Impact of Liso-cel Treatment on Health-Related Quality of Life and Health Utility in Patients With Relapsed/Refractory Aggressive B-Cell Non-Hodgkin Lymphoma: TRANSCEND NHL 001

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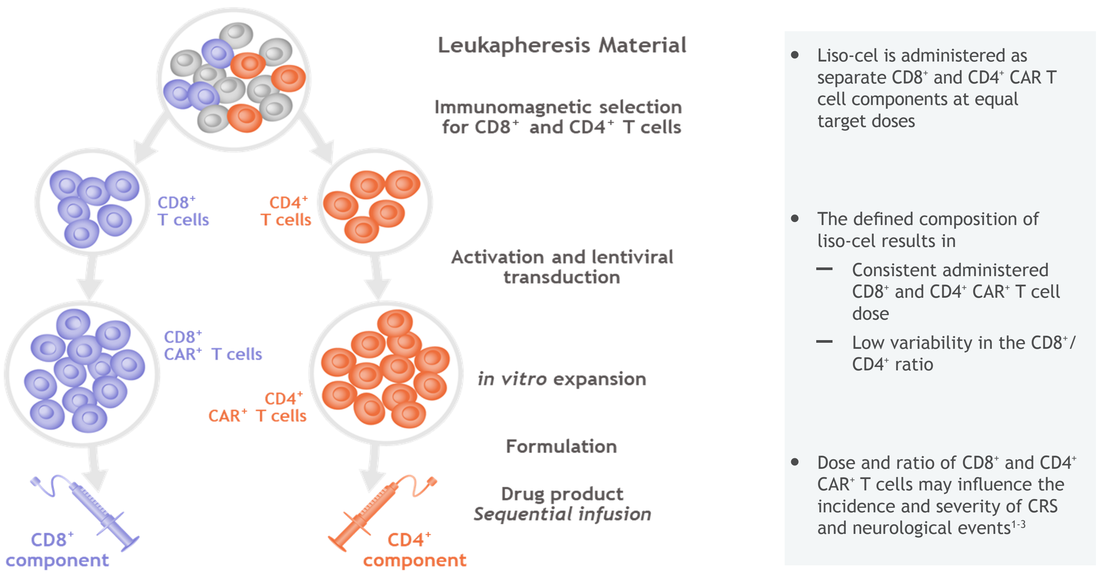
Introduction

- Lisocabtagene maraleucel (liso-cel; JCAR017) is an investigational, CD19-directed, defined composition, 4-1BB chimeric antigen receptor (CAR) T cell product administered at equal target doses of $CD8^+$ and $CD4^+$ CAR^+ T cells (**Figure 1**)

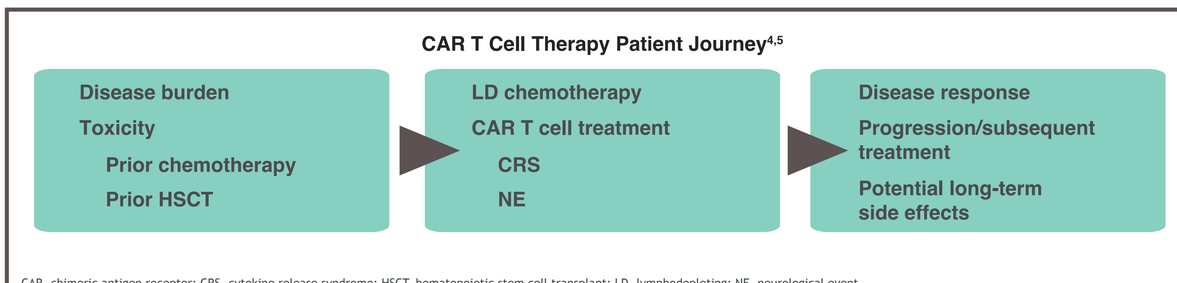
Figure 1. Lisocabtagene Maraleucel (liso-cel; JCAR017)



CAR, chimeric antigen receptor; CD, cluster of differentiation; CRS, cytokine release syndrome.

