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Disclosures

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Treatment of NHL 2024

- Treatment paradigm has shifted considerably in the last 5 years
 - DLBCL CAR-T has moved and replaced ASCT as SOC for 2L patients
 - FL multiple options but PI3Ki no longer options
 - MCL 3rd generation BTKi but biggest improvement in R/R remains CAR-T
 - CLL 1st glimpse of CAR-T in R/R setting



Chemotherapy-refractory DLBCL has a poor prognosis

 Patients refractory to chemotherapy or relapsing ≤12 months after ASCT have low response rates to next therapy and an OS of 6 months





Three Major anti-CD19 CAR T-cell Products for DLBCL

	Axicabtagene Ciloleucel	Lisocabtagene Maraleucel	Tisagenlecleucel
Construct	antiCD19-CD28tm- CD28- CD3z	antiCD19-CD28tm- 41BB - CD3z	antiCD19-CD8αtm- 41BB - CD3z
Vector	Retrovirus	Lentivirus	Lentivirus
T-cell manufacturing	Bulk	Defined doses CD4, CD8	Bulk
Dose	2 × 10 ⁶ /kg (max 2 x 10 ⁸)	1.0 x 10 ⁸	0.6 to 6.0 x 10 ⁸
Lymphodepletion	Flu/Cy 500/30 x 3d	Flu/Cy 300/30 x 3d	Flu/Cy 250/25 x 3d, or Benda 90 x 2d



CART-2L – Deeper Dive

Product	Bridging	Cross-Over	PFS benefit	OS benefit	Approved
Axi-cel	Ν	Ν	Y	Y	Y
Tisa-cel	Y	Y	Ν	Ν	Ν
Liso-cel	Y	Y	Y	N/A	Y

- Little dispute about CAR-T in 2L setting.
 - Few if any CAR-T ineligible patients
 - Choice of agents mainly driven by Brain to Vein Time (Matt Lunning-ism)
 - Only question is what to do with those who respond to chemotherapy as some data suggests those patients do as well with ASCT (retrospective).
 - Patients who relapse within 9-12 months?



CAR-T in 3L+ DLBCL

Product	Ν	Follow Up	ORR	CR	PFS (median)	OS (median)
Axi-cel	101	27.1 m	83%	58%	5.9 m	NR
Tisa-cel	111	14 m	52%	40%	NR (responders)	12 m
Liso-cel	255	18.8 m	73%	53%	6.8 m	21.1 m

EPCORE NHL-1: LBCL Expansion Cohort



^aStep-up dosing (priming 0.16 mg and intermediate 0.8 mg dosing before first full dose) and corticosteroid prophylaxis were used to mitigate CRS. ^bRadiographic disease evaluation was performed every 6 wk for the first 24 wk (6, 12, 18, and 24 wk), then every 12 wk (36 and 48 wk), and every 6 mo thereafter. ^cMeasurable disease with CT or MRI scan with involvement of ≥ 2 lesions/nodes with a long axis >1.5 cm and short axis >1.0 cm (or 1 lesion/node with a long axis >2.0 cm and short axis ≥ 1.0 cm) and FDG PET scan that demonstrates positive lesion(s) compatible with CT-defined (or MRI-defined) anatomical tumor sites for FDG-avid lymphomas. ClinicalTrials.gov: NCT03625037. EudraCT: 2017-001748-36.



PFS by Best Response per IRC



Response Charac mo (range)	teristics,
Median time to response	1.4 (1.0– 8.4)
Median time to CR	2.7 (1.2– 11.1)
Median duration of response ^a	12 (0+ to 15.5+)
Median duration of response for patients in CR	Not reached

KM estimates. Based on IRC assessment and Lugano criteria.

