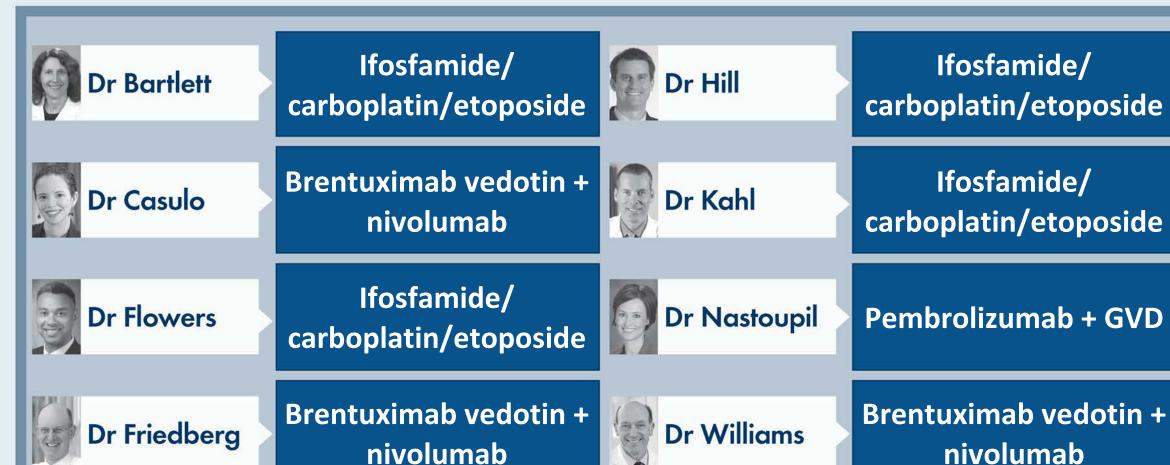
MODULE 4: Journal Club with Dr Evens

MODULE 5: Faculty Survey Results

MODULE 6: Appendix of Key Data Sets

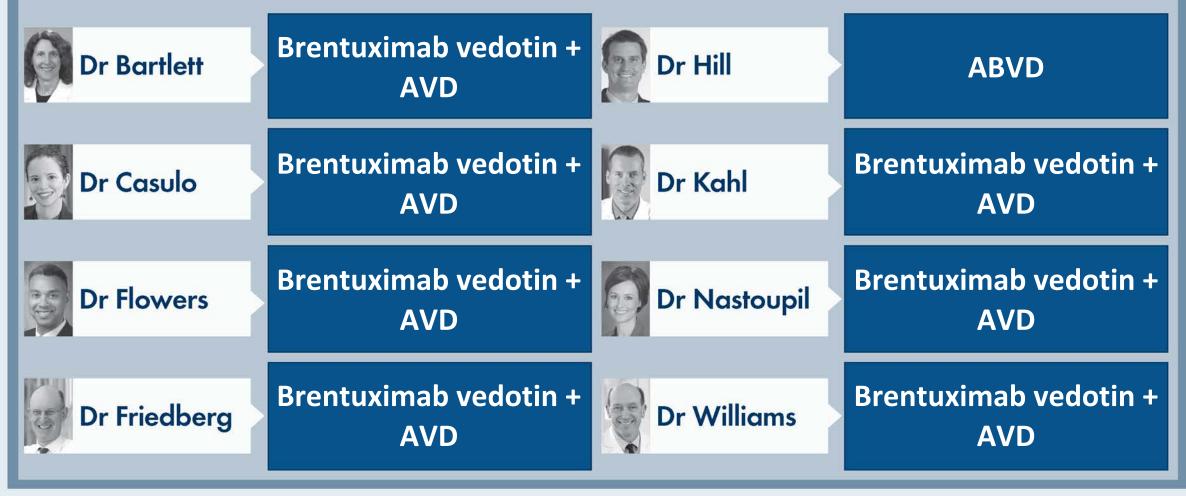


Regulatory and reimbursement issues aside, in general, what would be your preferred bridge to transplant for a patient with HL who is experiencing disease relapse after up-front ABVD?



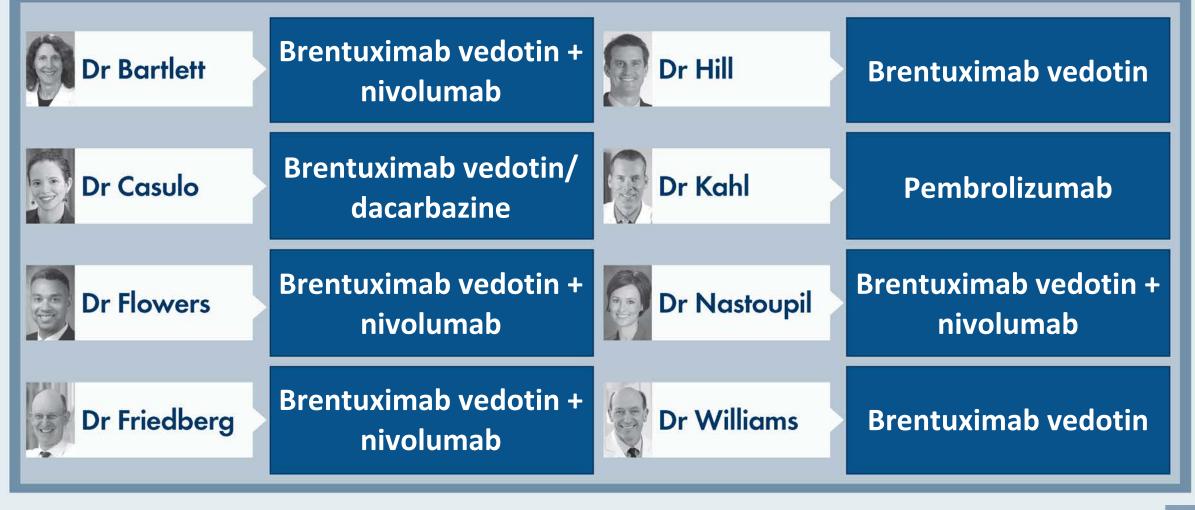


What initial treatment would you recommend for a 26-year-old patient with classical Hodgkin lymphoma (HL) with anemia, diffuse adenopathy, hepatosplenomegaly and diffuse bone marrow involvement?





An 85-year-old frail patient with advanced-stage symptomatic HL is not a candidate for aggressive chemotherapy but is seeking active treatment. Regulatory and reimbursement issues aside, what would you recommend?

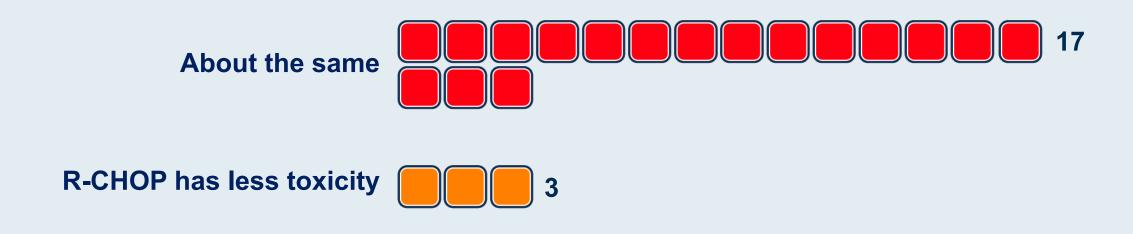




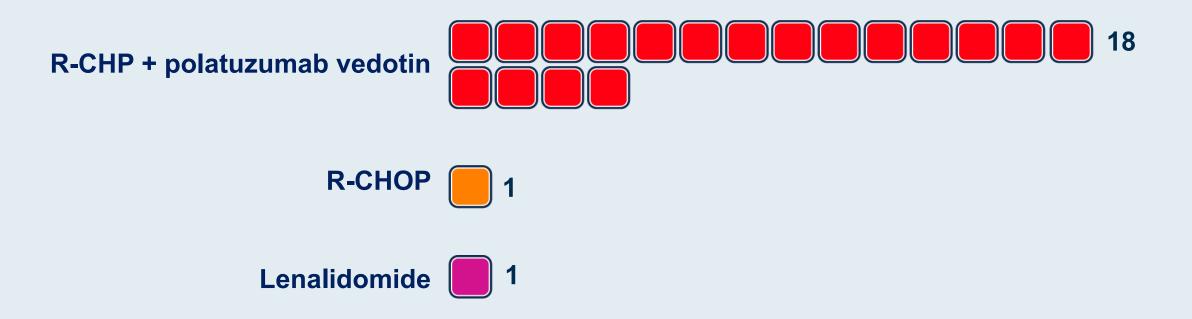
If future data continue not to demonstrate an overall survival advantage with polatuzumab vedotin in combination with R-CHP over R-CHOP when used as up-front therapy for DLBCL, do you think the clinical benefit with this regimen is greater than the risk?



Based on available evidence and your own experience, how would you compare the global tolerability/toxicity of polatuzumab vedotin in combination with R-CHP to that of R-CHOP when used as up-front therapy for DLBCL?



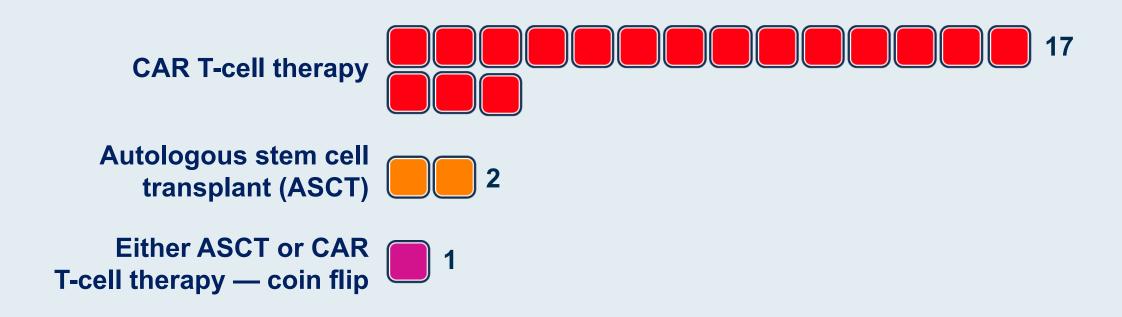
Regulatory and reimbursement issues aside, which first-line therapy would you generally recommend for an otherwise healthy <u>65-year-old</u> patient with Stage IV <u>activated B-cell</u> (ABC)-type DLBCL?



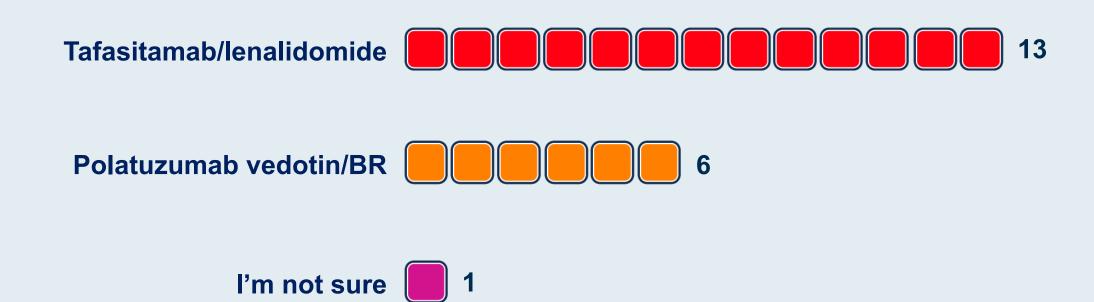
Regulatory and reimbursement issues aside, which first-line therapy would you generally recommend for an otherwise healthy <u>65-year-old</u> patient with Stage IV germinal center B-cell (GCB)-type DLBCL?



Regulatory and reimbursement issues aside, which second-line therapy would you recommend for a younger, transplant-eligible patient with DLBCL who experiences disease relapse 12 months after R-CHOP?



Which therapy would you generally recommend first for a patient with DLBCL who experiences disease progression on front-line R-CHOP and is not eligible for high-dose therapy or CAR T-cell therapy?

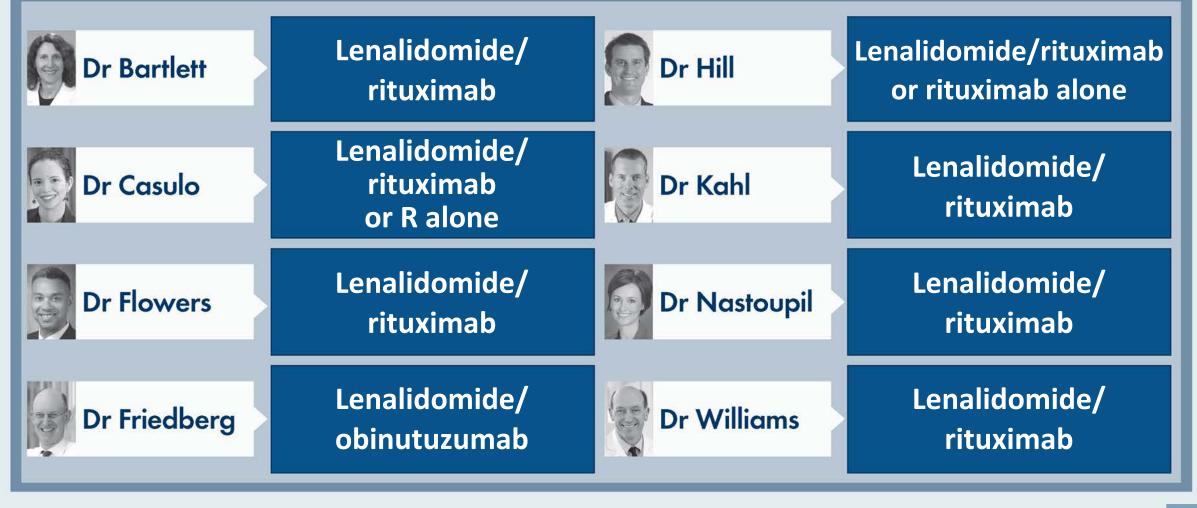


What treatment do you generally recommend for an <u>otherwise</u> <u>healthy 65-year-old</u> patient with symptomatic FL requiring treatment?

| Dr Bartlett | Bendamustine/ rituximab (BR) | Dr Hill | BR |
|--------------|---------------------------------|--------------|----|
| Dr Casulo | BR | Dr Kahl | BR |
| Dr Flowers | BR | Dr Nastoupil | BR |
| Dr Friedberg | BR | Dr Williams | BR |

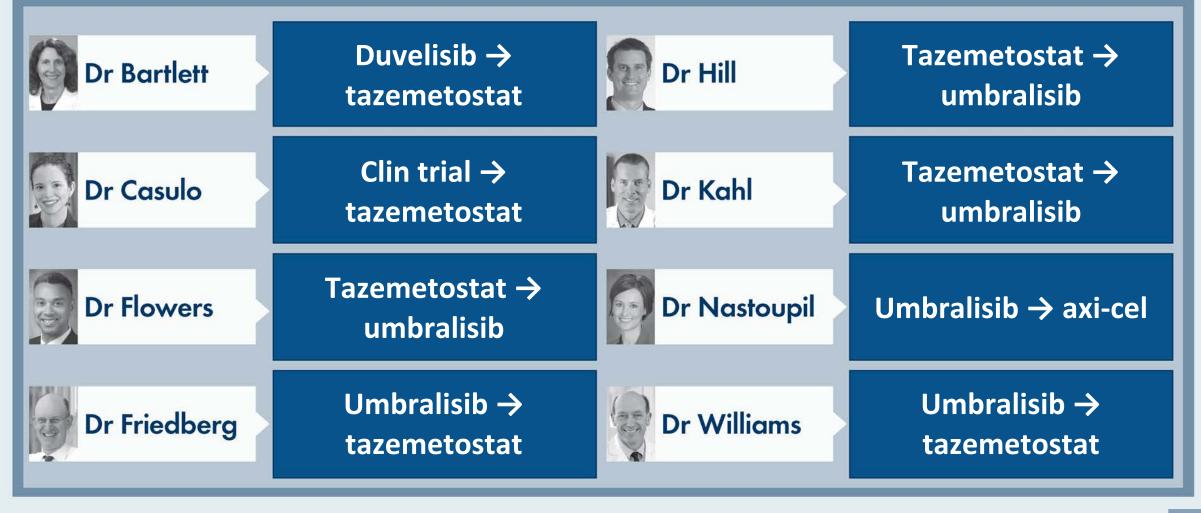


Regulatory and reimbursement issues aside, what is your usual second-line therapy for a 65-year-old patient with FL who achieves a complete response to 6 cycles of bendamustine/rituximab (BR) but then experiences disease <u>relapse 4 years later?</u>





What is your usual third- and fourth-line treatment for a patient with FL (EZH2 wild type) who receives first-line BR, second-line lenalidomide/rituximab and then develops disease progression?





