Real-World Comparative Study of the Effectiveness, Safety, and Health Care Resource Utilization of Lisocabtagene Maraleucel and Bispecific Antibodies in Third-Line or Later Large B-Cell Lymphoma

ABCL - 346

Narendranath Epperla,[1] Paolo Caimi,[2] Jennifer J. Huang,[3,4] Farah Toron,[5] David Bernasconi,[6] Robert Braun,[6] Fei Fei Liu,[7] Sagar S. Patel,[1] Nathan Denlinger[8]

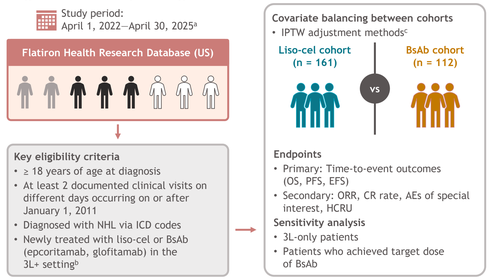
[1]Huntsman Cancer Institute, University of Utah, Salt Lake City, UT, USA; [2]CCF Taussig Cancer Center, Cleveland, OH, USA; [3]University of Washington, Seattle, WA, USA; [4]Fred Hutchinson Cancer Center, Seattle, WA, USA; [5]Bristol Myers Squibb, Uxbridge, UK; [6]Bristol Myers Squibb, Boudry, Switzerland; [7]Bristol Myers Squibb, Princeton, NJ, USA; [8]The Ohio State University Comprehensive Cancer Center, Columbus, OH, USA

Background

- There are many therapeutic options available for patients with R/R large B-cell lymphoma (LBCL) in the third-line (3L) or later (3L+) setting, making treatment decisions challenging. Two of the available options include treatment with lisocabtagene maraleucel (liso-cel), an autologous, CD19-directed, 4-1BB CAR T cell product, or with a CD3 × CD20 T-cell–engaging bispecific antibody (BsAb)
  - Liso-cel is approved by the FDA and EMA in second-line or later LBCL[1,2]
  - Epcoritamab and glofitamab are BsAbs approved by the FDA and EMA in 3L+ LBCL[3–6]
- Understanding the comparative effectiveness, safety, and health care resource utilization (HCRU) of liso-cel and BsAb in the real-world clinical setting can inform optimal treatment selection
- Here, we compare the real-world effectiveness, safety, and HCRU among patients with R/R LBCL treated with liso-cel or BsAb in the 3L+ setting

Methods

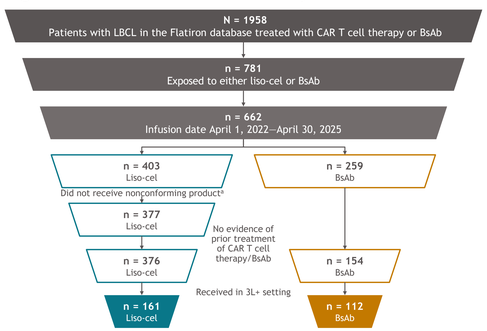
Figure 1. Study design



[a]The index date was considered the date of first infusion and had to occur on or before April 30, 2025; [b]Patients were excluded if they received liso-cel or BsAb in a clinical trial setting or had evidence of primary DLBCL of the CNS confirmed via unstructured data. Patients who received BsAb therapy before any CAR T cell therapy infusion with total bispecific exposure of ≤ 90 days and discontinued on or before the CAR T cell therapy infusion date were considered to have received BsAb as bridging therapy and were not classified as bispecific-treated; [c]A standardized mean difference < 0.1 was considered to indicate balance between cohorts.
EFS, event-free survival; ICD, International Classification of Diseases; IPTW, inverse probability of treatment weighting; US, United States.