- Majority of CRs were achieved by the first or second assessment
- Some conversions from PR to CR were still observed at ≥36 weeks

0

0

A correlation between depth of response and PFS was observed



Response rates and DoCR

	All patients (N=155)*	R/R DLBCL/ trFL (N=132) ^{1†‡}	Prior CAR-T (N=52) [†]
ORR , n (%) [95% Cl]	80 (52)	74 (56)	26 (50)
	[43.5–59.7]	[47.2–64.7]	[35.8–64.2]
CR rate, n (%) [95% Cl]	62 (40)	58 (44)	19 (37)
	[32.2–48.2]	[35.3–52.8]	[23.6–51.0]
Median DoCR, months	26.9	28.3	22.0
(95% CI)	(19.8–NR)	(19.8–NR)	(6.7–NR)
24-month DoCR, %	55.0	<mark>56.2</mark>	33.1
(95% CI)	(41.1–68.8)	(41.9–70.4)	(7.2–59.0)
Median CR follow-up,	29.6	29.6	23.0
months (range)	(0–39)	(0–39)	(0–33)
Ongoing CRs, n/N (%)	34/62 (55)	32/58 (55)	10/19 (53)



Median time on study: 32.1 months (range: 0–43)

With 32 months median follow-up, glofitamab showed high response rates and durable remissions across subgroups

*Intent-to-treat population (DLBCL, trFL, HGBCL, and PMBCL); [†]Patients in this subgroup had similar baseline characteristics to the overall population; [‡]Primary efficacy population reported in the glofitamab USPI, all patients received at least one dose of glofitamab. CI, confidence interval; NE, not estimable; NR, not reached; USPI, United States prescribing information.

 COLUMVI USPI. Available at: https://www.accessdata.fda.gov/drugsatfda_docs/label/2023/761309s000lbl.pdf.



Landmark analysis by response at Cycle 3



A high proportion of patients with a CR at C3 remained progression-free and alive after 24 months

*KM estimates. NR, no response.



Landmark analysis by response at EOT



18-month PFS rate, % (95% CI)

(95% CI)66.6 (51.0-82.2)18-month OS rate, % (95% CI)80.7 (68.6-92.8)Majority of patients with a CR at EOT remained progression-free
and alive at 18 months after EOT80.7 (68.6-92.8)

*KM estimates.

EOT, end-of-treatment; NR, no response.



Efficacy DLBCL

Drug	Ν	ORI	२	CR	PFS (median)	DOR	Approved
Epcoritamab	157	63%	, D	39%	4.4 m	15.6 m	Yes
Glofitamab	291	52.6	%	35%	4.9 m*	18.4 m	Yes
Odronextamab	130	49.20	⁄o*	30.8%*	4.4 m	10.2 m	No
Week 12 response assessment by independent central review	1/20 y re	step-up gimen N=67	0.7/4/2 re I	20 step-up gimen N=63			
ORR	4 [95% CI:	6.3% 34.0–58.9%]	4 [95% Cl:	2.9% 30.5–56.0%]			
Complete response	2	.6.9%	2	0.6%			

• Median opportunity of follow-up: 21.3 months (range 2.6–29.8)

Drug	post CAR-T patients	Refractory (R)	ORR	CR	CR (<i>R</i>)
Epcoritamab	61	46	54%	34%	28%
Glofitamab	52	N/A	N/A	35%	N/A
Odronextamab	31		48.4%*	32.3%	N/A



My Current Approach to Relapsed/Refractory DLBCL



CAR T-cells vs. Bispecific Antibodies for Relapsed/Refractory LBCL

- CAR T-cells are proven to be curative for DLBCL in the 3rd line or later setting with over 5 years of follow-up.
- Hope is bispecifics will lead to cure in some patients, but it is still too early to know
- Bispecifics will certainly be preferred 3rd line therapy if CAR T-cells are not accessible
 - For most community sites the key to these options are early referral to CAR-T sites and/or if no plans for CAR-T to establish infrastructure that will allow patients to get bispecifics in community
 - Team→Plan (where to treat/monitor, do you have Toci (likely not needed for majority of patients, who is going to take calls, where will you admit patients if needed during SUD).



