

# Polatuzumab Vedotin

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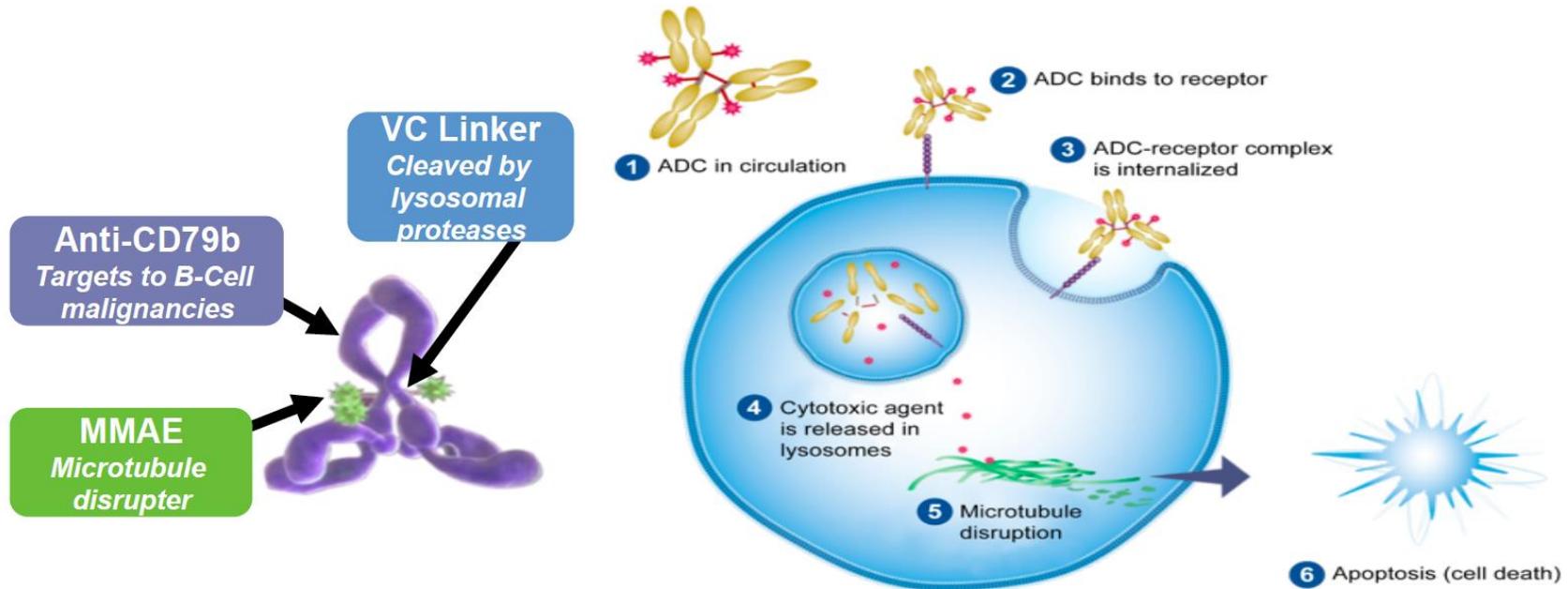
# Disclosures

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- Consulting/Honoraria: Abbvie, AstraZeneca, BMS/Celgene, Kite/Gilead, Incyte, Janssen, Merck, Roche/Genentech, Sandoz, Seagen, Teva, Takeda, TG Therapeutics
- Research funding: Teva, Roche/Genentech

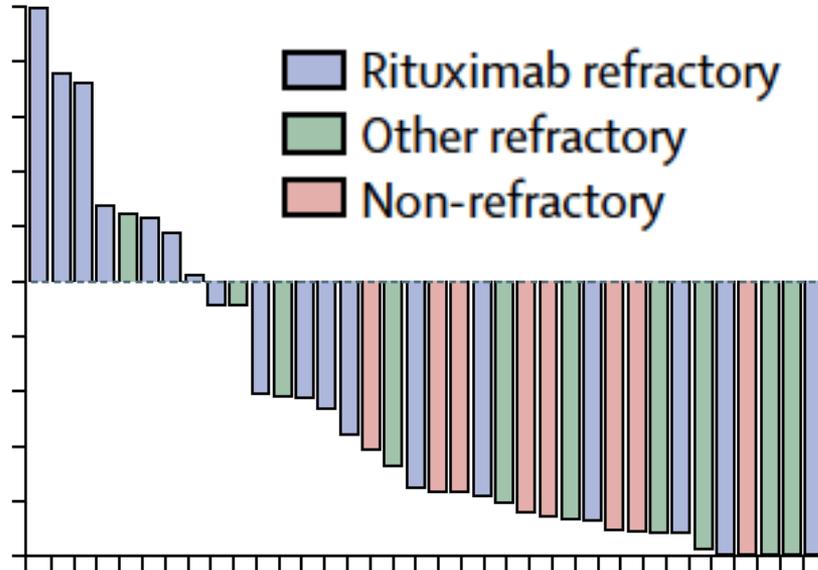
# Polatumumab Vedotin: Anti-CD79b Drug Conjugate

- Microtubule inhibitor MMAE conjugated to CD79b monoclonal antibody via a protease-cleavable peptide linker



# Polatuzumab Vedotin: Early Studies

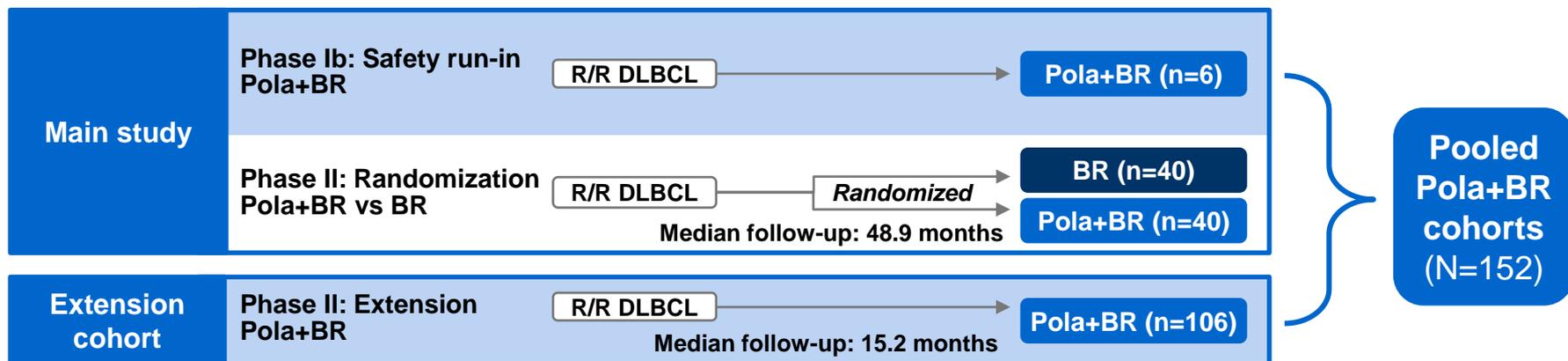
- Efficacy seen in a variety of B-cell NHL subtypes
- Response rates improved with rituximab
- In rel/refr DLBCL: Pola-R induced ORRs up to 54% (CR ~21%)



# GO29365 Phase 1b/2 Study: Pola-BR in ASCT-Ineligible DLBCL

**Inclusion:** transplant-ineligible DLBCL,  $\geq 1$  line of therapy

**Exclusion:** prior allo-SCT; history of transformation; current grade  $>1$  PN



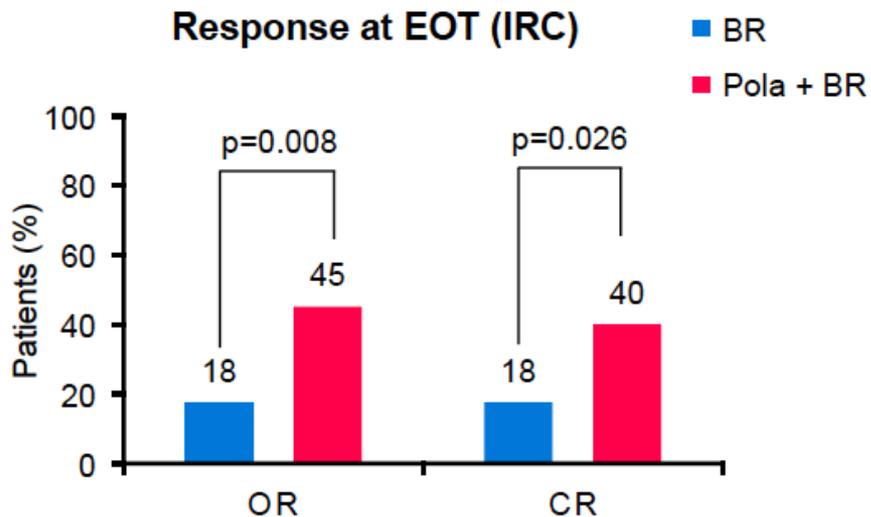
\*Pola 1.8 mg/kg on D1 of each cycle of BR; up to 6 cycles at 3-weekly interval

# Patient Characteristics: Randomized and Extension Cohorts

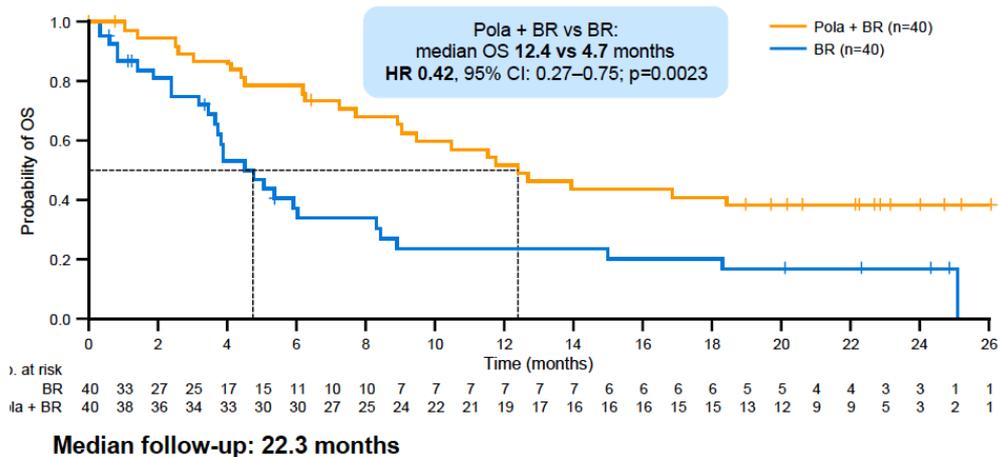
	Randomized		Extension cohort	Pooled Pola+BR*
	BR (N=40)	Pola+BR (N=40)	Pola+BR (N=106)	Pola+BR (N=152)
<b>Median age, years (range)</b>	71 (30–84)	67 (33–86)	70 (24–94)	69 (24–94)
<b>Male, n (%)</b>	25 (62.5)	28 (70.0)	52 (49.1)	84 (55.3)
<b>ECOG PS score, n (%)</b>				
0–1	31 (77.5)	33 (82.5)	92 (86.8)	131 (86.2)
2	8 (20.0)	6 (15.0)	14 (13.2)	20 (13.2)
<b>Ann Arbor Stage III/IV at study entry, n (%)</b>	36 (90.0)	34 (85.0)	84 (79.0)	122 (80.0)
<b>IPI score 3–5 at enrollment, n (%)</b>	29 (72.5)	22 (55)	70 (66.0)	94 (61.8)
<b>Median no. of prior therapies (range)</b>	2 (1–5)	2 (1–7)	2 (1–7)	2 (1–7)
1 line	12 (30.0)	11 (27.5)	37 (34.9)	50 (32.9)
2 lines	9 (22.5)	11 (27.5)	27 (25.5)	42 (27.6)
3 lines	10 (25.0)	12 (30.0)	19 (17.9)	31 (20.4)
≥4 lines	9 (22.5)	6 (15.0)	23 (21.7)	29 (19.1)
<b>Prior stem cell transplant, n (%)</b>	6 (15.0)	10 (25.0)	17 (16.0)	27 (17.8)
<b>Primary refractory, n (%)</b>	28 (70.0)	21 (52.5)	73 (68.9)	97 (63.8)
<b>Refractory to last prior therapy, n (%)</b>	33 (82.5)	30 (75.0)	81 (76.4)	116 (76.3)

