Fall Oncology Nursing Series

A Complimentary NCPD-Accredited Virtual Curriculum

Chimeric Antigen Receptor T-Cell Therapy in Chronic Lymphocytic Leukemia and Lymphomas

Monday, October 18, 2021
5:00 PM – 6:00 PM ET

Faculty

Jeremy Abramson, MD
Elizabeth Zerante, MS, AGACNP-BC

Moderator

Neil Love, MD

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Faculty

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

Elizabeth Zerante, MS, AGACNP-BC
APN Inpatient Hematopoietic Cellular Therapy Service
University of Chicago Medicine
Chicago, Illinois

Moderator

Neil Love, MD
Research To Practice
Miami, Florida

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Commercial Support

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Dr Love — Disclosures

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Contracted Research	Bristol-Myers Squibb Company, Seagen Inc

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Ms Zerante — Disclosures

No relevant conflicts of interest to disclose.

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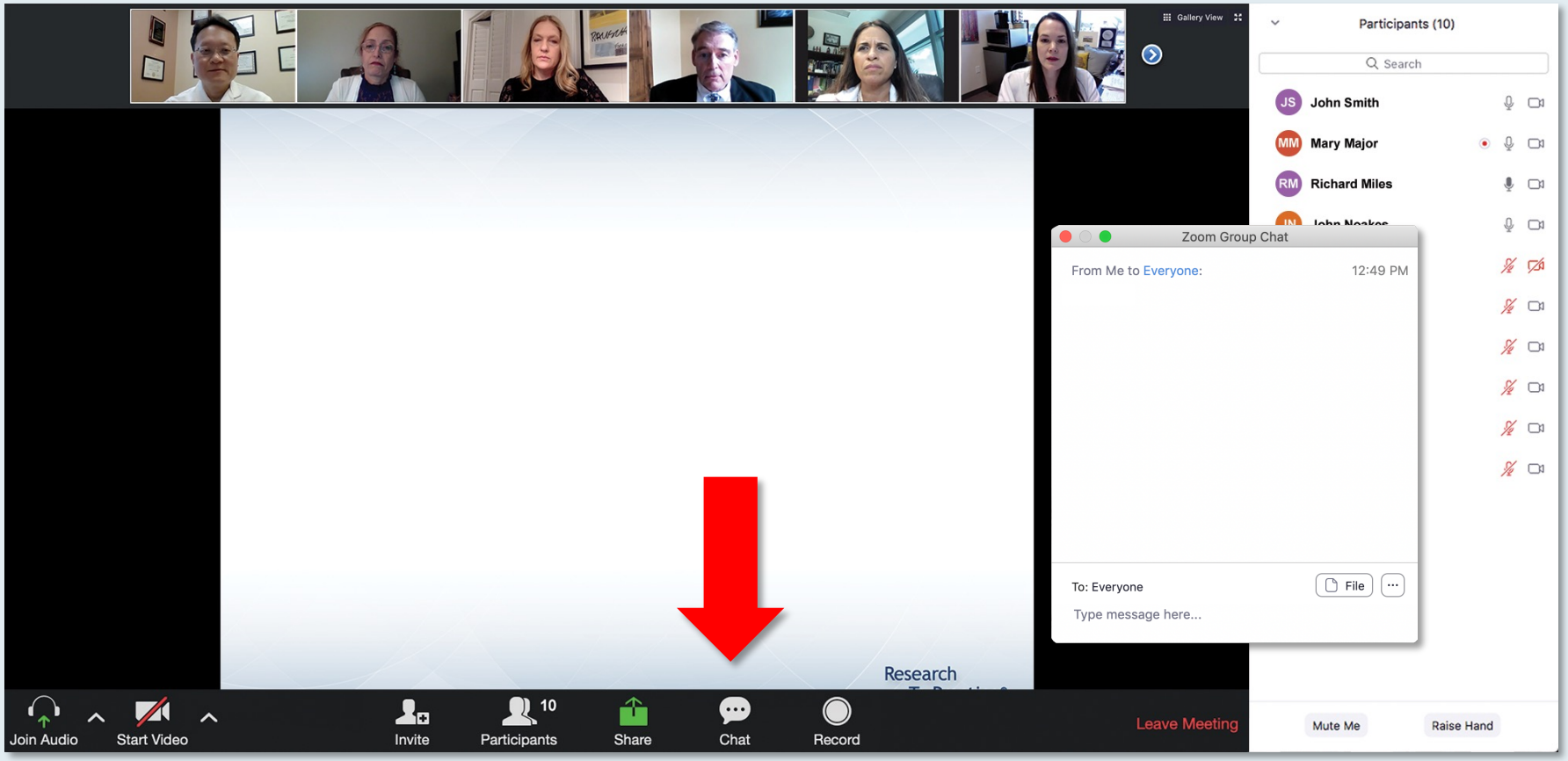

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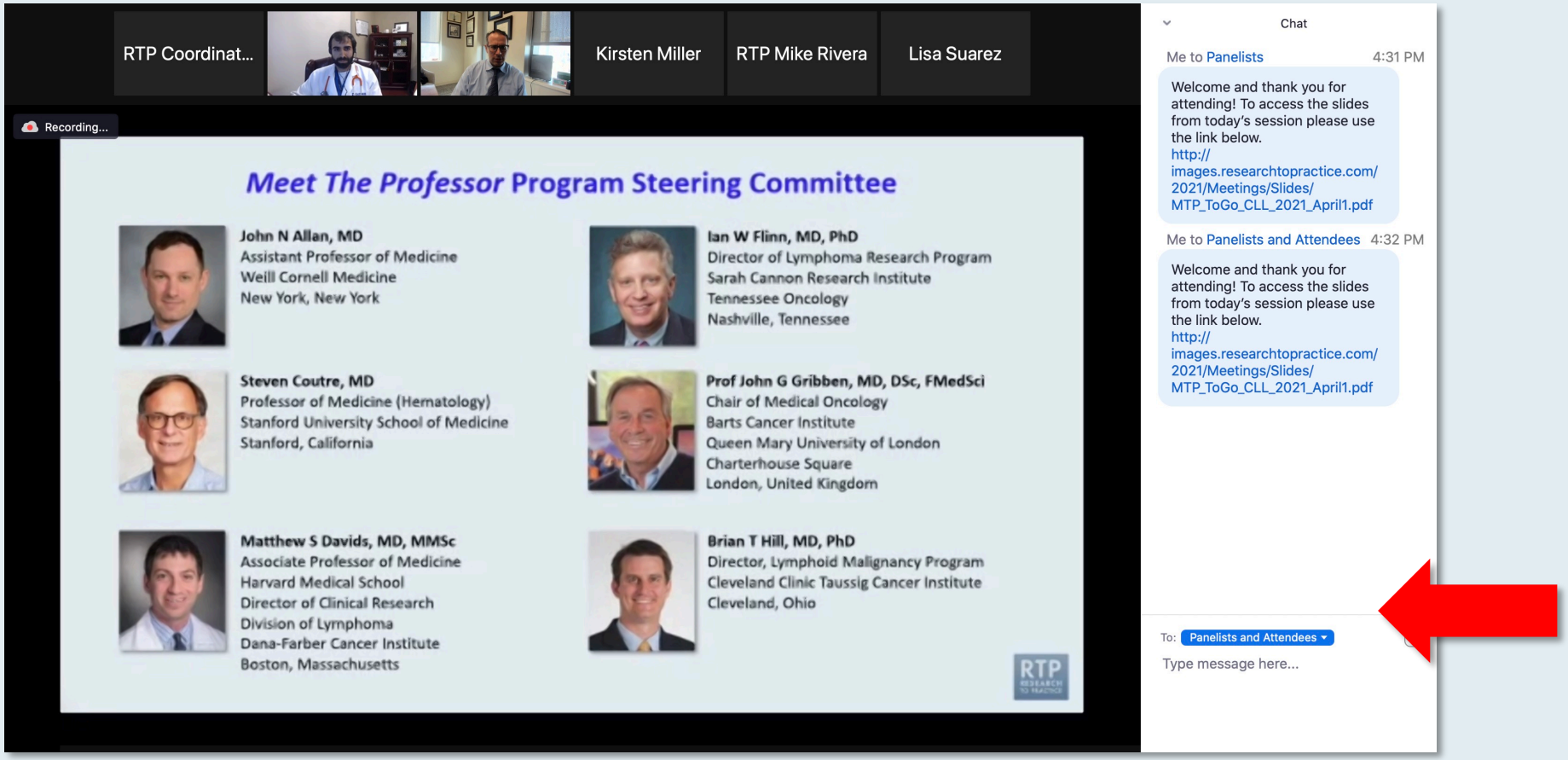

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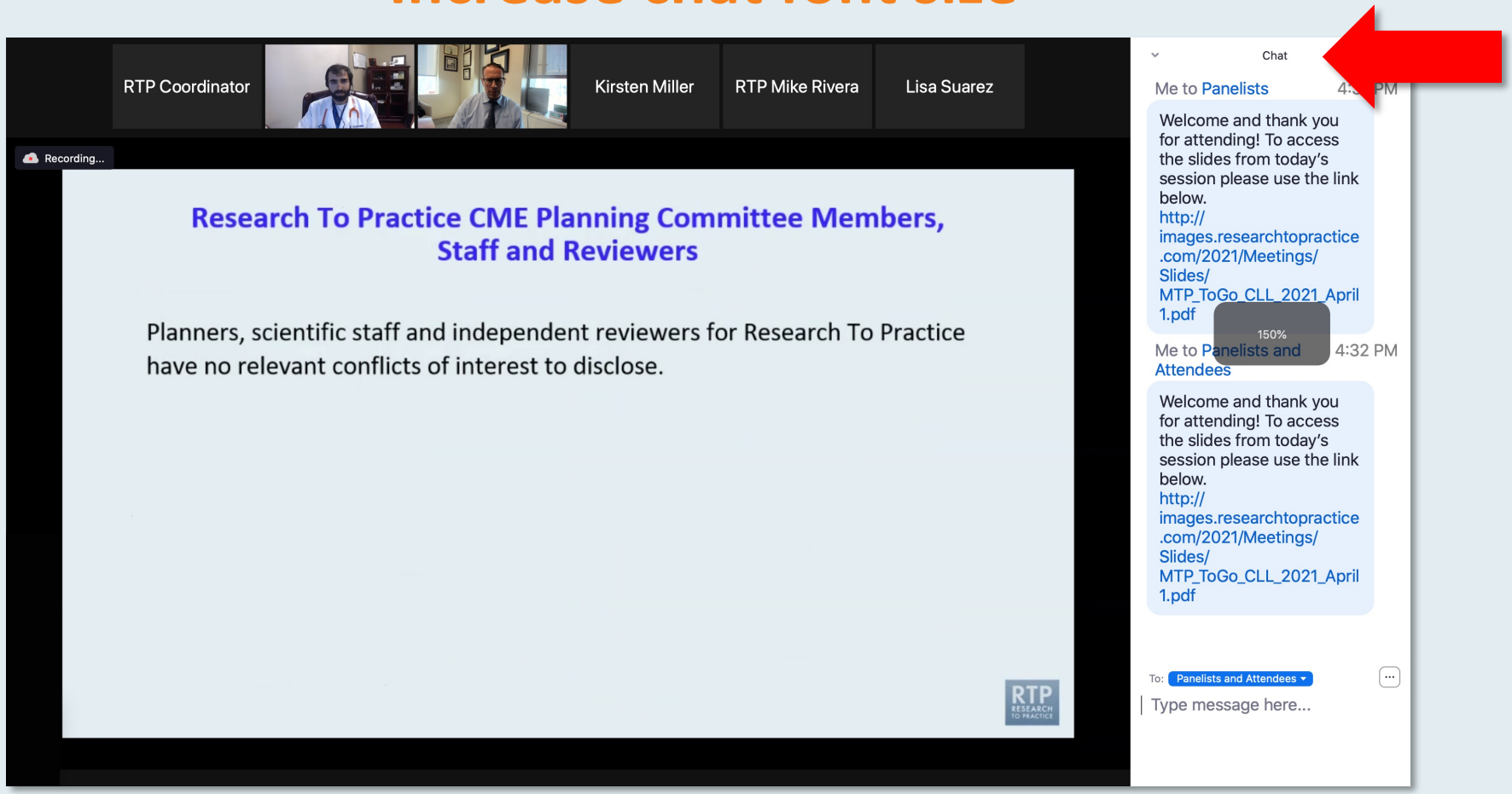

Press Command (for Mac) or Control (for PC) and the + symbol.
You may do this as many times as you need for readability.