- TRANSCEND NHL 001 (TRANSCEND) is an open-label, multicenter, multicohort, seamless design phase 1 study in adult patients with relapsed/refractory (R/R) large B-cell non-Hodgkin lymphoma (NHL) receiving liso-cel (NCT02631044)
- Previously validated patient-reported outcome (PRO) assessments were incorporated into TRANSCEND to assess the impact of liso-cel on symptoms, health-related quality of life (HRQoL), and health utility among patients receiving liso-cel for the treatment of R/R large B-cell lymphoma after ≥2 prior therapies
- PROs are important for evaluating patients' experience with treatment (**Figure 2**)

Figure 2. Patient-Reported Outcomes in Clinical Trials and Practice



CAR, chimeric antigen receptor; CRS, cytokine release syndrome; HSCT, hematopoietic stem cell transplant; LD, lymphodepleting; NE, neurological event.

- Measures of patients' experience are increasingly important for (1) patients' decision making about treatment; (2) provider selection of treatment; and (3) health care policy and reimbursement
- PROs in CAR T cell treatment, which have been previously reported using Patient-Reported Outcomes Measurement Information System (PROMIS) measures,[6] were reported in the JULIET study (tisagenlecleucel) using the 36-Item Short Form Health Survey (SF-36) and the Functional Assessment of Cancer Therapy (FACT)-Lymphoma, although data were reported only through 6 months[7]

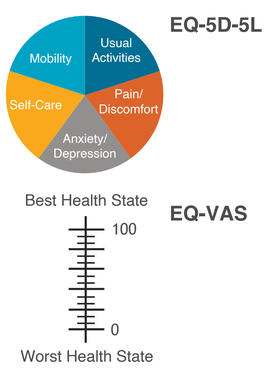
Objective

To assess the impact of liso-cel treatment on HRQoL and health utility among patients with R/R aggressive B-cell NHL in the TRANSCEND study (NCT02631044)

Methods

The following measures were used to assess HRQoL:

- European Organisation for Research and Treatment of Cancer (EORTC) Quality of Life Questionnaire Core 30 (QLQ-C30)
  - **Primary assessment:** global health status, physical functioning, fatigue, and pain domains
  - **Exploratory assessment:** role functioning, cognitive functioning, emotional functioning, and social functioning domains
    - Scores range from 0 to 100
      - Higher global health status and functional domain scores = better HRQoL
      - Lower symptom domain scores = better HRQoL
- EuroQol 5-Dimension 5-Level (EQ-5D-5L) health index score (**primary assessment**)
  - Scores range from 0 (death) to 1 (full health)
    - Negative scores = states perceived to be worse than death
- EuroQol Visual Analogue Scale (EQ-VAS; **exploratory assessment**)
  - Scores range from 0 (worst imaginable health) to 100 (best imaginable health)



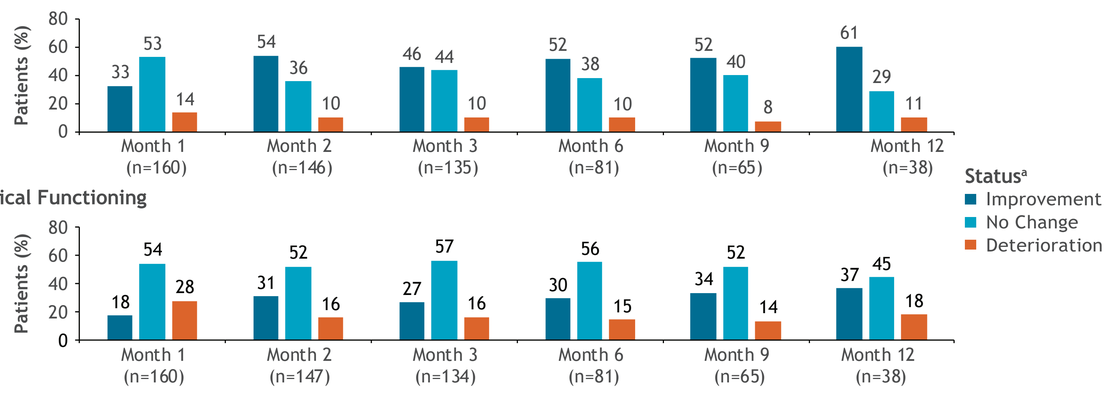
Results

PRO Survey Participation Rates and Follow-up

PRO Survey Participation Rates	Median On-Study Follow-up Time for Evaluable Populations
63% (n=81/128) for patients with ≥6 months of follow-up	EORTC QLQ-C30 (n=181): 8.7 months
75% (n=38/51) of patients with ≥12 months of follow-up	EQ-5D-5L (n=186): 8.8 months