What is your usual third- and fourth-line treatment for a patient with FL with an EZH2 mutation who receives first-line BR, second-line lenalidomide/rituximab and then develops disease progression?





Meet The Professor with Dr Evens

MODULE 1: Hodgkin Lymphoma (HL)

- Dr Gupta: A 21-year-old man with Stage IVB classical HL who is recovering from COVID-19
- Dr Bachow: An 87-year-old woman with Stage III classical HL
- Dr Rudolph: A 30-year-old woman with sclerosing HL who achieved a complete response to ABVD
- Dr Sood: A 28-year-old man with Stage IIA HL

MODULE 2: Burkitt Lymphoma

MODULE 3: Diffuse Large B-Cell Lymphoma (DLBCL), Follicular Lymphoma (FL)

- Dr Favaro: A 69-year-old woman with transformed DLBCL after R-CHOP with a complete response
- Dr Gupta: A 77-year-old woman with relapsed DLBCL
- Dr Morganstein: A 63-year-old woman with Stage IIA, Grade IIIB FL
- Dr Matt-Amaral: A 59-year-old man with Grade IIIA FL

MODULE 4: Journal Club with Dr Evens

MODULE 5: Faculty Survey Results

MODULE 6: Appendix of Key Data Sets



Hodgkin Lymphoma



Articles

Lancet Haematol 2021;8(6):e410-21

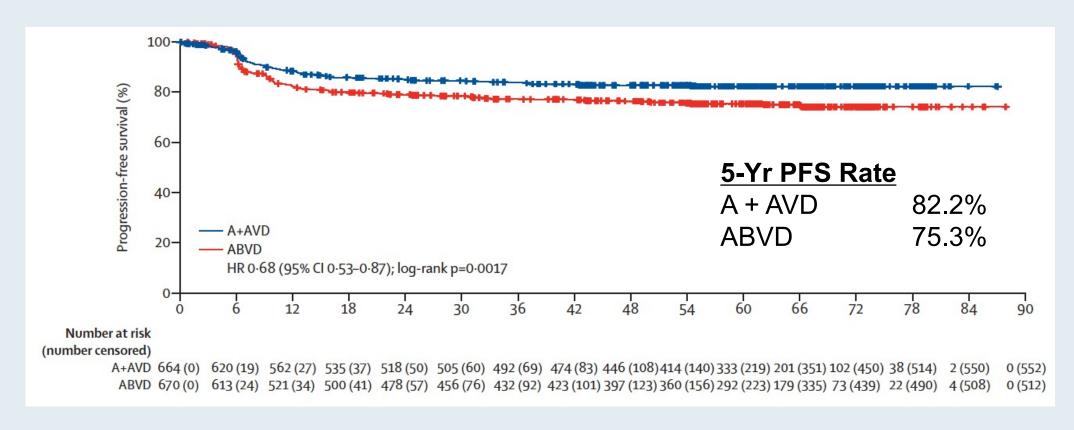


Brentuximab vedotin with chemotherapy for stage III or IV classical Hodgkin lymphoma (ECHELON-1): 5-year update of an international, open-label, randomised, phase 3 trial

David J Straus, Monika Długosz-Danecka, Joseph M Connors, Sergey Alekseev, Árpád Illés, Marco Picardi, Ewa Lech-Maranda, Tatyana Feldman, Piotr Smolewski, Kerry J Savage, Nancy L Bartlett, Jan Walewski, Radhakrishnan Ramchandren, Pier Luigi Zinzani, Martin Hutchings, Javier Munoz, Hun Ju Lee, Won Seog Kim, Ranjana Advani, Stephen M Ansell, Anas Younes, Andrea Gallamini, Rachael Liu, Meredith Little, Keenan Fenton, Michelle Fanale, John Radford



ECHELON-1: Five-Year Update



- Five-year PFS was higher with A + AVD than with ABVD for both PET-2-negative and positive patients
- Peripheral neuropathy continued to improve or resolve over time with both A + AVD and ABVD; more patients had ongoing peripheral neuropathy in the A + AVD group than in the ABVD group (19% vs 9%).



original reports

Brentuximab Vedotin Combined With Chemotherapy in Patients With Newly Diagnosed Early-Stage, Unfavorable-Risk Hodgkin Lymphoma

Anita Kumar, MD¹; Carla Casulo, MD²; Ranjana H. Advani, MD³; Elizabeth Budde, MD⁴; Paul M. Barr, MD²; Connie L. Batlevi, MD, PhD¹; Philip Caron, MD¹; Louis S. Constine, MD²; Savita V. Dandapani, MD⁴; Esther Drill, MD¹; Pamela Drullinsky, MD¹; Jonathan W. Friedberg, MD²; Clare Grieve, BA¹; Audrey Hamilton, MD¹; Paul A. Hamlin, MD¹; Richard T. Hoppe, MD³; Steven M. Horwitz, MD¹; Ashlee Joseph, BA¹; Niloufer Khan, MD¹; Leana Laraque, BA¹; Matthew J. Matasar, MD¹; Alison J. Moskowitz, MD¹; Ariela Noy, MD¹; Maria Lia Palomba, MD¹; Heiko Schöder, MD¹; David J. Straus, MD¹; Shreya Vemuri, BA¹; Joanna Yang, MD⁵; Anas Younes, MD⁶; Andrew D. Zelenetz, MD, PhD¹; Joachim Yahalom, MD¹; and Craig H. Moskowitz, MD⁵

J Clin Oncol 2021;[Online ahead of print].



Multicenter Pilot Study of BV + AVD with or without Consolidative Radiation Therapy for Early-Stage, Unfavorable-Risk Hodgkin Lymphoma

 Patients who achieved a negative end-of-therapy (EOT) PET-4 scan after 4 cycles of BV + AVD were studied with de-escalating radiation dose and field

| Clinical endpoint | Cohort 1 30-Gy ISRT (n = 29) | Cohort 2 20-Gy ISRT (n = 29) | Cohort 3 30-Gy CVRT (n = 29) | Cohort 4 No radiation (n = 29) | All patients (n = 114) |
|-------------------|------------------------------------|------------------------------------|------------------------------------|--------------------------------------|---------------------------|
| EOT CR rate | 27 (93%) | 29 (100%) | 27 (93%) | 28 (97%) | 111 (96%) |
| 2-year PFS rate | 93.1% | 96.6% | 89.7% | 96.6% | 94% |

"BV + AVD x four cycles is a highly active and well-tolerated treatment program for ES, unfavorable-risk Hodgkin lymphoma, including bulky disease. The efficacy of BV + AVD supports the safe reduction or elimination of consolidative radiation among PET-4—negative patients."



Frontline Brentuximab Vedotin as Monotherapy or in Combination for Older Hodgkin Lymphoma Patients

Yasenchak CA et al.

ASH 2020; Abstract 471.



Best Responses per Investigator – Efficacy Evaluable Set

| Efficacy Evaluable Set | Part A BV mono N=25 | Part B BV+DTIC N=19 | Part C BV+benda N=17 | Part D BV+nivo N=19 |
|-------------------------|---------------------------|---------------------------|----------------------------|---------------------------|
| ORR, n (%) | 23 (92) | 19 (100) | 17 (100) | 18 (95) |
| Best overall response | | | | |
| Complete response | 18 (72) | 13 (68) | 15 (88) | 15 (79) |
| Partial response | 5 (20) | 6 (32) | 2 (12) | 3 (16) |
| Stable disease | 2 (8) | 0 | 0 | 1 (5) |
| Progressive disease | 0 | 0 | 0 | 0 |
| Duration of response, n | 23 | 19 | 17 | 18 |
| Median (min, max) | 9.1 (2.8, 81.4+) | 45.4 (0.0+, 67.3) | 39.0 (0.0+, 56.8+) | NR (1.4+, 27.5+) |

Patients who were not efficacy-evaluable included:

- Patients with no post-baseline response assessment due to deaths (n=3) and patient withdrawal (non-AE related, n=2)
 on or before the first scheduled post-baseline scan at Cycle 2
- One patient lost to follow-up
- One patient who was not an eligible cHL subtype (nodular lymphocyte-predominant HL) but still achieved partial response after receiving BV



Lancet Oncol 2021;22(4):512-24.

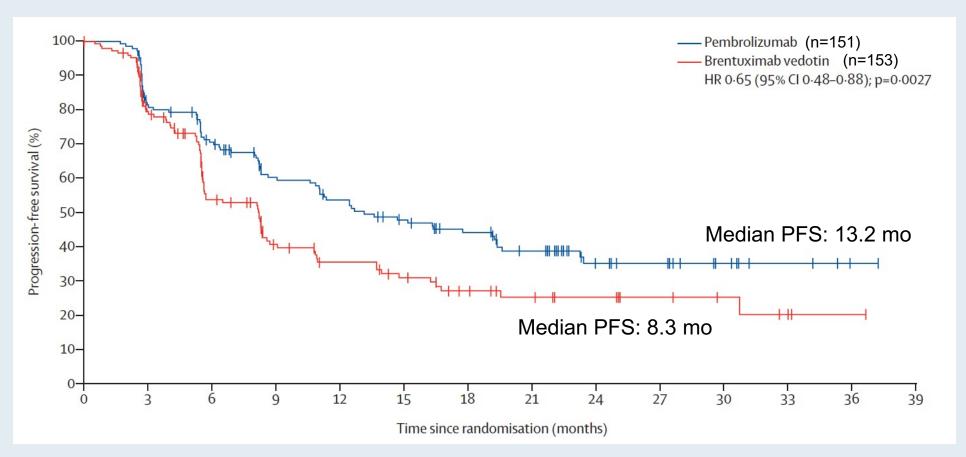


Pembrolizumab versus brentuximab vedotin in relapsed or refractory classical Hodgkin lymphoma (KEYNOTE-204): an interim analysis of a multicentre, randomised, open-label, phase 3 study

John Kuruvilla, Radhakrishnan Ramchandren, Armando Santoro, Ewa Paszkiewicz-Kozik, Robin Gasiorowski, Nathalie A Johnson, Laura Maria Fogliatto, Iara Goncalves, Jose S R de Oliveira, Valeria Buccheri, Guilherme F Perini, Neta Goldschmidt, Iryna Kriachok, Michael Dickinson, Mieczyslaw Komarnicki, Andrew McDonald, Muhit Ozcan, Naohiro Sekiguchi, Ying Zhu, Akash Nahar, Patricia Marinello, Pier Luigi Zinzani, on behalf of the KEYNOTE-204 investigators*



KEYNOTE-204: Interim Analysis



- The most common Grade 3-5 TRAEs in the pembrolizumab and brentuximab vedotin study arms included pneumonitis (4% vs 1%), neutropenia (2% vs 7%), and peripheral neuropathy (1% vs 3%).
- Serious TRAEs occurred in 16% of patients receiving pembrolizumab and 11% of patients receiving brentuximab vedotin.



J Clin Oncol 2020;38(32):3794-804.

Anti-CD30 CAR-T Cell Therapy in Relapsed and Refractory Hodgkin Lymphoma

Carlos A. Ramos, MD^{1,2}; Natalie S. Grover, MD^{3,4}; Anne W. Beaven, MD^{3,4}; Premal D. Lulla, MD^{1,2}; Meng-Fen Wu, MS^{1,5}; Anastasia Ivanova, PhD^{3,6}; Tao Wang, PhD^{1,5}; Thomas C. Shea, MD^{3,4}; Cliona M. Rooney, PhD^{1,7,8}; Christopher Dittus, DO^{3,4}; Steven I. Park, MD³; Adrian P. Gee, PhD^{1,7}; Paul W. Eldridge, PhD³; Kathryn L. McKay, MS³; Birju Mehta, MS¹; Catherine J. Cheng, MS³; Faith B. Buchanan, PA³; Bambi J. Grilley, RPh¹; Kaitlin Morrison, PhD³; Malcolm K. Brenner, MD, PhD^{1,2,7}; Jonathan S. Serody, MD^{3,4,9}; Gianpietro Dotti, MD^{3,9}; Helen E. Heslop, MD^{1,2,7}; and Barbara Savoldo, MD, PhD^{3,9,10}



Anti-CD30 CAR T-Cell Therapy After Lymphodepletion Regimens for R/R Hodgkin Lymphoma (HL)

- Two parallel Phase I/II studies (NCT02690545 and NCT02917083) at 2 independent centers involving patients with relapsed or refractory HL
- Anti-CD30 CAR T cells were administered after lymphodepletion with either bendamustine alone,
 bendamustine and fludarabine or cyclophosphamide and fludarabine

| Response | All Patients (N = 37) | Benda (n = 5) | Benda-Flu (n = 15) | Cy-Flu (n = 17) |
|---------------|-----------------------|------------------|-----------------------|--------------------|
| ORR | | | | |
| CR + PR | 23 (62) | 0 (0) | 12 (80) | 11 (65) |
| Response rate | | | | |
| CR | 19 (51) | 0 (0) | 11 (73) | 8 (47) |
| PR | 4 (11) | 0 (0) | 1 (7) | 3 (18) |

 Cytokine release syndrome was observed in 10 patients, all of which were Grade 1. No neurologic toxicity was observed



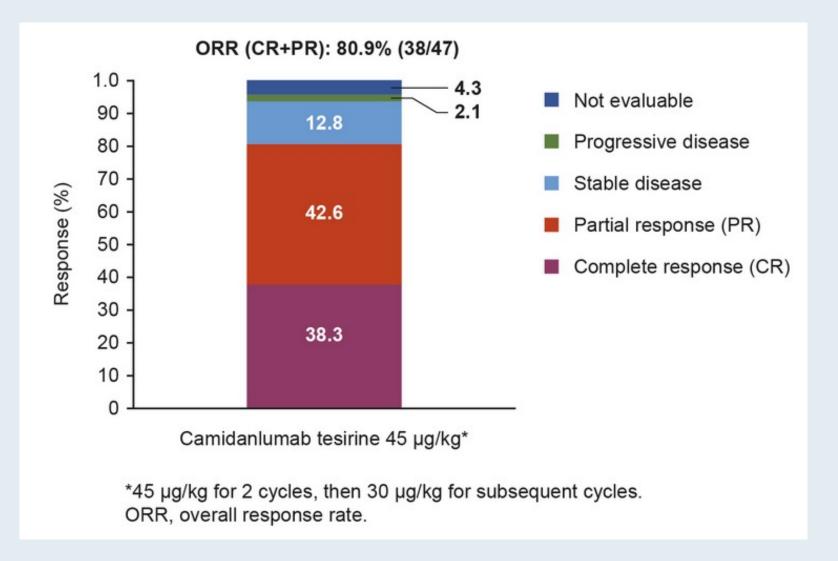
Preliminary Results of a Phase 2 Study of Camidanlumab Tesirine (Cami), a Novel Pyrrolobenzodiazepine-Based Antibody-Drug Conjugate, in Patients with Relapsed or Refractory Hodgkin Lymphoma

Herrera AF et al.

ASH 2020; Abstract 2020.



Response to Camidanlumab Tesirine in Patients with R/R Classical Hodgkin Lymphoma





Diffuse Large B-Cell Lymphoma



N Engl J Med 2021;[Online ahead of print].