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ONCOLOGY TODAY

WITH DR NEIL LOVE

CAR T-Cell Therapy in Multiple Myeloma

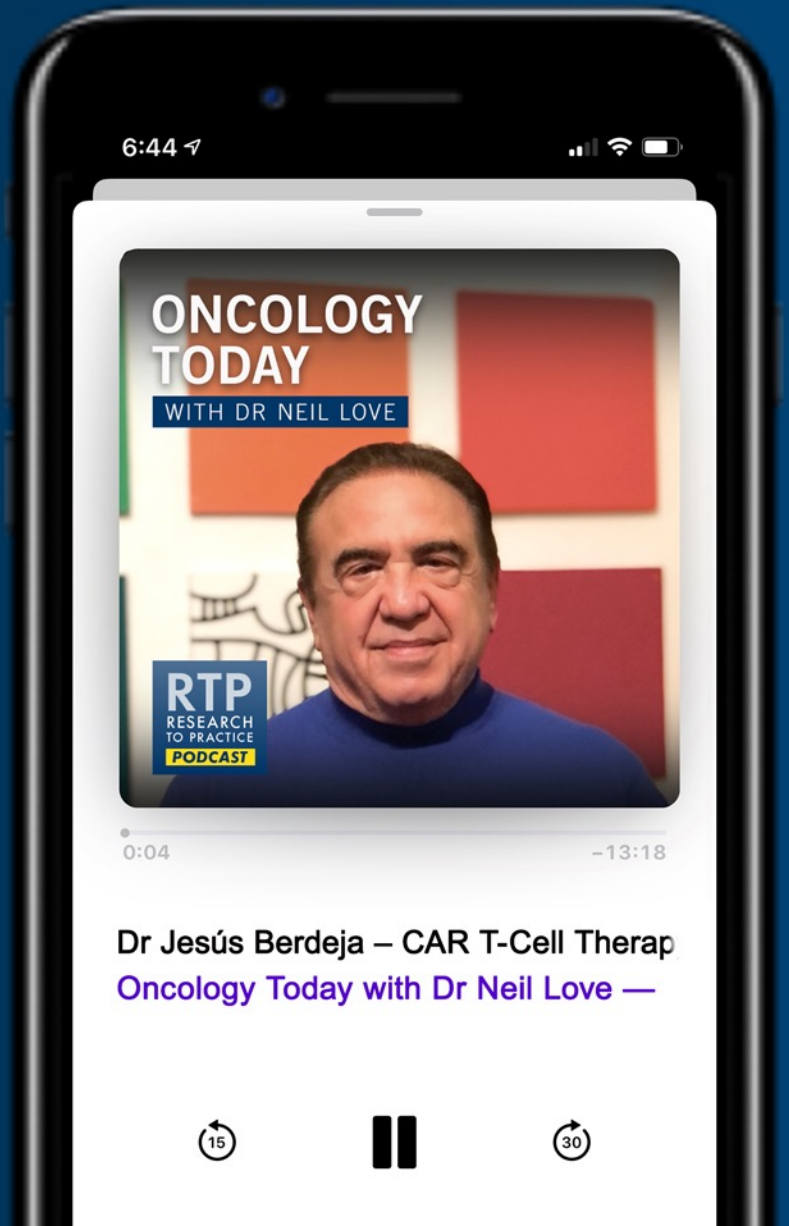
DR JESÚS BERDEJA

SARAH CANNON RESEARCH INSTITUTE

Listen on Apple Podcasts

Spotify

Listen on Google Podcasts



Meet The Professor

Optimizing the Selection and Sequencing of Therapy for Patients with Triple-Negative Breast Cancer

Wednesday, October 20, 2021
5:00 PM – 6:00 PM ET

Faculty

Aditya Bardia, MD, MPH

Moderator

Neil Love, MD

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Recent Advances and Future Directions in Oncology: A Daylong Multitumor Educational Webinar in Partnership with Florida Cancer Specialists

A CME-MOC/NCPD Accredited Virtual Event

Saturday, October 23, 2021
9:30 AM – 4:30 PM ET

Faculty

Neeraj Agarwal, MD
Tanios Bekaii-Saab, MD
Kristen K Ciombor, MD, MSCI
Brad S Kahl, MD
Mark Levis, MD, PhD
Ann Partridge, MD, MPH
Mark D Pegram, MD
Daniel P Petrylak, MD
Noopur Raje, MD
David Sallman, MD
Lecia V Sequist, MD, MPH
David R Spigel, MD
Saad Zafar Usmani, MD, MBA
Andrew D Zelenetz, MD, PhD

Moderator

Neil Love, MD

RTP RESEARCH TO PRACTICE

Virtual Molecular Tumor Board: Optimizing Biomarker-Based Decision-Making for Patients with Non-Small Cell Lung Cancer with EGFR Mutations or with Other Oncogene-Addicted Lung Cancers

A 2-Part CME/MOC-Accredited Webinar Series

Role of Genomic Profiling for Patients with Non-Small Cell Lung Cancer (NSCLC) and the Optimal Application of Available Testing Platforms

Tuesday, October 26, 2021
5:00 PM – 6:00 PM ET

Guest Speaker
Joel W Neal, MD, PhD

New and Important Developments in the Management of NSCLC with EGFR Mutations or Other Novel Targets

Thursday, November 11, 2021
5:00 PM – 6:00 PM ET

Guest Speaker
Helena Yu, MD

Faculty

Marc Ladanyi, MD
Andrew J McKenzie, PhD

Moderator

Neil Love, MD

RTP RESEARCH TO PRACTICE

Meet The Professor

Optimizing the Clinical Management of Hodgkin and Non-Hodgkin Lymphomas

Wednesday, October 27, 2021
5:00 PM – 6:00 PM ET

Faculty

Jonathan W Friedberg, MD, MMSc

Moderator

Neil Love, MD

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Meet The Professor

Optimizing the Selection and Sequencing of Therapy for Patients with ER-Positive Breast Cancer

Thursday, October 28, 2021
5:00 PM – 6:00 PM ET

Faculty

Matthew P Goetz, MD

Moderator

Neil Love, MD

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Meet The Professor

Management of BRAF-Mutant Melanoma

Monday, November 1, 2021
5:00 PM – 6:00 PM ET

Faculty

Prof Georgina Long, AO, BSc, PhD, MBBS

Moderator

Neil Love, MD

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Thank you for joining us!

NCPD credit information will be emailed to each participant shortly.

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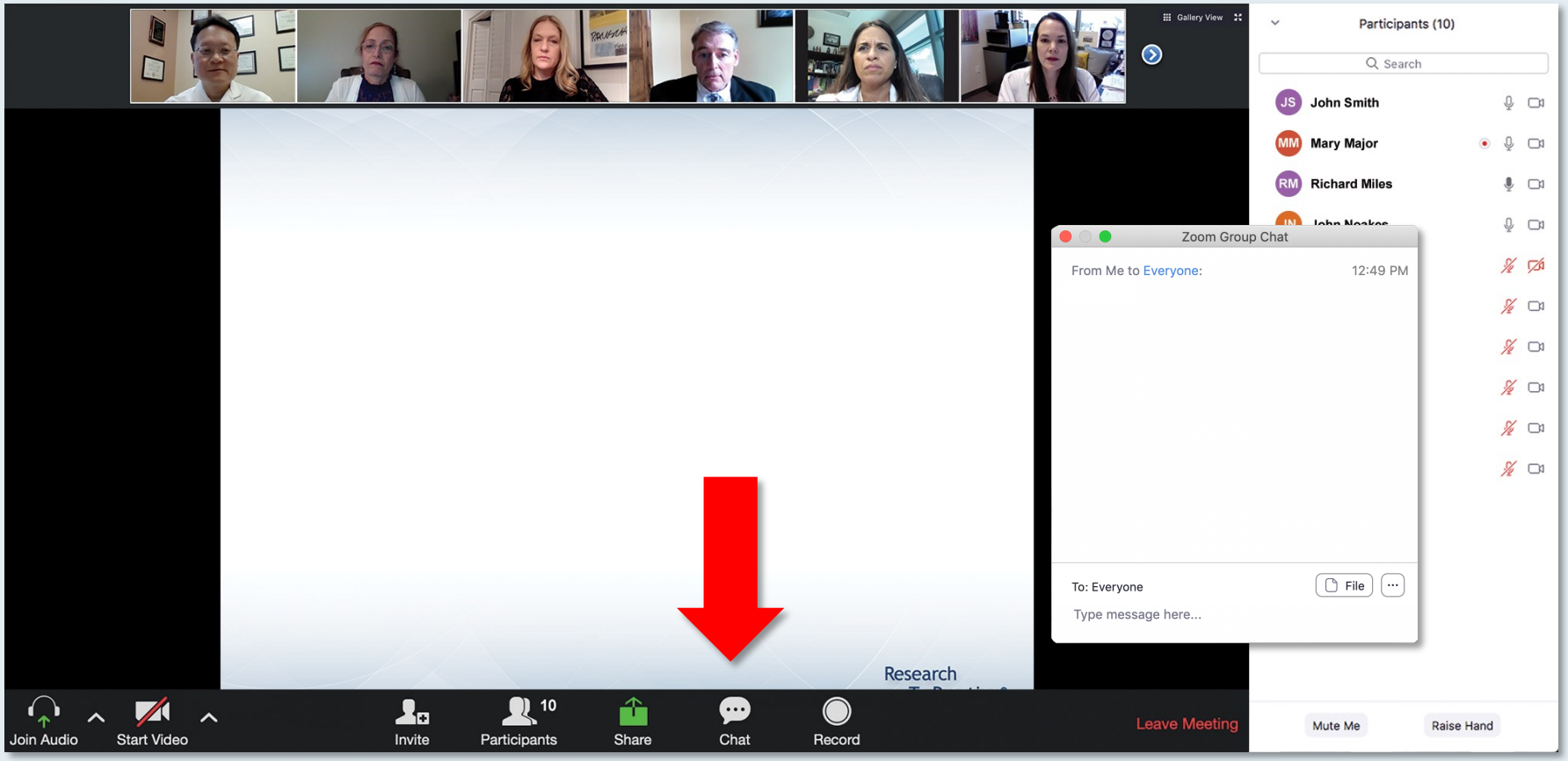

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RTP RESEARCH TO PRACTICE

Recent Advances and Future Directions in Oncology: A Daylong Multitumor Educational Webinar in Partnership with Florida Cancer Specialists

