(PS1484) THE EFFECT OF OBECABTAGENE AUTOLEUCEL ON ADULT PATIENTS WITH RELAPSED/REFRACTORY B-CELL ACUTE LYMPHOBLASTIC LEUKEMIA AND EXTRAMEDULLARY DISEASE

Topic: 02. Acute lymphoblastic leukemia - Clinical

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Background

Patients with relapsed/refractory B-cell acute lymphoblastic leukemia (R/R B-ALL) and extramedullary disease (EMD) have limited treatment options and are a population with an unmet need. Obecabtagene autoleucel (obe-cel) is an autologous chimeric antigen receptor (CAR) T-cell therapy with a fast off-rate CAT19 binding domain and a 4-1BB-ζ co-stimulatory domain designed to improve persistence and reduce severe immunotoxicity.

Aims

To report a post-hoc analysis of the Phase Ib/II FELIX study (NCT04404660), evaluating efficacy and safety of obe-cel in patients with R/R B-ALL, by EMD status at lymphodepletion.

Methods

Enrolled adult patients with R/R B-ALL provided written informed consent and, following lymphodepletion, received obe-cel using a tumor burden–guided dosing strategy to minimize toxicity. Overall remission rate (ORR; complete remission [CR]/CR with incomplete hematologic recovery [CRi]), event-free survival (EFS), overall survival (OS), and safety are reported for patients with or without EMD.

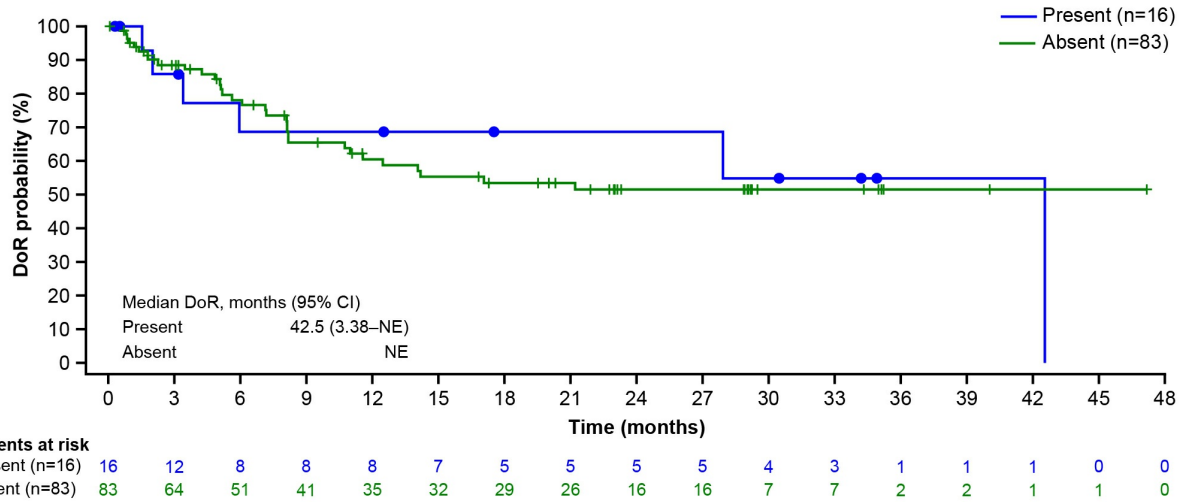
Results

Of 127 obe-cel infused patients, 27 (21%) had EMD at lymphodepletion and 100 (79%) did not. At screening, the median age (range) was 36.0 years (20–73) in patients with EMD, and 50.5 years (20–81) in patients without EMD. Of the patients with EMD, 13 (48%) were male and 11 (41%) were Hispanic/Latino; of those without EMD, 53 (53%) were male and 27 (27%) were Hispanic/Latino. The median number of prior lines of therapy (range) was 3.0 (1–6) and 2.0 (1–6) for patients with and without EMD at lymphodepletion, respectively; prior stem cell transplant (SCT) was received by 12 (44%) and 44 (44%) patients, respectively. At lymphodepletion, the median bone marrow (BM) blast percentage (range) was 54% (0–100) in patients with EMD and 39% (0–100) in patients without EMD; Philadelphia chromosome-positive disease was observed in 6 (22%) and 30 (30%) patients, respectively. At 32.8 months' median follow-up (range 19.9–52.8), the ORR (95% confidence interval [CI]) was 59% (39–78) in patients with EMD and 83% (74–90) in patients without EMD. Median duration of remission (DoR; 95% CI) among responders was 42.5 months (3.4–not evaluable [NE]) and NE, in those with (n=16) and without (n=83) EMD at lymphodepletion, respectively (**Figure**). Overall, median EFS (95% CI) was 4.5 months (0.0–NE) and 14.3 months (9.0–NE) in patients with and without EMD at lymphodepletion, respectively; however, median EFS appeared to be comparable in responders with (44.6 months [6.0–NE]) and without EMD (NE). Overall, median OS (95% CI) was 15.3 months (7.85–NE) and 21.0 months (13.2–NE) in patients with and without EMD at lymphodepletion, respectively. The incidence of Grade ≥3 cytokine release syndrome in patients with and those without EMD was 3.7% and 2.0%; the incidence of Grade ≥3 immune effector cell-associated neurotoxicity syndrome was 19% and 4.0%, respectively. Cerebrospinal fluid pharmacokinetic analyses are underway; data will be presented.

Summary/Conclusion

Obe-cel treatment demonstrated favorable efficacy and safety outcomes in patients with and without EMD in the FELIX trial. Patients with EMD were less likely to achieve remission and had numerically shorter median EFS versus those without EMD; however, DoR among responders was comparable between the two groups of patients. Overall, these findings support a positive benefit–risk profile for obe-cel, irrespective of EMD status at lymphodepletion.

Duration of remission in patients with R/R B-ALL, by EMD status at lymphodepletion



Patients at risk

Present (n=16)	16	12	8	8	8	7	5	5	5	5	4	3	1	1	1	0	0
Absent (n=83)	83	64	51	41	35	32	29	26	16	16	7	7	2	2	1	1	0

Censoring for new non-protocol anticancer therapies

CI, confidence interval; DoR, duration of remission; EMD, extramedullary disease; NE, not estimable; R/R B-ALL, relapsed/refractory B-cell acute lymphoblastic leukemia.