# Randomized Phase II: Pola-BR vs BR

## Response at EOT (IRC)

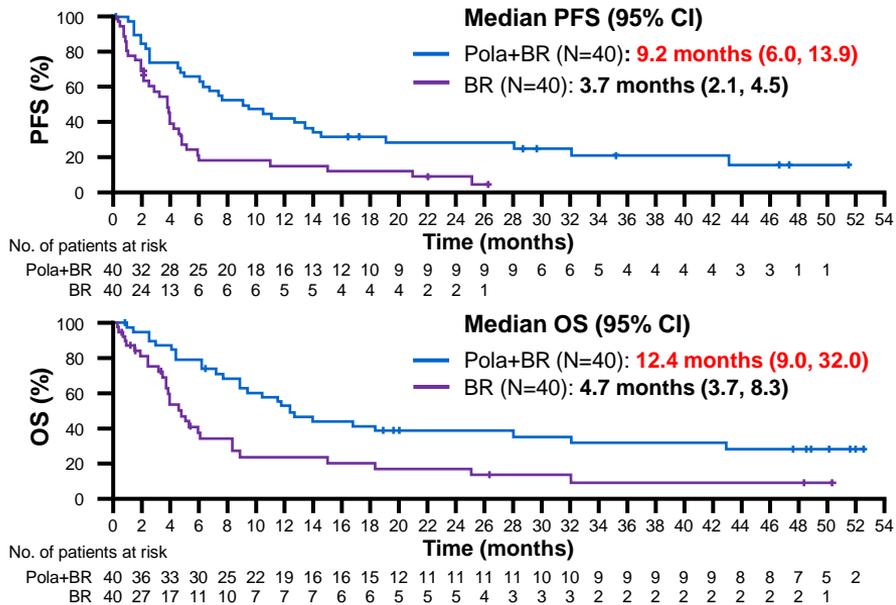


## Overall Survival

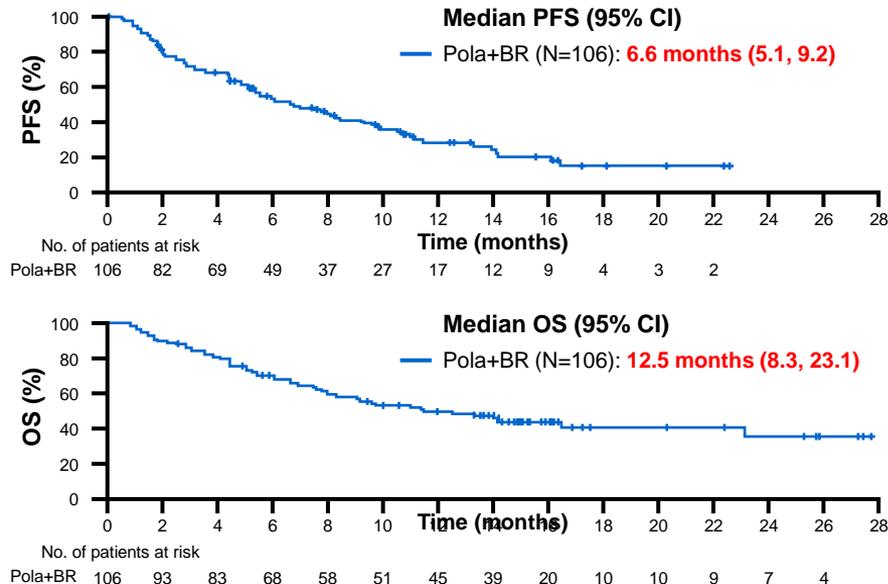


# PFS and OS in Randomized and Extension Cohorts

## Randomized



## Extension cohort



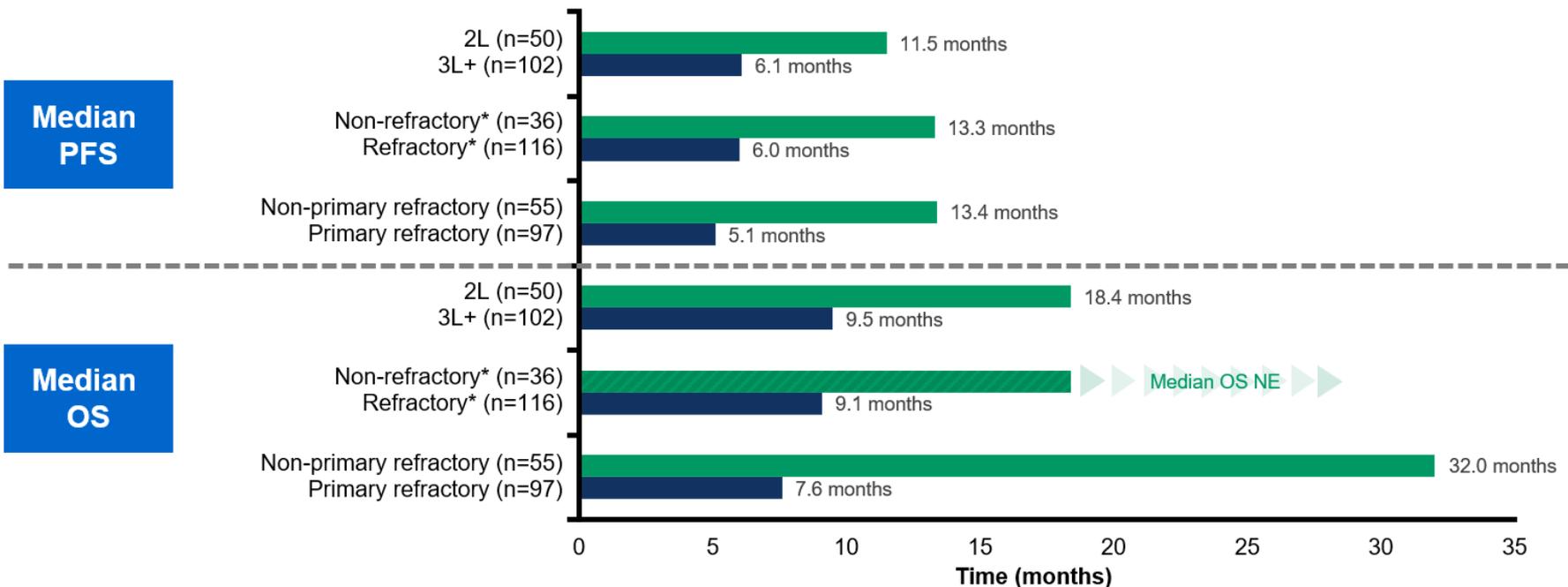
### Randomized cohort:

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

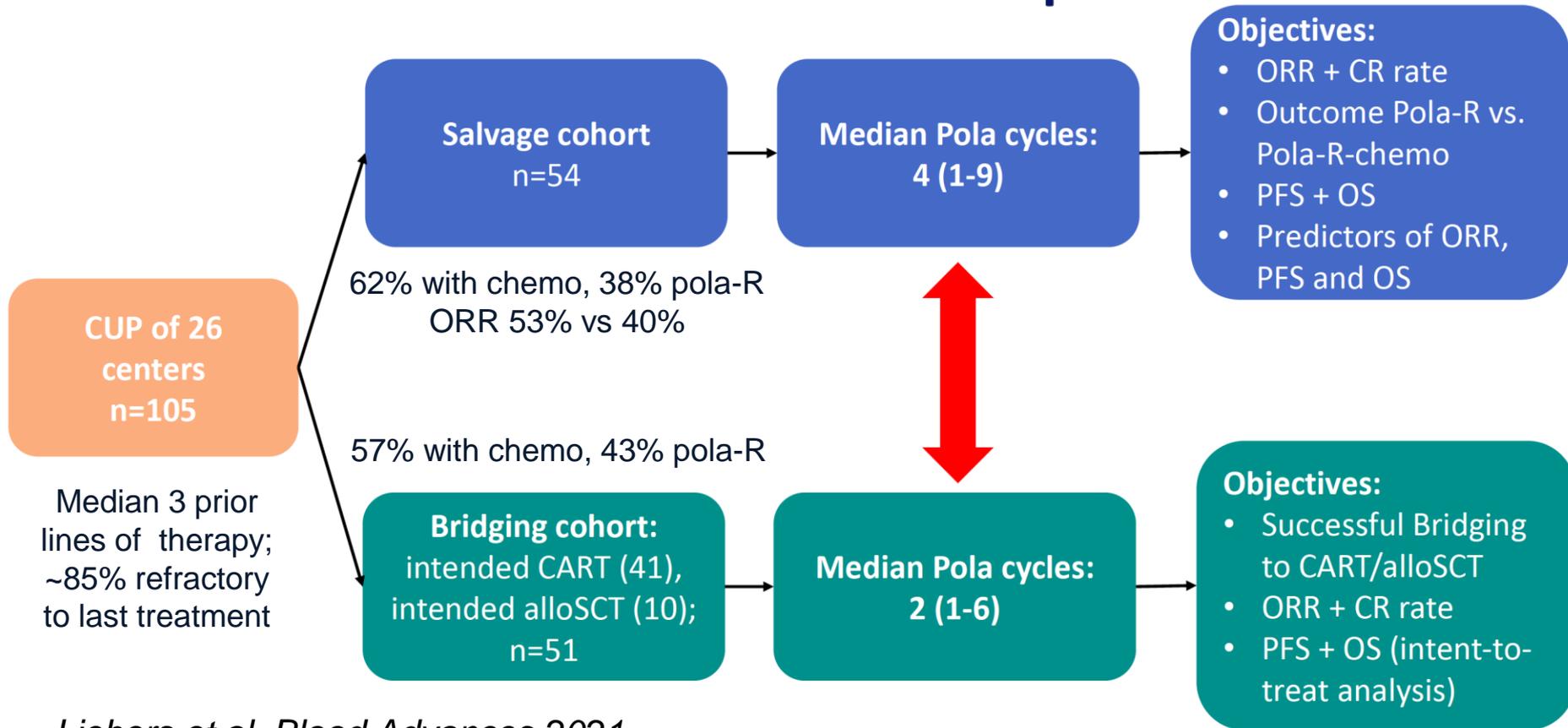
### Pooled cohort:

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

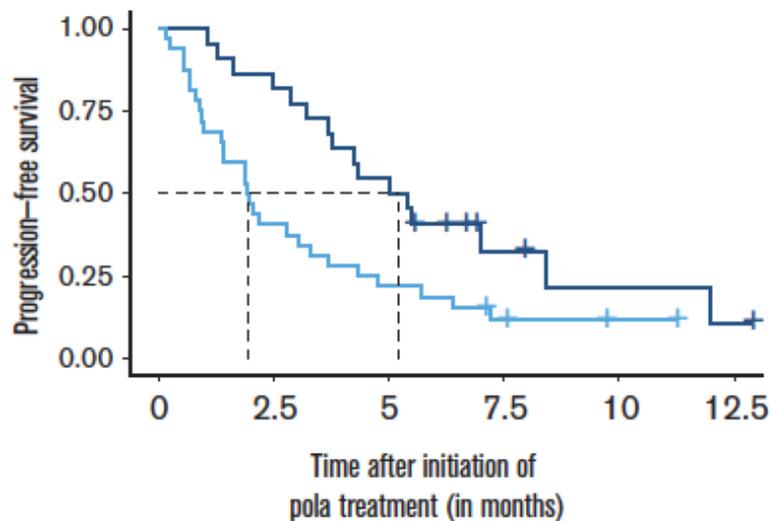
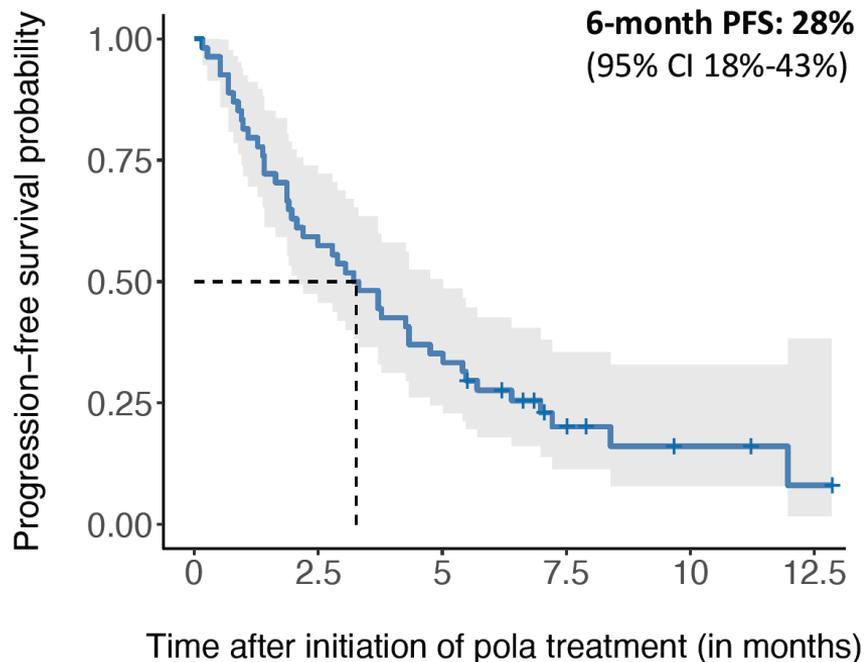
# Median PFS and OS in the Pooled Pola+BR cohort according to line of therapy and refractory status