Module 1: Breast Cancer – 9:30 AM – 10:20 AM

Module 2: Lung Cancer – 10:30 AM – 11:20 AM

Module 3: Gastrointestinal Cancers – 11:30 AM – 12:20 PM

Module 4: Genitourinary Cancers – 12:30 PM – 1:20 PM

Module 5: CLL and Lymphomas – 1:30 PM – 2:20 PM

Module 6: Multiple Myeloma – 2:30 PM – 3:20 PM

Module 7: AML and MDS – 3:30 PM – 4:20 PM

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Virtual Molecular Tumor Board: Optimizing Biomarker-Based Decision-Making for Patients with Non-Small Cell Lung Cancer with EGFR Mutations or with Other Oncogene-Addicted Lung Cancers

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Research To Practice Education Platform

Oncology Nurse Practitioners

Case Presentations

- Key patient-education issues
- Biopsychosocial considerations:
  - Family/loved ones
  - The bond that heals

Clinical Investigators

Oncology Strategy

- New agents and regimens
- Predictive biomarkers
- Ongoing research and implications

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Agenda

Introduction

Module 1: Toxicities with CAR-T Therapy — Grading, Management and Patient Education

Module 2: Cases from Ms Zerante

- A 62-year-old woman with relapsed/refractory CLL
- A 62-year-old woman with relapsed/refractory CLL/SLL
- A 60-year-old woman with relapsed/refractory CLL
- An 83-year-old man with a history of CLL and double-hit DLBCL

Module 3: Clinical Use of CAR T-Cell Therapies for CLL and Lymphomas

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Module 3: Clinical Use of CAR T-Cell Therapies for CLL and Lymphomas

- Autologous stem cell transplant
- Allogeneic stem cell transplant
- Chimeric antigen receptor (CAR) T-cell therapy
- Bispecific antibodies

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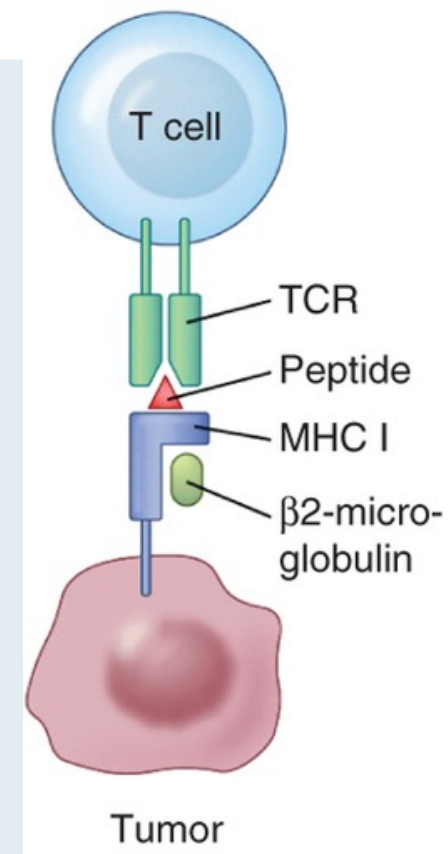
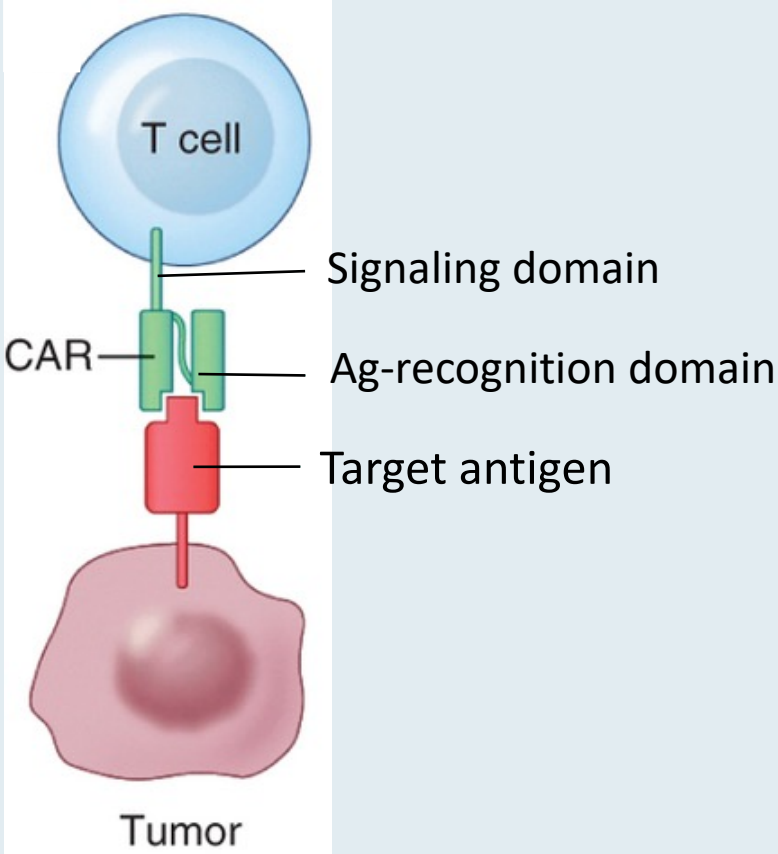
Module 3: Clinical Use of CAR T-Cell Therapies for CLL and Lymphomas

Chimeric Antigen Receptor (CAR) Modified T cells

Normal T cell



CAR T cell



- **Genetically engineered T cells altered to express an artificial receptor, CAR**

Courtesy of Sattva S Neelapu, MD

Adapted from Hinrichs & Restifo. Nat Biotech 2013

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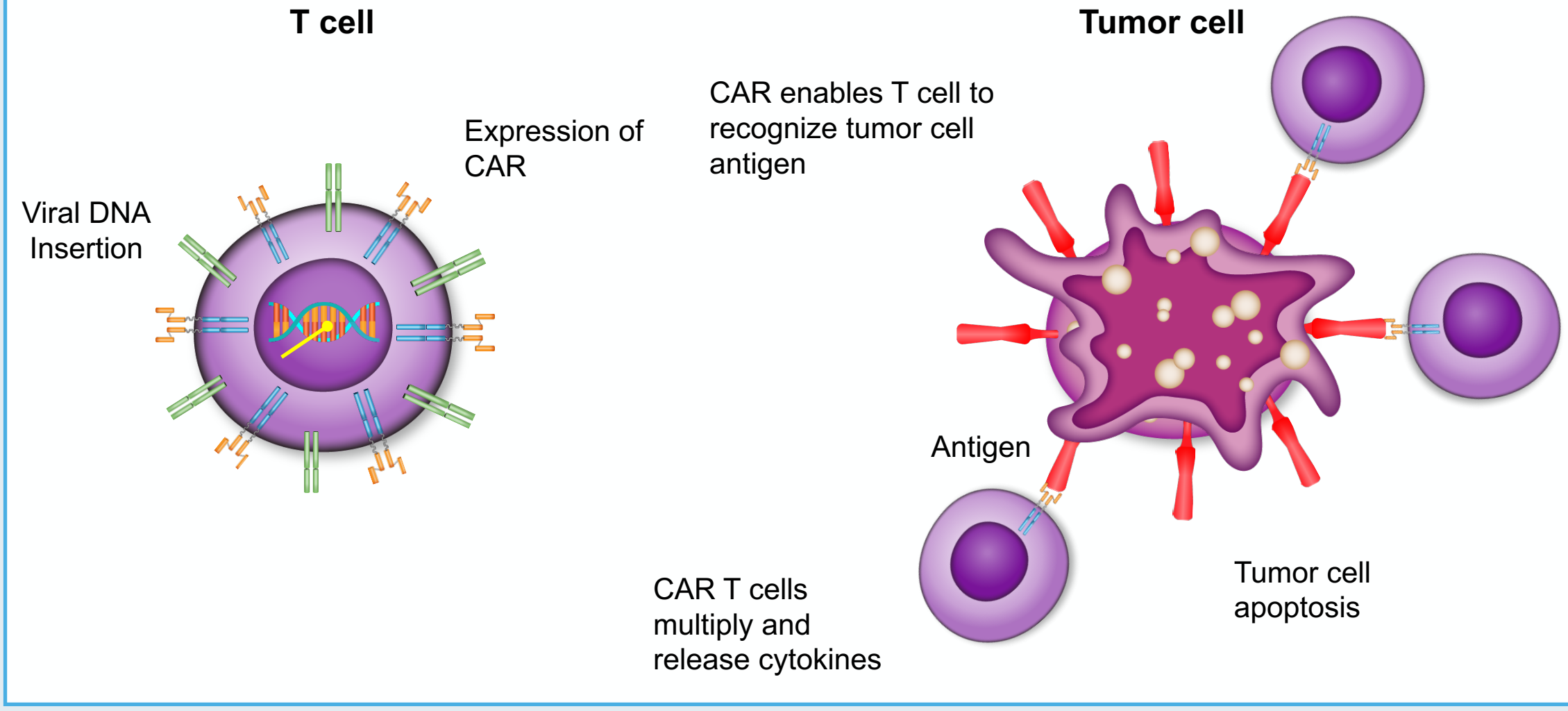
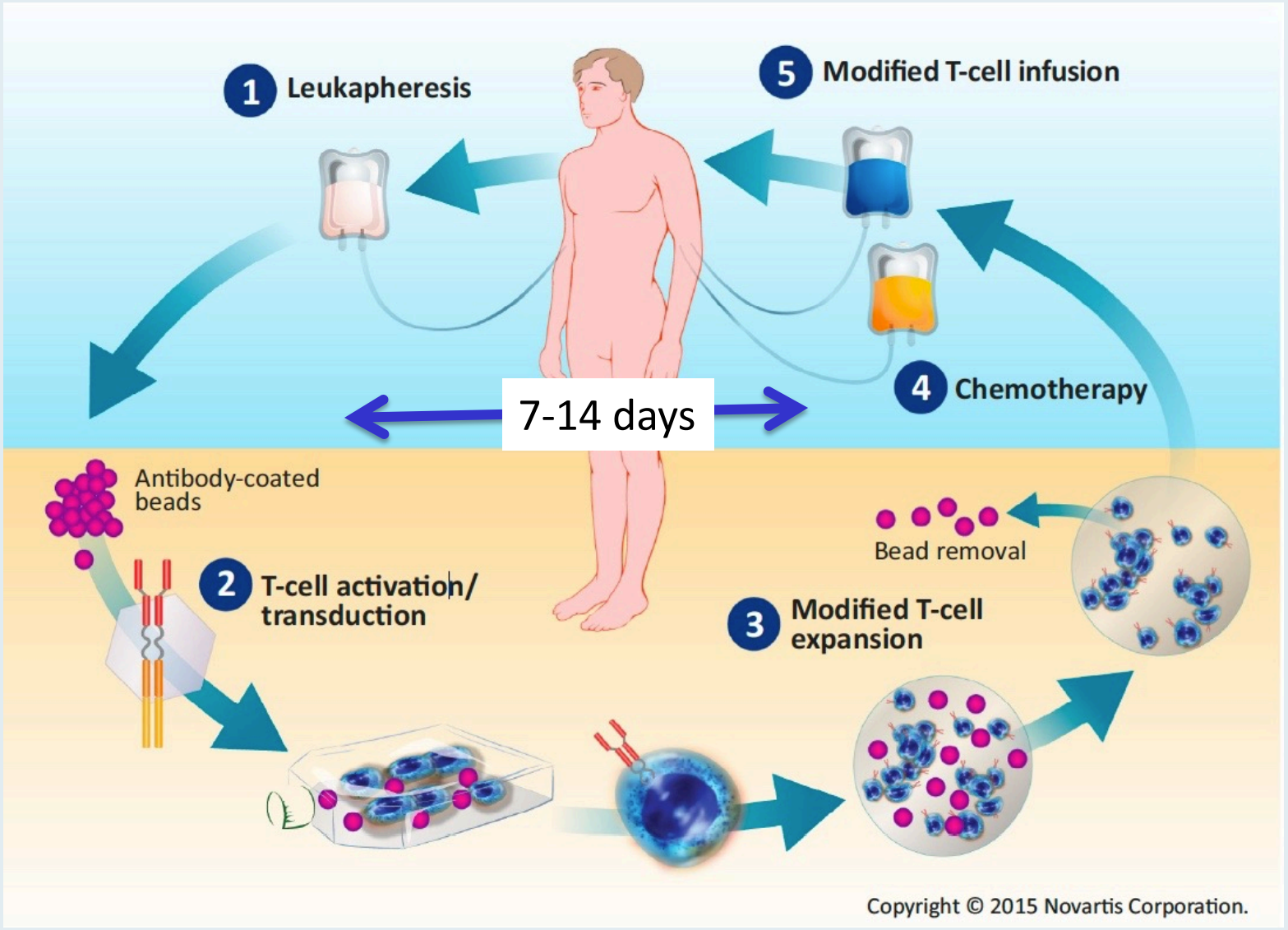
CAR T Cells: Mechanism of Action