The NEW ENGLAND JOURNAL of MEDICINE

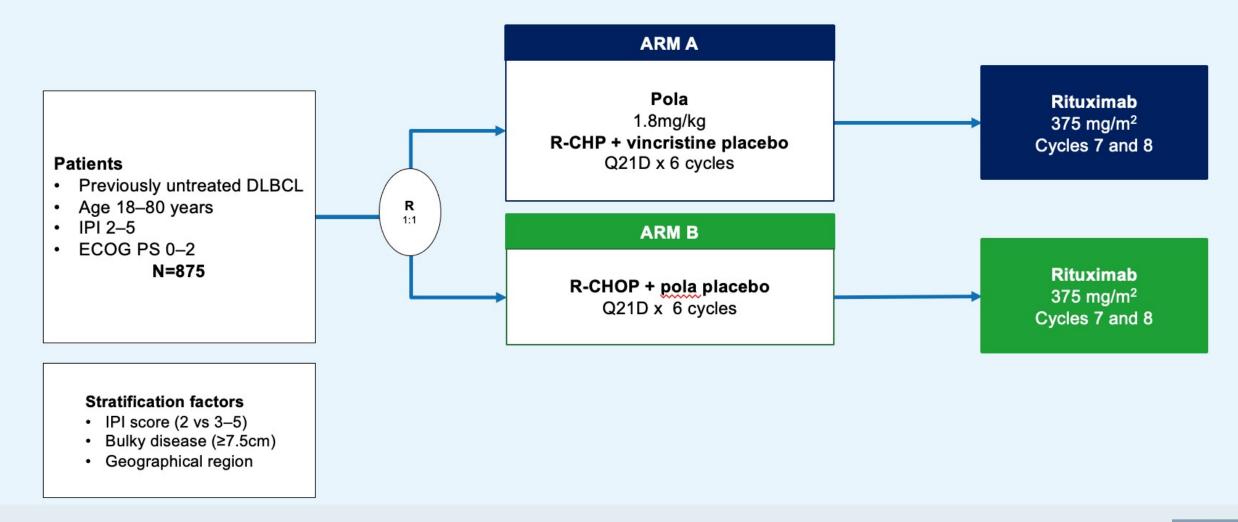
ORIGINAL ARTICLE

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

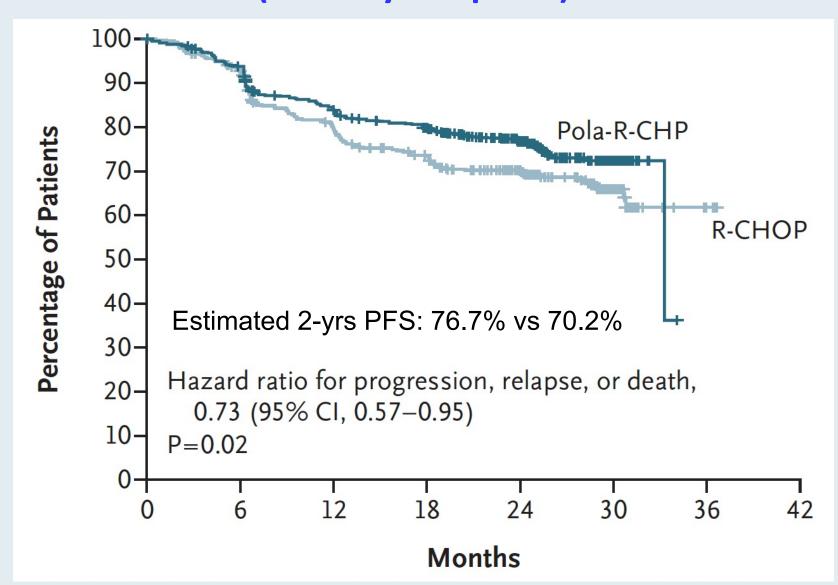


POLARIX Phase III Trial Design





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





Polatuzumab Vedotin in Relapsed or Refractory Diffuse Large B-Cell Lymphoma

Laurie H. Sehn, MD, MPH¹; Alex F. Herrera, MD²; Christopher R. Flowers, MD, MSc³; Manali K. Kamdar, MD, MBBS⁴; Andrew McMillan, PhD⁵; Mark Hertzberg, MBBS, PhD⁶; Sarit Assouline, MDCM, MSc⁷; Tae Min Kim, MD⁸; Won Seog Kim, MD, PhD⁹; Muhit Ozcan, MD¹⁰; Jamie Hirata, PharmD¹¹; Elicia Penuel, PhD¹¹; Joseph N. Paulson, PhD¹¹; Ji Cheng, PhD¹²; Grace Ku, MD¹¹; and Matthew J. Matasar, MD¹³

J Clin Oncol 2020;38(2):155-65.

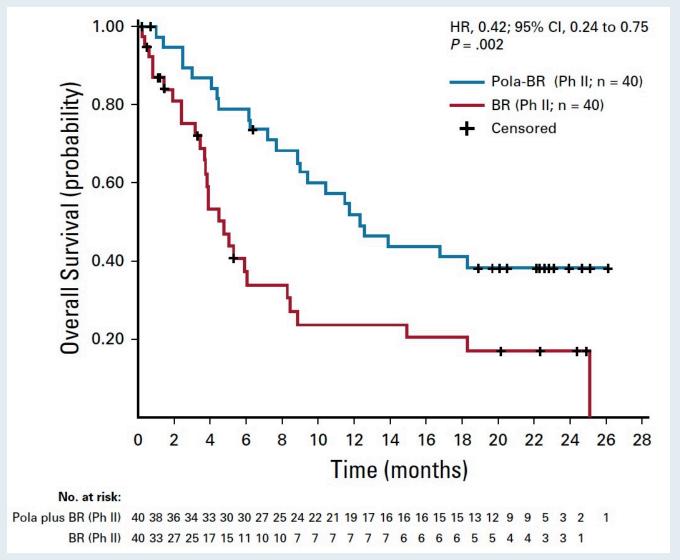


Polatuzumab Vedotin with Bendamustine/Rituximab for Transplant-Ineligible R/R DLBCL: End-of-Treatment CR Rate

| | Phase II Ra | Phase II Randomized | |
|-------------------------|--------------------|---------------------|--|
| Outcome | Pola-BR $(n = 40)$ | BR $(n = 40)$ | |
| End of treatment | | | |
| IRC, objective response | 18 (45.0) | 7 (17.5) | |
| Complete response | 16 (40.0) | 7 (17.5) | |
| Partial response | 2 (5.0) | 0 | |
| Stable disease | 6 (15.0) | 1 (2.5) | |
| Progressive disease | 8 (20.0) | 10 (25.0) | |
| Missing or unevaluable† | 8 (20.0) | 22 (55.0) | |

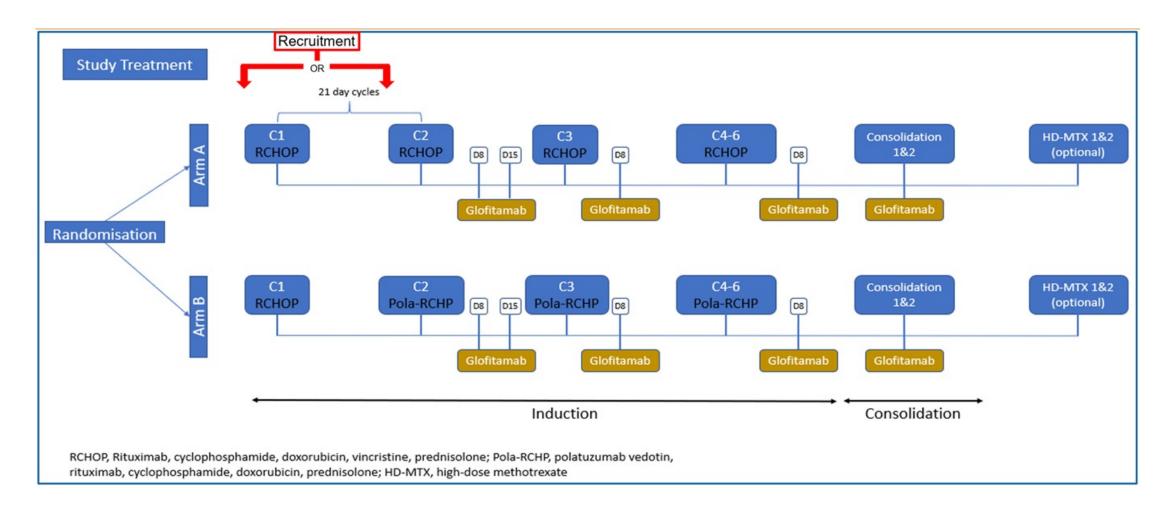


Polatuzumab Vedotin with Bendamustine/Rituximab for Transplant-Ineligible R/R DLBCL: Overall Survival





Trial in Progress: A Multicentre, Parallel Arm, Open-Label Trial of Frontline R-CHOP/Polatuzumab Vedotin-RCHP and Glofitamab in Younger Patients with Higher Risk Diffuse Large B Cell Lymphoma (COALITION)



Lancet Haematol 2020;7:e511-22.

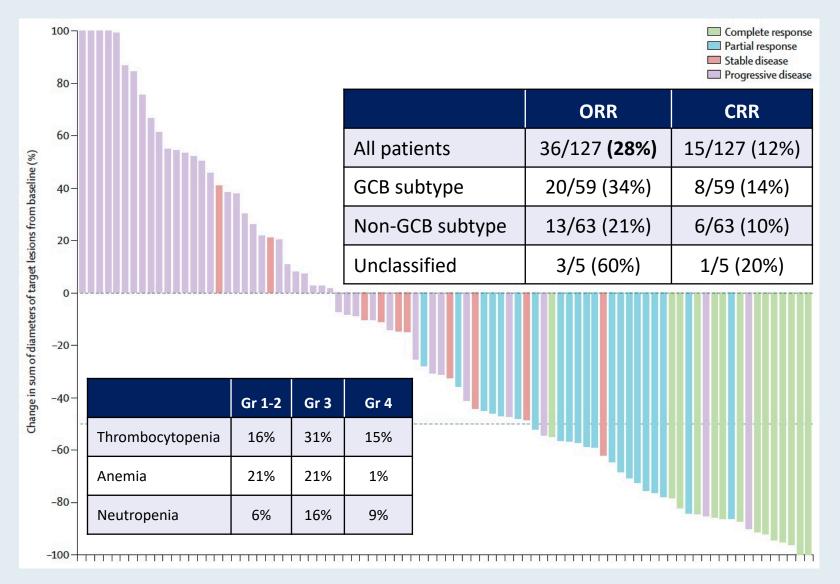
Selinexor in patients with relapsed or refractory diffuse large B-cell lymphoma (SADAL): a single-arm, multinational, multicentre, open-label, phase 2 trial



Nagesh Kalakonda*, Marie Maerevoet*, Federica Cavallo, George Follows, Andre Goy, Joost S P Vermaat, Olivier Casasnovas, Nada Hamad, Josée M Zijlstra, Sameer Bakhshi, Reda Bouabdallah, Sylvain Choquet, Ronit Gurion, Brian Hill, Ulrich Jaeger, Juan Manuel Sancho, Michael Schuster, Catherine Thieblemont, Fátima De la Cruz, Miklos Egyed, Sourav Mishra, Fritz Offner, Theodoros P Vassilakopoulos, Krzysztof Warzocha, Daniel McCarthy, Xiwen Ma, Kelly Corona, Jean-Richard Saint-Martin, Hua Chang, Yosef Landesman, Anita Joshi, Hongwei Wang, Jatin Shah, Sharon Shacham, Michael Kauffman, Eric Van Den Neste, Miguel A Canales



SADAL: Efficacy and Safety of Selinexor for R/R DLBCL After at Least 2 Previous Lines of Chemoimmunotherapy





FDA Grants Accelerated Approval to Tafasitamab-cxix for DLBCL Press Release – July 31, 2020

"The Food and Drug Administration granted accelerated approval to tafasitamab-cxix, a CD19-directed cytolytic antibody, indicated in combination with lenalidomide for adult patients with relapsed or refractory diffuse large B-cell lymphoma (DLBCL) not otherwise specified, including DLBCL arising from low grade lymphoma, and who are not eligible for autologous stem cell transplant.

The efficacy of tafasitamab-cxix with lenalidomide was evaluated in L-MIND (NCT02399085), an open label, multicenter single-arm trial in 81 patients. Patients received tafasitamab-cxix 12 mg/kg intravenously with lenalidomide (25 mg orally on days 1 to 21 of each 28-day cycle) for maximum of 12 cycles, followed by tafasitamab-cxix as monotherapy."



Lancet Oncol 2020;21:978-88



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



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.



FDA Grants Accelerated Approval to Loncastuximab Tesirine-Ipyl for Large B-Cell Lymphoma

Press Release – April 23, 2021

"The Food and Drug Administration granted accelerated approval to loncastuximab tesirine-lpyl, a CD19-directed antibody and alkylating agent conjugate, for adult patients with relapsed or refractory large B-cell lymphoma after two or more lines of systemic therapy, including diffuse large B-cell lymphoma (DLBCL) not otherwise specified, DLBCL arising from low grade lymphoma, and high-grade B-cell lymphoma.

Approval was based on LOTIS-2 (NCT03589469), an open-label, single-arm trial in 145 adult patients with relapsed or refractory DLBCL or high-grade B-cell lymphoma after at least two prior systemic regimens. Patients received loncastuximab tesirine-lpyl 0.15 mg/kg every 3 weeks for 2 cycles, then 0.075 mg/kg every 3 weeks for subsequent cycles. Patients received treatment until progressive disease or unacceptable toxicity."



Lancet Oncol 2021;22:790-800

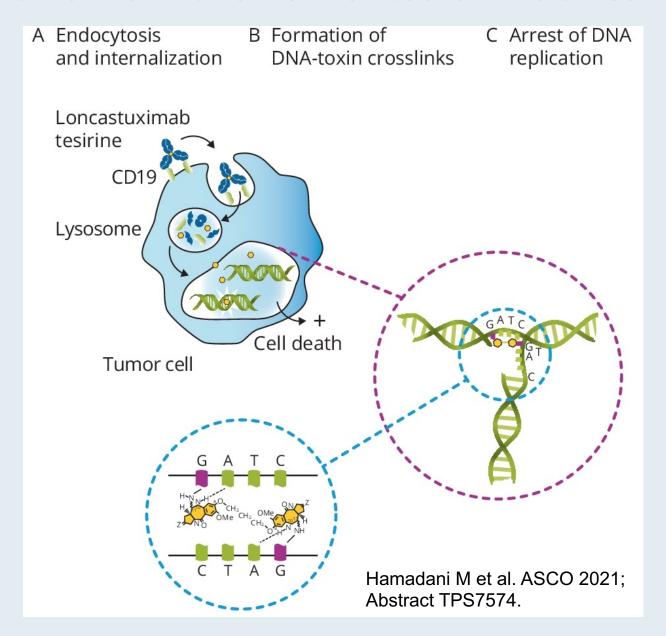


Loncastuximab tesirine in relapsed or refractory diffuse large B-cell lymphoma (LOTIS-2): a multicentre, open-label, single-arm, phase 2 trial

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 Luigi Zinzani, Karin Havenith, Jay Feingold, Shui He, Yajuan Qin, David Ungar, Xiaoyan Zhang, Carmelo Carlo-Stella



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: Common Treatment-Emergent Adverse Events

| Treatment-Emergent AEs | Grade 1-2 | Grade 3-4 |
|------------------------|-----------|-----------|
| Anemia | 16% | 10% |
| Thrombocytopenia | 15% | 18% |
| Neutropenia | 14% | 26% |
| Leukopenia | 6% | 9% |





Planned Interim Analysis of a Phase 2 Study of Loncastuximab Tesirine Plus Ibrutinib in Patients with Advanced Diffuse Large B-Cell Lymphoma (LOTIS-3)

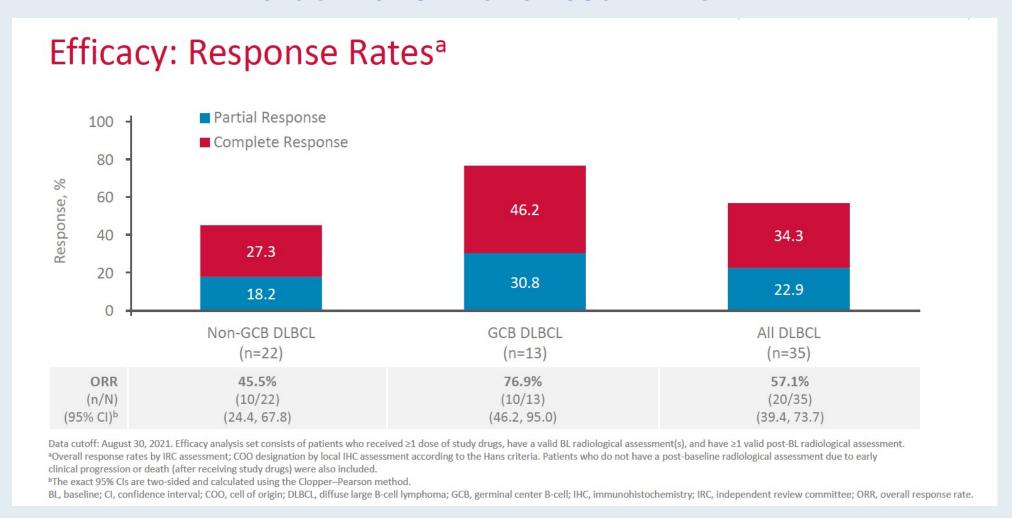
Oral Presentation, 63rd ASH Annual Meeting and Exposition, December 11–14, 2021

