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LONG-TERM CLINICAL OUTCOMES IN PATIENTS WITH RELAPSED OR REFRACTORY B-CELL NON-HODGKIN LYMPHOMA TREATED WITH PRIZLONCABTAGENE AUTOLEUCEL

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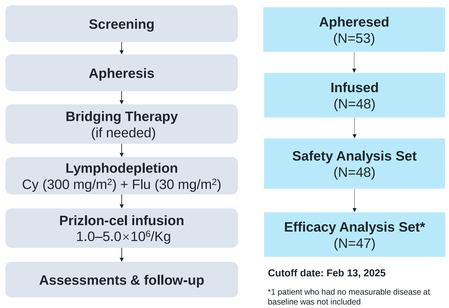
INTRODUCTION

- Anti-CD19 CAR T-cell therapies have proven to be efficacious in r/r B-cell non-Hodgkin lymphoma (B-NHL) patients. However, ~20% of LBCL patients and ~10% of indolent patients are non-responders[1–5], and responders may relapse due to the emergence of CD19-negative tumor clones[6]
- CAR-T targeting two different antigens may reduce the risk of relapse by preventing antigen escape
- Prizlon-cel, an autologous anti-CD20/CD19 bispecific CAR-T, previously demonstrated a favorable safety profile and promising efficacy[7]
  - **ORR was 91.5%, with 85.1% CR**
  - **At a median follow-up of 30.0 months, the estimated 2-year PFS and OS rates were 62.6% and 76.5%, respectively**
- Here, we present updated survival outcomes with a median follow-up duration of 45.5 months

METHOD

- This is a phase 1, open-label, dose escalation and expansion study conducted at four sites in China
- **Primary objective:**
  - Incidence and severity of treatment-emergent adverse events
- **Secondary Objectives:**
  - ORR, DOR, PFS, OS by investigator (Lugano 2014)
- **Key Eligibility Criteria**
  - 18–75 years
  - r/r B-NHL including DLBCL, FL, MCL
  - Either CD19 or CD20 positive
  - No active CNS involvement
  - Prior regimens including anti-CD20 monoclonal antibodies

Figure 1. Study design



ORR, Overall Response Rate; DOR, Duration of Response; PFS, Progression–free Survival; OS, Overall Survival

RESULTS

Demographic and Baseline Characteristics

- Of 48 patients, 44 (91.7%) were large B-cell lymphoma (LBCL), which includes DLBCL, NOS, tFL, and PMBCL

Table 1. Baseline patient characteristics

Characteristics	N=48
Median Age, years (range) • Age ≥ 65, n (%)	55 (25–71) 11 (22.9)
Male, n (%)	30 (62.5)
NHL Subtype, n (%) • DLBCL,NOS • tFL • PMBCL • FL • MCL	 37 (77.1) 4 (8.3) 3 (6.3) 3 (6.3) 1 (2.1)
Dose Level, n (%) • 1.0×10⁶/kg • 2.0/2.5×10⁶/kg • 4.0/5.0×10⁶/kg	 4 (8.3) 31 (64.6) 13 (27.1)
IPI Score 3/4, n (%)	15 (31.3)
Ann Arbor Stage III / IV, n (%)	36 (75.0)
Double-expressor Lymphoma, n (%)	15 (31.3)
Median Number of Prior Lines of Therapy, (range) • ≥4, n (%)	3 (1–7) 16 (33.3)
Never Achieved CR of Prior Therapies, n (%)	22 (45.8)
Prior Therapy, n (%) • CD20 • ASCT	 48 (100) 8 (16.7)
Received Bridging Therapy, n (%)	12 (25.0)

NHL, Non–Hodgkin Lymphom; DLBCL,NOS, Diffuse large B-celllymphoma, Not Otherwise Specified; PMBCL, Primary Mediastinal Large B-celllymphoma; tFL, Transformed Follicular Lymphoma; FL, Follicular Lymphoma; MCL, Mantle Cell Lymphoma; IPI, International Prognostic Index; CR, Complete Response; ASCT, Autologous Stem Cell Transplant

Adverse Events of Special Interest

- No new safety signals were observed with longer follow-up
- Only 1 patient experienced grade 3 CRS
- 3 patients who experienced ICANS all received prizlon-cel at the 5.0 × 10⁶/kg dose
- 66.7% experienced infection, most were grade 1/2
- SPM occurred in 4 patients, none of them were related to prizlon-cel

Table 2. Adverse Events of Special Interest

AESI, n (%)	N=48
CRS, any grade/grade≥3	45 (93.8) /1 (2.1)
ICANS, any grade/grade≥3	3 (6.3)/0
Prolonged Cytopenia* • Neutropenia • Thrombocytopenia • Anemia	 26 (54.2) 10 (20.8) 10 (20.8)
Infections • Grade ≥3	32 (66.7) 12 (25.0)
Secondary Primary Malignancy • Acute myeloid leukemia • EBV+ cytotoxic T-cell lymphoma§ • Myelodysplastic syndromes	4 (8.3) 2 (4.2) 1 (2.1) 1 (2.1)