Overview of CAR T-Cell Therapy



Modification, Courtesy, David Porter, MD

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

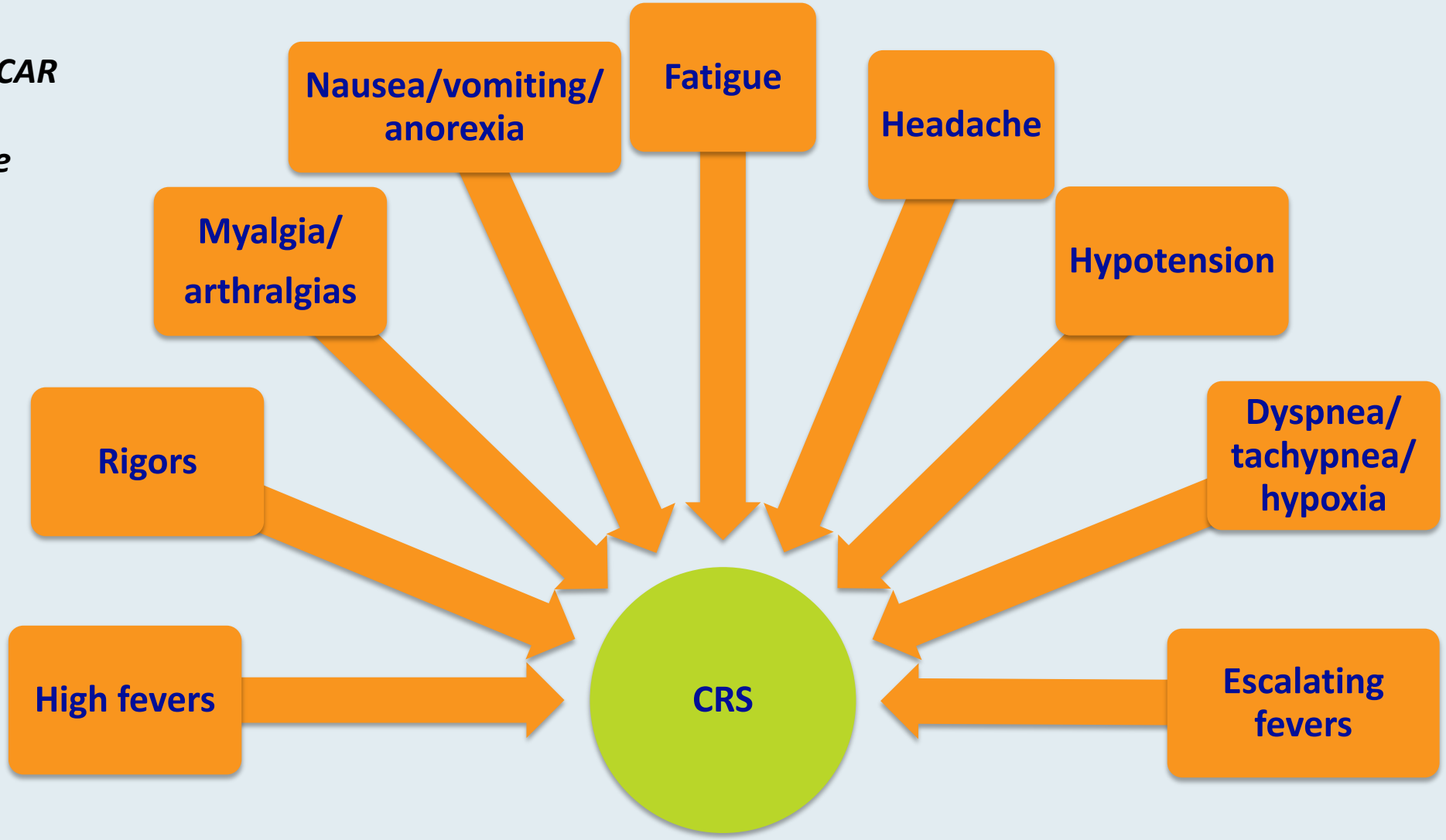
CRS — May be mild or life-threatening

- Occurs with CART19 activation and expansion
- Dramatic cytokine elevations (IL-6, IL10, IFNɣ, 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%

Varadarajan I, Lee DW. *Cancer J* 2019;25(3):223-30.
Abramson JS et al. ASCO 2019 Education Book.

Cytokine Release Syndrome (CRS): Common Symptoms

Based on CAR T-cell experience



Diagnosis based on <u>clinical</u> symptoms and events

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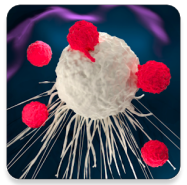
CAR T-Cell Therapy-Associated Neurologic Toxicity

Neurologic toxicity — May be mild or life-threatening

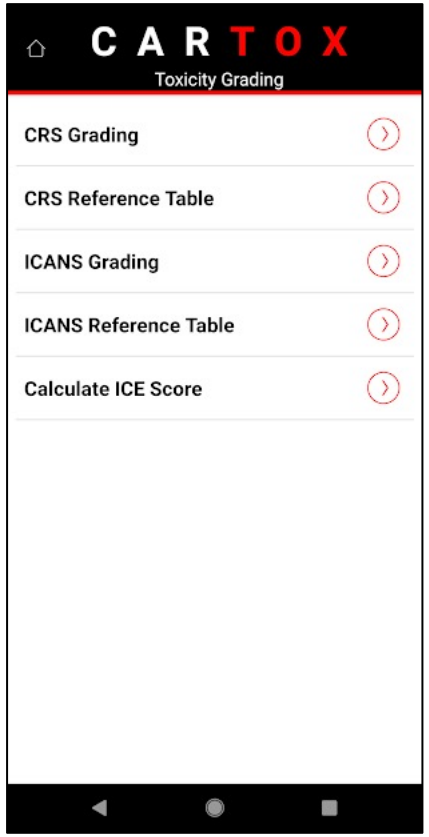
- Mechanism unclear, referred to as immune effector cell-associated neurotoxicity syndrome (ICANS)
- Encephalopathy
- Seizures
- Delirium, confusion, aphasia, agitation, sedation, coma

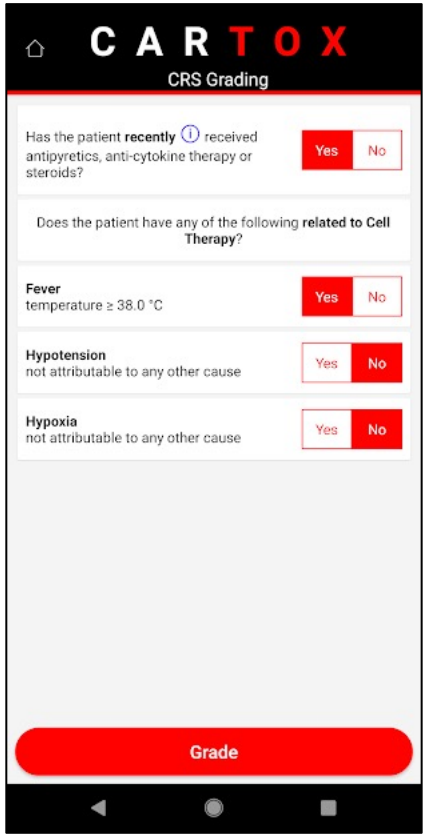
Varadarajan I, Lee DW. *Cancer J* 2019;25(3):223-30.
Abramson JS et al. ASCO 2019 Education Book.

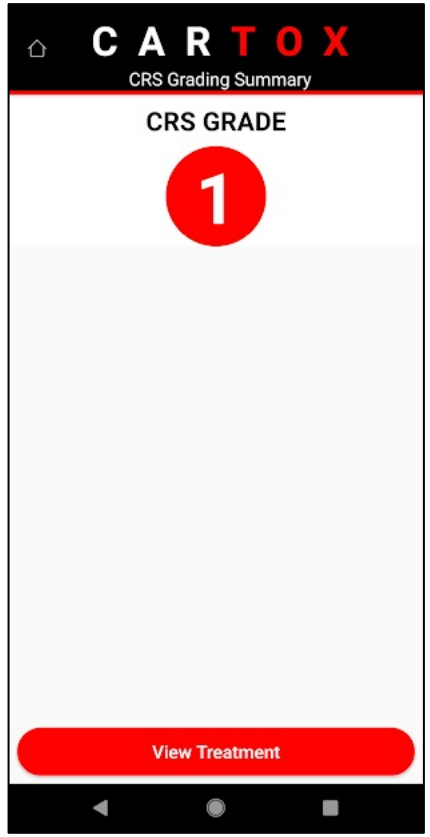
CARTOX App for Grading and Management of CRS and ICANS

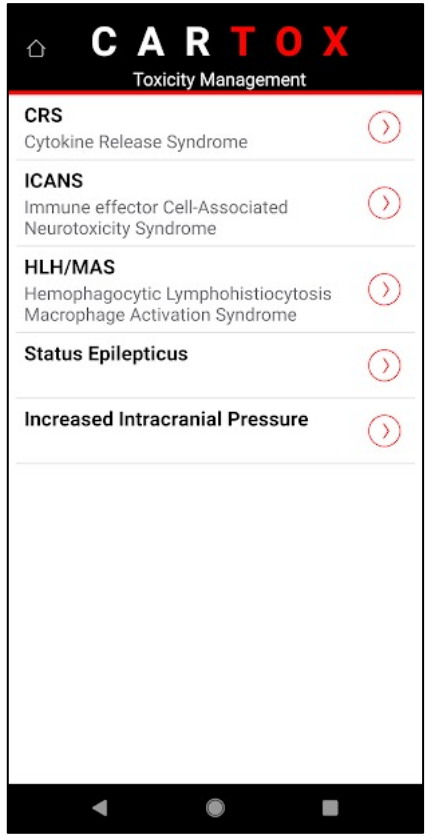


Smart phone app available free on both App Store (iPhone) and Google Play (Android)