- For the EORTC QLQ-C30 global health status and physical functioning domains, a higher proportion of patients experienced clinically meaningful improvements vs deterioration across all time points, except for physical functioning at Month 1 (**Figure 3**)

Figure 3. EORTC QLQ-C30: Clinically Meaningful Change in Global Health Status and Physical Functioning Domains Over Time

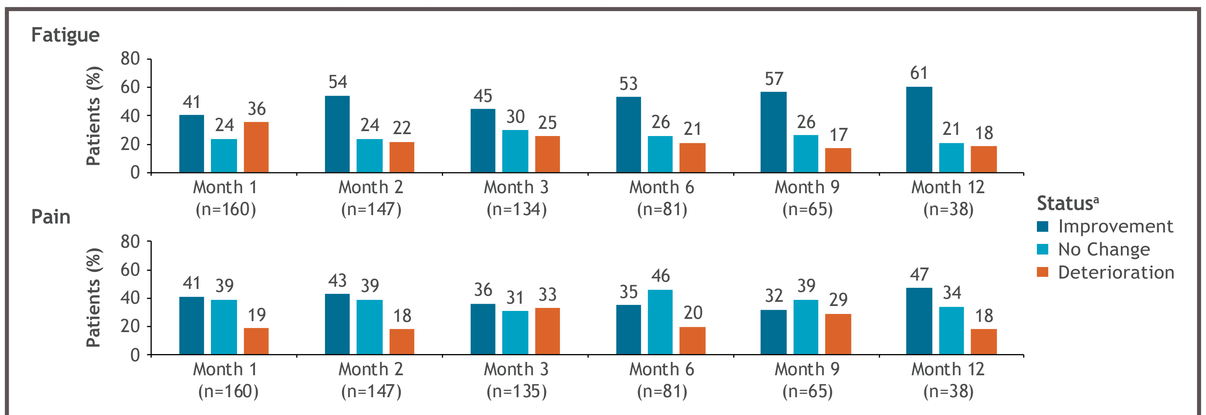


Values in some groupings do not exactly total 100% due to rounding.
[a]Improvement = a ≥10-point change from baseline; no change = a <10- to >-10-point change from baseline; and deterioration = a ≤-10-point change from baseline.
EORTC-QLQ-C30, European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire Core 30.

Results (cont'd)

- A higher proportion of patients experienced clinically meaningful improvements vs deterioration in EORTC QLQ-C30 fatigue and pain domains across all time points (**Figure 4**)

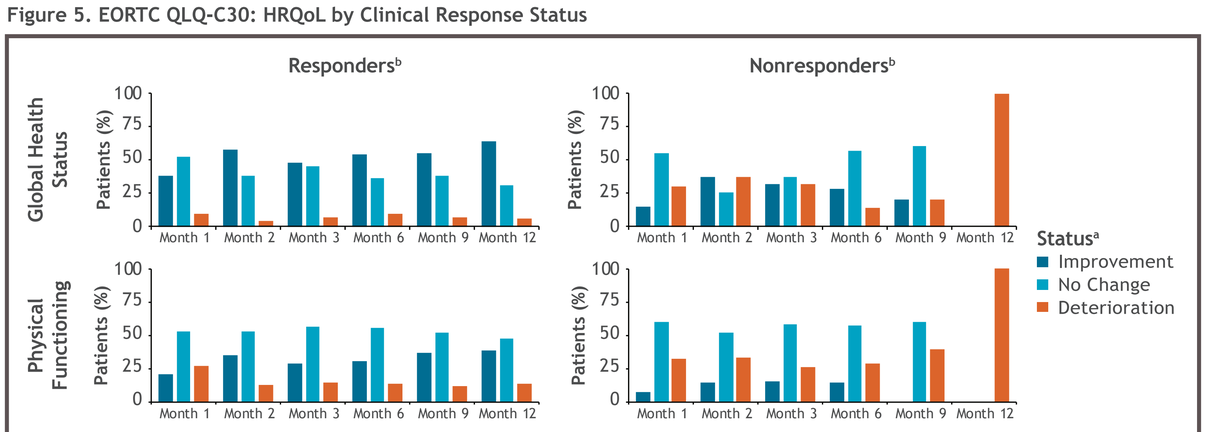
Figure 4. EORTC QLQ-C30: Clinically Meaningful Change in Fatigue and Pain Domains Over Time