Carmelo Carlo-Stella, MD¹, Pier Luigi Zinzani, MD², Murali Janakiram, MD, MS³, Vivian Dai, MD⁴, Xiaomin He, PhD⁴, Annette Ervin-Haynes, DO, MPA⁴, Julien Depaus, MD⁵

¹Department of Biomedical Sciences, Humanitas University, and Department of Oncology and Hematology, Istituto di Ricovero e Cura a Carattere Scientifico (IRCCS) Humanitas Research Hospital, Milan, Italy; ²IRCCS Azienda Ospedaliero-Universitaria di Bologna Istituto di Ematologia "Seràgnoli," and Dipartimento di Medicina Specialistica, Diagnostica e Sperimentale Università di Bologna, Bologna, Bologna, Italy; ³Division of Hematology, Oncology and Transplantation, University of Minnesota, Minneapolis, MN, USA; ⁴Clinical Development, ADC Therapeutics America, Inc., Murray Hill, NJ, USA; ⁵Department of Hematology, Centre Hospitalier Universitaire (CHU) Université Catholique de Louvain (UCL) Namur Site Godinne, Yvoir, Belgium



LOTIS-3: Phase II Study of Loncastuximab Tesirine with Ibrutinib for Advanced DLBCL



Safety data were consistent with those reported previously



Summary of CAR T-Cell Pivotal Studies in DLBCL

| | Axi-cel ZUMA-1 (N = 108 infused) | Tisagenlecleucel JULIET (N = 108 infused) | Liso-cel TRANSCEND (N = 294 infused) | |
|------------------------------|---|---|--|--|
| CAR | α CD19 | α CD19 | α CD19 | |
| Transmembrane domain | CD28 | CD28 | CD28 | |
| Co-stimulatory doman | CD28 | 4-1BB | 4-1BB | |
| T-cell activation domain | CD3ζ | CD3ζ | CD3ζ | |
| | # | | | |
| Leukapheresis | Fresh product | Cryopreserved product | Fresh product | |
| Outpatient administration | Not allowed | Allowed | Allowed | |
| Bridging therapy, % | Not allowed | 92% | 59% | |
| Lymphodepletion chemotherapy | Cy/Flu <mark>500/30</mark> mg/m ² × 3d | Cy/Flu <mark>250/25</mark> mg/m ² x 3d Bendamustine 90 mg/m ² x 2d | Cy/Flu <mark>300/30</mark> mg/m² x 3d | |



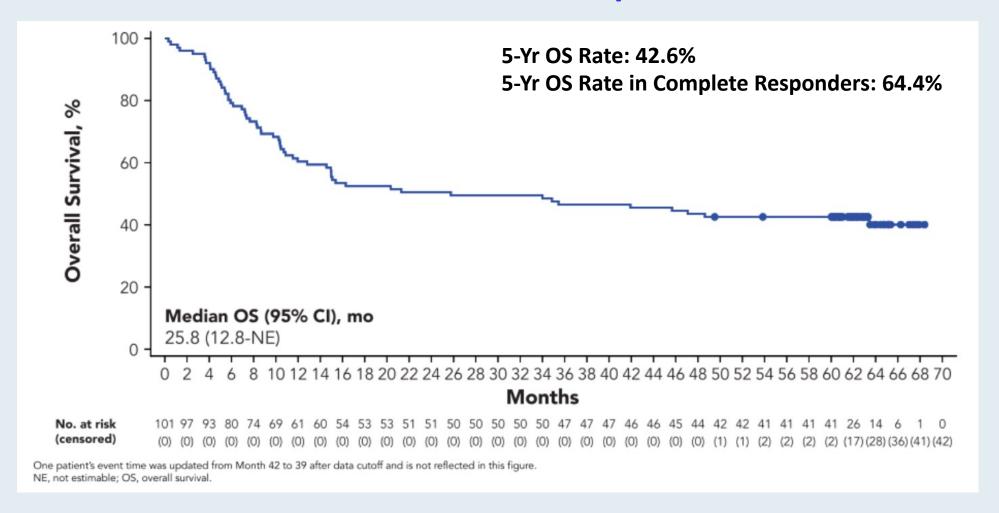
Long-Term (4- and 5-Year) Overall Survival in ZUMA-1, the Pivotal Study of Axicabtagene Ciloleucel (Axi-Cel) in Patients with Refractory Large B-Cell Lymphoma (LBCL)

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



FDA Approves Axicabtagene Ciloleucel for Second-Line Treatment of Large B-Cell Lymphoma

Press Release: April 1, 2022

"The Food and Drug Administration 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.

Approval was based on ZUMA-7, a randomized, open-label, multicenter trial in adult patients with primary refractory LBCL or relapse within 12 months following completion of first-line therapy. Patients had not yet received treatment for relapsed or refractory lymphoma and were potential candidates for autologous hematopoietic stem cell transplantation (HSCT). A total of 359 patients were randomized 1:1 to receive a single infusion of axicabtagene ciloleucel following fludarabine and cyclophosphamide lymphodepleting chemotherapy or to receive second-line standard therapy, consisting of 2 or 3 cycles of chemoimmunotherapy followed by high-dose therapy and autologous HSCT in patients who attained complete remission or partial remission."



N Engl J Med 2021;[Online ahead of print].

The NEW ENGLAND JOURNAL of MEDICINE

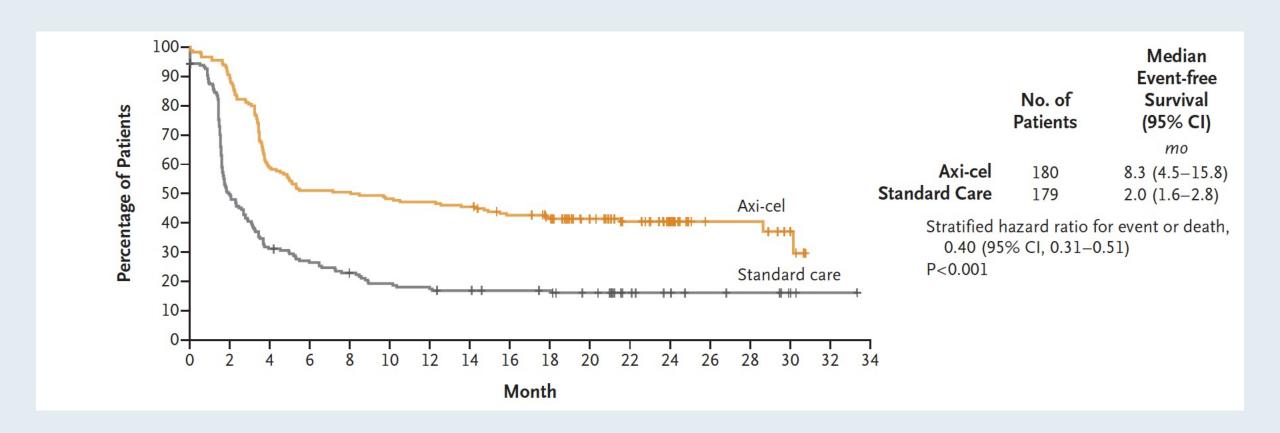
ORIGINAL ARTICLE

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: Event-Free Survival



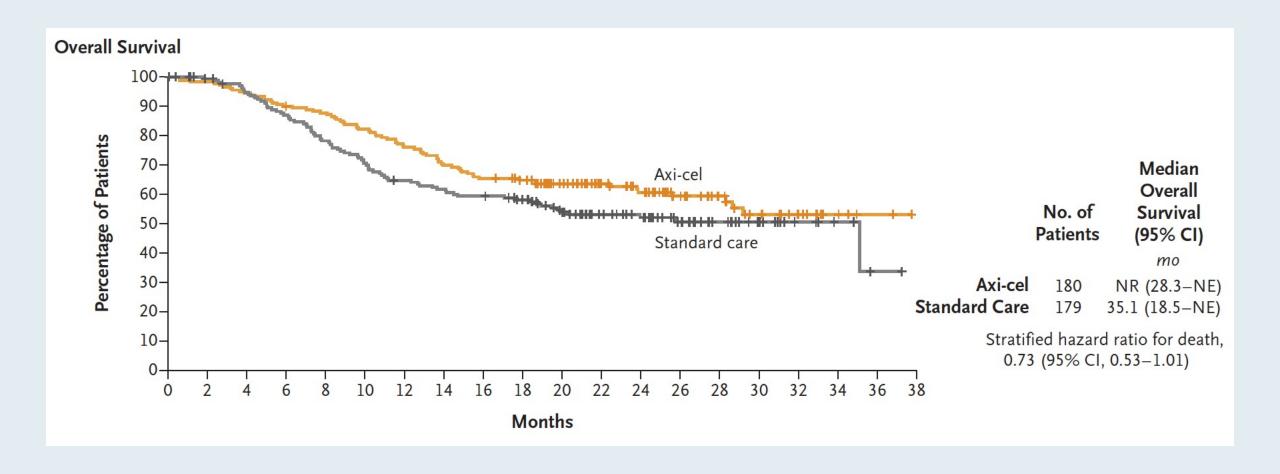


ZUMA-7: Event-Free Survival Subgroup Analysis

| | | s. 1.16 | Hazard Ratio for Event or Death | |
|---|-------------------------------|---|---------------------------------|------------------|
| Subgroup no | Axi-cel o. of patients | Standard Care with event/total no. | (95% CI) | |
| Overall | 108/180 | 144/179 | HOH | 0.40 (0.31-0.51) |
| Age | | | | |
| <65 yr | 81/129 | 96/121 | → | 0.49 (0.36-0.67) |
| ≥65 yr | 27/51 | 48/58 | - → | 0.28 (0.16-0.46) |
| Response to first-line therapy at randomization | | | | |
| Primary refractory disease | 85/133 | 106/131 | ⊢⊕ ⊣ | 0.43 (0.32-0.57) |
| Relapse ≤12 mo after initiation or completion of first-line therapy | 23/47 | 38/48 | ⊢ | 0.34 (0.20-0.58) |
| Second-line age-adjusted IPI | | | | |
| 0 or 1 | 54/98 | 73/100 | ₩ | 0.41 (0.28-0.58) |
| 2 or 3 | 54/82 | 71/79 | ⊢ | 0.39 (0.27-0.56) |
| Prognostic marker according to central laboratory | | | | |
| HGBL, double- or triple-hit | 15/31 | 21/25 | ⊢ | 0.28 (0.14-0.59) |
| Double-expressor lymphoma | 35/57 | 50/62 | ⊢ | 0.42 (0.27-0.67) |
| Molecular subgroup according to central laboratory | | | | |
| Germinal center B-cell–like | 64/109 | 80/99 | ⊢● ⊢ | 0.41 (0.29-0.57) |
| Activated B-cell–like | 11/16 | 9/9 | | 0.18 (0.05-0.72) |
| Unclassified | 8/17 | 12/14 | | _ |
| Disease type according to investigator | | | i | |
| DLBCL, not otherwise specified | 68/110 | 97/116 | ₩ | 0.37 (0.27-0.52) |
| Large-cell transformation from follicular lymphoma | 10/19 | 24/27 | ├ | 0.35 (0.16-0.77) |
| HGBL, including rearrangement of MYC with BCL2 or BCL6 or both | 1 23/43 | 18/27 | | 0.47 (0.24-0.90) |
| Disease type according to central laboratory | | | | |
| DLBCL | 79/126 | 95/120 | H 4 H | 0.44 (0.32-0.60) |
| HGBL, including rearrangement of MYC with BCL2 or BCL6 or both | 15/31 | 21/26 | —— | 0.28 (0.14–0.59) |
| | | 0.01 | 0.1 0.2 0.5 1.0 2.0 | 0 5.0 |
| | | | Axi-cel Better Stan | dard Care Better |



ZUMA-7: Overall Survival





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 ¹² Michael Dickinson ², Javier Munoz³, Matthew L. Ulrickson³,

Catherine Thieblemont ^{4,5}, Olalekan O. Oluwole⁶, Alex F. Herrera⁷, Chaitra S. Ujjani⁸, Yi Lin⁹,

Peter A. Riedell¹¹, Natasha Kekre¹¹, Sven de Vos¹², Christine Lui¹³, Francesca Milletti¹³, Jinghui Dong¹³,

Hairong Xu¹³ and Julio C. Chavez¹⁴

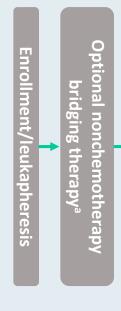
Nat Med 2022; [Online ahead of print].



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



Conditioning chemotherapy + axi-cel infusion

- Conditioning
 - Flu 30 mg/m² i.v. and Cy 500 mg/m² i.v. on Days -5, -4, and -3
- Axi-cel
 - Single i.v. infusion of 2×10^6 CAR T cells/kg on Day 0

Primary endpoint

• CRb

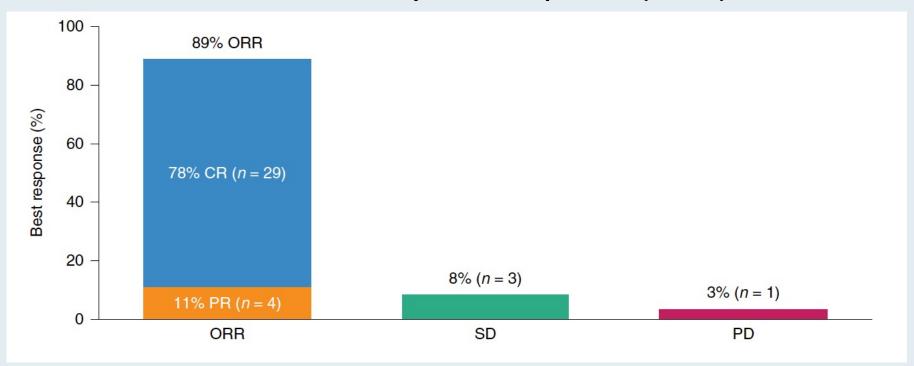
Key secondary endpoints

- ORR
- DOR
- EFS
- PFS
- OS
- Safety
- CAR T cells in blood and cytokine levels in serum



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



ZUMA-12: Adverse Events of Interest in ≥15% of Treated Patients

| Adverse event ^a , n (%) | Grade 1 | Grade 2 | Grade≥3 | Total |
|-------------------------------------|---------|---------|---------|----------|
| Subjects with any CRS ^a | 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) |

^aAdverse 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 study³⁵. CRS was graded according to Lee et al.³⁶. The severity of all adverse events, including neurologic events and symptoms of CRS, was graded according to CTCAE v.5.0.



N Engl J Med 2021;[Online ahead of print].