Sherry Adkins

Courtesy of Sattva S Neelapu, MD

Neelapu et al. *Nat Rev Clin Oncol,* Jan 2018

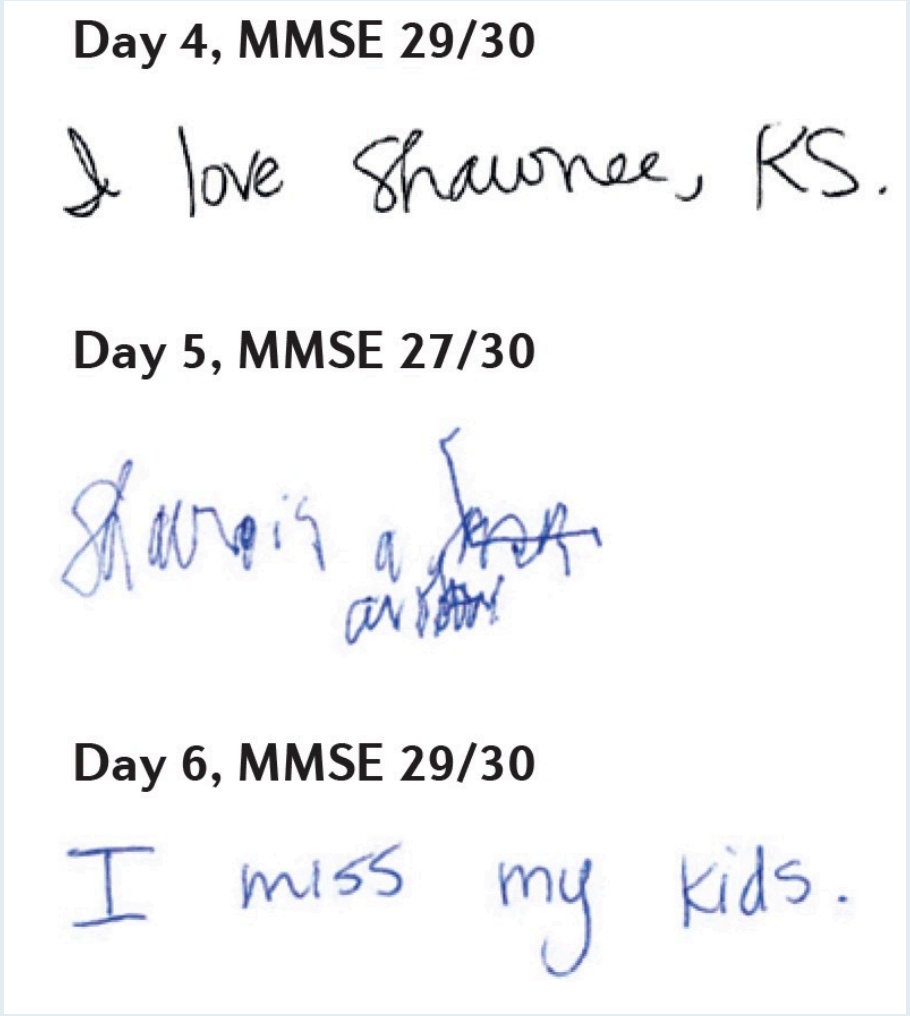
Lee et al. *Biol Blood Marrow Transplant,* 2019 Apr;25 (4):625-638

Patient Education Regarding CAR T-Cell Therapy

CRS	Neurotoxicity	Management of Toxicities
• Fever • Hypotension • Tachycardia • Hypoxia • Chills	• Tremors • Dizziness • Delirium • Confusion • Agitation • Cerebral Edema	• Tocilizumab • Steroids

Adkins, S. (2019). Car T cell therapy: adverse events and management. J. Adv Pract Onco Supple3. 21-28..

Handwriting Samples and MMSE After CAR T-Cell Therapy



- Handwriting samples and mini mental status exam (MMSE) scores obtained on days 4, 5, and 6 after CAR T-cell therapy
- Note how the patient's handwriting was markedly impaired on day 5, despite only a small decrease in their MMSE score.

Neelapu SS et al. *Nat Rev Clin Oncol* 2018;15(1):47-62.

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Module 3: Clinical Use of CAR T-Cell Therapies for CLL and Lymphomas

Case Presentation – A 62-year-old woman with relapsed/refractory CLL

- Initially diagnosed with CLL in 2017 and her disease had progressed through multiple lines of therapy
- She had a past medical history of stroke and diabetes; some issues with short-term memory
- Treated with lisocabtagene maraleucel on clinical trial
- Onset of CRS on day 3, and reoccurrence of CRS on day 15
- Low-grade neurotoxicity treated with steroids → diabetic ketoacidosis
- Experienced disease relapse 1 year after CAR T-cell therapy
- Subsequently contracted COVID-19 and passed away due to complications

Case Presentation – A 62-year-old woman with relapsed/refractory CLL/SLL

- Initially diagnosed in 2017 and her disease had progressed through multiple lines of therapy
- Failed previous clinical trial: Forced to withdraw due to extensive diarrhea
- Treatment: Lisocabtagene maraleucel with fludarabine/cyclophosphamide conditioning
- Preparation: Local housing and coordination with family
- Clinical Course: CRS — Grade 1, neurologic toxicity not incorporated in grading, tremors, hallucinations, spatial awareness issues, self reported cognitive issues
- Remains in CR

Case Presentation – A 60-year-old woman with relapsed/refractory CLL

- Initially diagnosed with aggressive disease in 2016
- Treatment: Lisocabtagene maraleucel with fludarabine/cyclophosphamide conditioning
- Preparation: Smoking cessation, local housing, disease management
- Clinical Course:
  - Grade 2 CRS (fevers, hypotension)
  - Hemophagocytic lymphohistiocytosis (HLH) / Macrophage activation syndrome (MAS)
- Withdrew consent May 2021

Case Presentation – An 83-year-old man with a history of CLL and double-hit DLBCL

- History of CLL and a high-grade B-cell lymphoma with MYC and BCL2 rearrangements
- Treatment: Received axicabtagene ciloleucel 2/2018
- Clinical Course:
  - Quantitative immunoglobulins are near-normal at the 3-year mark
  - T-cell subsets are normal or near-normal
  - CBC reviewed showing mild, stable thrombocytopenia
  - Remains in CR

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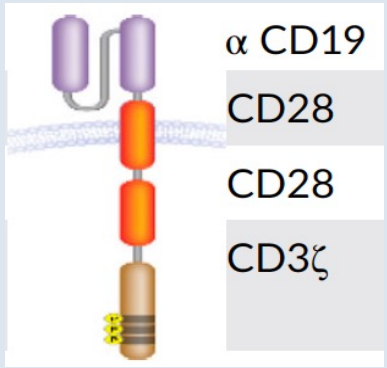
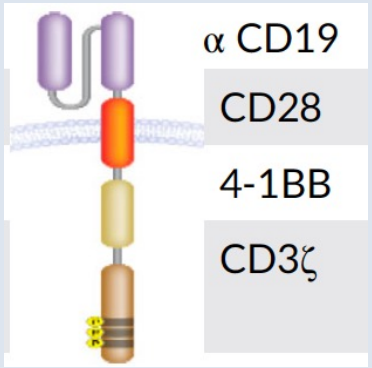
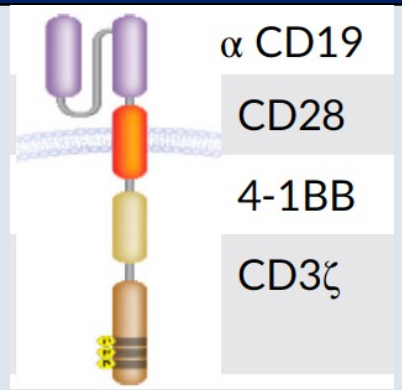
Diffuse Large B-Cell Lymphoma

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			
Transmembrane domain			
Co-stimulatory doman			
T-cell activation domain			
Leukapheresis	Fresh product	Cryopreserved product	Fresh product
Outpatient administration	Not allowed	Allowed	Allowed
Bridging therapy, %	Not allowed	92%	59%
Lymphodepletion chemotherapy	Cy/Flu 500/30 mg/m^2 × 3d	Cy/Flu 250/25 mg/m^2 x 3d Bendamustine 90 mg/m^2 x 2d	Cy/Flu 300/30 mg/m^2 x 3d

Westin JR et al. *Am J Hematol* 2021;[Online ahead of print].

RTP RESEARCH TO PRACTICE

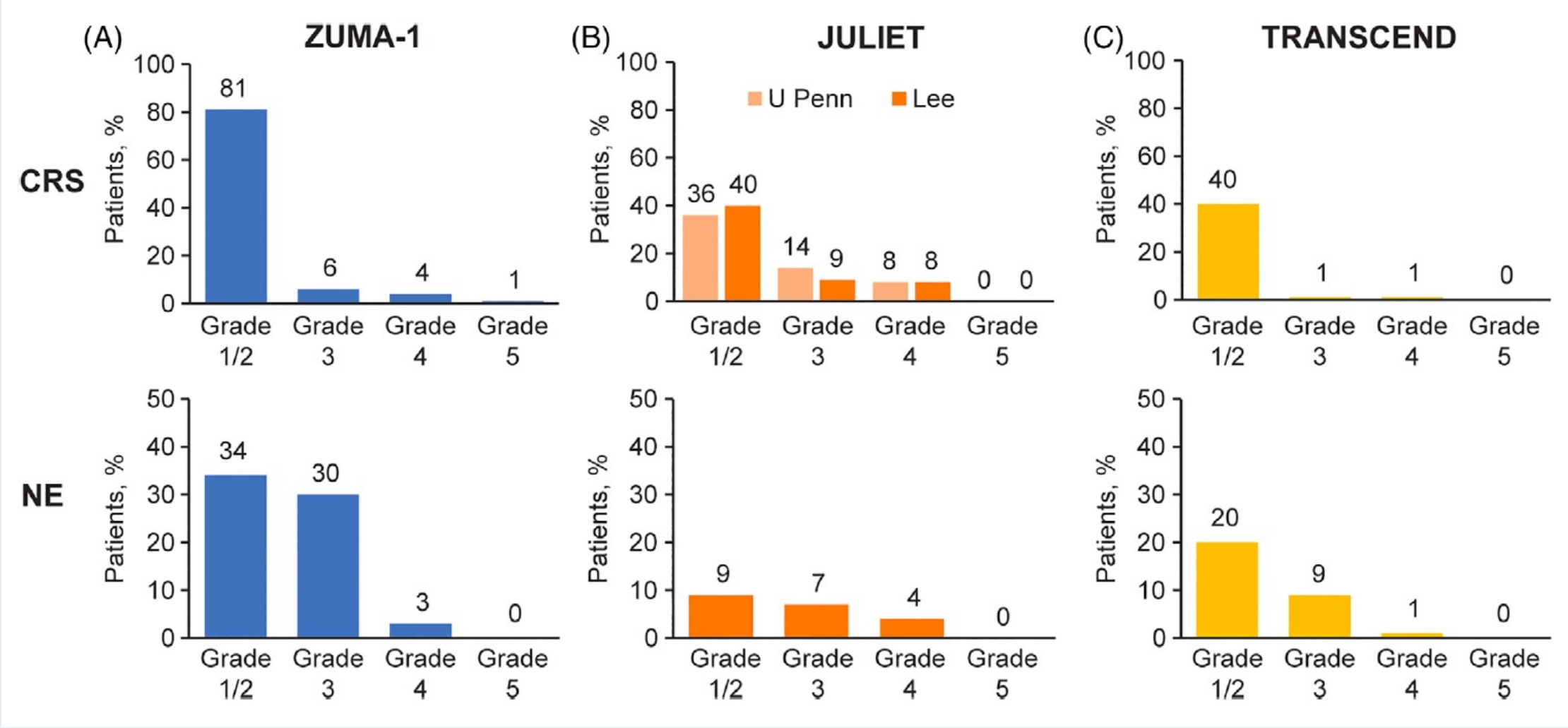
Summary of Efficacy Outcomes in Pivotal Studies of CAR T-Cell Therapy for DLBCL

	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

Westin JR et al. *Am J Hematol* 2021;[Online ahead of print].