# Pola as salvage treatment and as bridging treatment to cellular immunotherapies



# Outcome of Salvage Cohort



Number at risk

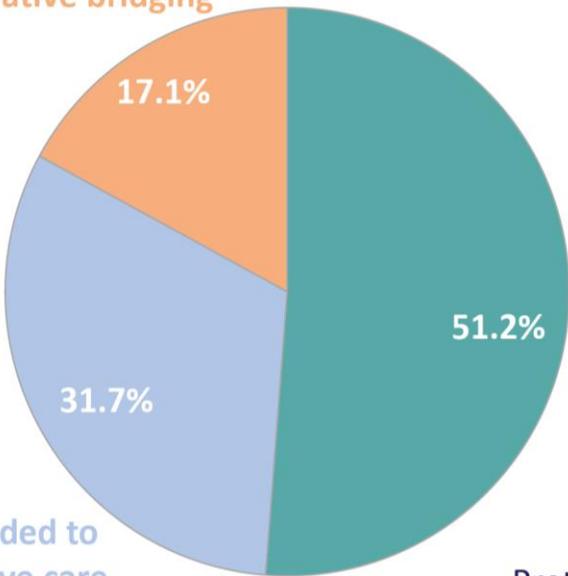
2	22	18	12	4	2	1
3+	32	13	7	3	1	0

n=54; median follow-up 7.5 m  
**ORR 48%, CR 15%**

# Bridging Cohort to Intended CAR-T

Reached CART with  
alternative bridging

17.1%



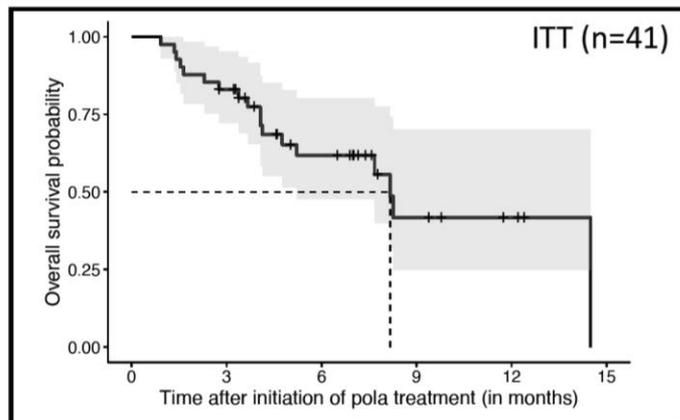
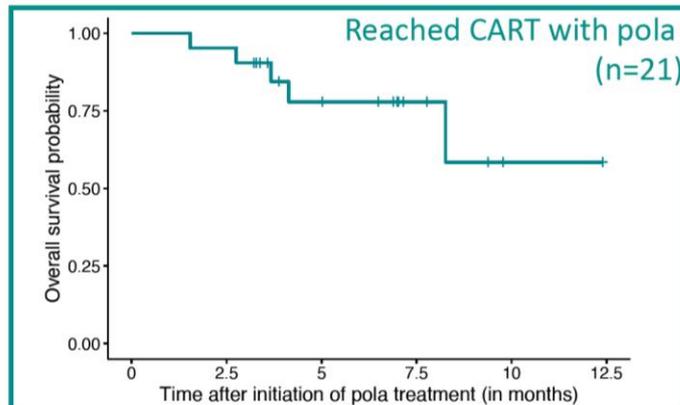
Proceeded to  
palliative care

Reached CART with  
Pola-bridging

2/10 Pola-BR  
patients needed 2  
leukaphereses, 1  
failed

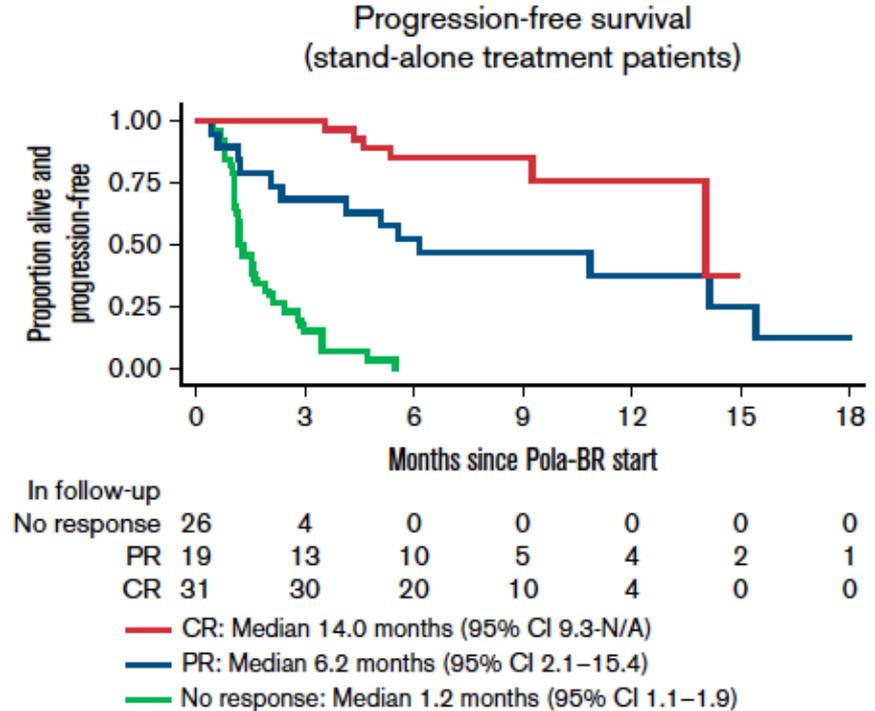
Pretreatment

5/41 patients had previous alloHCT

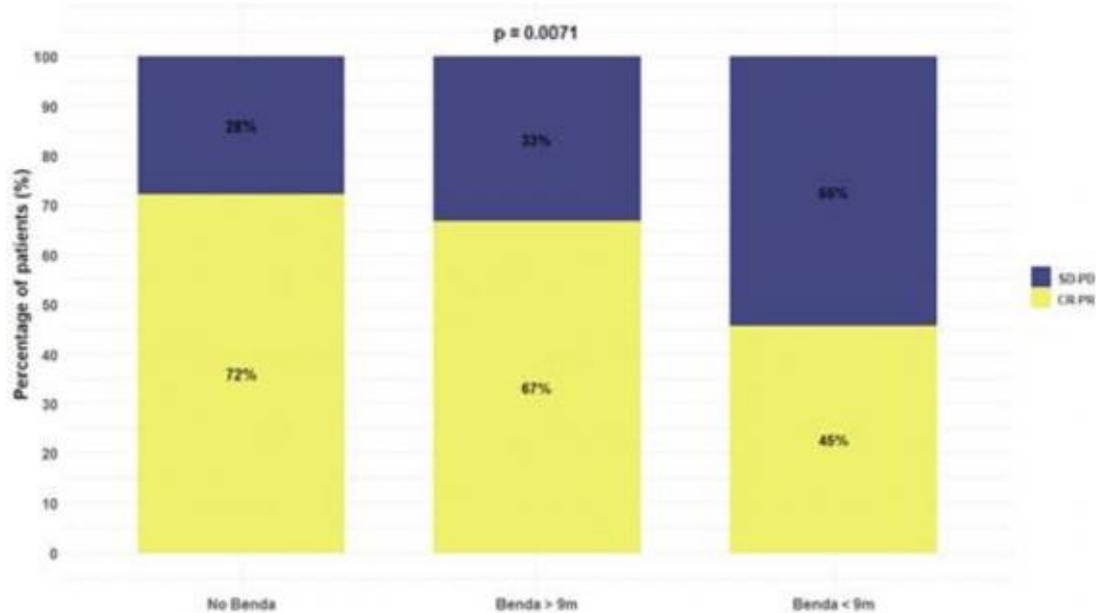


# Real-World Assessment of Pola-BR in R/R DLBCL

- Retrospective UK cohort, access program
- Median follow-up 7.7 m
- >85% received bendamustine
- Stand-alone therapy n=78
  - median age 75 y, median prior lines 1
  - Median cycles: 4
  - ORR 65.8% (39.7%CR, 24.4% PR)
  - Median PFS: 5.4 m (95%CI 3.0-10.8)
- Bridge to CAR T-cell therapy n=40
  - median age 67 y, median prior lines 2
  - Median cycles: 1
  - ORR 42.1% (17.5%CR, 22.5% PR)
  - 77.5% received CAR T-cell therapy



# Prior Bendamustine Negatively Impacts CAR T-cell Outcomes in DLBCL



Altered T-cell composition and T-cell peak expansion

*Iacoboni G et al. ASH 2022*

# Mosunetuzumab Plus Polatuzumab Vedotin in R/R B-cell NHL

- Phase Ib/II dose-escalation and dose-expansion study in patients with R/R B-NHL

## Key inclusion criteria

- DLBCL (*de novo* DLBCL, transformed FL, or Grade 3b FL): Phase Ib AND Phase II
- FL Grade 1–3a: Phase Ib only

## Primary objectives

- Efficacy of M-Pola in patients with R/R B-NHL
- Safety and tolerability of M-Pola in patients with R/R B-NHL

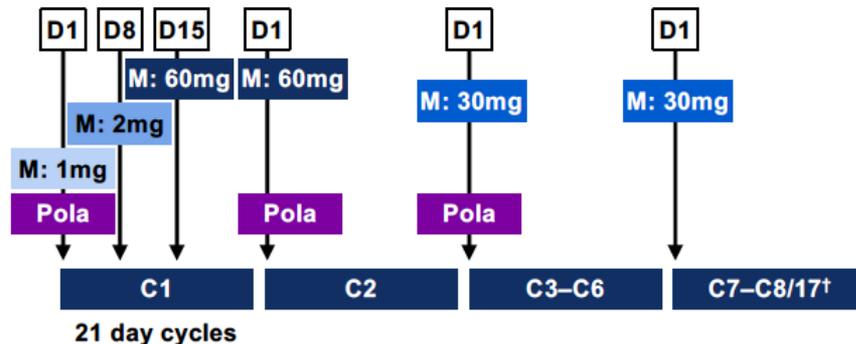
## M-Pola administration in Phase II expansion\*

### Mosunetuzumab

- Q3W intravenous infusions at RP2D (C1–8/17)<sup>†</sup>
- C1 step-up dosing for CRS mitigation
- No mandatory hospitalization**

### Polatuzumab vedotin

- Q3W intravenous infusions (1.8mg/kg) (D1 C1–6)



# Baseline patient and disease characteristics

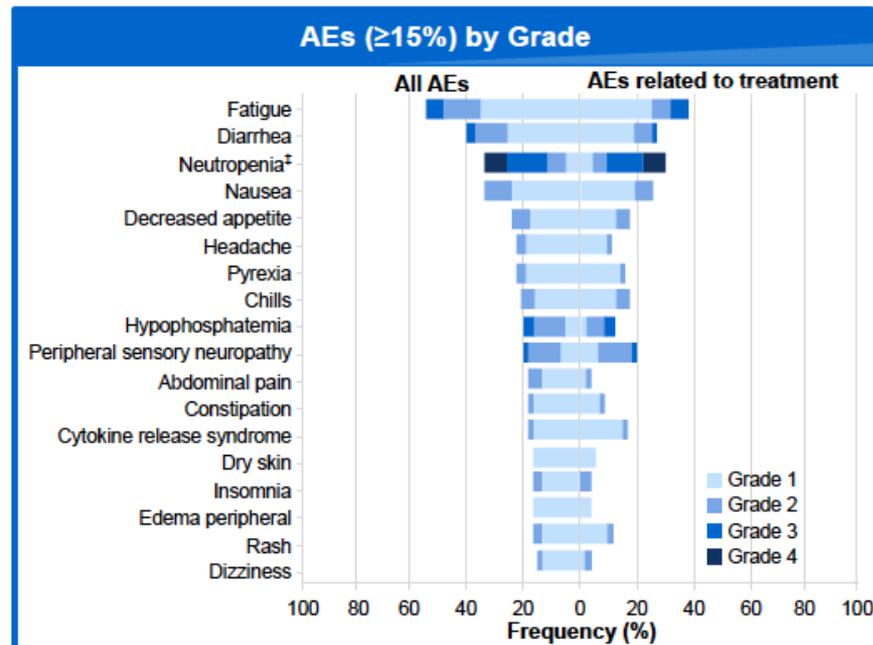
N (%) unless stated	All patients N=63	DLBCL patients N=60
<b>Median age, years (range)</b>	68 (20–83)	68 (20–83)
<b>Male</b>	39 (61.9)	37 (61.7)
<b>ECOG PS at entry</b>		
0–1	59 (93.7)	56 (93.3)
2	4 (6.3)	4 (6.7)
<b>Histology</b>		
DLBCL	60 (95.2)	60 (100)
<i>de novo</i> DLBCL	44 (69.8)*	44 (73.3)
transformed FL	12 (19.0)†	12 (20.0)
Grade 3b FL	4 (6.3)	4 (6.7)
FL Grade 1–3a	3 (4.8)	0
<b>Bulky disease (≥10 cm)</b>	6 (9.5)	6 (10.0)

N (%) unless stated	All patients N=63	DLBCL patients N=60
<b>Ann Arbor stage at entry</b>		
I–II	13 (20.6)	12 (20.0)
III–IV	50 (79.4)	48 (80.0)
<b>Number of prior lines of therapy</b>		
1–2	24 (38.1)	24 (40.0)
3+	39 (61.9)	36 (60.0)
<b>Median prior lines of therapy, range</b>	3 (1–10)	3 (1–8)
<b>Prior CAR-T therapy</b>	25 (39.7)	24 (40.0)
<b>Refractory to last prior therapy</b>	48 (76.2)	46 (76.7)

# Adverse event overview: manageable safety profile

- Median time on study: 5.7 months (range: 0.7–27.5)

N (%)	N=63
<b>AE</b>	62 (98.4)
M-Pola related	55 (87.3)
<b>Grade 3–4 AE</b>	33 (52.4)
M-Pola related	23 (36.5)
<b>Serious AE</b>	24 (38.1)
M related / Pola related	13 (20.6) / 8 (12.7)
<b>Grade 5 (fatal) AE*</b>	3 (4.8) <sup>†</sup>
M-Pola related	1 (1.6)
<b>AE leading to M discontinuation</b>	5 (7.9)
M related	3 (4.8)
<b>AE leading to Pola discontinuation</b>	8 (12.7)
Pola related	6 (9.5)