The NEW ENGLAND JOURNAL of MEDICINE

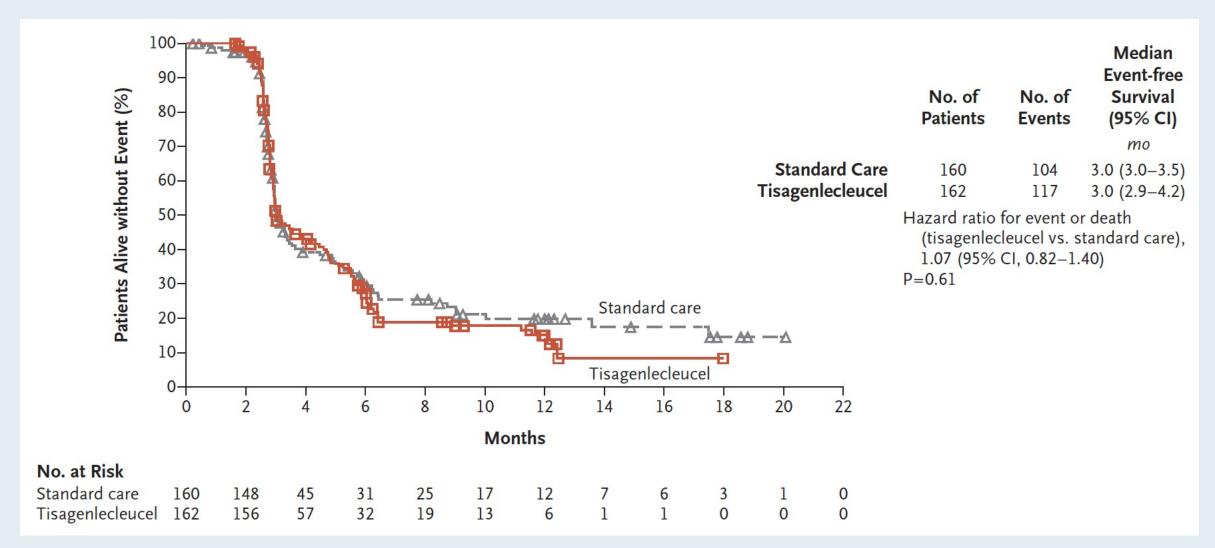
ORIGINAL ARTICLE

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)





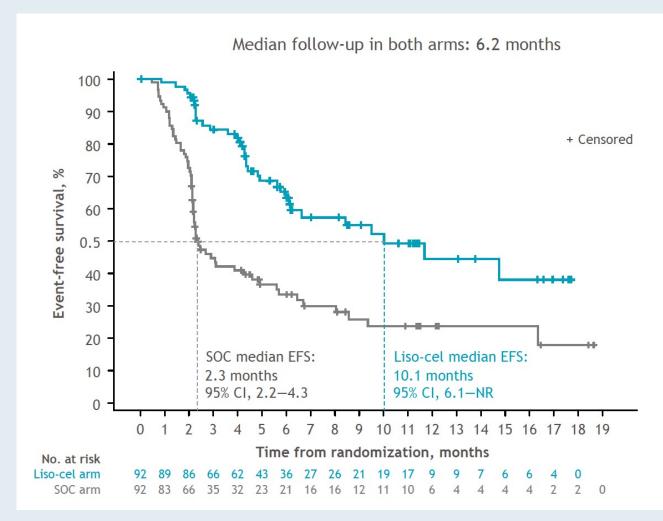
Lisocabtagene Maraleucel, a CD19-Directed Chimeric Antigen Receptor T Cell Therapy, Versus Standard of Care with Salvage Chemotherapy Followed by Autologous Stem Cell Transplantation as Second-Line Treatment in Patients with Relapsed or Refractory Large B-Cell Lymphoma: Results from the Randomized Phase 3 TRANSFORM Study

Manali Kamdar,¹ Scott R. Solomon,² Jon Arnason,³ Patrick B. Johnston,⁴ Bertram Glass,⁵ Veronika Bachanova,⁶ Sami Ibrahimi,⁷ Stephan Mielke,⁸ Pim Mutsaers,⁹ Francisco Hernandez-Ilizaliturri,¹⁰ Koji Izutsu,¹¹ Franck Morschhauser,¹² Matthew Lunning,¹³ David G. Maloney,¹⁴ Alessandro Crotta,¹⁵ Sandrine Montheard,¹⁵ Alessandro Previtali,¹⁵ Lara Stepan,¹⁶ Ken Ogasawara,¹⁶ Timothy Mack,¹⁶ Jeremy S. Abramson¹⁷

¹University of Colorado Cancer Center, Aurora, CO, USA; ²Northside Hospital Cancer Institute, Atlanta, GA, USA; ³Beth Israel Deaconess Medical Center, Boston, MA, USA; ⁴Mayo Clinic, Rochester, MN, USA; ⁵Helios Klinikum Berlin-Buch, Berlin, Germany; ⁶University of Minnesota, Minneapolis, MN, USA; ⁷University of Oklahoma Stephenson Cancer Center, Oklahoma City, OK, USA; ⁸Center of Allogeneic Stem Cell Transplantation and Cellular Therapy (CAST), Karolinska Institutet and University Hospital, Stockholm, Sweden; ⁹Erasmus University Medical Center, Rotterdam, The Netherlands, on behalf of HOVON/LLPC; ¹⁰Roswell Park Comprehensive Cancer Center, Buffalo, NY, USA; ¹¹National Cancer Center Hospital, Tokyo, Japan; ¹²Université de Lille, Centre Hospitalier Universitaire de Lille. ULR 7365, GRITA - Groupe de Recherche sur les formes Injectables et les Technologies Associées, Lille, France; ¹³University of Nebraska Medical Center, Omaha, NE, USA; ¹⁴Fred Hutchinson Cancer Research Center, Seattle, WA, USA; ¹⁵Celgene, a Bristol-Myers Squibb Company, Boudry, Switzerland; ¹⁶Bristol Myers Squibb, Princeton, NJ, USA; ¹⁷Massachusetts General Hospital Cancer Center, Boston, MA, USA



TRANSFORM: Event-Free Survival per Independent Review Committee (ITT, Primary Endpoint)



| | Liso-cel arm (n = 92) | SOC arm (n = 92) | |
|---------------------------|--------------------------|---------------------|--|
| Patients with events, n | 35 | 63 | |
| Stratified HR (95% CI) | 0.349 (0.229-0.530) | | |
| | P < 0.0001 | | |
| 6-month EFS rate, % (SE) | 63.3 (5.77) | 33.4 (5.30) | |
| Two-sided 95% CI | 52.0-74.7 | 23.0-43.8 | |
| 12-month EFS rate, % (SE) | 44.5 (7.72) | 23.7 (5.28) | |
| Two-sided 95% CI | 29.4-59.6 | 13.4-34.1 | |

One-sided P value significance threshold to reject the null hypothesis was < 0.012



N Engl J Med 2021;[Online ahead of print].

The NEW ENGLAND JOURNAL of MEDICINE

EDITORIAL



CAR T-Cell Therapy for Large B-Cell Lymphoma — Who, When, and How?

Mark Roschewski, M.D., Dan L. Longo, M.D., and Wyndham H. Wilson, M.D., Ph.D.



JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY

© 2021 BY THE AMERICAN COLLEGE OF CARDIOLOGY FOUNDATION

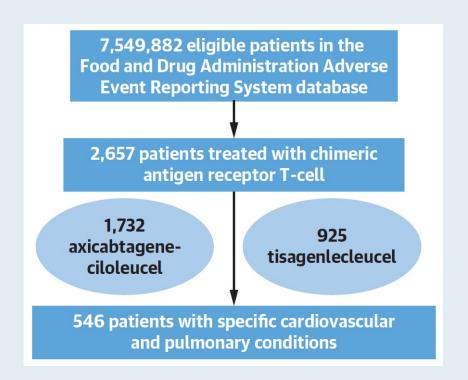
PUBLISHED BY ELSEVIER

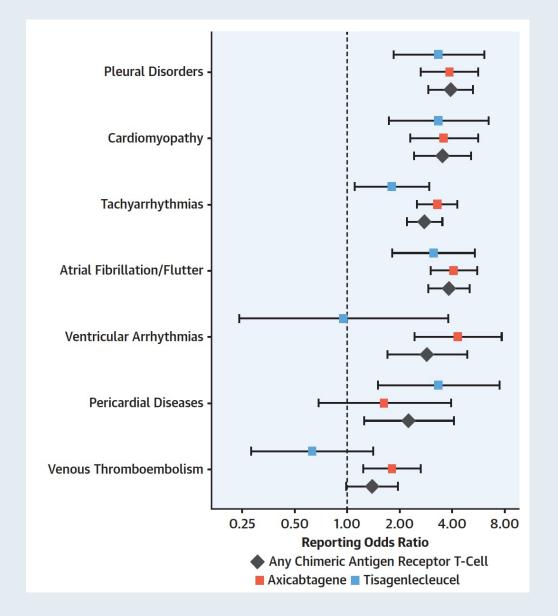
Adverse Cardiovascular and Pulmonary Events Associated With Chimeric Antigen Receptor T-Cell Therapy

Adam Goldman, MD, MPH, a,b Elad Maor, MD, PhD, a,b David Bomze, MD, MPH, MSc,b Jennifer E. Liu, MD, c,d Joerg Herrmann, MD, Joshua Fein, MD, Richard M. Steingart, MD, c,d Syed S. Mahmood, MD, MPH, Wendy L. Schaffer, MD, PhD, d,d Miguel-Angel Perales, MD, d,h Roni Shouval, MD, PhD, PhD, d,h



Cardiovascular and Pulmonary Toxicities of CAR T-Cell Therapy





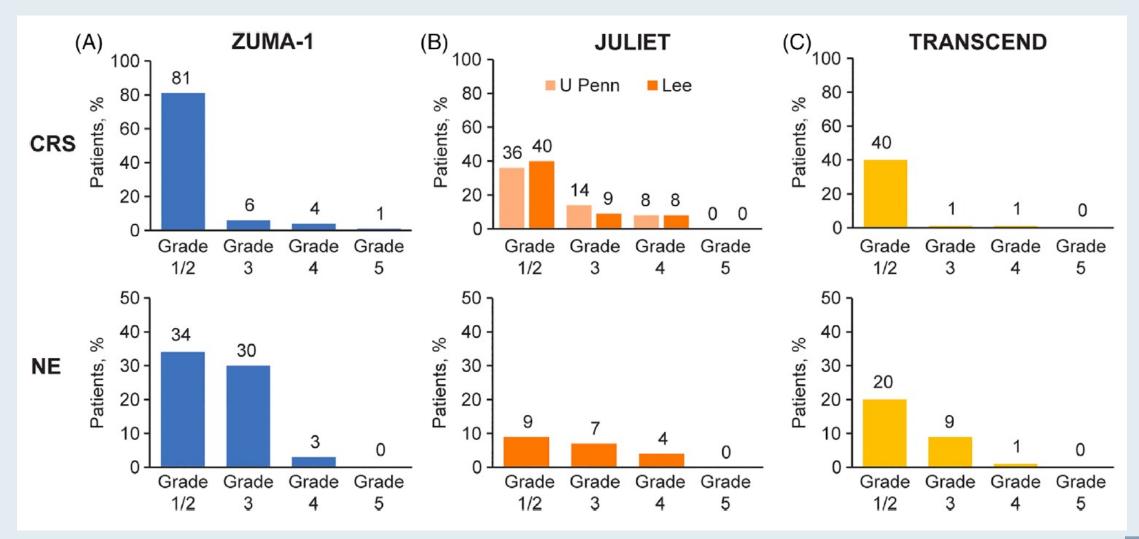


Summary of Efficacy Outcomes in Pivotal Studies of CAR T-Cell Therapy for DLBCL

| | Axi-cel ZUMA-1 (N = 108 infused) | Tisagenlecleucel JULIET (N = 115 infused) | Liso-cel TRANSCEND (N = 294 infused) | |
|------------------------|--|---|--|--|
| Overall response rate | 74% | 52% | 73% | |
| Complete response rate | 54% | 40% | 53% | |
| 24-month OS rate | 50.5% | 40.0% | 44.9% | |
| Indication | DLBCL, High grade, PMBCL, tFL | DLBCL, High grade, tFL | DLBCL, HGBCL, PMBCL, tFL, tIND | |



Cytokine Release Syndrome and Neurologic Events in Pivotal Studies of CAR T-Cell Therapy for DLBCL





CAR-T-Associated Cytokine Release Syndrome (CRS) and Neurologic Toxicity

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%

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



Management of Immune-Related Adverse Events in Patients Treated With Chimeric Antigen Receptor T-Cell Therapy: ASCO Guideline

Bianca D. Santomasso, MD, PhD¹; Loretta J. Nastoupil, MD²; Sherry Adkins, RN, MS²; Christina Lacchetti, MHSc³; Bryan J. Schneider, MD⁴; Milan Anadkat, MD⁵; Michael B. Atkins, MD⁶; Kelly J. Brassil, PhD, RN²; Jeffrey M. Caterino, MD, MPH⁻; Ian Chau, MD⁶; Marianne J. Davies, DNP⁶; Marc S. Ernstoff, MD¹⁰; Leslie Fecher, MD⁴; Pauline Funchain, MD¹¹; Ishmael Jaiyesimi, DO, MS¹²; Jennifer S. Mammen, MD, PhD¹³; Jarushka Naidoo, MD¹⁴; Aung Naing, MD²; Tanyanika Phillips, MD¹⁵; Laura D. Porter, MD¹⁶; Cristina A. Reichner, MD¹⁷; Carole Seigel, MBA¹⁶; Jung-Min Song, MSN, RN, CNS¹¹; Alexander Spira, MD, PhD¹⁶; Maria Suarez-Almazor, MD²; Umang Swami, MD²⁰; John A. Thompson, MD²¹; Praveen Vikas, MD²²; Yinghong Wang, MD²; Jeffrey S. Weber, MD, PhD²³; Kathryn Bollin, MD²⁴; and Monalisa Ghosh, MD²⁵

J Clin Oncol 2021;39:3978-92



Glofitamab in Combination with Polatuzumab Vedotin: Phase Ib/II Preliminary Data Support Manageable Safety and Encouraging Efficacy in Relapsed/Refractory (R/R) Diffuse Large B-Cell Lymphoma (DLBCL)

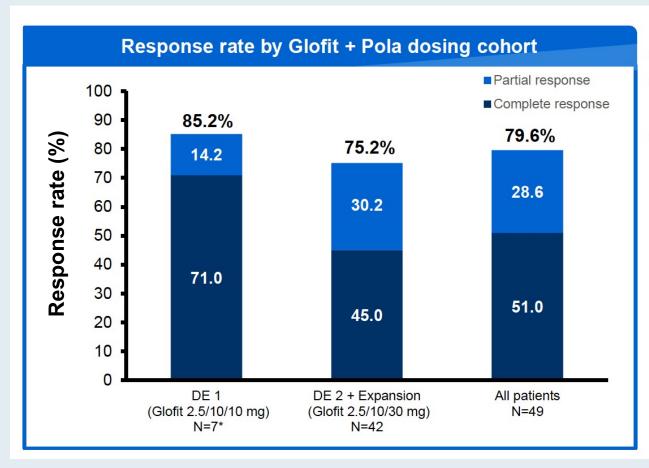
Martin Hutchings,¹ Anna Sureda,² Maria Jose Terol,³ Francesc Bosch,⁴ Paolo Corradini,⁵ Thomas Stauffer Larsen,⁶ Antonio Rueda Dominguez,⁷ Anesh Panchal,⁸ Alessia Bottos,⁹ Yanjie Wang,¹⁰ Audrey Filézac de L'Etang,⁹ Maneesh Tandon,⁸ Gila Sellam,⁹ Giuseppe Gritti¹¹

¹Rigshospitalet, Copenhagen, Denmark; ²Universitat de Barcelona, Barcelona, Spain; ³Hospital Clínico Universitario INCLIVA, University of Valencia, Spain; ⁴University Hospital Vall d'Hebron, Barcelona, Spain; ⁵University of Milan and Fondazione IRCCS Istituto Nazionale dei Tumori, Milano, Italy; ⁶Odense University Hospital, Odense, Denmark; ⁷Regional and Virgen de la Victoria University Hospitals, Málaga, Spain; ⁸Roche Products Ltd, Welwyn Garden City, United Kingdom; ⁹F. Hoffmann-La Roche Ltd, Basel, Switzerland; ¹⁰F. Hoffmann-La Roche Ltd, Shanghai, China; ¹¹Ospedale Papa Giovanni XXIII, Bergamo, Italy.

Accepted as an Oral Presentation at the 63rd ASH Annual Meeting and Exposition



Phase Ib/II Study of Glofitamab Combined with Polatuzumab Vedotin for R/R DLBCL



- 49/59 patients were evaluable for interim response
- 7/49 (14.3%) patients had PD as best response and discontinued study treatment
- Encouraging ORR and CR rates in patients with:
 - trFL: ORR, 8/11 and CR, 7/11
 - HGBCL: ORR, 5/8 and CR, 4/8

- Safety profile of the combination was consistent with that of the individual drugs
- Majority of CRS events were Gr 1 and occurred after first dose of glofitamab (no Gr 3/4 cases)
- One Gr 1 ICANS AE was reported



Follicular Lymphoma



Approved PI3K Inhibitors for FL: Indication and Dosing

| | Idelalisib ¹ | Copanlisib ² | Duvelisib ³ | Umbralisib ⁴ | |
|---------------------|---|---|--|--|--|
| Mechanism of action | Selective PI3Kδ inhibitor | Dual inhibitor of PI3Kδ,α | Dual inhibitor of PI3Kδ,γ | Dual inhibitor of PI3Kδ and casein kinase CK1ε | |
| Indication | Relapsed FL after at least 2 prior systemic therapies | Relapsed FL after at least 2 prior systemic therapies | R/R FL after at least 2 prior systemic therapies | R/R FL after at least 3 prior systemic therapies | |
| Dosing | 150 mg orally, twice daily | 60 mg as a 1-hour IV infusion weekly (3 weeks on, 1 week off) | 25 mg orally, twice daily | 800 mg orally, once daily | |



¹Gopal AK et al. N Engl J Med 2014;370(11):1008-18; Idelalisib package insert, January 2018.