ZUMA-5 Study of Axi-cel in relapsed/refractory FL and MZL

Characteristic	FL n=124	MZL N=24	All Patients N=148
Median age (range)	60 (53-67)	65 (61-72)	61 (53-68)
FLIPI 3-5	54 (44%)	N/A	N/A
High tumor burden (GELF)	64 (52%)	10 (42%)	74 (50%)
Median prior tx (IQR)	3 (2-4)	3 (2-5)	3 (2-5)
Refractory to last tx	84 (68%)	18 (75%)	102 (69%)
POD24	68 (55%)	13 (57%)	81 (55%)

	All patients (n=109)	FL (n=86)	MZL (n=23)
ORR	92%	94%	83%
CRR	76%	79%	65%



AEs of S	pecial Interest	(n=148)

Cytokine Release Syndrome Any grade Grade ≥ 3	82% 7%
Neurologic Events Any grade Grade ≥ 3	59% 19%

13 FL and 11 MZL retreated after response at median 11 months. ORR 100%, CRR 77%. 46% had ongoing response at median of 11 months f/u



Jacobson, et al. Lancet Onc 2022.

ELARA Study of Tisa-cel in relapsed/refractory FL

Characteristic	n=97
Median age (range)	57 (29-73)
Median prior tx (range)	4 (2-13)
Refractory	78%
POD24	60%

	All patients n=94
ORR	86%
CRR	68%

AEs of Special Interest (n=97)

Cytokine Release Syndrome	
Any grade	49%
Grade ≥ 3	0%
ICANS	
Any grade	4%
Grade ≥ 3	1%



Median PFS not reached 24-month PFS 57.0% (46-67)



Dreyling, at al. Proc ASH 2022 Fowler, et al. Nat Med 2022. TRANSCEND FL: Phase 2 study results of lisocabtagene maraleucel (lisocel) in patients with relapsed/refractory follicular lymphoma

98 (0)

3L+ FL

91 (1)

83 (1)

77 (5)

62 (12)

Baseline characteristics for 3L+ FL	N=107
Median age	62 (34- 80)
Median prior therapies	3 (2-10)
FLIPI high risk	57%
Prior ASCT	31%
Elevated LDH	44%
Chemorefractory	67%
POD24	54%

Response	N=101
Overall response	97%
Complete response	94%

	CRS and ICANS	N=130
	CRS Any grade Grade ≥3	58% 1%
	ICANS Any grade Grade ≥3	15% 2%
ficac	:y set (n = 101)	100

7 (0)

0 (7)

3L+ FL

101 (0)



49 (12)

8 (40)



96 (1) 89 (0) 78 (6) 72 (3) 50 (20) 19 (30)

2 (5)

0 (2)

7 (11)

Morschhauser, et al. Proc ICML 2023, #LBA4

Mosunetuzumab

- Recent approval for 3L beyond FL based on study by Budde et al.
 - CD20/CD3 bispecific antibody
 - Original study with IV but now exploring SQ injections

		N=90	
Median number of prior lines, n (range)		3 (2–10)	
Prior systemic Anti-CD20 therapy therapy Alkylator therapy PI3K inhibitor IMiD CAR-T		90 (100%) 90 (100%) 17 (18.9%) 13 (14.4%) 3 (3.3%)	
Prior ASCT		19 (21.1%)	
Refractory to last prior therapy		62 (68.9%)	
Refractory to any prior aCD20 therapy		71 (78.9%)	
Refractory to any prior aCD20 therapy and alkylator therapy (double refractory)		48 (53.3%)	
POD24		47 (52.2%)	



Mosunetuzumab:

CD20xCD3 bispecific antibody⁴

High affinity binding

SQ dosing 5 mg (C1D1), 45 mg (C1D8), 45 mg C1D15 until EOT



Mosunetuzumab

Response rates

Efficacy endpoint in the overall population by investigator assessment; % (95% Cl)	N=90
ORR	78% (68–86)
CR	60% (49–70)

Time to first response (median [range]): **1.4 months** (1.0–11) Time to first CR (median [range]): **3.0 months** (1.0–19)

High ORR and CR rate were consistent with published results¹



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1. Budde LE, et al. Lancet Oncol 2022/23(8):1055–1065 © Genentech, Inc.All rights reserv



Mosunetuzumab

Durability of responses

Efficacy endpoint by investigator assessment	N=90	DOR and DOCR
Median DOR, months (range), n=70 24-month DOR (95% CI)	NR (21–NR) 53% (38–68)	1.0 12-month remission rate: 82%
Median DOCR, months (range), n=54 24-month DOCR (95% CI)	NR (23–NR) 63% (38–88)	0.6
Median PFS, months (range) 24-month PFS (95% CI)	24 (12–NR) 48% (36–60)	0.2 - DOR
Median TTNT, months (range) 24-month TTNT (95% CI)	NR (18–NR) 56% (45–67)	0.0 0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34
Median OS, months (range) 24-month OS (95% CI)	NR (NR–NR) 87% (80–94)	Time (months) Patients at risk 70 65 60 52 48 47 42 39 37 30 29 18 9 5 5 3 3 Patients at risk 54 53 50 43 42 37 35 31 28 22 19 10 5 4 4 2 2

Durable responses: majority of patients in remission after 2 years



DOCR. duration of complete response: TTNT. time-to-next therapy.

Epcoritamab

Trial Design: Pivotal EPCORE[™] NHL-1 Study

Dose expansion

Key inclusion criteria^a:

- R/R CD20⁺ mature Bcell neoplasm
- ECOG PS 0-2
- ≥2 prior lines of antineoplastic therapy, including ≥ 1 anti-CD20 mAb
- Prior treatment with an alkylating agent or lenalidomide
- FDG-avid disease by PET/CT
- · Prior CAR T allowed

Data cutoff: April 21, 2023 Median follow-up: 17.4 mo

Epcoritamab SC RP2D 48 mg Treatment until PD^c or unacceptable toxicity R/R FL grade 1–3A expansion cohort, N=128



• Primary endpoint: ORR by independent review committee (IRC) • Key secondary endpoints: MRD^d, DOR, TTR, PFS, OS, CR rate, and safety/tolerability

C1 optimization



- Hospitalization not mandated in this setting
- Primary objective: Assess impact on risk and severity of CRS

Phase 1/2 trial. ^aPatients enrolled in this trial (and excluded from trials of other T-cell–engaging therapies) included those with worse anemia, lymphopenia, and/or renal function. ^bStep-up dosing (SUD; priming [SUD 1] 0.16 mg and intermediate [SUD 2] 0.8 mg dosing before first full dose) and corticosteroid prophylaxis were used to mitigate CRS. 22 measurable (by CT/MRI) and FDG PET-positive lesions; radiographic disease evaluation was performed every 6 wk for the first 24 wk (6, 12, 18, and 24 wk), then every 12 wk (36 and 48 wk), and every 6 mo thereafter. ^dMRD was assessed in peripheral blood using the clonoSEQ® (Adaptive Biotechnologies, Seattle, WA) next-generation sequencing assay. ClinicalTrials.gov: NCT03625037; EudraCT: 2017-001748-36.