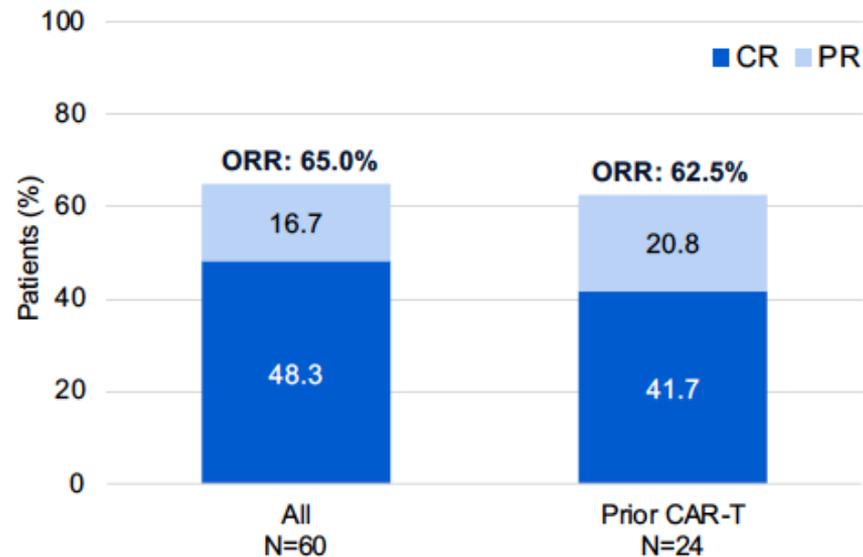
- The majority of AEs were low Grade

CRS 15.9% grade 1; 1.6% grade 2

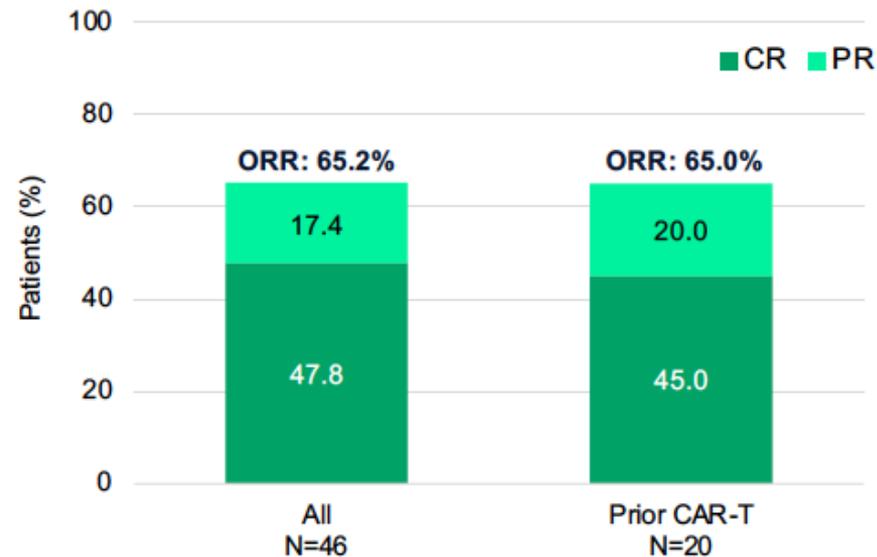
# Response in DLBCL patients\*

- Median duration of response in all DLBCL patients: NR (95% CI: 6.3, NE)

Response in all DLBCL patients receiving mosunetuzumab at 1/2/9mg to 1/2/60/30mg (N=60)

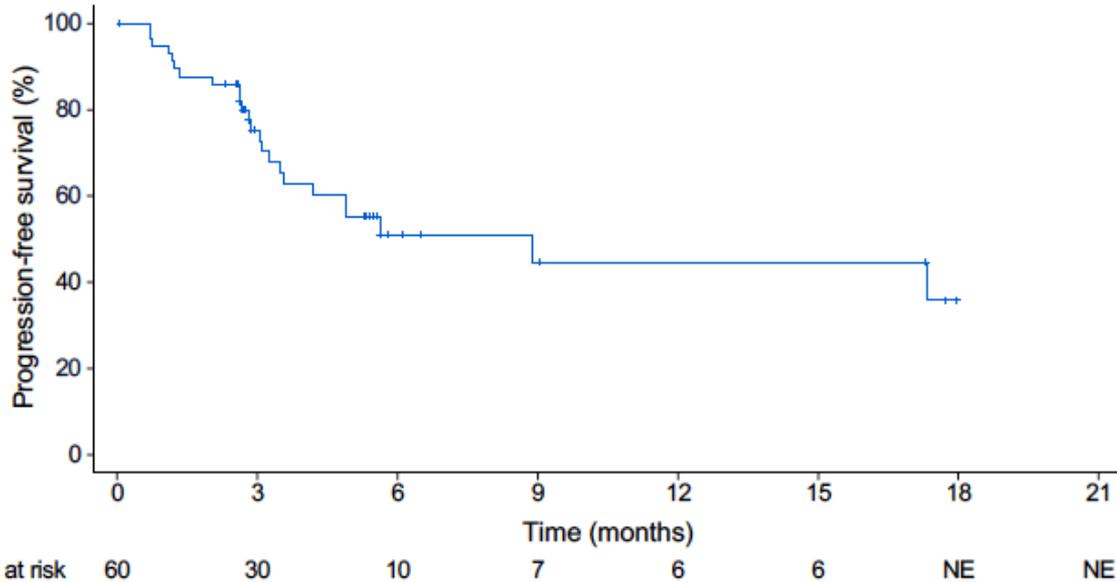


Response in all DLBCL patients receiving mosunetuzumab at the RP2D (1/2/60/30mg) (N=46)



# Progression-free survival

PFS in all DLBCL patients (N=60)



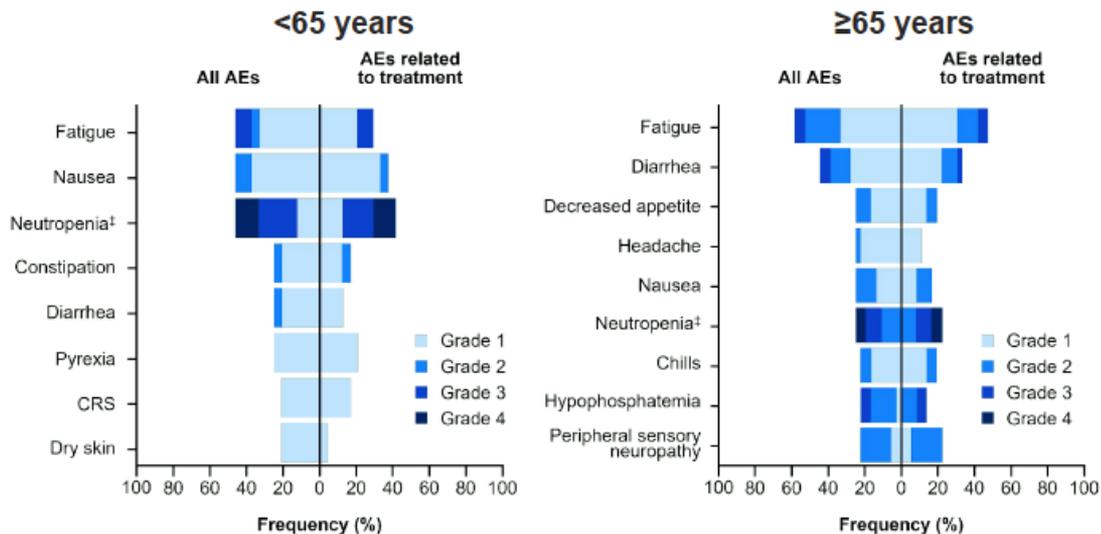
- Median PFS: 8.9 months (95% CI: 3.5, NE)
- PFS data are immature

- Of 29 patients who achieved CR, 28 (96.6%) remained in CR and 1 (3.4%) had PD
  - the patient with PD subsequently received retreatment and achieved a CR

# M-Pola had a manageable safety profile in younger and older patients

n (%)	<65 years n=24	≥65 years n=36
<b>AE</b>	23 (96)	36 (100)
M-Pola related	20 (83)	33 (92)
<b>Grade 3/4 AE</b>	14 (58)	14 (39)
M-Pola related	9 (38)	12 (33)
<b>Serious AE</b>	8 (33)	14 (39)
M-Pola related	4 (17)	8 (22)
<b>Grade 5 (fatal AE)*</b>	0	3 (8)
M-Pola related	0	1 (3)
<b>AE leading to M discontinuation</b>	0	4 (11)
M related	0	2 (6)
<b>AE leading to Pola discontinuation</b>	1 (4)	6 (17)
Pola related	1 (4)	4 (11)

## Most commonly reported<sup>†</sup> AEs



\*Fatal AEs not including progressive disease: pneumonia (M-Pola related), respiratory failure, sudden cardiac death (all n=1). <sup>†</sup>≥20% of patients.

<sup>‡</sup>Grouped term including preferred term 'neutropenia' and 'neutrophil count decreased'. AE, adverse event.

# Glofitamab Plus Polatuzumab Vedotin in R/R DLBCL

## Key inclusion criteria (DLBCL arm)

- Age  $\geq 18$  years
- R/R DLBCL (including trFL and HGBCL)
- ECOG performance status 0–2

## Objectives

### Primary:

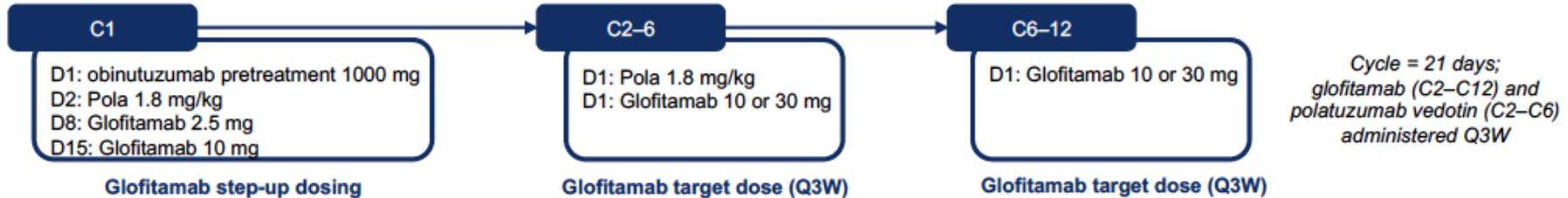
- DLTs
- Determine MTD and/or RP2D for Glofit + Pola (including obinutuzumab pretreatment)

### Secondary:

- Safety and tolerability
- Efficacy (CR rate and BORR per Lugano 2014<sup>1</sup>)

## Glofit + Pola administration in R/R DLBCL

- Target enrollment ~90 patients
- CRS mitigation: obinutuzumab IV 1000 mg 7 days prior to glofitamab administration (step-up dosing)
- Efficacy assessments with PET-CT C3D1, C6D1 C8D15, EOT and Q3M



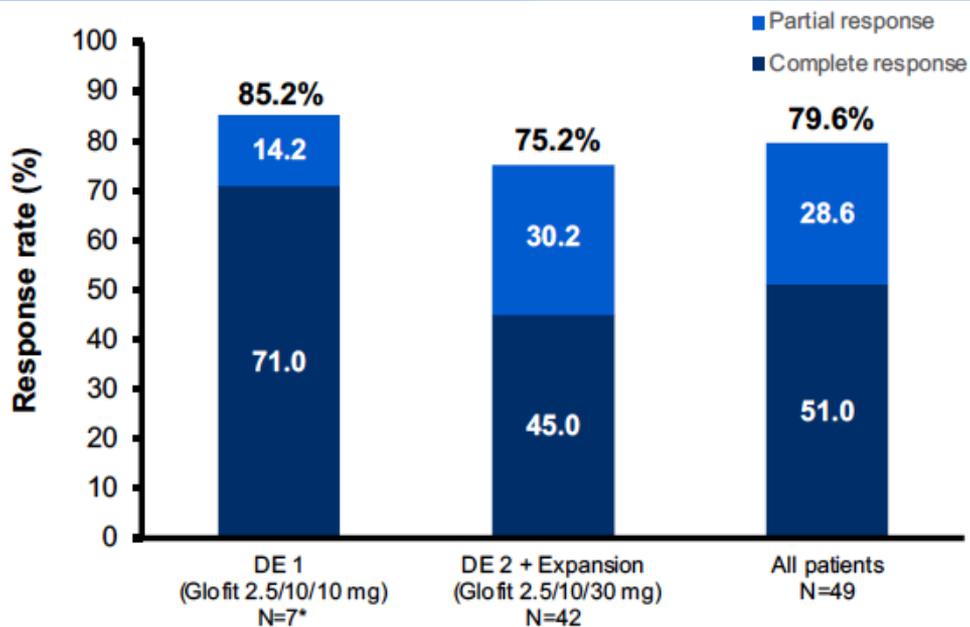
# Baseline characteristics

N (%) of patients unless stated		DE 1 (2.5/10/10 mg) N=6	DE 2/Expansion (2.5/10/30 mg) N=53	All patients N=59
<b>Median age, years (range)</b>		65.5 (55–76)	63.8 (29–82)	59.0 (29–82)
<b>Male gender</b>		3 (50.0)	33 (62.2)	36 (61.0)
<b>ECOG PS 0–1</b>		6 (100.0)	49 (92.4)	55 (94.9)
<b>Ann Arbor Stage III–IV at study entry</b>		4 (66.7)	42 (79.2)	46(78.0)
<b>NHL histology</b>	DLBCL	5 (83.3)	31 (58.4)	36 (61.0)
	HGBCL	0	9 (16.9)	9 (15.3)
	trFL	1 (16.7)	13 (24.5)	14 (23.7)
<b>Median prior lines of therapy, n (range)</b>		3 (1–4)	2 (1–5)	2 (1–5)
<b>Refractory status</b>	Any prior therapy	3 (50.0)	45 (84.9)	48 (81.0)
	Most recent therapy line	3 (50.0)	38 (71.6)	41 (69.5)
	Any prior anti-CD20	3 (50.0)	42 (79.2)	45 (76.3)