Results

Figure 2. Identification of the study cohort

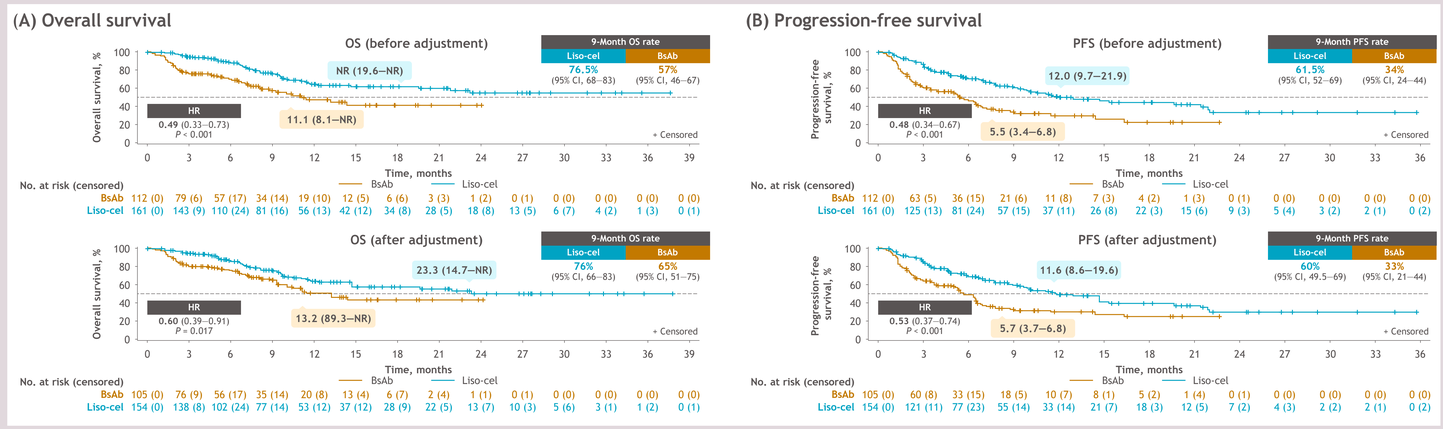


[a]Nonconforming product was defined as any product wherein one of the CD8 or CD4 cell components did not meet one of the requirements to be considered liso-cel, but could be considered appropriate for infusion.

- A total of 273 patients were included, with 161 in the liso-cel cohort and 112 in the BsAb cohort (**Figure 2**)

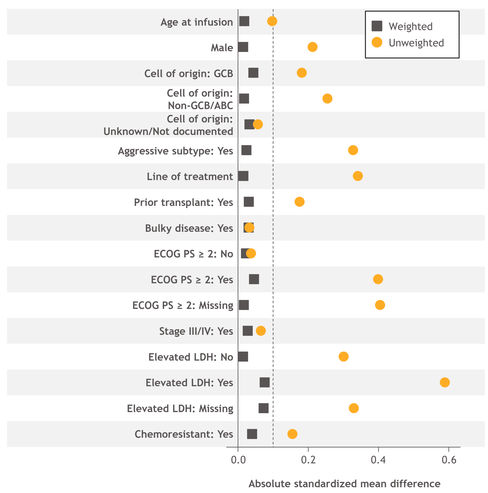
Liso-cel was associated with significantly longer OS (unadjusted, $P < 0.001$; adjusted, $P = 0.017$) and PFS (unadjusted, $P < 0.001$; adjusted, $P < 0.001$) than BsAb

Figure 4. Overall (A) and progression-free survival (B)



Data in parentheses are 95% CI. All percentages are rounded to whole numbers except those with ".5%". Median follow-up was 12.4 months for the liso-cel cohort and 9.1 months in the BsAb cohort.
NR, not reached.

Figure 3. Love diagram for IPTW weighting



ABC, activated B cell; GCB, germinal center B cell.