3

Baseline Characteristics and Prior Treatments

Demographics	ographics N=128			
Median age, y (range)	65 (39–84)	Median time from diagnosis to first		
Male, n (%)	79 (62)	Median time from end of last line of dose, mo (range)		
Ann Arbor stage, n (%) ^a		Median time from end of last anti-CI		
Ш	32 (25)	dose, mo (range)		
IV	77 (60)	Median number of prior lines of ther		
	()	≥3 prior lines, n (%)		
		≥4 prior lines, n (%)		
2	31 (24)	POD24, ^d n (%)		
3–5	78 (61)	Double refractory, ^{e,f} n (%)		
Beta-2 microglobulin, n (%) ^c		Primary refractory, ^e n (%)		
High	79 (62)	Refractorye to last prior systemic the		

Treatment History	N=128
Median time from diagnosis to first dose, y (range)	5.8 (0.6–35)
Median time from end of last line of therapy to first dose, mo (range)	5.2 (1–105)
Median time from end of last anti-CD20 therapy to first dose, mo (range)	10.3 (1–159)
Median number of prior lines of therapy (range)	3 (2–9)
≥3 prior lines, n (%)	81 (63)
≥4 prior lines, n (%)	40 (31)
POD24, ^d n (%)	54 (42)
Double refractory, ^{e,f} n (%)	90 (70)
Primary refractory, ^e n (%)	69 (54)
Refractory ^e to last prior systemic therapy, n (%)	88 (69)

- All patients had prior treatment with an anti-CD20 mAb and an alkylating agent
 - Other prior systemic treatments included anthracyclines (77%), bendamustine (63%), nucleotides (48%), topoisomerase inhibitors (36%), IMiDs (31%), PI3K inhibitors (23%), and CAR T-cell therapy (5%)

^aAnn Arbor stage was I–II in 19 patients. ^bFLIPI was 0–1 in 17 patients, unknown for 1 patient, and not applicable for 1 patient. FLIPI was prior to first dose on study. ^cBeta-2 microglobulin was normal in 45 patients and missing for 4 patients. ^dProgression within 2 y of initiating first-line chemoimmunotherapy. ^eRefractory: No response or relapse within 6 mo after therapy. ^fDouble refractory: Refractory to both anti-CD20 and an alkylating agent.





ORRs and CR Rates Were High Regardless of Subgroup

Encacy Parameters	N=128
Median time to response, mo (range)	1.4 (1.0–3.0)
Median time to complete response, mo (range)	1.5 (1.2–11.1)
Median duration of response, mo (95% CI) ^a	NR (13.7–NR)
Median duration of complete response, mo (95% CI) ^a	NR (21.4–NR)
MRD negativity, n (%) ^b	61 (67)
Median progression-free survival, mo (95% Cl) ^a	
Overall (N=128)	[™] 15.4 (10.9–NR)
Complete responders (n=80)	NR (22.8–NR)
MRD-negative patients (n=61)	NR (22.8–NR)
Median overall survival, mo (95% CI) ^a	NR (NR–NR)
Median time to next therapy, mo (range) ^a	NR (0.2+ to 30.0+)

MRD, minimal residual disease; NR, not reached. ^aBased on Kaplan–Meier estimate. ^bBased on MRD-evaluable set (n=91) per clonoSEQ[®] PBMC assay with 10⁻⁶ cutoff.



Summary of Response FL

Drug	Ν	ORR	CR	PFS 24 m	OS 24 m	mDOR
Mosunetuzumab	90	78%	60%	48%	87%	NR
Epcoritamab	128	82%	63%	15.4 m (17 m f/u)	NR	NR
Odronextamab	121	81.8%	75.2%	55.3%*	N/A	20.5 m
	*10 months					

18 months

Drug	DOR 12 m	DOCR 12 m	DOR 24 m	DOCR 24 m
Mosunetuzumab	67%	82%	53%*	63%
Eporitamab	NR	NR	N/A	N/A
Odronextamab	68.8%	72.2%	55%*	59.1%*
		*18 months		