² Dreyling M et al. *J Clin Oncol* 2017;35(35):3898-905; Copanlisib package insert, September 2017.

³ Flinn IW et al. *J Clin Oncol* 2019;[Epub ahead of print]; Zinzani PL et al. EHA 2017;Abstract S777; Duvelisib package insert, September 2018. ⁴ Umbralisib package insert, February 2021.

Lancet Oncol 2021;22:678-89

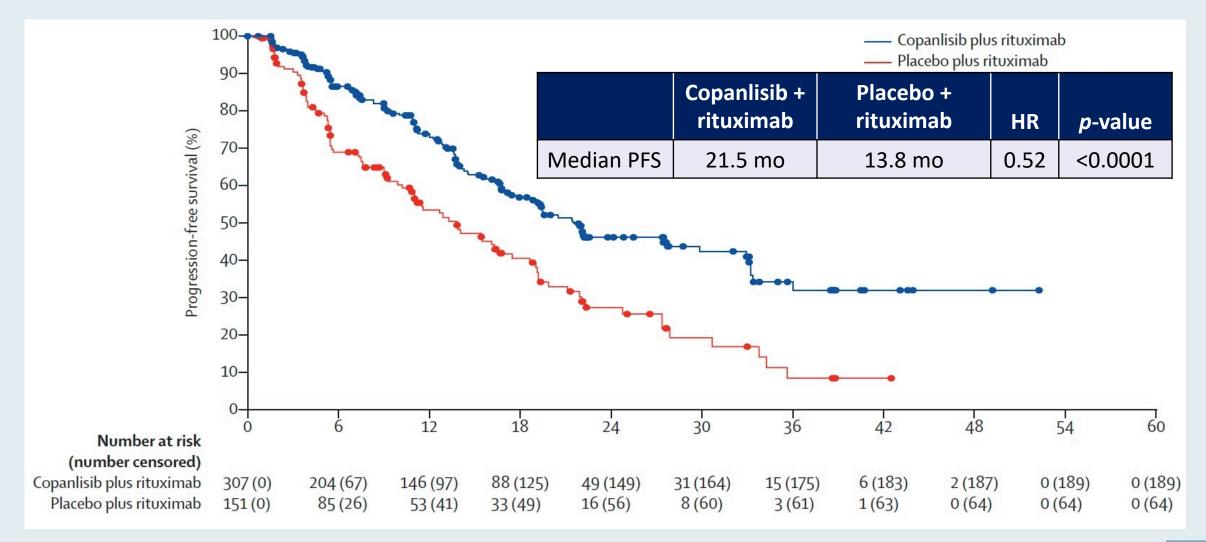


Copanlisib plus rituximab versus placebo plus rituximab in patients with relapsed indolent non-Hodgkin lymphoma (CHRONOS-3): a double-blind, randomised, placebo-controlled, phase 3 trial

Matthew J Matasar, Marcelo Capra, Muhit Özcan, Fangfang Lv, Wei Li, Eduardo Yañez, Katya Sapunarova, Tongyu Lin, Jie Jin, Wojciech Jurczak, Aryan Hamed, Ming-Chung Wang, Ross Baker, Igor Bondarenko, Qingyuan Zhang, Jifeng Feng, Klaus Geissler, Mihaela Lazaroiu, Guray Saydam, Árpád Szomor, Krimo Bouabdallah, Rinat Galiulin, Toshiki Uchida, Lidia Mongay Soler, Anjun Cao, Florian Hiemeyer, Aruna Mehra, Barrett H Childs, Yuankai Shi, Pier Luigi Zinzani



CHRONOS-3: Progression-Free Survival in R/R Indolent NHL





FDA Grants Accelerated Approval to Umbralisib for Marginal Zone Lymphoma and Follicular Lymphoma

Press Release – February 5, 2021

"The Food and Drug Administration granted accelerated approval to umbralisib, a kinase inhibitor including PI3K-delta and casein kinase CK1-epsilon, for the following indications:

- Adult patients with relapsed or refractory marginal zone lymphoma (MZL) who have received at least one prior anti-CD20-based regimen;
- Adult patients with relapsed or refractory follicular lymphoma (FL) who have received at least three prior lines of systemic therapy.

Approval was based on two single-arm cohorts of an open-label, multi-center, multi-cohort trial, UTX-TGR-205 (NCT02793583), in 69 patients with MZL who received at least one prior therapy, including an anti-CD20 containing regimen, and in 117 patients with FL after at least 2 prior systemic therapies. Patients received umbralisib 800 mg orally once daily until disease progression or unacceptable toxicity."



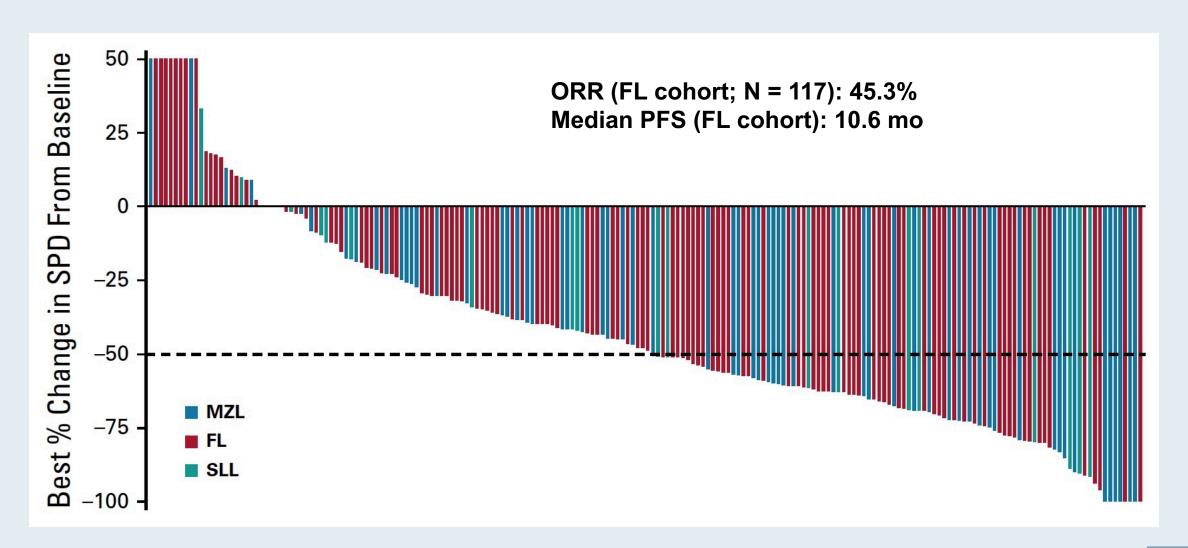
[®] Umbralisib, a Dual PI3Kδ/CK1ε Inhibitor in Patients With Relapsed or Refractory Indolent Lymphoma Nathan H. Fowler, MD¹; Felipe Samaniego, MD¹; Wojciech Jurczak, MD, PhD²; Nilanjan Ghosh, MD, Ph James A. Reeves, MD6; Wanda Knopińska-Posłuszny, MD7; Chan Y. Cheah, DMSc8; Tycel Phillips, MD9; Ew Bruce D. Cheson, MD¹¹; Paolo F. Caimi, MD¹²; Sebastian Grosicki, MD, PhD¹³; Lori A. Leslie, MD¹⁴; Jul Gustavo Fonseca, MD¹6; Sunil Babu, MD¹7; Daniel J. Hodson, MD¹8; Spencer H. Shao, MD¹9; John M. Ey Jeff P. Sharman, MD²¹; Jennie Y. Law, MD²²; John M. Pagel, MD, PhD²³; Hari P. Miskin, MSc²⁴; Peter Starman, MD²¹; Jennie Y. Law, MD²²; John M. Pagel, MD, PhD²³; Hari P. Miskin, MSc²⁴; Peter Starman, MD²¹; Jennie Y. Law, MD²²; John M. Pagel, MD, PhD²³; Hari P. Miskin, MSc²⁴; Peter Starman, MD²¹; Jennie Y. Law, MD²²; John M. Pagel, MD, PhD²³; Hari P. Miskin, MSc²⁴; Peter Starman, MD²¹; Jennie Y. Law, MD²²; John M. Pagel, MD, PhD²³; Hari P. Miskin, MSc²⁴; Peter Starman, MD²¹; Jennie Y. Law, MD²²; John M. Pagel, MD, PhD²³; Hari P. Miskin, MSc²⁴; Peter Starman, MD²²; Jennie Y. Law, MD²²; John M. Pagel, MD, PhD²³; Hari P. Miskin, MSc²⁴; Peter Starman, MD²²; Jennie Y. Law, MD²²; John M. Pagel, MD, PhD²³; Jennie Y. Law, MD²²; John M. Pagel, MD, PhD²³; Hari P. Miskin, MSc²²; Peter Starman, MD²²; Jennie Y. Law, MD²²; John M. Pagel, MD, PhD²³; Jennie Y. Law, MD²²; John M. PhD²²²; John M. Pagel, MD, PhD²²²; Jennie Y. Law, MD²²; John M. PhD²²²; John M. PhD²²²; Jennie Y. Law, MD²²; John M. PhD²²²; John M. PhD²²²; Jennie Y. Law, MD²²; John M. PhD²²²; Jennie Y. Law, MD²²²; John M. PhD²²²; John M. PhD²²²; Jennie Y. Law, MD²²; John M. Pagel, MD; PhD²²²; Jennie Y. Law, MD²²; John M. PhD²²²; John M. PhD²²²; Jennie Y. Law, MD²²; John M. Pagel, MD; PhD²²²; Jennie Y. Law, MD²²; John M. PhD²²; Jennie Y. Law, MD²²; John M. PhD²²²; Jennie Y. Law, MD²²; John M. PhD²²²; Jennie Y. Law, MD²²; John M. PhD²²²; Jennie Y. Law, MD²²; Jennie Y. Law, MD²²; Jennie Y. Law, MD²²; Jennie Y. Law, M

Nathan H. Fowler, MD¹; Felipe Samaniego, MD¹; Wojciech Jurczak, MD, PhD²; Nilanjan Ghosh, MD, PhD³; Enrico Derenzini, MD^{4,5}; James A. Reeves, MD⁶; Wanda Knopińska-Posłuszny, MD⁷; Chan Y. Cheah, DMSc⁸; Tycel Phillips, MD⁹; Ewa Lech-Maranda, MD, PhD¹⁰; Bruce D. Cheson, MD¹¹; Paolo F. Caimi, MD¹²; Sebastian Grosicki, MD, PhD¹³; Lori A. Leslie, MD¹⁴; Julio C. Chavez, MD¹⁵; Gustavo Fonseca, MD¹⁶; Sunil Babu, MD¹⁷; Daniel J. Hodson, MD¹⁸; Spencer H. Shao, MD¹⁹; John M. Burke, MD²⁰; Jeff P. Sharman, MD²¹; Jennie Y. Law, MD²²; John M. Pagel, MD, PhD²³; Hari P. Miskin, MSc²⁴; Peter Sportelli, BS²⁴; Owen A. O'Connor, MD, PhD^{24,25}; Michael S. Weiss, JD²⁴; and Pier Luigi Zinzani, MD, PhD^{26,27}

J Clin Oncol 2021;39:1609-18



Umbralisib for Heavily Pretreated R/R Indolent NHL





Lancet Oncol 2020;21:1433-42

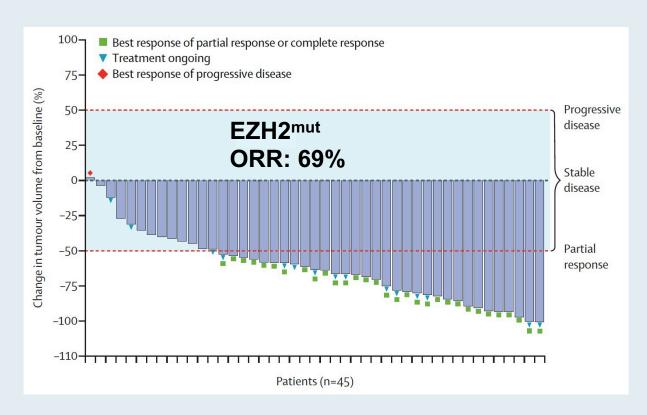
Tazemetostat for patients with relapsed or refractory follicular lymphoma: an open-label, single-arm, multicentre, phase 2 trial

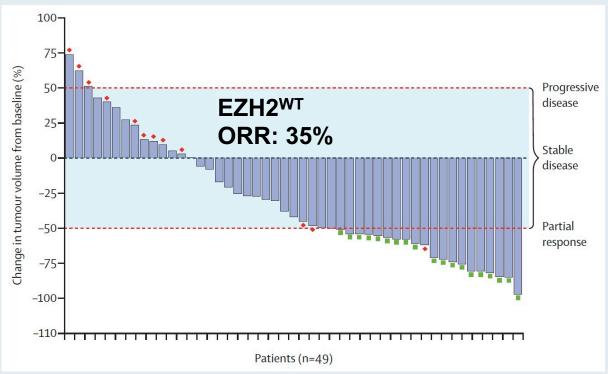


Franck Morschhauser, Hervé Tilly, Aristeidis Chaidos, Pamela McKay, Tycel Phillips, Sarit Assouline, Connie Lee Batlevi, Phillip Campbell, Vincent Ribrag, Gandhi Laurent Damaj, Michael Dickinson, Wojciech Jurczak, Maciej Kazmierczak, Stephen Opat, John Radford, Anna Schmitt, Jay Yang, Jennifer Whalen, Shefali Agarwal, Deyaa Adib, Gilles Salles



Response to Tazemetostat in Patients with R/R FL and EZH2-Mutated or EZH2 Wild-Type Tumors







Structure of Selected Bispecific Antibodies

| Bi-Specific Antibody | Targets | Design | lg Fragment Formats |
|--|---------------------------|--------|--|
| blinatumomab | CD19 x CD3 | CONT. | two murine scFv joined by a glycine-serine linker monovalent CD19 and monovalent CD3 binding cloned from anti-CD19 (clone HD37) and anti-CD3 (clone L2K-07) murine mAbs |
| mosunetuzumab | CD20 x CD3 | | humanized mouse heterodimeric IgG1-based antibody monovalent CD20 and monovalent CD3 binding modified Fc devoid of FcyR and complement binding |
| glofitamab | (CD20) ₂ x CD3 | | humanized mouse IgG1-based antibody bivalent CD20 and monovalent CD3c binding modified Fc devoid of FcyR and complement binding |
| odronextamab | CD20 x CD3 | H | fully human IgG4-based heterodimeric antibody monovalent CD20 and monovalent CD3ε binding Fc-dependent effector function-minimized antibody with Fc of the anti-CD3ε heavy chain modified to reduce Protein A binding common κ light chain from anti-CD3ε mAb |
| epcoritamab | CD20 x CD3 | | humanized mouse IgG1-based heterodimeric antibody monovalent CD20 and monovalent CD3 binding IgG1 Fc modified to minimize Fc-dependent effector functions and to control Fab-arm exchange of mAb half-molecules, resulting in high bispecific product yield |
| lg, immunoglobulin; scFv, single-chain variable fragment; mAb, monoclonal antibody; Fc, fragment crystallizable; FcγR, Fc gamma receptor | | | |



FDA Grants Breakthrough Therapy Designation for the CD20 x CD3 Bispecific Cancer Immunotherapy Mosunetuzumab for Follicular Lymphoma

Press Release — July 14, 2020

"[The] investigational CD20xCD3 T-cell engaging bispecific mosunetuzumab has been granted Breakthrough Therapy Designation (BTD) by the US Food and Drug Administration (FDA) for the treatment of adult patients with relapsed or refractory (R/R) follicular lymphoma who have received at least two prior systemic therapies.

This designation was granted based on encouraging efficacy results observed in the phase I/Ib GO29781 study [NCT02500407] investigating mosunetuzumab in R/R non-Hodgkin lymphoma (NHL). The safety profile of this T-cell engaging bispecific was consistent with its mechanism of action."