- After IPTW adjustment, all characteristics were balanced (absolute standardized mean difference < 0.1) (**Figure 3**)

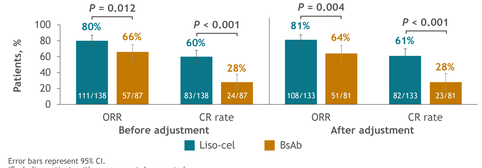
Table 1. Patient demographics and clinical characteristics

	Liso-cel (n = 161)	BsAb (n = 112)	*P* value
Median (range) age at index, y	72 (62–77)	75 (65–80.5)	0.02
Male, n (%)	95 (59)	76 (68)	0.16
Disease subtype, n (%)			
DLBCL NOS	140 (87)	85 (76)	0.09
Double-hit lymphoma	9 (6)	11 (10)	
High-grade B-cell lymphoma NOS	2 (1)	6 (5)	
Other	10 (6)	10 (9)	
Cell of origin, n (%)			
GCB	61 (38)	52 (46)	0.12
Non-GCB/ABC	56 (35)	26 (23)	
Missing	44 (27)	34 (30)	
ECOG PS, n (%)			
0	28 (17)	23 (21)	0.004
1	60 (37)	42 (37.5)	
2	17 (11)	22 (20)	
3	1 (1)	5 (4)	
4	0	1 (1)	
Missing	55 (34)	19 (17)	
Chemotherapy resistant, n (%)	141 (88)	89 (79)	0.09
CNS involvement, n (%)	4 (2)	5 (4)	0.49
Elevated LDH, n (%)	45 (28)	61 (54)	< 0.0001
Bulky disease, n (%)	106 (66)	74 (66)	1.0
Type of practice, n (%)			
Community	25 (16)	39 (35)	< 0.001
Academic	127 (79)	63 (56)	
Both academic and community	0	10 (9)	
Line of treatment			
3L	113 (70)	60 (54)	0.008
4L+	48 (30)	52 (46)	

All percentages are rounded to whole numbers except those with ".5%".
4L+, fourth line or later; NOS, not otherwise specified.

- Most baseline demographics and characteristics were similar between treatment groups (**Table 1**)
  - Statistically significant differences at baseline were observed for age, ECOG PS at infusion, elevated LDH at infusion, practice type, and line of treatment
- In both cohorts, the most common LBCL subtypes were DLBCL NOS (liso-cel, 87%; BsAb, 76%), double-hit lymphoma (liso-cel, 6%; BsAb, 10%), and high-grade B-cell lymphoma NOS (liso-cel, 1%; BsAb, 5%)
- In the liso-cel cohort, 70% received 3L treatment and 30% received 4L+ treatment; in the BsAb cohort, 54% received 3L treatment and 46% received 4L+ treatment
- Median length of follow-up was 12.4 months for the liso-cel cohort and 9.1 months in the BsAb cohort

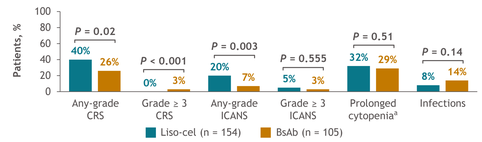
Figure 5. Response rates[a]



Error bars represent 95% CI.
[a]Excluding patients with response not documented.

- For both unadjusted and adjusted analyses, response rates were significantly higher for liso-cel than BsAb (**Figure 5**)

Figure 6. Safety (after adjustment)



[a]Evidence of grade ≥ 3 thrombocytopenia, neutropenia, and/or anemia during the same line of treatment from 30 days after liso-cel or BsAb infusion to 89 days after liso-cel infusion.
CRS, cytokine release syndrome; ICANS, immune effector cell–associated neurotoxicity syndrome.

- Incidences of any-grade CRS and ICANS were significantly higher with liso-cel than BsAb (CRS, $P = 0.02$; ICANS, $P = 0.003$), mostly due to grade 1–2 events (**Figure 6**)
- There was no grade ≥ 3 CRS with liso-cel and low rates of grade ≥ 3 ICANS
- Rates of prolonged cytopenia and infections were similar between cohorts

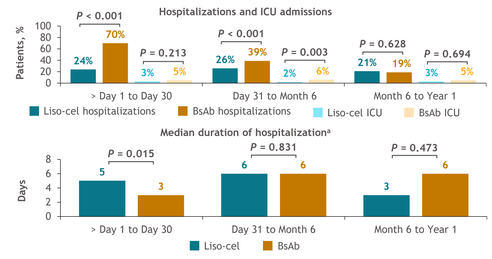
Table 2. OS and PFS in 3L-only patients and patients who achieved target dose of BsAb (after adjustment)[a]