Values in some groupings do not exactly total 100% due to rounding.
[a]Improvement = a ≥10-point change from baseline; no change = a <10- to >-10-point change from baseline; and deterioration = a ≤-10-point change from baseline.
EORTC-QLQ-C30, European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire Core 30.

- A higher proportion of patients who experienced a clinical response to liso-cel reported clinically meaningful improvements in their HRQoL and symptom burden compared with patients who did not experience a clinical response (**Figure 5**)

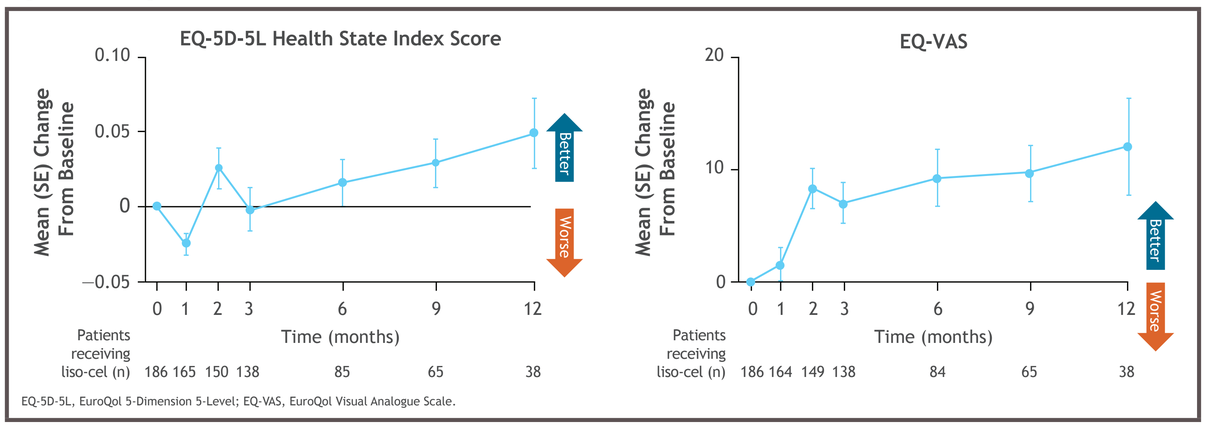
Figure 5. EORTC QLQ-C30: HRQoL by Clinical Response Status



[a]Improvement = a ≥10-point change from baseline; no change = a <10- to >-10-point change from baseline; and deterioration = a ≤-10-point change from baseline.
[b]Responder = complete or partial response; nonresponder = stable disease or progressive disease.
EORTC-QLQ-C30, European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire Core 30; HRQoL, health-related quality of life.

- Mean change from baseline in the EQ-5D-5L health state index score decreased at Month 1, followed by fluctuations in scores between Months 2 and 3 and improvement at Months 6 through 12 (**Figure 6, left panel**)
- Mean change from baseline in the EQ-VAS score increased through Month 1 and beyond, ranging from 9.1 to 11.9 at Months 6 and 12, respectively (**Figure 6, right panel**)

Figure 6. Change From Baseline in the EQ-5D-5L Health State Index Score and EQ-VAS



EQ-5D-5L, EuroQol 5-Dimension 5-Level; EQ-VAS, EuroQol Visual Analogue Scale.

Conclusions

- Treatment with liso-cel showed significant improvement in patients' HRQoL as measured by PROs
- HRQoL and symptom burden (EORTC QLQ-C30) improved as early as Month 1 and were sustained through 12 months after liso-cel infusion
- The proportion of patients with clinically meaningful improvements in HRQoL and symptom burden was greater than the proportion of patients with deterioration
- After liso-cel infusion, health status index scores (EQ-5D-5L) and self-rated health scores (EQ-VAS) improved steadily from Months 3 through 12
- Patients who responded to liso-cel experienced greater improvement in HRQoL than nonresponders

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