RTP RESEARCH TO PRACTICE

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



Westin JR et al. *Am J Hematol* 2021;[Online ahead of print].

RTP RESEARCH TO PRACTICE

Phase III TRANSFORM Trial of Liso-cel Meets Primary Endpoint

Press Release – June 10, 2021

"Data from the Phase 3 TRANSFORM trial (NCT03575351) of the chimeric antigen receptor (CAR) T-cell therapy lisocabtagene maraleucel (liso-cel) as second-line therapy for patients with relapsed/refractory large B-cell lymphoma (LBCL) resulted in a statistically significant improvement in the primary end point of event-free survival versus therapy with the standard-of-care comparator arm, according to the company responsible for developing the agent.

Additionally, the toxicity profile observed with liso-cel was consistent with the safety data reported in the TRANSCEND NHL 001 trial (NCT02631044) which led to the FDA approving the CD19-directed therapy for patients with certain types of non-Hodgkin lymphoma, including diffuse large B-cell lymphoma (DLBCL), following 2 or more prior therapies. These data represent the first time a treatment for relapsed/refractory LBCL has demonstrated benefit over high-dose chemotherapy and hematopoietic stem cell transplant (HSCT).

Results regarding the primary end point will be evaluated and shared at an upcoming medical conference as well as with regulatory authorities."

https://www.cancernetwork.com/view/liso-cel-meets-primary-end-point-of-event-free-survival-improvement-in-phase-3-trial

Phase III ZUMA-7 Trial of Axi-cel Meets Primary Endpoint

Press Release – June 30, 2021

"The ZUMA-7 trial (NCT03391466) demonstrated superiority of axicabtagene ciloleucel (axi-cel) compared with standard of care (SOC) autologous stem cell transplant (ASCT) after meeting the primary end point of event-free survival (EFS) improvement for patients with relapsed or refractory large B-cell lymphoma (LBCL), according to a press release from the company responsible for manufacturing the chimeric antigen receptor (CAR) T-cell therapy. A statistically significant EFS benefit (HR, 0.398; P <0.0001) was observed as well as improvement in the secondary end point of objective response rate (ORR).

The top-line results of the randomized ZUMA-7 trial paint the picture of a potential paradigm shift in the treatment of large B-cell lymphoma, Frederick L Locke, MD, ZUMA-7 lead principal investigator and co-leader of the Immuno-Oncology Program at Moffitt Cancer Center in Tampa, Florida, said in the press release. Investigators mentioned that these data are still immature and further analyses are planned for the future. The trial was conducted under a Special Protocol Agreement from the FDA where the trial design, end points, and statistical analysis were agreed in advance."

https://www.cancernetwork.com/view/zuma-7-trial-meets-event-free-survival-end-point-in-large-b-cell-lymphoma

RTP RESEARCH TO PRACTICE

BELINDA Study Investigating Tisagenlecleucel as Second-Line Treatment in Aggressive B-Cell Non-Hodgkin Lymphoma Fails to Meet Primary Endpoint

Press Release – August 24, 2021

"The Phase III BELINDA study investigating tisagenlecleucel in aggressive B-cell non-Hodgkin lymphoma (NHL) after relapse or lack of response to first-line treatment did not meet its primary endpoint of event-free survival compared to treatment with the standard-of-care (SOC). SOC was salvage chemotherapy followed in responding patients by high-dose chemotherapy and stem cell transplant. The safety profile was consistent with the established safety profile of tisagenlecleucel."

https://www.novartis.com/news/media-releases/novartis-provides-update-belinda-study-investigating-kymriah-second-line-treatment-aggressive-b-cell-non-hodgkin-lymphoma

RTP RESEARCH TO PRACTICE

Mantle Cell Lymphoma

RTP
RESEARCH
TO PRACTICE

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."

www.fda.gov/drugs/resources-information-approved-drugs/fda-approves-brexucabtagene-autoleucel-relapsed-or-refractory-mantle-cell-lymphoma

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

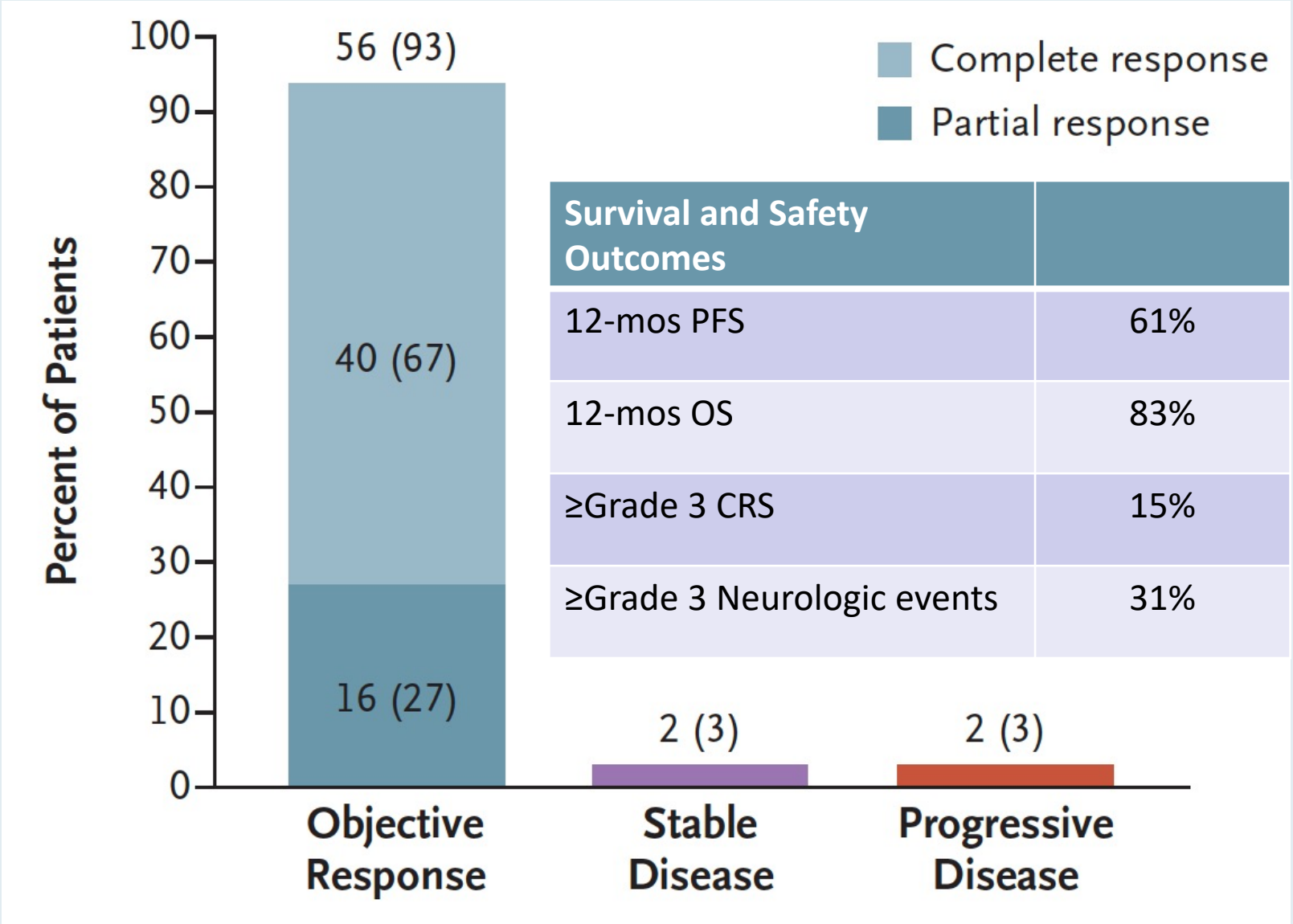
The NEW ENGLAND JOURNAL of MEDICINE

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



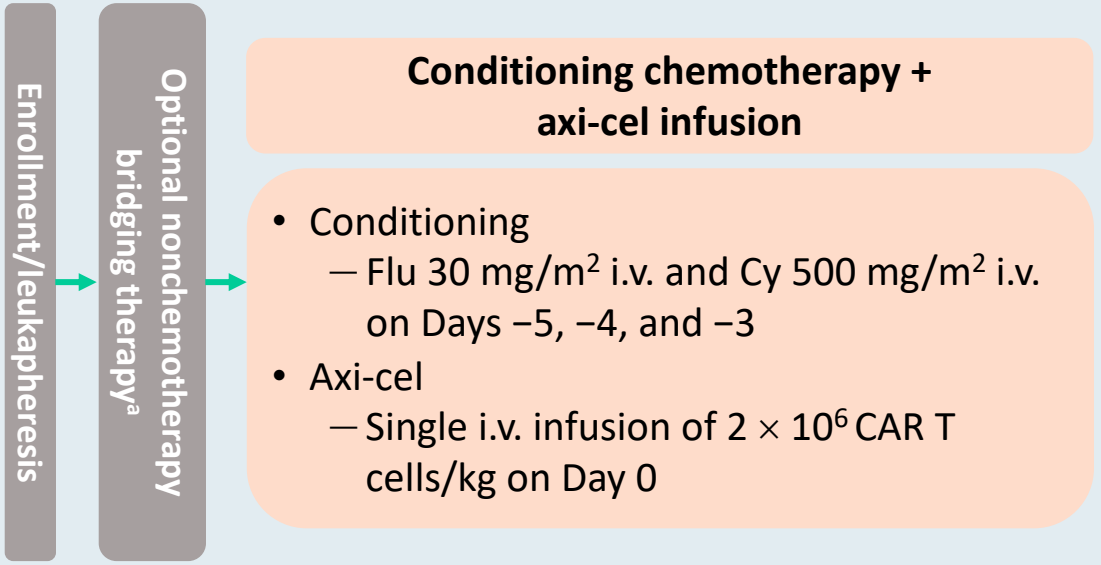
Survival and Safety Outcomes	
12-mos PFS	61%
12-mos OS	83%
≥Grade 3 CRS	15%
≥Grade 3 Neurologic events	31%

Wang M et al. *N Engl J Med* 2020;382(14):1331-42.