- Most patients were high risk and/or refractory to their last prior therapy

# Response rates

Response rate by Glofit + Pola dosing cohort



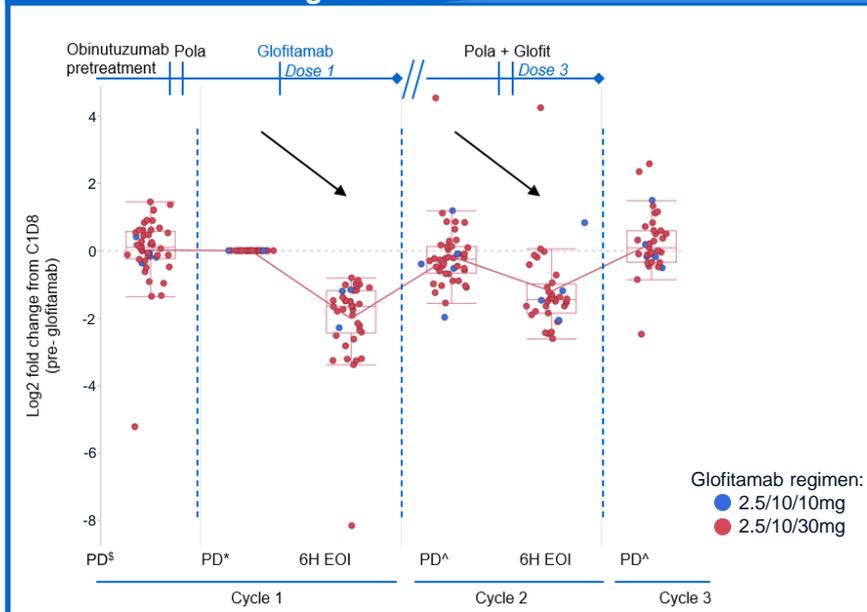
- 49/59 patients were evaluable for interim response
- 7/49 (14.3%) patients had PD as best response and discontinued study treatment
- Encouraging ORR and CR rates in patients with:
  - trFL: ORR, 8/11 and CR, 7/11
  - HGBCL: ORR, 5/8 and CR, 4/8

Median follow-up <4m, durable responses observed

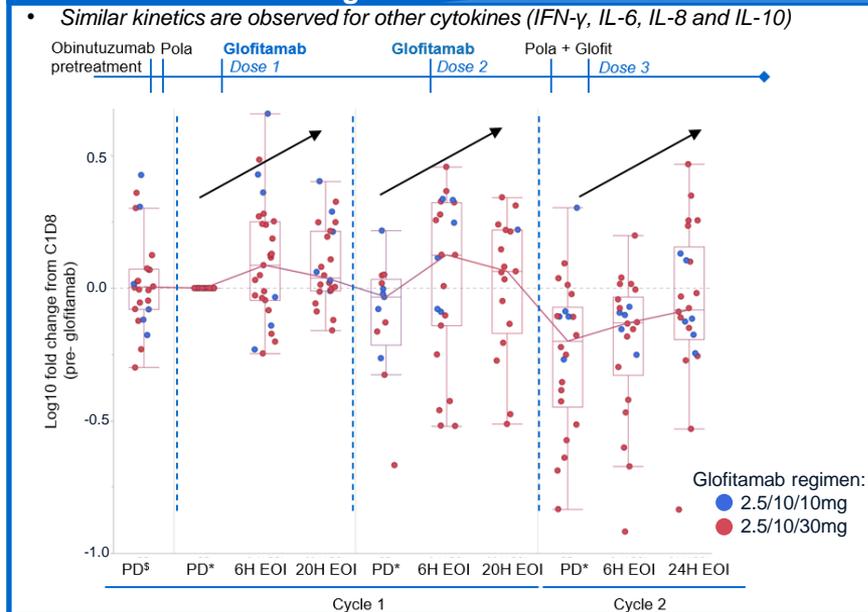
- **Glofit + Pola combination resulted in high response rates**

# Biomarker analysis shows immunomodulatory effect of Glofit + Pola during step-up dosing

## Transient margination of T cells (CD3+) after glofitamab infusion



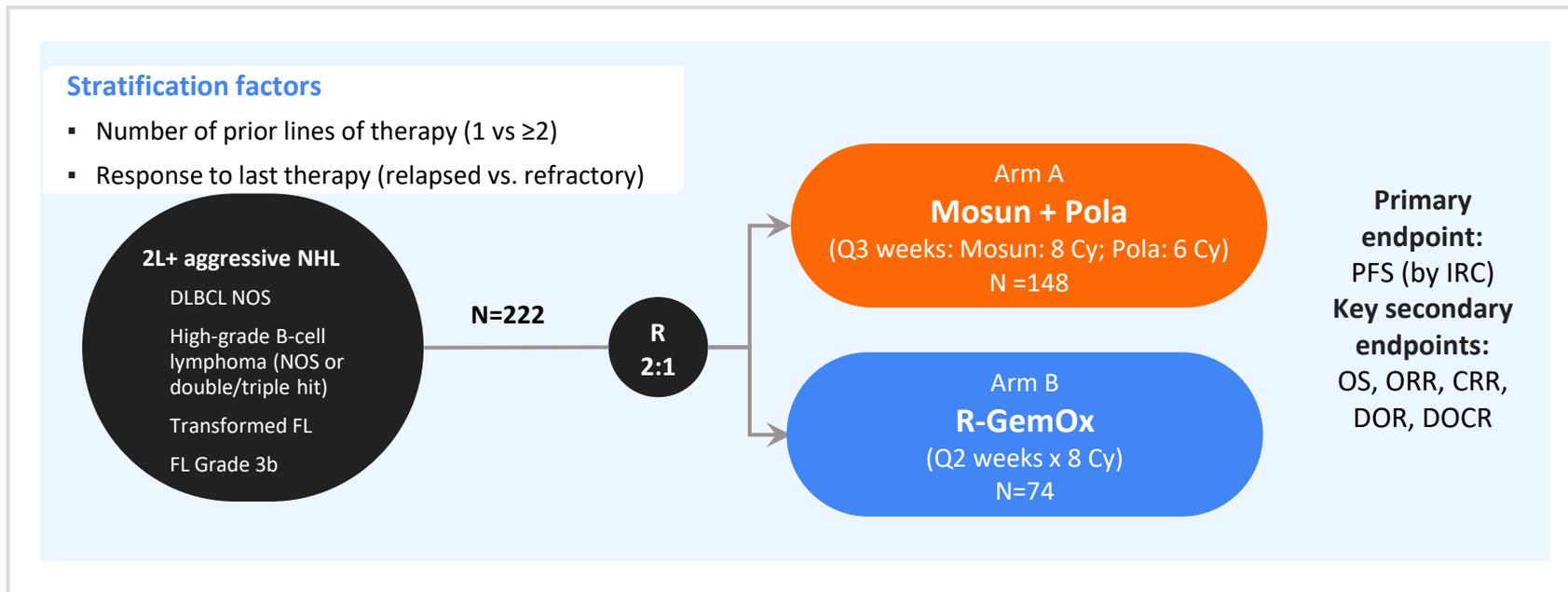
## Transient increase of cytokines, like TNF- $\alpha$ , after glofitamab infusion



- Glofitamab driven immune-cell activation is also observed in combination with polatuzumab vedotin**

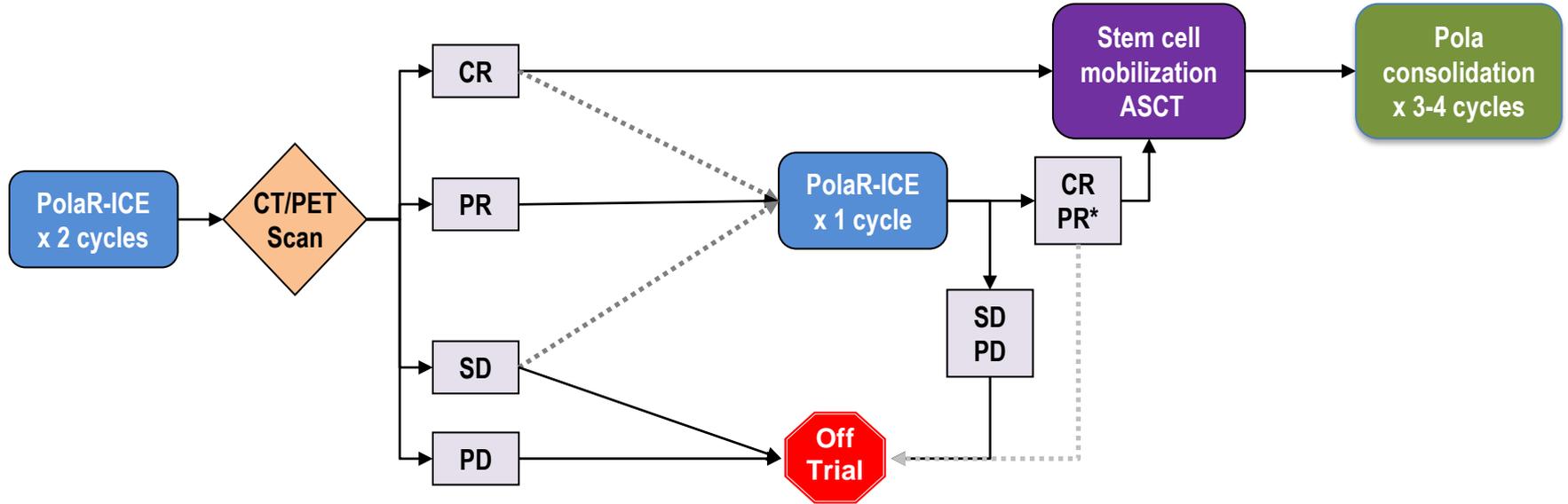
# SUNMO (GO43643)

A Phase III Randomized, Open-Label, Multicenter Study Evaluating Efficacy and Safety of Mosunetuzumab in combination with Polatuzumab Vedotin in Comparison with Rituximab in Combination with Gemcitabine Plus Oxaliplatin in Patients with Relapsed or Refractory Aggressive B-Cell Non-Hodgkin's Lymphoma



**2L**, second-line; **CRR**, complete response rate; **Cy**, cycles; **DLBCL**, diffuse large B-cell lymphoma; **FL**, follicular lymphoma; **IRC**, independent review committee; **Mosun**, mosunetuzumab; **NOS**, not otherwise specified; **ORR**, overall response rate; **OS**, overall survival; **Pola**, polatuzumab vedotin; **PFS**, progression-free survival; **Q2**, every 2 weeks; **Q3**, every 3 weeks; **R-GemOx**, rituximab plus gemcitabine and oxaliplatin; **R/R**, relapsed or refractory

# Pola-RICE as Second-line Therapy in R/R DLBCL

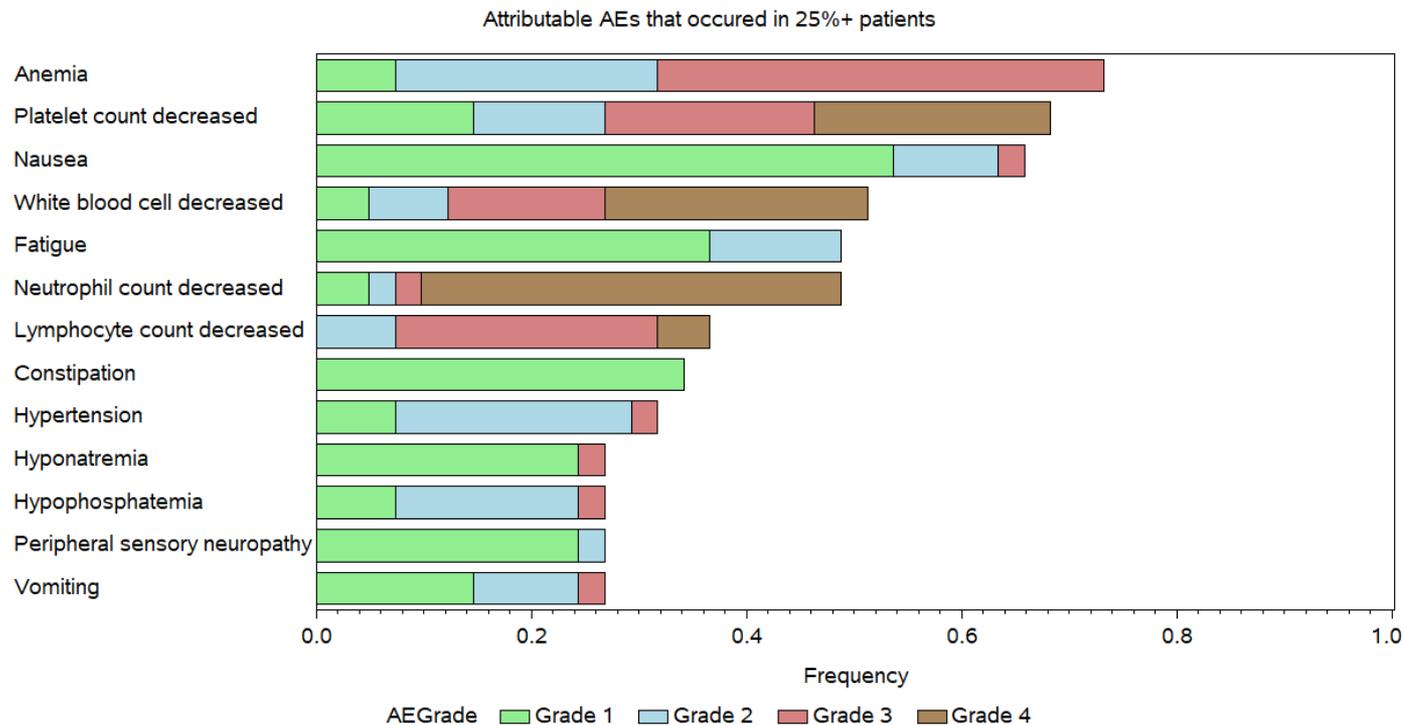


Primary Endpoints: Safety (lead-in), CR after PolaR-ICE x 2 (Ph 2)