Considerations in choosing between mosunetuzumab and CAR T-cells in FL

CAR T-cells	Mosunetuzumab		
Excellent efficacy with longer follow up	Excellent efficacy, but with shorter follow up		
Requires 3-4 weeks of manufacturing	Off the shelf		
Logistically more complex	Logistically less complex		
"One and done" for life at this time.	8-17 cycles (can be repeated)		
Needs lymphodepleting chemo	No lymphodepleting chemo		
Higher risk of CRS and neurotoxicity (tisa-cel better than axi-cel)	Lower risk of CRS and neurotoxicity		
Usually inpatient	Usually outpatient		

- They are not mutually exclusive, though we do not have data on optimal sequencing
- Decision will be personalized for most patients between Mosunutuzemab and CAR
- CAR T-cells for those with concern of tDLBCL



R/R FL





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R/R MCL

• Outcomes in R/R MCL remain poor especially after BTKi failure





Study design: Phase II dose expansion

Study design: Phase II dose expansion

Key inclusion criteria	Objectives				
 R/R MCL ECOG PS 0–2 ≥2 prior therapies (including an anti-CD20 antibody, anthracycline or bendamustine therapy, and BTKi) 	 Primary: efficacy of mosun-pola (best ORR¹ by IRC) Secondary: efficacy by INV, durability of response, and safety 				
Mosun-pola fixed duration administration (NCT03671018)					
Mosun D1 • SC administered in 21-day cycles with step-up dosing in Cycle (C) 1; total of 17 cycles Mosun Pola 5mg • 1.8mg/kg IV on Day [D],1 of C1–6 Pola No mandatory hospitalization Image: Control of C1 and the control	18 D15 D1 D1 D1 mg 45mg 45mg 45mg Pola Pola Pola Pola C1 C2 C3-C6 C7-C17 lay cycles C1 C1 C1 C1				

*From C2 and beyond, premedication was optional for patients who did not experience CRS in the previous cycle; corticosteroid premedication consisted of 20mg of dexamethasone or 80mg of methylprednisolone, either IV or orally.

1. Cheson BD, et al. J Clin Oncol 2014;32:3059-68.



*From C

CRS summary

CRS by ASTCT criteria ¹	N=20	CRS by cycle and grade		
Any grade, n (%) Grade 1 Grade 2* Grade 3+	9 (45) 8 (40) 1 (5) 0	50 40 - 40%	■ Grade 1 ■ Grade 2	
Median time to first CRS onset relative to last dose, days (range)	1 (0–2)	ents (%) 30 - 30 - 30 - 30 - 30 - 30 - 30 - 30		
Median CRS duration, days (range)	3 (1–9)	10 -	5%	
CRS management, n (%) Corticosteroids Tocilizumab Low-flow oxygen	1 (5) 1 (5) 1 (5)	0 C1D1–7 Mosunetuzumab 5mg dose	0% C1D8–14 C1D15–21 45mg 45mg	

All CRS events were low grade and resolved within C1

Clinical cut-off date: July 6, 2023. *This patient experienced Grade 2 fever, confusion, and hypoxia on D3; management included tocilizumab, low-flow oxygen, acetaminophen, and broad-spectrum antibiotics. ASTCT, American Society for Transplantation and Cellular Therapy



Durability of response



- Median follow-up: 15.8 months (range: 0–25)
- Median time to first response: 2.8 months (range: 2.6–3.4)
- Of 14 patients with CR, 11 remain in remission*

Complete remission was achieved early and remained durable



Conclusions

- DLBCL
 - CAR-T approved in both 2L+ (primary refractory) and 3L+
 - Provides another curative option for patients
 - Recent data indicates that in 2L setting CAR-T has an OS benefit
 - Data on bispecifics is still maturing but provides option to give in community
- FL with two CAR-T and soon two bispecifics available for R/R patients
 - Responses durable but cure unlikely as such more debate on which should be given first.
- MCL more difficult space given increased AE and no hint that treatment is curative.
 - Currently only CAR-T is available but potentially Mosun-Pola might be an option for community especially given rates of CRS



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- Leslie Popplewell MD
- CRNs and CRCs





Questions