3L-only patients	Liso-cel (n = 113)	BsAb (n = 60)	HR (95% CI) *P* value
Median OS	NE (19.6–NE)	8.8 (6.6–13.2)	0.33 (0.20–0.56) $P < 0.001$
Median PFS	12.0 (9.3–NE)	5.0 (2.4–7.2)	0.37 (0.24–0.57) $P < 0.001$
Patients who achieved target dose of BsAb	**Liso-cel (n = 161)**	**BsAb (n = 89)**	**HR (95% CI) *P* value**
Median OS	NE (19.6–NE)	NE (8.3–NE)	0.63 (0.39–1.00) $P = 0.049$
Median PFS	12.0 (9.7–21.9)	6.1 (4.6–13.5)	0.59 (0.40–0.86) $P = 0.006$

[a]Target dose indicates that patients received labeled maintenance after step-up dosing.
NE, not evaluable.

- In a sensitivity analysis of 3L-only patients and of those who achieved target dose of BsAb, liso-cel was associated with a significantly longer median OS and PFS (**Table 2**)
  - Adjusted HRs for OS and PFS were approximately similar to or less than those observed in the overall population

Figure 7. Health care resource utilization (after adjustment)



[a]Calculated as the duration of hospitalization during a period; if a patient has multiple hospitalizations within the same period, all days are summed during that period.

- There were lower hospitalization and ICU admission rates with liso-cel than BsAb across most time periods (**Figure 7**)
- The median duration of hospitalization was higher for liso-cel than BsAb over Days 1–30, but similar or possibly lower in the longer term

Conclusions

- In this retrospective, observational, real-world analysis in patients with 3L+ LBCL, liso-cel demonstrated significantly better efficacy than BsAb, with similar HCRU and safety
  - Liso-cel was associated with a statistically significant improvement in OS and PFS, and response rates were significantly higher for liso-cel
  - The higher rates of CRS and ICANS in patients who received liso-cel were mostly due to grade 1–2 events, suggesting manageable safety; there was no grade ≥ 3 CRS and low incidence of grade ≥ 3 ICANS
  - Across most time periods, liso-cel had numerically lower hospitalization and ICU admission rates
- Further data are needed to compare these treatments in earlier lines of therapy

References

1. BREYANZI® (lisocabtagene maraleucel) [package insert]. Bothell, WA: Juno Therapeutics Inc., a Bristol-Myers Squibb Company; February 2026.
2. BREYANZI® (lisocabtagene maraleucel) [summary of product characteristics]. Dublin, Ireland: Bristol-Myers Squibb Pharma EEIG; December 2025.
3. EPKINLY® (epcoritamab-bysp) [package insert]. Plainsboro, NJ: Genmab; March 2026.
4. TEPKINLY® (epcoritamab-bysp) [summary of product characteristics]. Ludwigshafen, Germany; AbbVie Deutschland GmbH & Co. KG; February 2026.
5. COLUMVI® (glofitamab-gxbm) [package insert]. South San Francisco, CA: Genentech, Inc.; October 2025.
6. COLUMVI® (glofitamab-gxbm) [summary of product characteristics]. Grenzach-Wyhlen, Germany: Roche Registration GmbH; October 2025.

Acknowledgments

- This study was funded by Bristol Myers Squibb
- All authors contributed to and approved the presentation; writing and editorial assistance were provided by Emma Hinkle, PhD, CAPP, of The Lockwood Group (Stamford, CT, USA), funded by Bristol Myers Squibb

Scientific Content on Demand

Plain language summary

Scan QR code via a barcode reader application

QR codes are valid for 90 days after the congress presentation date.

Presented at the 14th Annual Meeting of the Society of Hematologic Oncology (SOHO); September 9–12, 2026; Houston, TX, USA
This study was previously presented at the 31st European Hematology Association (EHA) Annual Congress; June 11–14, 2026; Stockholm, Sweden

www.globalbmsmedinfo.com

Copies of the plain language summary obtained through QR (Quick Response) and/or text key codes are for personal use only and may not be reproduced without written permission of the authors.