Herrera, A et al, ASH 2022



# Most Common Treatment Related AEs



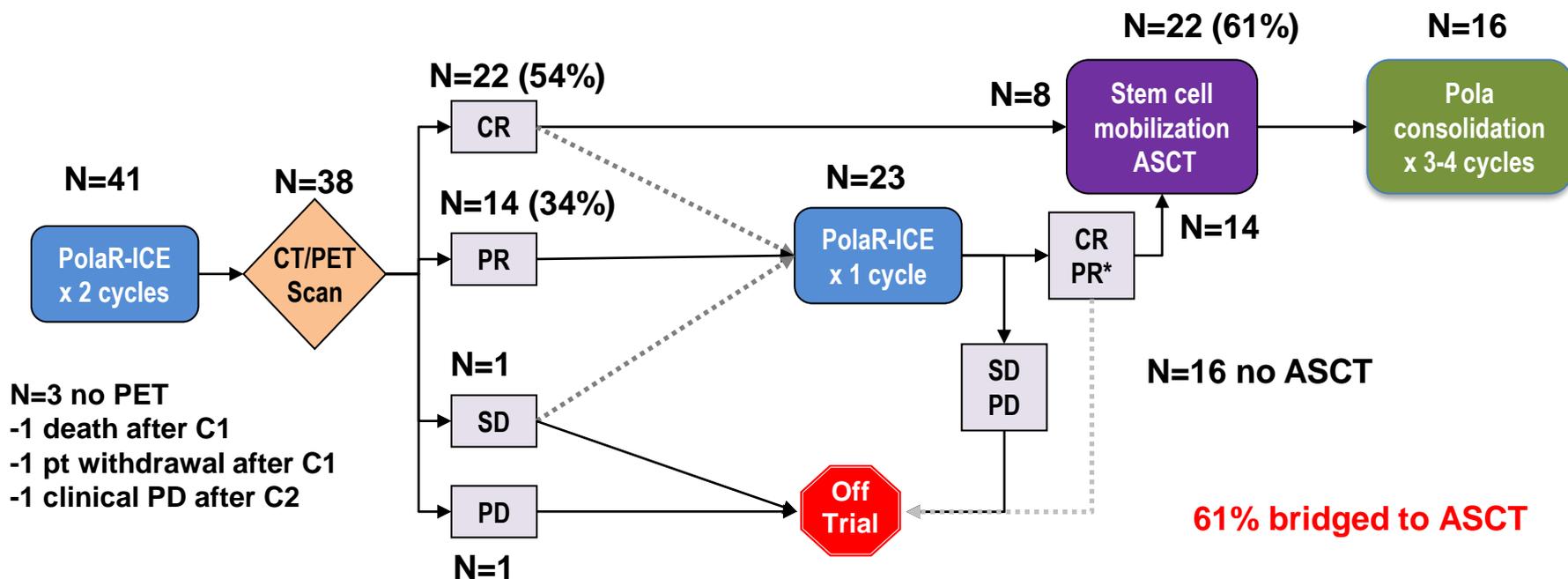
# Response to PolaR-ICE

## Response after 2 cycles (all-treated)

- **ORR 88%, CR 54%**

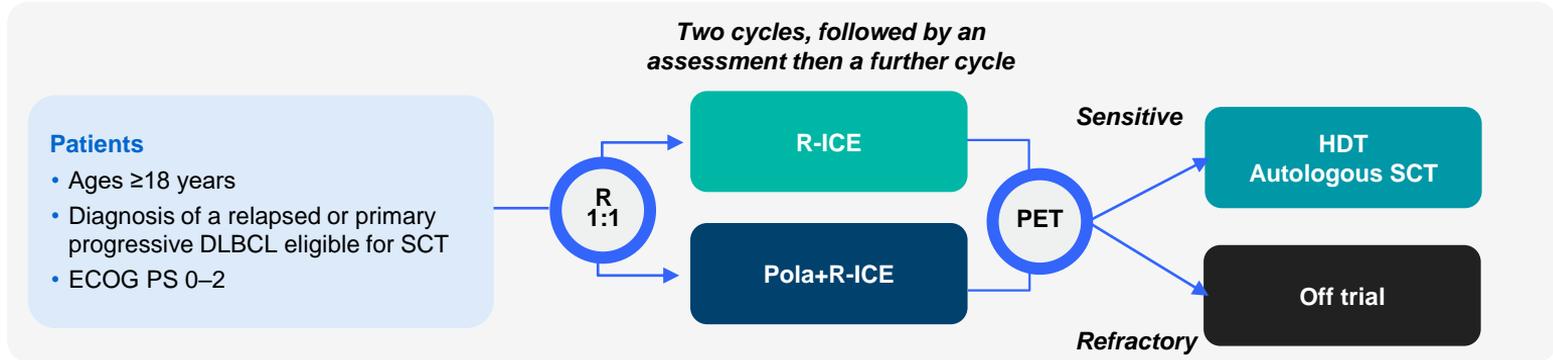
## Response at end of salvage (all-treated)

- **ORR 80%, CR 56%**



# POLARICE (MO40599)

## Study design



**Sponsor:** GWT-TUD GmbH Pr (PI: Bertram Glass, Helios Klinikum Berlin-Buch, Germany)

### Endpoints

**Primary:** 2-year PFS rate

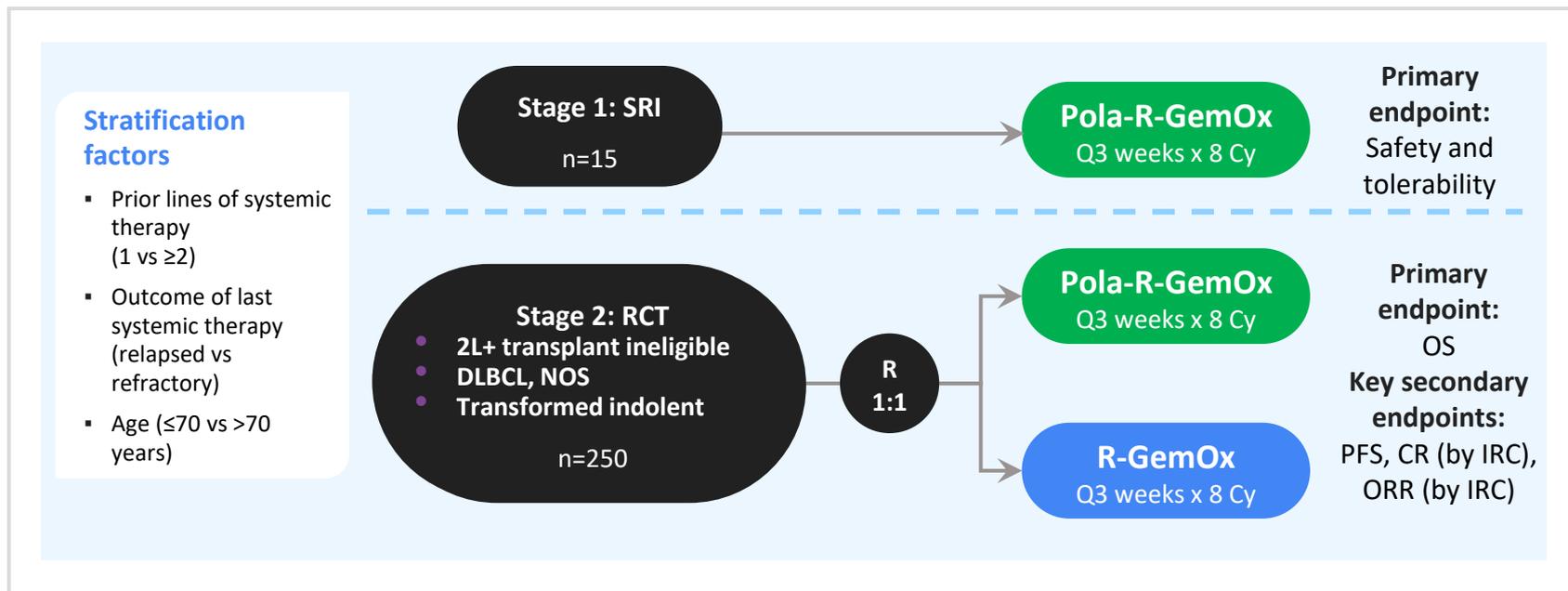
**Secondary:** other efficacy and safety

**Status :** Recruitment ongoing, no result available

**Participating countries:** Germany, Austria, UK and Spain

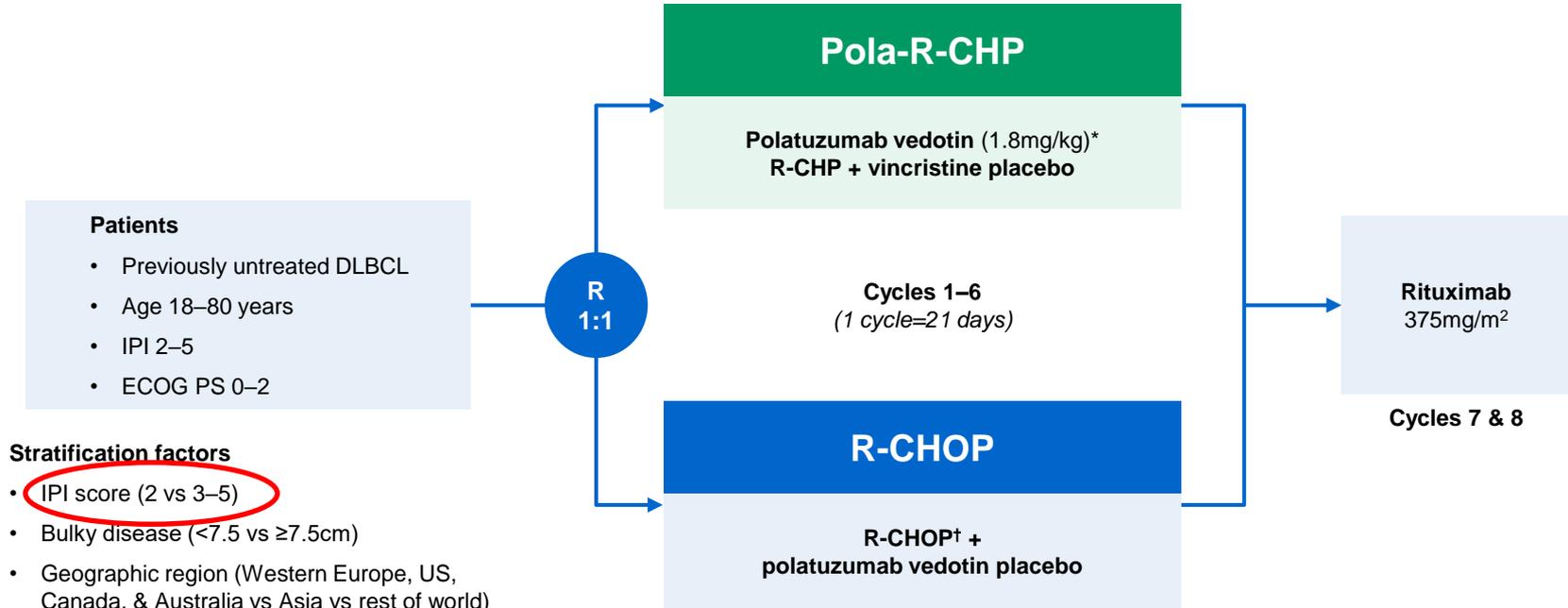
# POLARGO (MO40598)

A Phase III Open-Label, Multicenter Randomized Study Evaluating the Safety and Efficacy of Polatuzumab Vedotin in Combination with Rituximab Plus Gemcitabine Plus Oxaliplatin (R-Gemox) Versus R-Gemox Alone in Patients with Relapsed/Refractory DLBCL