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

Eligibility criteria

- Age ≥ 18 years
- High-risk LBCL
  - HGBCL, with *MYC* and *BCL2* and/or *BCL6* translocations, or
  - LBCL with IPI score ≥ 3 any time before enrollment
- 2 cycles of anti-CD20 plus anthracycline-containing regimen
- Positive interim PET (DS 4 or 5)
- ECOG PS score 0 or 1



Primary endpoint

- CR[b]

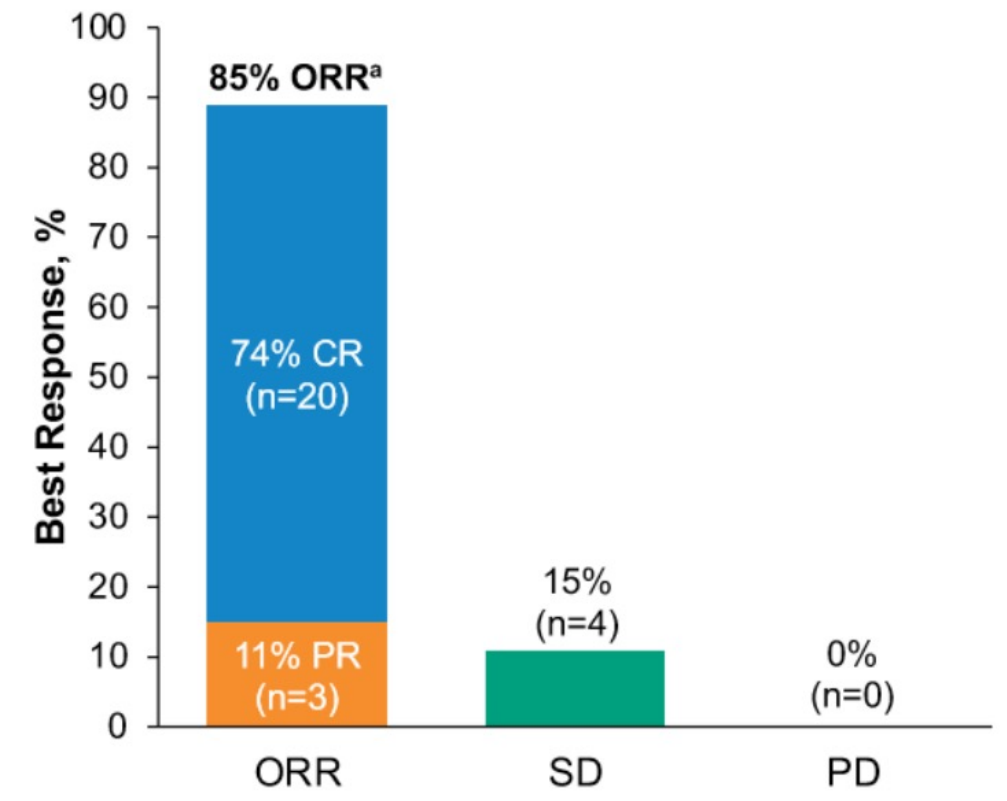
Key secondary endpoints

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

Neelapu SS et al. ASH 2020;Abstract 405.

ZUMA-12: Interim Safety and Efficacy Results with Axi-cel as First-Line Treatment

ORR and CR in response-evaluable cohort (N = 27)



Safety	CRS (N = 32)	Neurologic events (N = 32)
Any grade, n (%)	32 (100%)	22 (69%)
Grade ≥3, n (%)	3 (9%)	8 (25%)
Grade 4, n (%)	0	2 (6%)
Grade 5, n (%)	0	0
Most common any-grade symptoms, n (%)	Pyrexia: 32 (100%) Chills: 8 (25%) Hypotension: 8 (25%)	Encephalopathy: 10 (31%) Confusional state: 9 (28%)

Neelapu SS et al. ASH 2020;Abstract 405.

Follicular Lymphoma

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."

www.fda.gov/drugs/resources-information-approved-drugs/fda-grants-accelerated-approval-axicabtagene-ciloleucel-relapsed-or-refractory-follicular-lymphoma

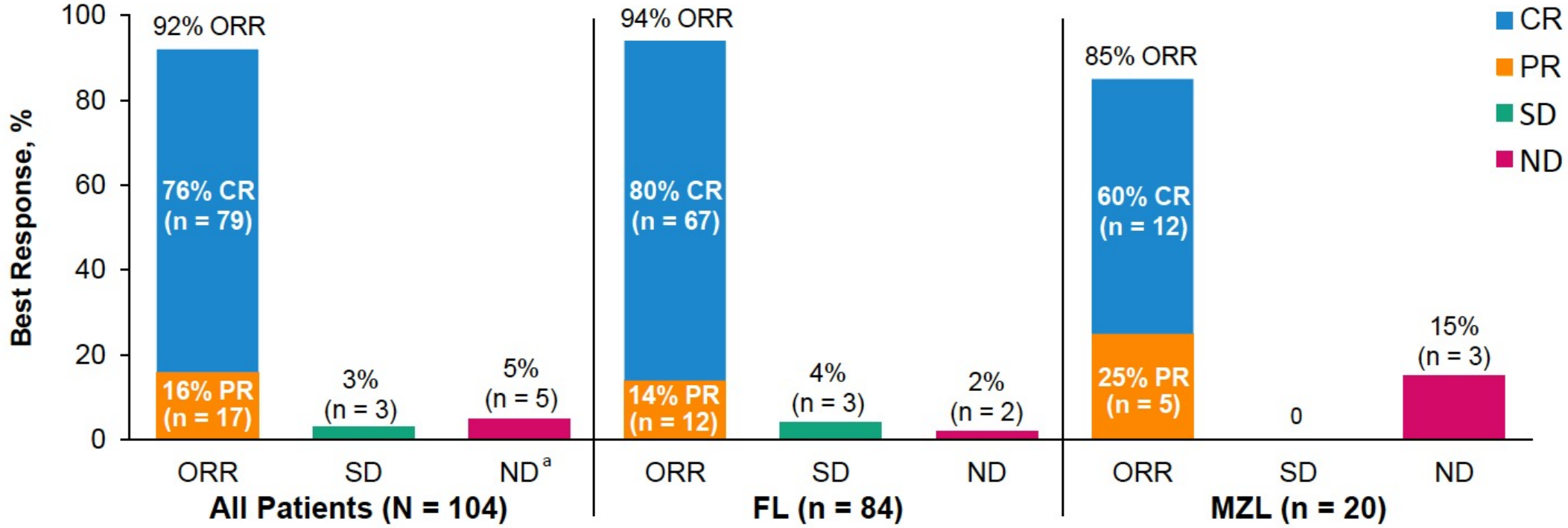
Primary Analysis of ZUMA-5: A Phase 2 Study of Axicabtagene Ciloleucel (Axi-Cel) in Patients With Relapsed/Refractory Indolent Non-Hodgkin Lymphoma

Caron Jacobson, MD[1]; Julio C. Chavez, MD[2]; Alison Sehgal, MD[3]; Basem William, MD[4]; Javier Munoz, MD, MS, FACP[5]; Gilles Salles, MD, PhD[6]; Pashna Munshi, MD[7]; Carla Casulo, MD[8]; David Maloney, MD, PhD[9]; Sven de Vos, MD, PhD[10]; Ran Reshef, MD[11]; Lori Leslie, MD[12]; Ibrahim Yakoub-Agha, MD, PhD[13]; Olalekan Oluwole, MD, MPH, MBBS[14]; Henry Chi Hang Fung, MD[15]; Joseph Rosenblatt, MD[16]; John Rossi, MS[17]; Lovely Goyal, PhD[17]; Vicki Plaks, LLB, PhD[17]; Yin Yang, MS[17]; Jennifer Lee, BS[17]; Wayne Godfrey, MS, MD[17]; Remus Vezan, MD, PhD[17]; Mauro Avanzi, MD, PhD[17]; and Sattva S. Neelapu, MD[18]

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

ASH 2020;Abstract 700.

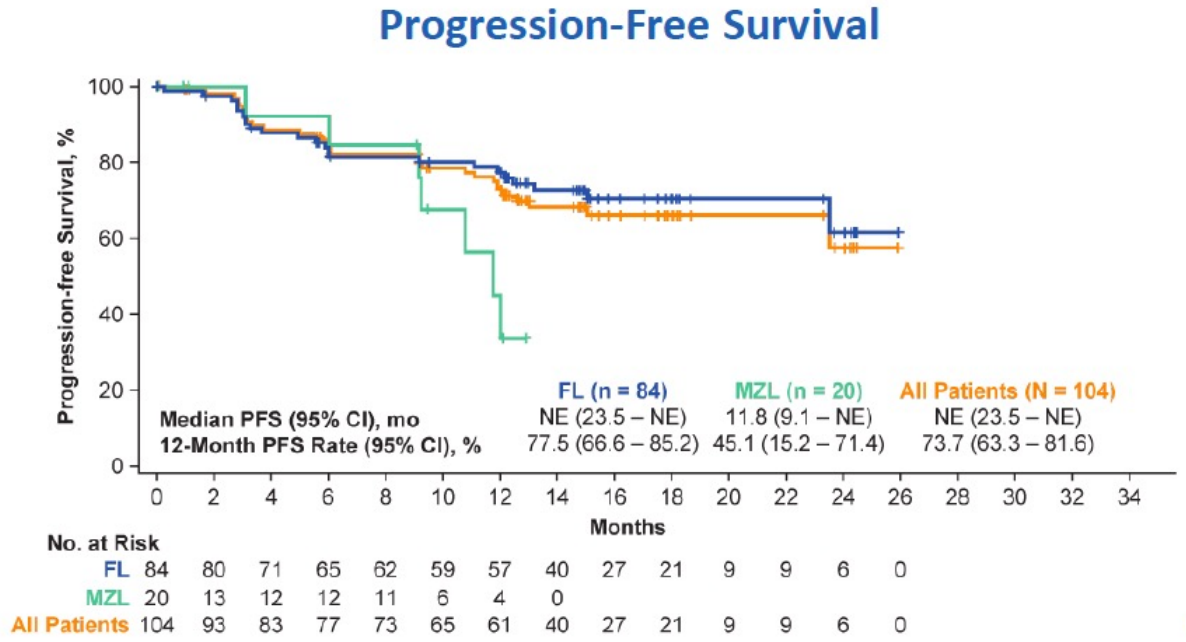
ZUMA-5: ORR by IRRC Assessment for Patients with Follicular Lymphoma Receiving Axicabtagene Ciloleucel

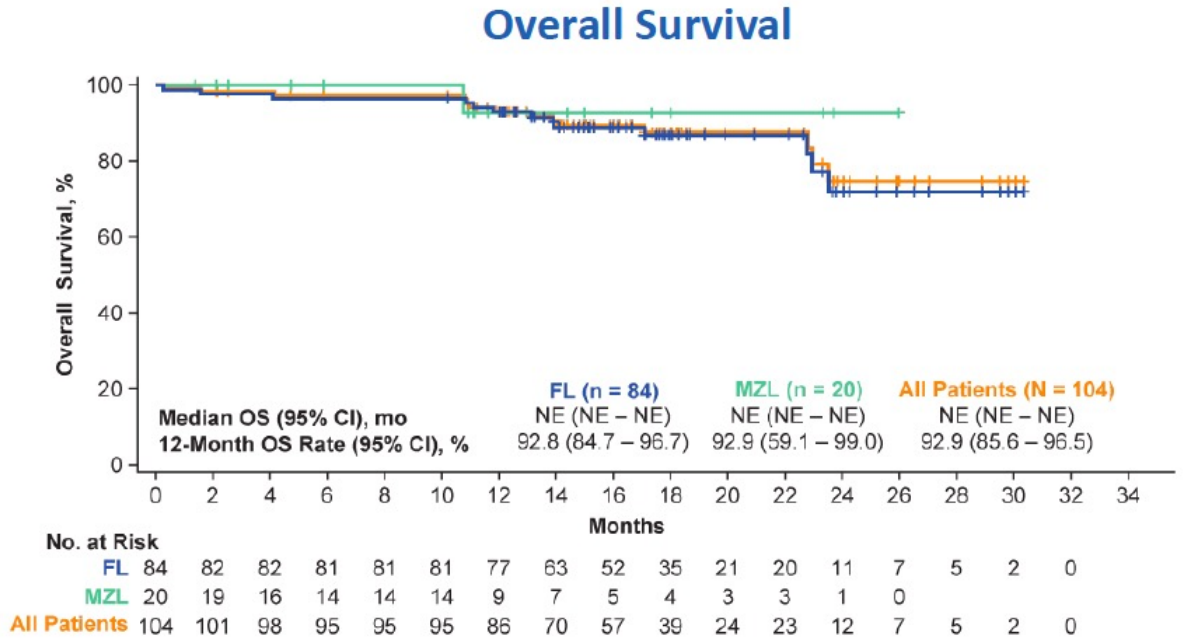


- The median time to first response was 1 month (range, 0.8 – 3.1)
- Among the 25 patients with FL who initially had a PR, 13 (52%) subsequently converted to a CR after a median of 2.2 months (range, 1.9 – 11.2)

Jacobson C et al. ASH 2020;Abstract 700.