Mosunetuzumab Monotherapy is an Effective and Well-Tolerated Treatment Option for Patients with Relapsed/ Refractory (R/R) Follicular Lymphoma (FL) who have Received ≥2 Prior Lines of Therapy: Pivotal Results from a Phase I/II Study

L Elizabeth Budde, ¹ Laurie H Sehn, ² Matthew Matasar, ³ Stephen J Schuster, ⁴ Sarit Assouline, ⁵ Pratyush Giri, ⁶ John Kuruvilla, ⁷ Miguel Canales, ⁸ Sascha Dietrich, ⁹ Keith Fay, ¹⁰ Matthew Ku, ¹¹ Loretta Nastoupil, ¹² Michael C Wei, ¹³ Shen Yin, ¹³ Michelle Y Doral, ¹³ Chi-Chung Li, ¹³ Huang Huang, ¹⁴ Raluca Negricea, ¹⁵ Elicia Penuel, ¹³ Carol O'Hear, ¹³ Nancy L Bartlett ¹⁶

"City of Hope, Duarte, CA, USA; "BC Cancer Centre for Lymphoid Cancer and University of British Columbia, Vancouver, BC, Canada; "Memorial Sloan Kettering Cancer Center, New York, NY, USA; "Lymphoma Program, Abramson Cancer Center, University of Pennsylvania, Philadelphia, PA, USA; "Jewish General Hospital, Montreal, OC, Canada; "Royal Adelaide Hospital, Australia; "Princess Margaret Cancer Centre, Toronto, ON, Canada; "Hospital University of Le Paz, Medirid, Spain; "Universital Heidelberg, Heidelberg, Germany; "St Vincent's Hospital and Royal North Shore Hospital, Sydney, Australia; "St Vincent's Hospital, University of Melbourne, Melbourne, Australia; "MO Anderson Cancer Center, Houston, TX, USA; "Generatech, Inc., South San Francisco, CA, USA; "Froffmann-La Roche Ltd, Mississauga, ON, Canada; "Roche Products Ltd, Welvyn Garden City, United Kingdom;" "Siteman Center, Weshington University School of Medicine, St. Louis, MO, USA

Accepted as an Oral Presentation at the 63rd ASH Annual Meeting and Exposition

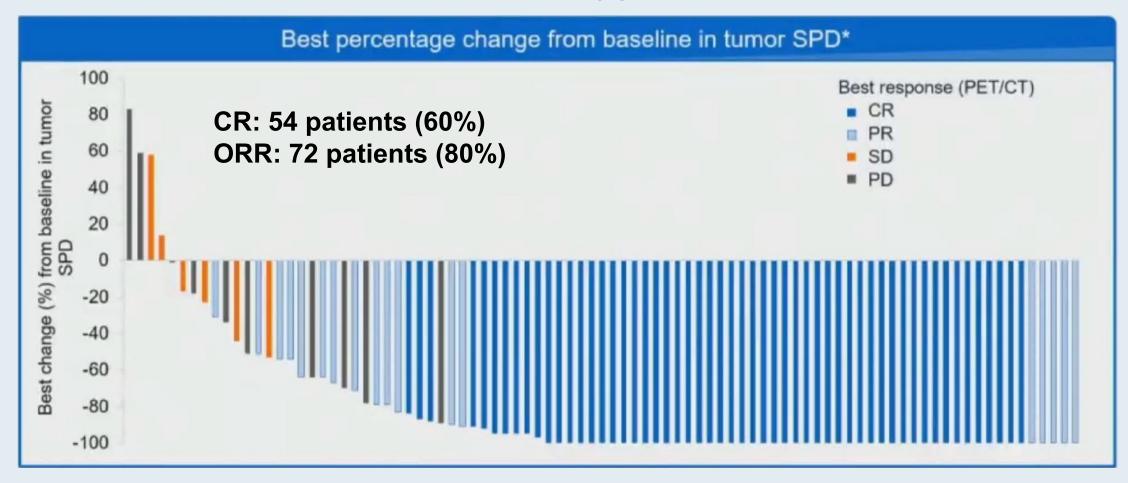


63rd ASH Annual Meeting and Exposition





Response to Mosunetuzumab Monotherapy in Patients with R/R FL Who Have Received ≥2 Lines of Therapy



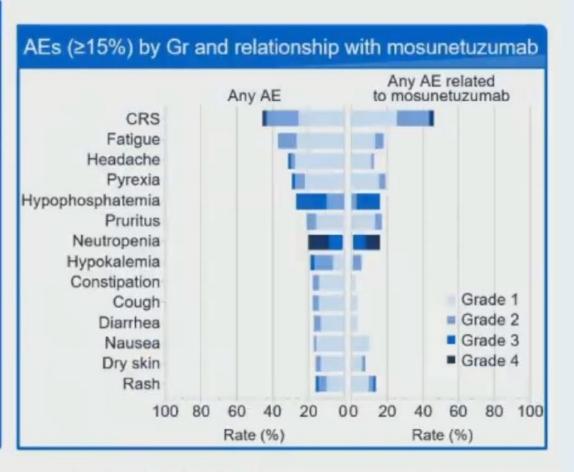
Median DoR: 22.8 months

Median PFS: 17.9 months



Safety Profile of Mosunetuzumab Monotherapy for Patients with R/R FL Who Have Received ≥2 Lines of Therapy

| N (%) | N=90 | |
|----------------------------------|------------|--|
| AE | 90 (100%) | |
| Mosunetuzumab related* | 83 (92.2%) | |
| Grade 3–4 AE | 63 (70.0%) | |
| Mosunetuzumab related* | 46 (51.1%) | |
| Serious AE | 42 (46.7%) | |
| Mosunetuzumab related* | 30 (33.3%) | |
| Grade 5 (fatal) AE | 2 (2.2%)† | |
| Mosunetuzumab related* | 0 | |
| AE leading to discontinuation of | | |
| treatment | 4 (4.4%)‡ | |
| Mosunetuzumab related* | 2 (2.2%)‡ | |



^{*}AE considered related to treatment by the investigator; †mosunetuzumab unrelated: malignant neoplasm progression and unexplained death (1 patient each); †mosunetuzumab related: CRS (2 patients); mosunetuzumab unrelated: Esptein-Barr viremia and Hodgkin's disease (1 patient each); AE, adverse event; Gr, Grade



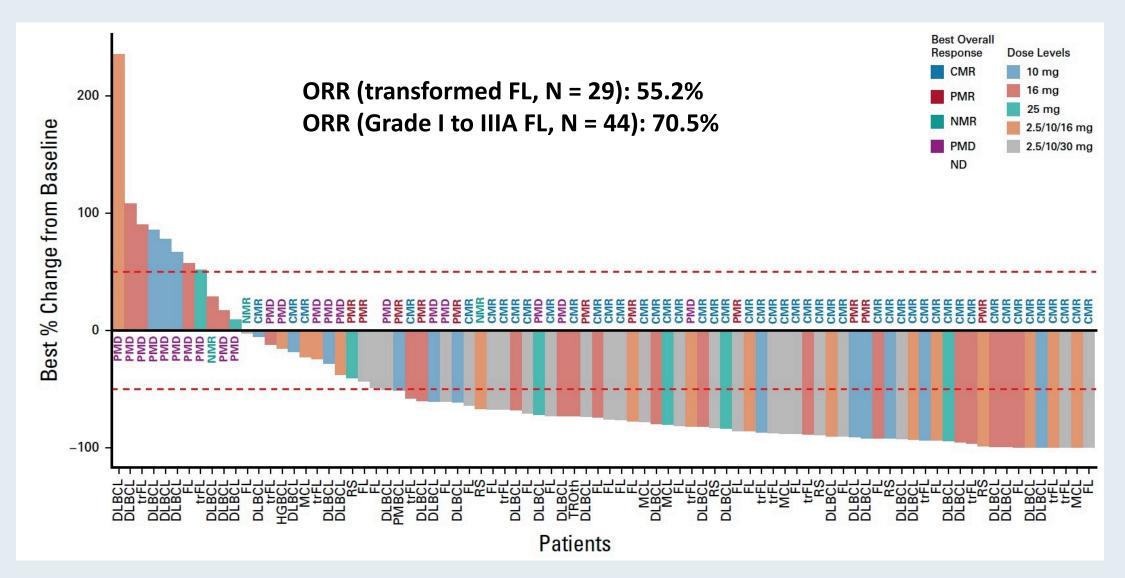
Glofitamab, a Novel, Bivalent CD20-Targeting T-Cell-Engaging Bispecific Antibody, Induces Durable Complete Remissions in Relapsed or Refractory B-Cell Lymphoma: A Phase I Trial

Martin Hutchings, PhD¹; Franck Morschhauser, MD, PhD²; Gloria Iacoboni, MD³,⁴; Carmelo Carlo-Stella, MD⁵; Fritz C. Offner, MD, PhD⁶; Anna Sureda, MD, PhDˀ; Gilles Salles, MD˚; Joaquín Martínez-Lopez, MD, PhD, MBAց; Michael Crump, MD¹o; Denise N. Thomas, MSc¹¹; Peter N. Morcos, PharmD¹¹; Cristiano Ferlini, MD¹¹; Ann-Marie E. Bröske, PhD¹²; Anton Belousov, PhD¹³; Marina Bacac, PhD¹³; Natalie Dimier, PhD¹⁴; David J. Carlile, PhD¹⁴; Linda Lundberg, PhD¹⁵; David Perez-Callejo, MD, PhD¹⁵; Pablo Umaña, PhD¹³; Tom Moore, MD¹²; Martin Weisser, MD¹²; and Michael J. Dickinson, MBBS, DMedSci¹⁶

J Clin Oncol 2021;39:1959-70.



Response to Glofitamab in Patients with R/R B-Cell Lymphomas





128



Glofitamab as Monotherapy and in Combination with Obinutuzumab Induces High Complete Response Rates in Patients with Multiple Relapsed or Refractory (R/R) Follicular Lymphoma (FL)

Franck Morschhauser,¹ Carmelo Carlo-Stella,² Michael Dickinson,³ Tycel Phillips,⁴ Roch Houot,⁵ Fritz Offner,⁶ Corinne Haioun,⁷ Paolo Corradini,⁸ Martin Hutchings,⁹ Anna Sureda,¹⁰ Joaquin Martinez-Lopez,¹¹ Tomasz Wróbel,¹² Shang-Ju Wu,¹³ Linda Lundberg,¹⁴ Estefania Mulvihill,¹⁴ David Perez-Callejo,¹⁴ James Relf,¹⁵ Anesh Panchal,¹⁵ Kathryn Humphrey,¹⁵ Emmanuel Bachy¹⁶

CHU Lille, Service des Maladies du Sang, F-59000 Lille, France; ³Humanitas University and Humanitas Research Hospital, Milan, Italy; ³Peter MacCallum Cancer Centre, Royal Melibourne Hospital and The University of Melibourne, Australia; ³University of Milchigan Madicial School, Ann Arbor, Michigan, USA; ³CHU de Rennes, Université of Milan, Italy; ³Rigsherial Henri Mondor, AP-HP, Crédell, France; ³University of Milan; Fondazione IRCCS Instituto Nazionale dei Tumori, Milan, Italy; ³Rigshospitalet, Copenhagen, Denmark; ³Institut Catala d'Oncologia Hospitalet, IDIBELL, Universitat de Barcelona, Barcelona, Spain; ³Hospital Universitat de Octubre (H12O), Centro Nacional de Investigaciones Oncològicas (CNIO)-H12O and Universidad Complutense de Madrid, Madrid, Spain; ¹³Wroclaw Medical University, Wroclaw, Poland; ¹³National Taiwan Université Claude Bernard, Pierre-Bénite, France.

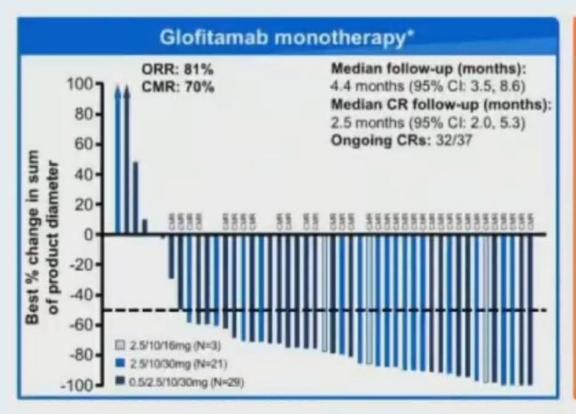
Accepted as an Oral Presentation at the 63rd ASH Annual Meeting and Exposition

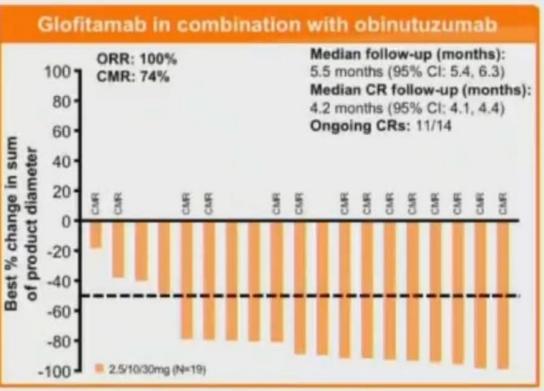


63rd ASH' Annual Meeting and Exposition



Phase I/II Study of Glofitamab as Monotherapy or in Combination with Obinutuzumab for R/R FL





- · Deep responses observed across glofitamab dosing regimens; most complete responses were ongoing
- Myelosuppression was more common with the combination
- CRS rates were high and comparable, and cases were mainly low grade



FDA Grants Accelerated Approval to Axicabtagene Ciloleucel for Relapsed or Refractory Follicular Lymphoma

Press Release - March 5, 2021

"The Food and Drug Administration granted accelerated approval to axicabtagene ciloleucel for adult patients with relapsed or refractory follicular lymphoma (FL) after two or more lines of systemic therapy.

Approval in FL was based on a single-arm, open-label, multicenter trial (ZUMA-5; NCT03105336) that evaluated axicabtagene ciloleucel, a CD19-directed chimeric antigen receptor (CAR) T cell therapy, in adult patients with relapsed or refractory FL after two or more lines of systemic therapy, including the combination of an anti-CD20 monoclonal antibody and an alkylating agent. Following lymphodepleting chemotherapy, axicabtagene ciloleucel was administered as a single intravenous infusion."