*2L, second-line; CR, complete response rate; Cy, cycles; DLBCL, diffuse large B-cell lymphoma; IRC, independent review committee ORR, overall response rate; OS, overall survival; ; Pola, polatuzumab vedotin; Q2, every 2 weeks; Q3, every 3 weeks; R-GemOx, rituximab plus gemcitabine and oxaliplatin; PFS, progression-free survival; RCT, randomized controlled trial; SRI, safety run-in*

# POLARIX: A randomized double-blinded study

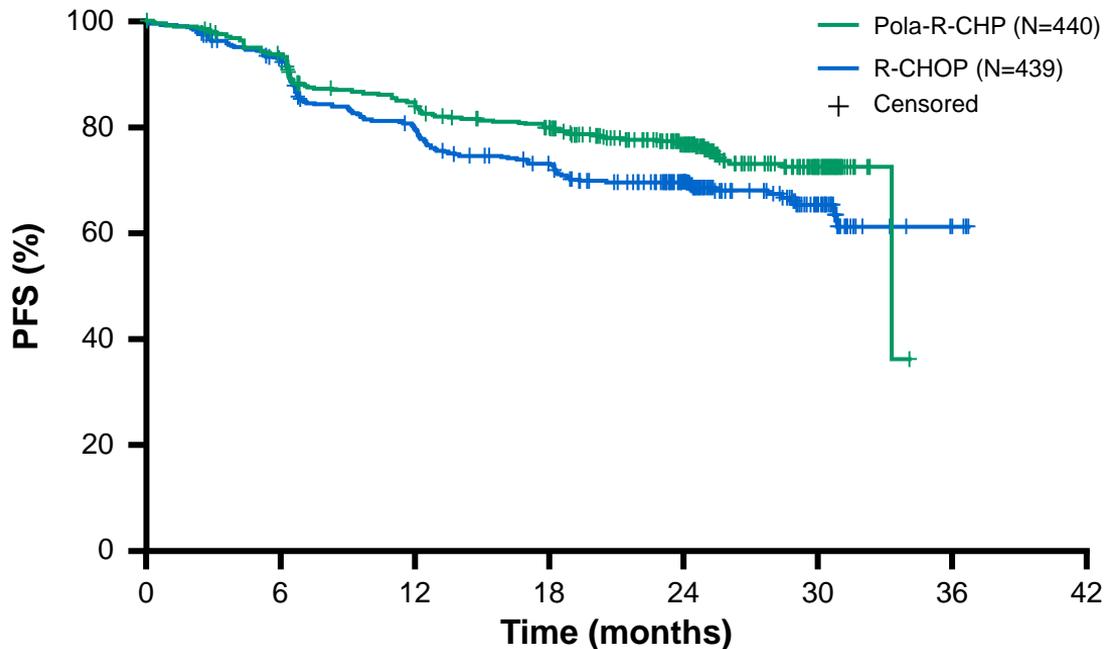


\*IV on Day 1; <sup>†</sup>R-CHOP: IV rituximab 375mg/m<sup>2</sup>, cyclophosphamide 750mg/m<sup>2</sup>, doxorubicin 50mg/m<sup>2</sup>, and vincristine 1.4mg/m<sup>2</sup> (max. 2mg) on Day 1, plus oral prednisone 100mg once daily on Days 1–5.

IPI, International prognostic index; ECOG PS, Eastern Cooperative Oncology Group performance status; R, randomized.

# Primary endpoint: Progression-free survival

## Pola-R-CHP significantly improved PFS versus R-CHOP



**HR 0.73** (P<0.02)

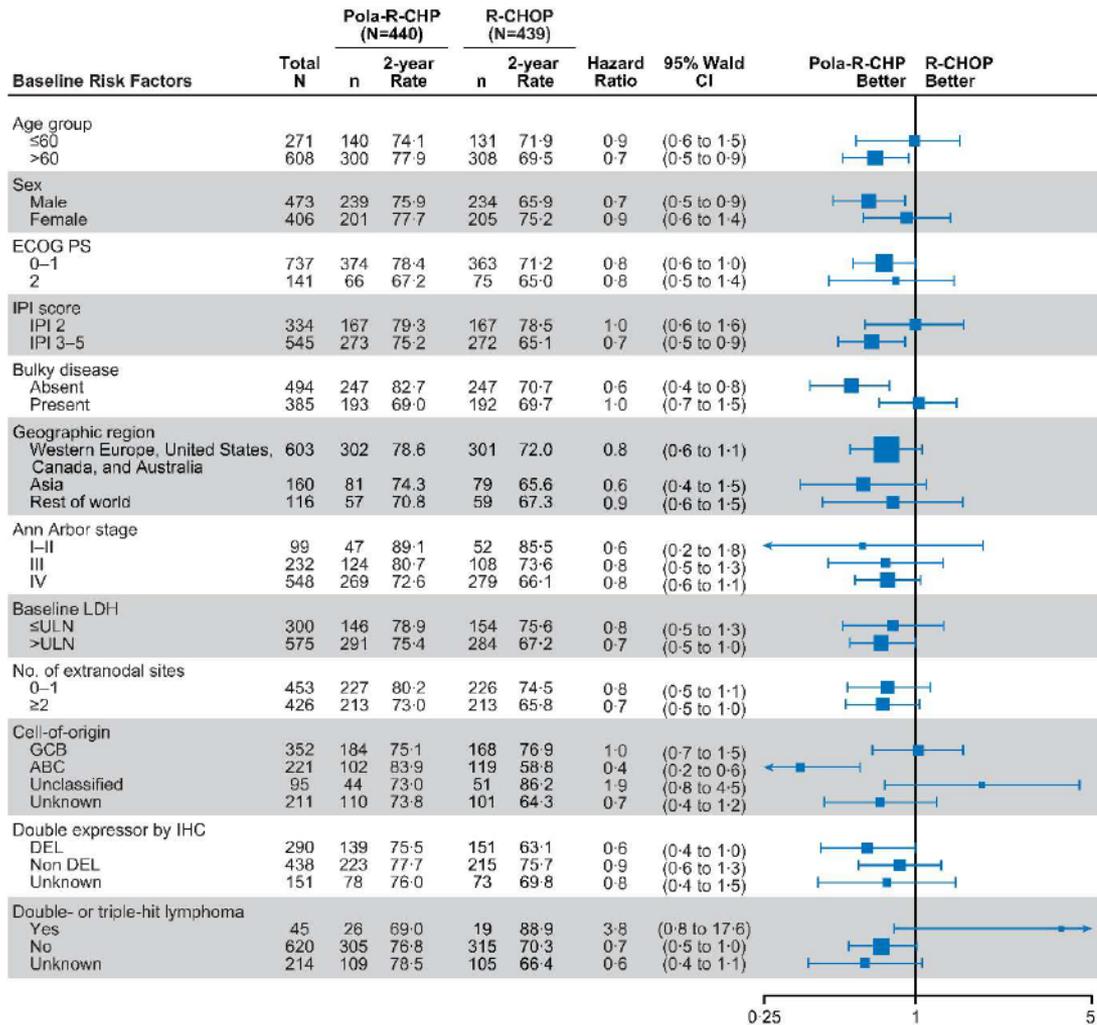
95% CI: 0.57, 0.95

- Pola-R-CHP demonstrated a **27% reduction in the relative risk of disease progression, relapse, or death** versus R-CHOP
- **24-month PFS:**  
76.7% with Pola-R-CHP versus  
70.2% with R-CHOP ( $\Delta=6.5\%$ )

No. of patients at risk

Pola-R-CHP	440	404	353	327	246	78	NE	NE
R-CHOP	439	389	330	296	220	78	3	NE

ITT population. Data cut-off: June 28, 2021; median 28.2 months' follow-up.  
NE, not evaluable.