ZUMA-5: Progression-Free and Overall Survival





- With a median follow-up of 17.5 months, median PFS and median OS were not reached
  - The 12-month PFS rate was 73.7% (95% CI, 63.3 – 81.6) for all patients
  - The 12-month OS rate was 92.9% (95% CI, 85.6 – 96.5) for all patients

Jacobson C et al. ASH 2020;Abstract 700.

Stephen J. Schuster, MD
Stephen.Schuster@pennmedicine.upenn.edu

2021 ASCO ANNUAL MEETING

Oral Presentation 7508

Efficacy and Safety of Tisagenlecleucel in Adult Patients With Relapsed/Refractory Follicular Lymphoma: Primary Analysis of the Phase 2 ELARA Trial

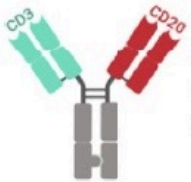
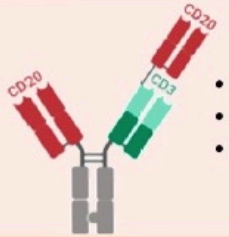
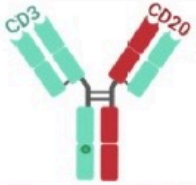
Stephen J. Schuster,[1] Michael Dickinson,[2] Martin Dreyling,[3] Joaquin Martinez-Lopez,[4] Arne Kolstad,[5] Jason Butler,[6] Monalisa Ghosh,[7] Leslie Popplewell,[8] Julio C. Chavez,[9] Emmanuel Bachy,[10] Koji Kato,[11] Hideo Harigae,[12] Marie José Kersten,[13] Charalambos Andreadis,[14] Peter A. Riedell,[15] Ahmed Abdelhady,[16a] Aiesha Zia,[17] Mony Chenda Morisse,[16] Nathan Hale Fowler,[18,19,*] Catherine Thieblemont[20,*]

[1]University of Pennsylvania, Philadelphia, PA; [2]Peter MacCallum Cancer Centre and Royal Melbourne Hospital, Melbourne, Australia; [3]Medizinische Klinik III, LMU Klinikum, Munich, Germany; [4]Hospital 12 De Octubre, Complutense University, CNIO, Madrid, Spain; [5]Oslo University Hospital, Oslo, Norway; [6]Royal Brisbane Hospital, Herston, Australia; [7]Michigan Medicine University of Michigan, Ann Arbor, MI; [8]City of Hope National Medical Center, Duarte, CA; [9]Moffitt Cancer Center, Tampa, FL; [10]Hospices Civils de Lyon and Université Claude Bernard Lyon 1, Lyon, France; [11]Kyushu University Hospital, Fukuoka, Japan; [12]Tohoku University Hospital, Sendai, Japan; [13]Amsterdam UMC, University of Amsterdam, Cancer Center Amsterdam, Amsterdam, Netherlands, on behalf of HOVON/LLPC; [14]Helen Diller Family Comprehensive Cancer Center, University of California San Francisco, San Francisco, CA; [15]University of Chicago, Chicago, IL; [16]Novartis Pharmaceuticals Corporation, East Hanover, NJ; [17]Novartis Pharma AG, Basel, Switzerland; [18]The University of Texas MD Anderson Cancer Center, Houston, TX; [19]BostonGene, Waltham, MA; [20]APHP, Hôpital Saint-Louis-Université de Paris, Paris, France

*Dr Fowler and Dr Thieblemont are co-senior authors. [a]Analysis completed while employed by Novartis Pharmaceuticals Corporation.

RTP RESEARCH TO PRACTICE

Structure of Selected Bispecific Antibodies

Bi-Specific Antibody	Targets	Design	Ig Fragment Formats
blinatumomab	CD19 x CD3		• 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 CD3ε binding • modified Fc devoid of FcγR and complement binding
glofitamab	$(CD20)_2$ x CD3		• humanized mouse IgG1-based antibody • bivalent CD20 and monovalent CD3ε binding • modified Fc devoid of FcγR and complement binding
odronextamab	CD20 x CD3		• 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

Ig, immunoglobulin; scFv, single-chain variable fragment; mAb, monoclonal antibody; Fc, fragment crystallizable; FcγR, Fc gamma receptor

Schuster SJ. *Hematol Oncol* 2021;39(S1):113-16.

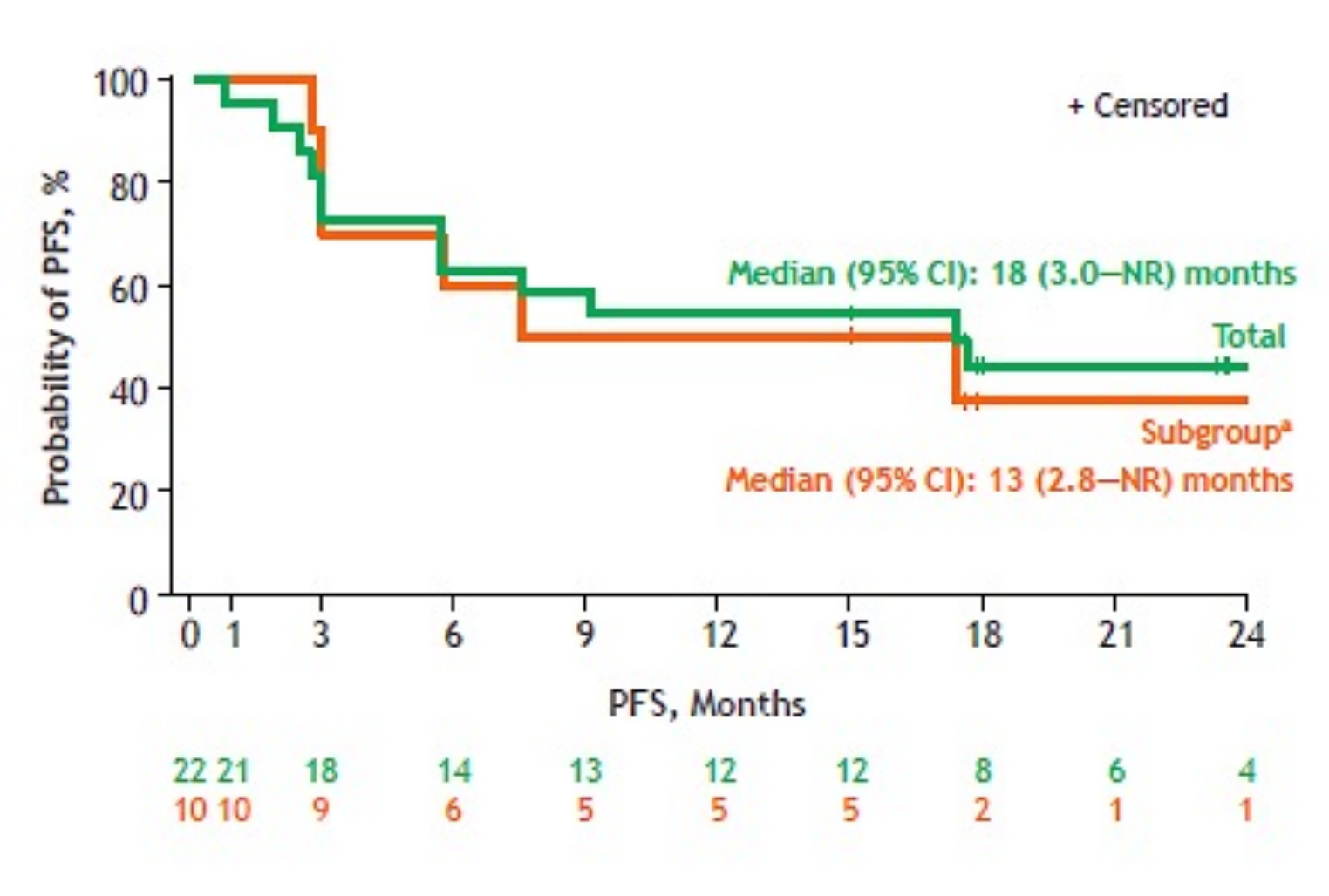
Chronic Lymphocytic Leukemia

Updated Follow-Up of Patients with Relapsed/Refractory Chronic Lymphocytic Leukemia/Small Lymphocytic Lymphoma Treated with Lisocabtagene Maraleucel in the Phase 1 Monotherapy Cohort of Transcend CLL 004, Including High-Risk and Ibrutinib-Treated Patients

Siddiqi T et al.

ASH 2020;Abstract 546.

TRANSCEND CLL 04: Liso-cel Monotherapy Cohort



- ORR/CR = 82%/68%
- Median PFS 13 mo and DOR 50% at 12 mo
- Gr 3 CRS= 9% and NE 22% (No Grade 4/5)
- 4 of 6 progressions due to RT

Siddiqi T et al. ASH 2020;Abstract 546.

RTP RESEARCH TO PRACTICE

Hodgkin Lymphoma

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

original reports

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, MD[3]; Adrian P. Gee, PhD[1,7]; Paul W. Eldridge, PhD[3]; Kathryn L. McKay, MS[3]; Birju Mehta, MS[1]; Catherine J. Cheng, MS[3]; Faith B. Buchanan, PA[3]; Bambi J. Grilley, RPh[1]; Kaitlin Morrison, PhD[3]; 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]

RTP RESEARCH TO PRACTICE

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

Ramos CA et al. *J Clin Oncol* 2020;38(32):3794-804.

RTP RESEARCH TO PRACTICE

Meet The Professor

Optimizing the Selection and Sequencing of Therapy for Patients with Triple-Negative Breast Cancer

Wednesday, October 20, 2021
5:00 PM – 6:00 PM ET

Faculty

Aditya Bardia, MD, MPH

Moderator

Neil Love, MD

RTP
RESEARCH
TO PRACTICE

Recent Advances and Future Directions in Oncology: A Daylong Multitumor Educational Webinar in Partnership with Florida Cancer Specialists

A CME-MOC/NCPD Accredited Virtual Event

Saturday, October 23, 2021
9:30 AM – 4:30 PM ET

Faculty

Neeraj Agarwal, MD
Tanios Bekaii-Saab, MD
Kristen K Ciombor, MD, MSCI
Brad S Kahl, MD
Mark Levis, MD, PhD
Ann Partridge, MD, MPH
Mark D Pegram, MD
Daniel P Petrylak, MD
Noopur Raje, MD
David Sallman, MD
Lecia V Sequist, MD, MPH
David R Spigel, MD
Saad Zafar Usmani, MD, MBA
Andrew D Zelenetz, MD, PhD

Moderator

Neil Love, MD

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Thank you for joining us!

NCPD credit information will be emailed to each participant shortly.

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