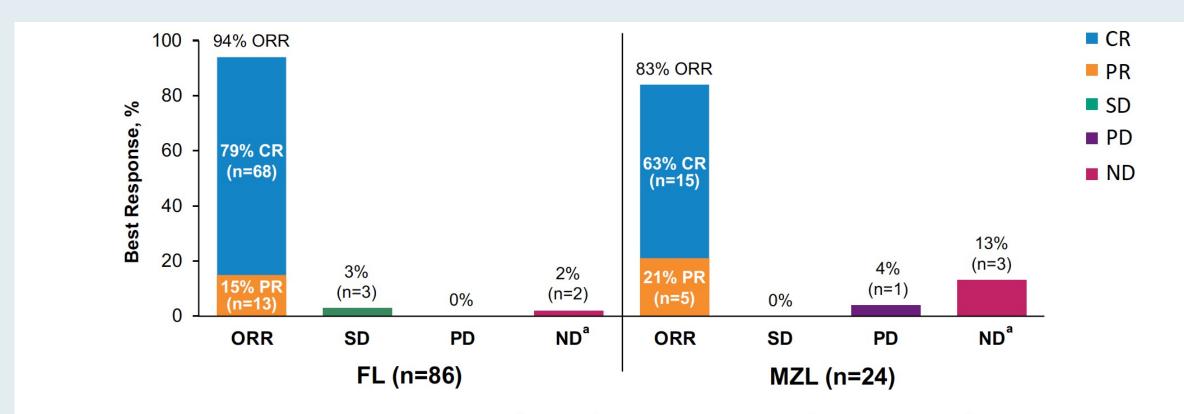
Long-Term Follow-Up Analysis of ZUMA-5: A Phase 2 Study of Axicabtagene Ciloleucel (Axi-Cel) in Patients With Relapsed/Refractory Indolent Non-Hodgkin Lymphoma

Sattva S. Neelapu, MD^{1*}; Julio C. Chavez, MD^{2*}; Alison R. Sehgal, MD³; Narendranath Epperla, MD, MS⁴; Matthew Ulrickson, MD⁵; Emmanuel Bachy, MD, PhD⁶; Pashna N. Munshi, MD⁷; Carla Casulo, MD⁸; David G. Maloney, MD, PhD⁹; Sven de Vos, MD, PhD¹⁰; Ran Reshef, MD¹¹; Lori A. Leslie, MD¹²; Olalekan O. Oluwole, MD, MPH, MBBS¹³; Ibrahim Yakoub-Agha, MD, PhD¹⁴; Rashmi Khanal, MD¹⁵; Joseph Rosenblatt, MD¹⁶; Marika Sherman, MSHS¹⁷; Jinghui Dong, PhD¹⁷; Alessandro Giovanetti, BSc¹⁷; Yin Yang, MD, PhD¹⁷; Christine Lui, MS¹⁷; Zahid Bashir, MBBS; MS¹⁷; A. Scott Jung, MD¹⁷; and Caron A. Jacobson, MD¹⁸

¹The University of Texas MD Anderson Cancer Center, Houston, Texas, USA; ²University of South Florida H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL, USA; ³UPMC Hillman Cancer Center, Pittsburgh, PA, USA; ⁴The Ohio State University Comprehensive Cancer Center, Columbus, OH, USA; ⁵Banner MD Anderson Cancer Center, Gilbert, AZ, USA; ⁶Centre Hospitalier Lyon Sud, Pierre-Bénite, France;
 ⁷Georgetown Lombardi Comprehensive Cancer Center, Washington, DC, USA; ⁸University of Rochester Medical Center - James P. Wilmot Cancer Center, Rochester, NY, USA; ⁹Fred Hutchinson Cancer Research Center, Seattle, WA, USA; ¹⁰Ronald Reagan University of California Los Angeles Medical Center, Santa Monica, CA, USA; ¹¹Columbia University Herbert Irving Comprehensive Cancer Center, New York City, NY, USA; ¹²John Theurer Cancer Center, Hackensack, NJ, USA; ¹³Vanderbilt University Medical Center, Nashville, TN, USA; ¹⁴CHU de Lille, Univ Lille, INSERM U1286, Infinite, 59000 Lille, France; ¹⁵Fox Chase Cancer Center, Philadelphia, PA, USA ¹⁶University of Miami Sylvester Comprehensive Cancer Center, Miami, FL, USA; ¹⁷Kite, a Gilead Company, Santa Monica, CA, USA; and ¹⁸Dana-Farber Cancer Institute, Boston, MA, USA *Equal contributors



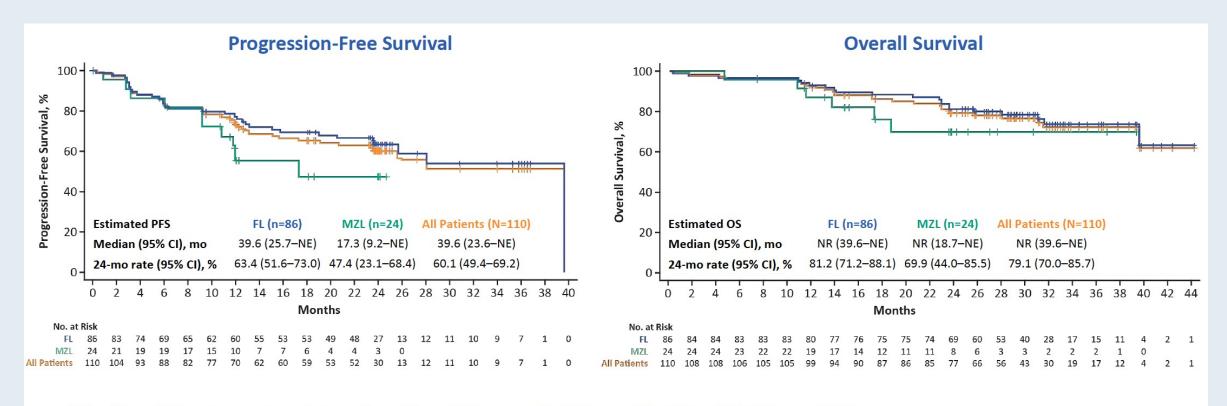
ZUMA-5: ORR by Central Review



- Among efficacy-eligible patients with iNHL (n=110), the ORR was 92% (95% CI, 85–96), with a 75% CR rate
- Among all treated patients with iNHL (n=149), the ORR was 92% (95% CI, 86–96), with a 77% CR rate



ZUMA-5: Progression-Free and Overall Survival



- Median OS was not yet reached in efficacy-eligible patients with FL or MZL
- Among patients with FL, 3 deaths occurred after Month 24^a; no disease progression events occurred
 after Month 24



ZUMA-5: AEs with First Occurrence After Primary Analysis Data Cutoff

| | Follicular Lymphoma (N=124) | | Marginal Zone Lymphoma (N=25) | | All Patients (N=149) | |
|-----------------------|--------------------------------|----------|----------------------------------|----------|-------------------------|----------|
| AE, n (%) | Any Grade | Grade ≥3 | Any Grade | Grade ≥3 | Any Grade | Grade ≥3 |
| Any AE | 27 (22) | 14 (11) | 11 (44) | 6 (24) | 38 (26) | 20 (13) |
| Serious AE | 11 (9) | 11 (9) | 4 (16) | 4 (16) | 15 (10) | 15 (10) |
| Cytopenia | 8 (6) | 4 (3) | 3 (12) | 3 (12) | 11 (7) | 7 (5) |
| Infection | 18 (15) | 7 (6) | 7 (28) | 4 (16) | 25 (17) | 11 (7) |
| CRS | 0 (0) | 0 (0) | 2 (8) | 0 (0) | 2 (1) | 0 (0) |
| Neurologic event | 0 (0) | 0 (0) | 2 (8) | 0 (0) | 2 (1) | 0 (0) |
| Hypogammaglobulinemia | 2 (2) | 0 (0) | 2 (8) | 0 (0) | 4 (3) | 0 (0) |
| Tumor lysis syndrome | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) |

- Grade 5 AEs occurred in 6 patients after the data cutoff of the primary analysis^b
 - Grade 5 infectious AEs occurred in 5 patients: 1 COVID-19 (FL, Day 717, unrelated), 1 COVID-19 pneumonia (FL, Day 780, related to axi-cel), 1 PML^c (FL, Day 697, related to axi-cel and CC) and 2 sepsis (FL, Day 1204; MZL, Day 139; both unrelated)
 - Acute bilineal leukemia occurred in 1 patient (FL, Day 623, CC related)



^a Includes all AEs that occurred after the primary analysis data cutoff date (March 12, 2020) and by the data cutoff date of the current analysis (March 31, 2021). ^b No Grade 5 AEs were due to progressive disease.

^c The Grade 5 PML event occurred after axi-cel retreatment.

Efficacy of Tisagenlecleucel in Adult Patients with High-Risk Relapsed/Refractory Follicular Lymphoma: Subgroup Analysis of the Phase II ELARA Study

Catherine Thieblemont, Michael Dickinson, Joaquin Martinez-Lopez, Arne Kolstad, Jason P. Butler, Monalisa Ghosh, Leslie L. Popplewell, Julio C. Chavez, Emmanuel Bachy, Koji Kato, Hideo Harigae, Marie José Kersten, Charalambos Andreadis, Arne Kolstad, Arne Kolstad, Jason P. Butler, Monalisa Ghosh, Leslie L. Popplewell, Julio C. Chavez, Arnori C. Chave

Department of Hemato-Oncology, Saint Louis Hospital, Paris, France; ²Department of Clinical Haematology, Peter MacCallum Cancer Centre and The Royal Melbourne Hospital, Robourne, Australia; ²Ocentro de Investigación Biomédica en Red Cáncer (CIBERONC), Hospital University Complutense University, CNIO, Madnd, Spain; ⁴Oslo University Hospital Radiumhospitalet, Oslo, Norway, ⁵Royal Brisbane and Women's Hospital, Brisbane, Australia; ⁸Michigan Medicine University of Michigan, Ann Arbor, MI, USA; ⁵Division of Malignant Hematology, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL, USA; ⁵Hospital, Brisbane Augustian, Paris Paris Center and Research Institute, Tampa, FL, USA; ⁵Hospital, Brisbane Augustian, Paris Paris Center and Research Institute, Tampa, FL, USA; ⁵Hospital, Sendai, Japan, ¹¹Tohoku University Hospital, Sendai, Japan, ¹²Amsterdam UMC, Department of Hematology, Amsterdam UMC, University of Amsterdam, A



ELARA: Efficacy Analysis with Extended Follow-Up

- As of March 29, 2021, 97 patients received tisagenlecleucel and 94 were evaluable for efficacy
- CR rates are consistent and durable for the interim, primary analyses, and this extended follow-up analysis
- Complete response correlated with durability and prolonged PFS
 - Among patients who achieved CR, 12-month PFS was 85.5% (95% CI, 74-92) and estimated DOR rate at 9 months was 86.5% (95% CI, 75-93)

| Efficacy Results of Extended Follow-up Analysis | | |
|---|-------------------------|--|
| Endpoint | % (95% CI) | |
| ORRa | 86.2 (77.5-92.4) | |
| CRR ^a | 69.1 (58.8-78.3) | |
| 12-mo PFS | 67.0 (56.0-75.8) | |
| 9-mo DOR | 76.0 (64.6-84.2) | |

^aORR and CRR were comparable with the primary efficacy analysis (ORR 86.2% and CRR 66.0%).



Mantle Cell Lymphoma



FDA Approves Brexucabtagene Autoleucel for Relapsed or Refractory Mantle Cell Lymphoma

Press Release – July 24, 2020

"The Food and Drug Administration granted accelerated approval to brexucabtagene autoleucel, a CD19-directed genetically modified autologous T cell immunotherapy, for the treatment of adult patients with relapsed or refractory mantle cell lymphoma (MCL).

Approval was based on ZUMA-2 (NCT02601313), an open-label, multicenter, single-arm trial of 74 patients with relapsed or refractory MCL who had previously received anthracycline- or bendamustine-containing chemotherapy, an anti-CD20 antibody, and a Bruton tyrosine kinase inhibitor. Patients received a single infusion of brexucabtagene autoleucel following completion of lymphodepleting chemotherapy. The primary efficacy outcome measure was objective response rate (ORR) per Lugano [2014] criteria as assessed by an independent review committee."



N Engl J Med 2020;382(14):1331-42

The NEW ENGLAND JOURNAL of MEDICINE

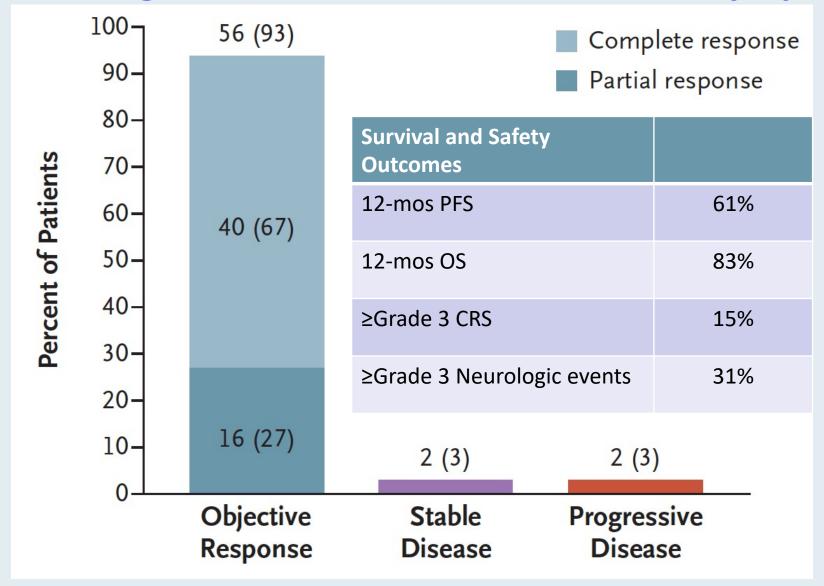
ORIGINAL ARTICLE

KTE-X19 CAR T-Cell Therapy in Relapsed or Refractory Mantle-Cell Lymphoma

M. Wang, J. Munoz, A. Goy, F.L. Locke, C.A. Jacobson, B.T. Hill, J.M. Timmerman, H. Holmes, S. Jaglowski, I.W. Flinn, P.A. McSweeney, D.B. Miklos, J.M. Pagel, M.-J. Kersten, N. Milpied, H. Fung, M.S. Topp, R. Houot, A. Beitinjaneh, W. Peng, L. Zheng, J.M. Rossi, R.K. Jain, A.V. Rao, and P.M. Reagan



ZUMA-2: Response Rates, Survival and Select Safety Outcomes with Brexucabtagene Autoleucel for Mantle Cell Lymphoma





Meet The Professor Myelofibrosis

Thursday, April 7, 2022 5:00 PM - 6:00 PM ET Faculty Professor Claire Harrison

Special Topics

- FDA approval of pacritinib
- Long-term follow-up of COMFORT trials



What I Tell My Patients: Expert Insights into Patient Education on New Treatments and Clinical Trial Participation

A Complimentary NCPD Hybrid Symposium Series Held During the 47th Annual ONS Congress

Prostate Cancer

Thursday, April 28, 2022 6:00 AM - 7:30 AM PT (9:00 AM - 10:30 AM ET)

Faculty

Kathy D Burns, RN, MSN, AGACNP-BC, OCN Robert Dreicer, MD, MS Ronald Stein, JD, MSN, NP-C, AOCNP Additional faculty to be announced

Ovarian Cancer

Thursday, April 28, 2022 12:15 PM – 1:45 PM PT (3:15 PM – 4:45 PM ET)

Faculty

Jennifer Filipi, MSN, NP Kathleen N Moore, MD, MS Krishnansu S Tewari, MD Deborah Wright, MSN, APRN, AGCNS-BC

Non-Small Cell Lung Cancer

Thursday, April 28, 2022 6:00 PM - 8:00 PM PT (9:00 PM - 11:00 PM ET)

Faculty

Edward B Garon, MD, MS Kelly EH Goodwin, MSN, RN, ANP-BC Tara Plues, APRN, MSN Anne S Tsao, MD, MBA

Hepatobiliary Cancers

Thursday, April 28, 2022 8:20 PM - 9:20 PM PT (11:20 PM - 12:20 AM ET)

Faculty

Amanda K Wagner, APRN-CNP, AOCNP Additional faculty to be announced

What I Tell My Patients: Expert Insights into Patient Education on New Treatments and Clinical Trial Participation

A Complimentary NCPD Hybrid Symposium Series Held During the 47th Annual ONS Congress

Small Cell Lung Cancer

Friday, April 29, 2022 6:00 AM - 7:30 AM PT (9:00 AM - 10:30 AM ET)

Faculty

Marianne J Davies, DNP, MSN, RN, APRN Matthew Gubens, MD, MS Lowell L Hart, MD Chaely J Medley, MSN, AGNP

Chronic Lymphocytic Leukemia

Friday, April 29, 2022 12:15 PM - 1:45 PM PT (3:15 PM - 4:45 PM ET)

Faculty

Lesley Camille Ballance, MSN, FNP-BC Amy Goodrich, CRNP Anthony R Mato, MD, MSCE Susan O'Brien, MD

Breast Cancer

Friday, April 29, 2022 6:00 PM - 8:00 PM PT (9:00 PM - 11:00 PM ET)

Faculty

Jamie Carroll, APRN, MSN, CNP Sara A Hurvitz, MD Kelly Leonard, MSN, FNP-BC Hope S Rugo, MD

Acute Myeloid Leukemia and Myelodysplastic Syndromes

Friday, April 29, 2022 8:20 PM – 9:20 PM PT (11:20 PM – 12:20 AM ET)

Faculty

Faculty to be announced

What I Tell My Patients: Expert Insights into Patient Education on New Treatments and Clinical Trial Participation

A Complimentary NCPD Hybrid Symposium Series Held During the 47th Annual ONS Congress

Cervical and Endometrial Cancer

Saturday, April 30, 2022

6:00 AM - 7:30 AM PT (9:00 AM - 10:30 AM ET)

Faculty

Paula J Anastasia, MN, RN, AOCN Robert L Coleman, MD David M O'Malley, MD Jaclyn Shaver, MS, APRN, CNP, WHNP

Bladder Cancer

Saturday, April 30, 2022

12:15 PM - 1:45 PM PT (3:15 PM - 4:45 PM ET)

Faculty

Monica Averia, MSN, AOCNP, NP-C Shilpa Gupta, MD Brenda Martone, MSN, NP-BC, AOCNP Sumanta Kumar Pal, MD

Thank you for joining us!

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