? Benefit

Younger ≤ 60y

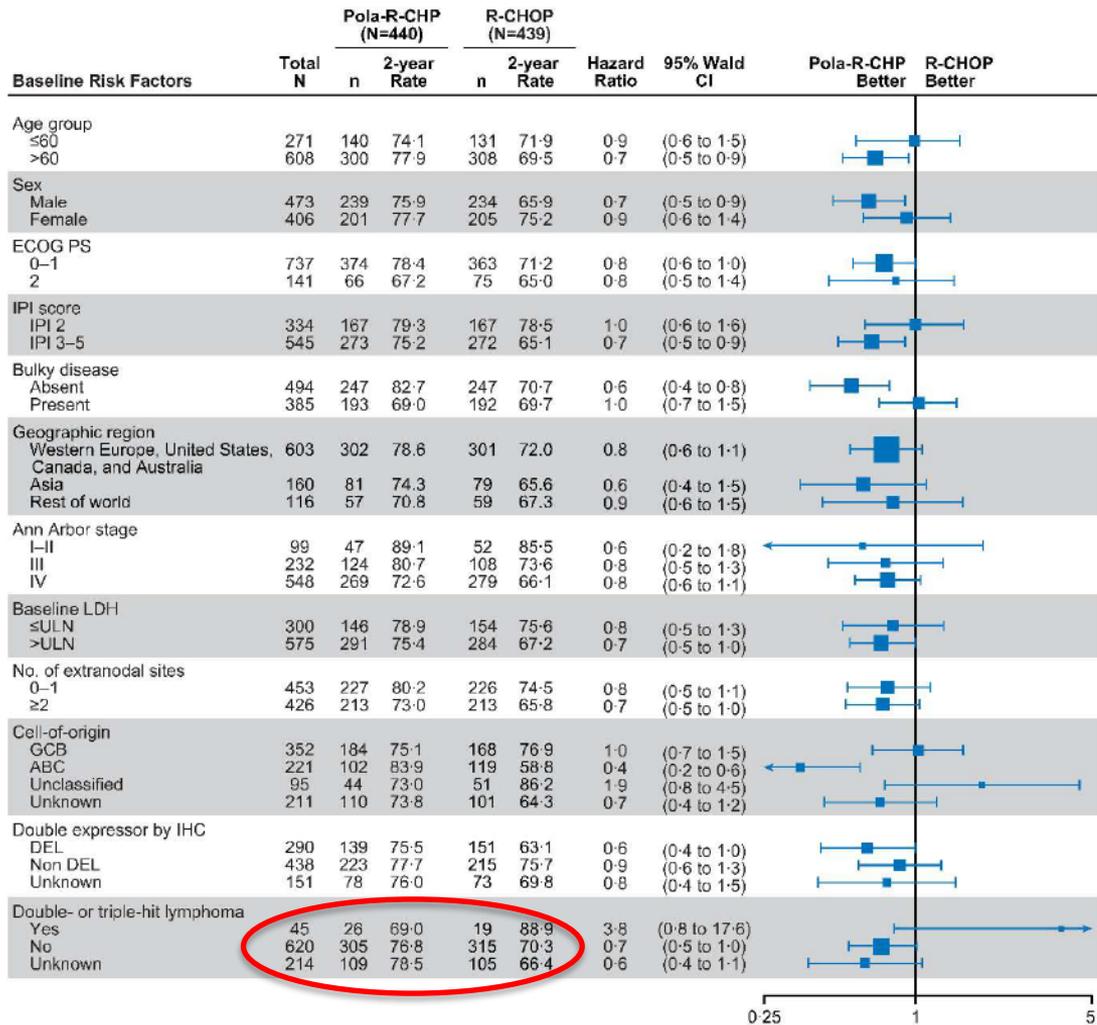
Females

IPI = 2

Bulk ≥ 7.5 cm

GCB Subtype

DH/TH lymphoma



? Benefit

Younger ≤ 60y

Females

IPI = 2

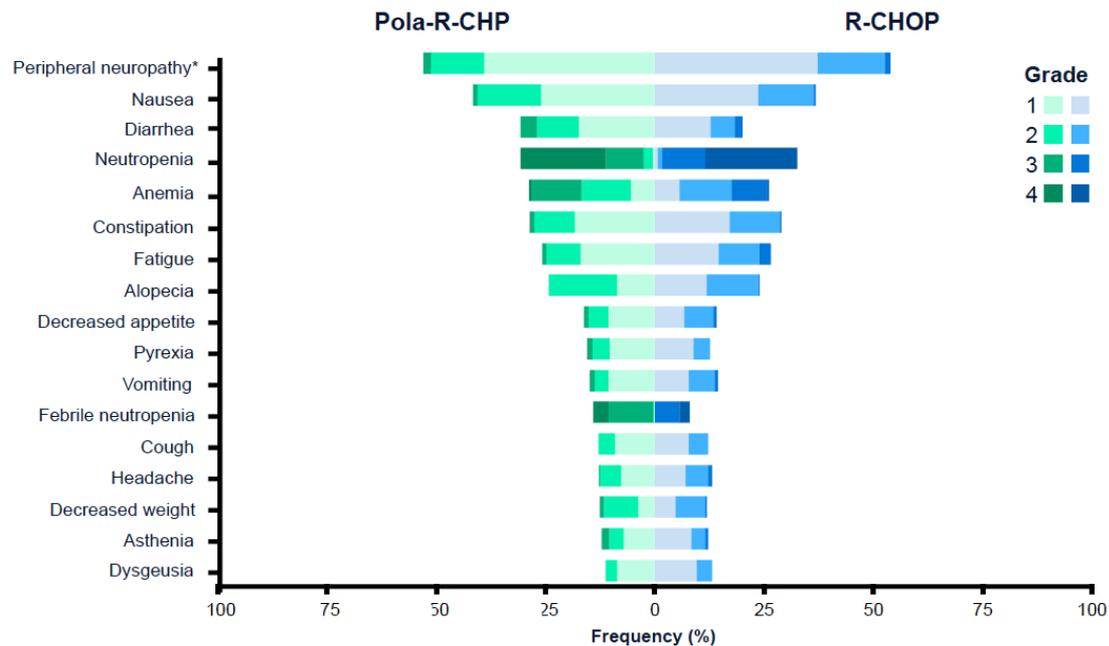
Bulk ≥ 7.5 cm

GCB Subtype

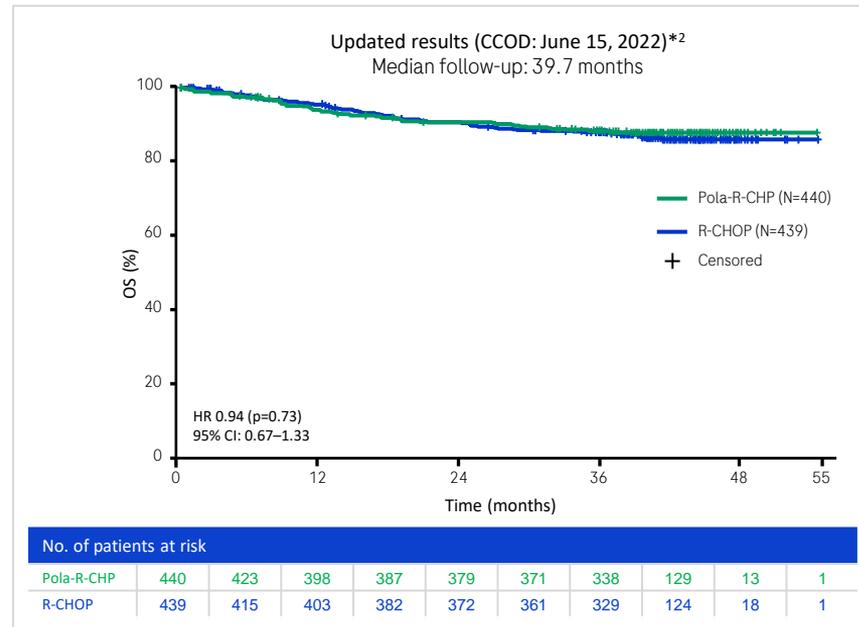
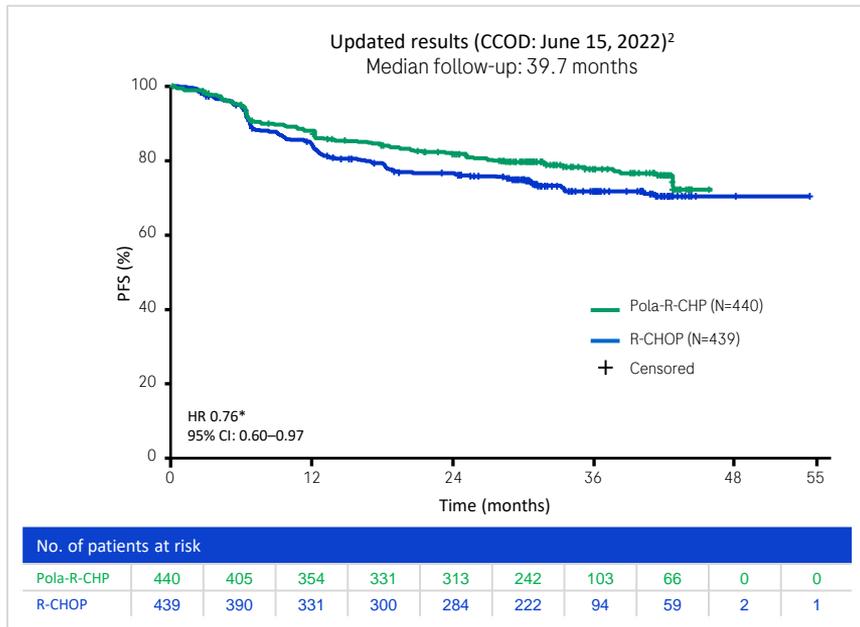
DH/TH lymphoma

# Safety and Adverse Events

n (%)	Pola-R-CHP (N=435)	R-CHOP (N=438)
Any-grade adverse events	426 (97.9)	431 (98.4)
Grade 3–4	251 (57.7)	252 (57.5)
Grade 5	13 (3.0)	10 (2.3)
Serious adverse events	148 (34.0)	134 (30.6)
Adverse events leading to:		
Discontinuation of any study drug	27 (6.2)	29 (6.6)
Polatuzumab vedotin / vincristine	19 (4.4)	22 (5.0)
Dose reduction of any study drug	40 (9.2)	57 (13.0)



# Three-year Update POLARIX: PFS and OS



PFS benefit with Pola-R-CHP vs R-CHOP was maintained with longer follow-up  
(HR 0.76, 95% CI: 0.60-0.97)

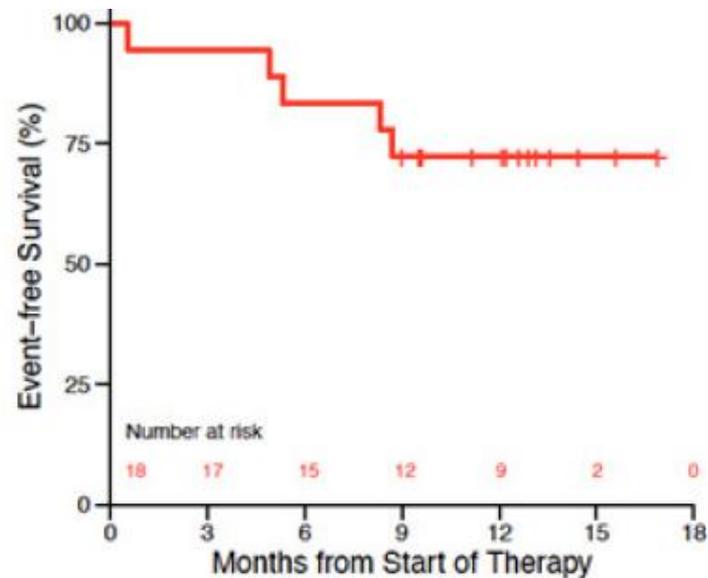
# Three-year Update POLARIX: Subsequent Therapy

	Pola-R-CHP (N=440)	R-CHOP (N=439)
Total number of patients with ≥1 subsequent anti-lymphoma treatment, n (%)*	107 (24.3)	144 (32.8)
Total number of subsequent anti-lymphoma treatments (radiotherapy and systemic), n*	196	315
Total number of radiotherapy treatments, n	45	77
Patients with at least one radiotherapy treatment, n (%)	42 (9.5)	61 (13.9)
Patients with pre-planned treatment, n (%)	11 (2.5)	18 (4.1)
Patients with unplanned treatment, n (%)	31 (7.0)	43 (9.8)
Total number of systemic therapy regimens, n (%)†	151	238
Patients who received at least one systemic therapy	83 (18.9)	114 (26.0)
Patients who received stem cell transplant	19 (4.3)	34 (7.7)
Patients who received CAR-T	9 (2.0)	16 (3.6)

*Data cut-off June 2022*

# Polatuzumab with Infusional Therapy in Untreated Aggressive B-Cell Lymphoma (Pola-DA-EPCH-R)

Histology, Age/Gender	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5	Cycle 6
HGBCL, 48F	1	2	3	4	5	5
PMBCL, 45F	1	2	3	4	4	5
DLBCL, 52M	1	2	3	4	4	4
DLBCL, 58F	1	2	3	4	4	4
HGBCL, 64M	1	2	3	4	4	3
DLBCL, 68M	1	1	2	3	3	3
DLBCL, 64M	1	1	2	3	2	3
DLBCL, 74M	1	1	2	3	3	3
DLBCL, 69M	1	1	2	3	3	2
HGBCL, 73F	1	2	2	2	2	2
HGBCL, 55M	1	2	2	2	2	2
HGBCL, 66M	1	1	2	2	2	2
DLBCL, 61F	1	2	2	2	2	2
PMBCL, 64M	1	2	2	2	2	2
PMBCL, 41M	1	1	2	2	2	2
PMBCL, 48F**	1	2	2	2	1	1
HGBCL, 71F*	1	1	1	-1	-1	-1
DLBCL, 64F***	1					



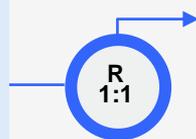
N=18

# POLARBEAR

A Phase III Randomized, Multicenter Trial Comparing Treatment with R-Mini-Chop with R-Mini-CHP + Polatuzumab Vedotin in Patients with Elderly Patients with Untreated Diffuse Large B-Cell Lymphoma

## Patients

- Previously untreated, Stage II-IV DLBCL
  - $\geq 80$  years (or frail  $\geq 75$  years)
  - ECOG PS 0–3
- (n=200)



R-mini-CHOP

R-Pola-mini-CHP

## Sponsor

Nordic Lymphoma Group

## Participating Countries

Sweden, Norway, Finland, Denmark, and Italy

## Endpoints

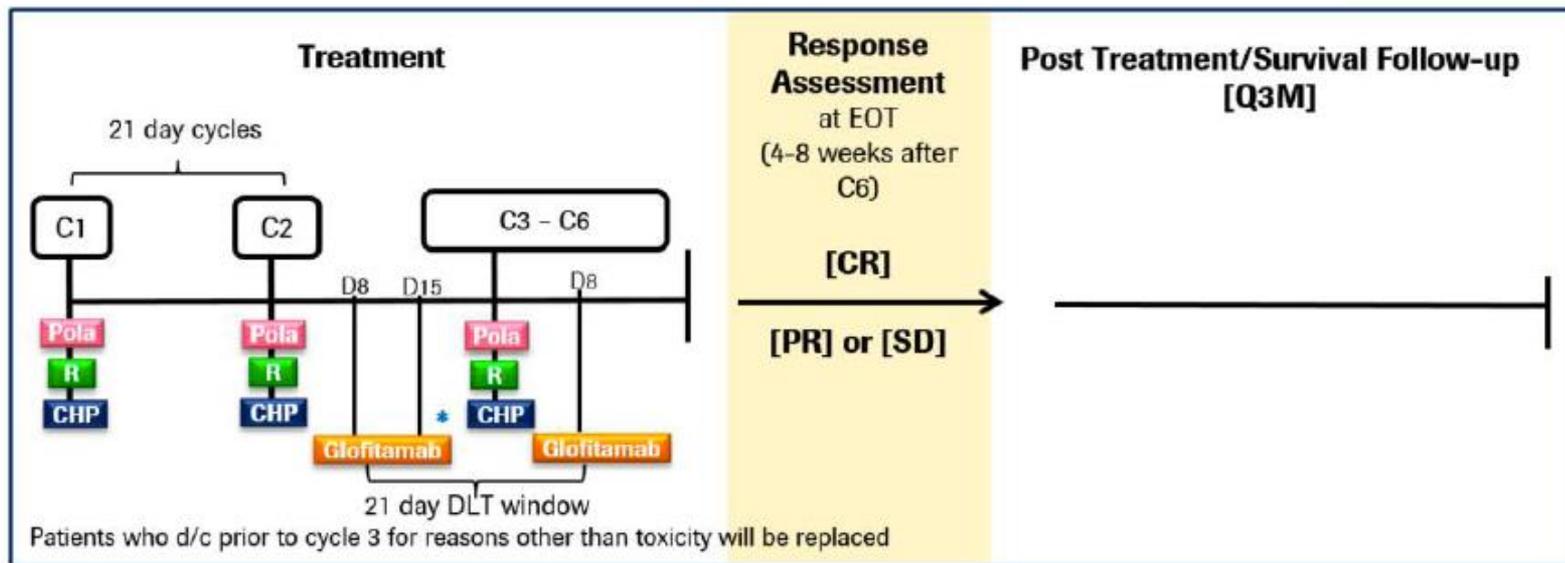
Primary: PFS

Secondary: CR, ORR, HRQOL (QLQ-C30), lymphoma specific survival (LSS), OS, safety

# Glofitamab + Pola-R-CHP (NP40126) in Untreated DLBCL: Phase Ib

## Inclusion Criteria

- Histologically-confirmed previously-untreated DLBCL (IPI 2-5) that is expected to express CD20



C cycle; CHOP cyclophosphamide (C), doxorubicin (H), vincristine (O), and prednisone (P); CHP cyclophosphamide (C), doxorubicin (H), and prednisone (P); CR complete response; d/c discontinued; D day; DLT dose-limiting toxicity; EOInd end of induction; EOT end of treatment; G obinutuzumab; IMC Internal Monitoring Committee; IV intravenously; M month; Pola polatuzumab vedotin; PR partial response; Q2M every 2 months; Q3M every 3 months; R rituximab; SD stable disease.

**Planned Phase 3 Trial in Untreated DLBCL:  
Glofit-Pola-R-CHP vs Pola-R-CHP**

# Summary

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- Pola-BR is effective in transplant-ineligible DLBCL
- Pola-R-CHP results in improved PFS in frontline setting with similar toxicity profile to R-CHOP
- Ongoing trials are evaluating Pola in combination with chemotherapy as salvage and in alternative front-line regimens, as well as in combination with chemotherapy-free novel agents