*Defined as grade 3 or higher cytopenia not resolved by Day 30 following prizlon-cel infusion
§One EBV+ DLBCL patient diagnosed EBV+ T-cell lymphoma at 8 months after infusion. The tumor biopsy was negative for CAR transgene

Serious Adverse Events and Deaths

- 20 patients had SAEs (10 were prizlon-cel related)
- Most common prizlon-cel related SAE was febrile neutropenia (8.3%)
- At data cutoff, 16 deaths occurred; most due to disease progression

Table 3. Serious Adverse Events

SAE, n (%)	N=48
SAE • Related to prizlon-cel	20 (41.7) 10 (20.8)
SAE Starting Time • ≤ 90 days after infusion • >90 days of infusion	 9 (18.8) 15 (31.3)
Most Common Prizlon-cel related SAE (≥2 cases) • Febrile neutropenia • Pneumonia • Pneumonitis	 4 (8.3) 2 (4.2) 2 (4.2)

Table 4. Deaths

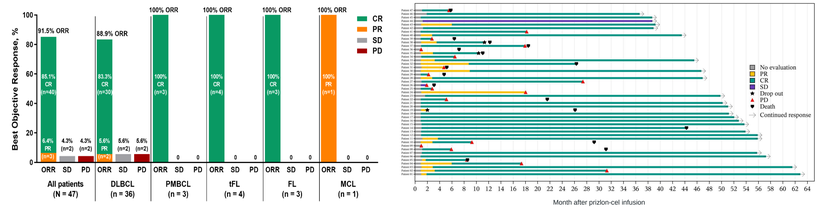
Death, n	N=48	Median days of death post infusion, (range)
Total death to cutoff date, n	16	353.5 (94–1348)
• **Due to disease progression**	11*	218 (94–948)
• **AE unrelated to prizlon-cel** Acute myeloid leukemia Myelodysplastic syndromes Unknown cause Pulmonary fibrosis§	5 2 1 1 1	794 (336–1348) 565 (336–794) 1348 371 801
• **AE related to prizlon-cel** Pneumonia	1* 1*	157 157

*1 MCL patient experienced disease progression during pneumonia and died 2 weeks after withdrawal. It was believed that the infection and disease progression together caused patient death
§ Caused by COVID–19 pneumonia

Responses with Prizlon-cel are Deep and Durable

- The ORR and CR rate were 91.5% and 85.1%, respectively for all patients
- Among the 43 LBCL pts, ORR and CR were 90.7% and 86.0%, respectively
- With a median follow-up of 45.5 months (range, 3.1–62.8), median duration of response was not reached
- As of Feb 13, 2025, 23/47 (48.9%) patients remain in CR, 14 of them for more than 48 months

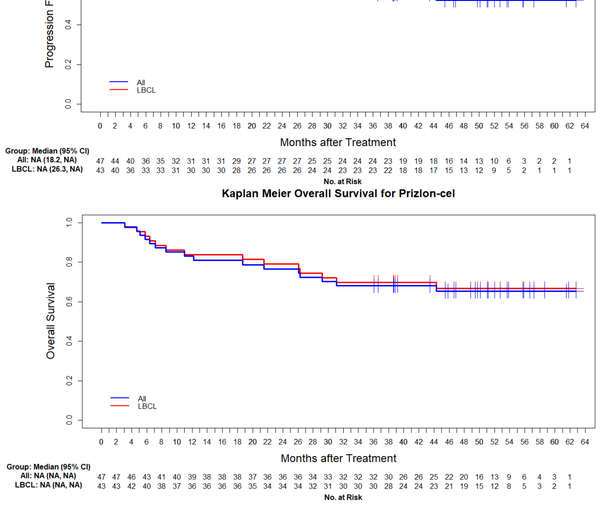
Figure 2. Response



PFS and OS

- With a median follow-up of 45.5 months, median PFS and OS were both not reached
- KM estimates of 48-m PFS rate are 52.5% (all patients) and 53.4% (LBCL patients)
- KM estimates of 48-m OS rate are 65.4% (all patients) and 66.7% (LBCL patients)
- Since last report (mFU 30.0mo), no additional disease progression was observed, a new case of MDS was reported at 43.5 months post infusion and died one month later due to pneumonia

Figure 3. Kaplan–Meier Estimates of the Progression–free Survival, and Overall Survival



CONCLUSIONS

- **Prizlon-cel demonstrates a favorable safety profile; no new safety signals were observed since the last report**
- **With median follow-up of 45.5 months, prizlon-cel shows deep and durable responses in r/r B-NHL patients, especially those with LBCL**
  - Median PFS has not been reached; 48-m PFS rate were 52.5% (all patients) and 53.4% (LBCL)
  - Median OS has not been reached; 48-m OS rate were 65.4% (all patients) and 66.7% (LBCL)
- **These encouraging data suggest curative potential of prizlon-cel in this patient population**
- **A registration pivotal study is ongoing at 2.5 CAR+ T-cells/kg in Chinese patients with r/r LBCL (NCT05800977)**
- **A phase Ib, multicenter, open-label study of JNJ-90014496 (formerly known as C-CAR039) for the treatment of adult participants with r/r B-NHL is currently open and enrolling (NCT05421663)**

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