Abstract: S272

Title: LISOCABTAGENE MARALEUCEL VERSUS STANDARD OF CARE WITH SALVAGE CHEMOTHERAPY FOLLOWED BY ASCT AS SECOND-LINE TREATMENT IN PATIENTS WITH R/R LARGE B-CELL LYMPHOMA: 3-YEAR FOLLOW-UP OF TRANSFORM

Abstract Type: Oral Presentation

Session Title: Stem cell transplantation - Clinical and cell therapy

Background:

Lisocabtagene maraleucel (liso-cel) is an autologous, CD19-directed, 4-1BB CAR T cell product. In prespecified interim and primary analyses of TRANSFORM (NCT03575351), liso-cel showed significant improvements in efficacy versus standard of care (SOC) in patients with R/R large B-cell lymphoma (LBCL)

Aims:

This study reports results after approximately 3 years of follow-up in patients from TRANSFORM.

Methods:

TRANSFORM is a randomized, phase 3 study comparing liso-cel versus SOC (chemotherapy [R-DHAP, R-ICE, or R-GDP] followed by high-dose chemotherapy plus ASCT) in adults 75 years of age or younger with LBCL primary refractory to or relapsed within 12 months of first-line therapy and eligible for ASCT. Informed consent was obtained from all patients. Patients in the liso-cel arm underwent lymphodepletion followed by liso-cel (100 × 106 CAR+ T cells). Bridging therapy was allowed. Patients in the SOC arm received 3 cycles of chemotherapy; responding patients proceeded to high-dose chemotherapy plus ASCT. Crossover to receive liso-cel was allowed for patients in the SOC arm if criteria were met. The primary endpoint was event-free survival (EFS) per independent review committee (IRC). Key secondary endpoints included CR rate and PFS per IRC, and OS. Endpoints were not statistically retested and are reported descriptively.

Results:

In total, 184 patients were randomized (92 per arm); baseline characteristics were reported (Abramson et al. *Blood* 2023). Median (range) follow-up was 33.9 months (0.9–53.0). Median EFS, PFS, and duration of response (DOR) were longer for liso-cel versus SOC, similar to the primary analysis (**Table**). A total of 61 (66%) patients in the SOC arm crossed over to receive liso-cel. Median OS was not reached (NR) in either arm; 36-month OS rates were numerically higher for liso-cel. Of 76 total deaths (lisocel arm, n = 34; SOC arm, n = 42 [crossover patients, n = 33]), 10 occurred since the primary analysis (lisocel arm, n = 6; SOC arm, n = 4 [all crossover patients]); most deaths were due to disease progression or complications (n = 6). Safety results were consistent with the primary analysis. Cellular kinetics and B-cell aplasia will be presented.

Summary/Conclusion:

After a median follow-up of 33.9 months, liso-cel as second-line treatment in patients with primary refractory or early relapsed LBCL resulted in a deepening of response and continued improvement in efficacy endpoints over SOC, confirming the ongoing benefit of liso-cel.

Table. Efficacy outcomes (intent-to-treat set)

	Liso-cel arm (n = 92)	SOC arm (n = 92)	Liso-cel arm versus SOC arm HR (95% CI)[a]
Median (95% CI) EFS, months	29.5 (9.5–NR)	2.4 (2.2–4.9)	0.375 (0.259–0.542)
36-month rate, % (95% CI)	45.8 (35.2–56.5)	19.1 (11.0–27.3)	–
ORR, n (%) (95% CI)	80 (87) (78.3–93.1)	45 (49) (38.3–59.6)	–
CR rate, n (%) (95% CI)	68 (74) (63.7–82.5)	40 (43) (33.2–54.2)	–
Median (95% CI) PFS, months	NR (12.6–NR)	6.2 (4.3–8.6)	0.422 (0.279–0.639)
36-month rate, % (95% CI)	50.9 (39.9–62.0)	26.5 (15.9–37.1)	–
Median (95% CI) OS, months	NR (42.8–NR)	NR (18.2–NR)	0.757 (0.481–1.191)
36-month rate, % (95% CI)	62.8 (52.7–72.9)	51.8 (41.2–62.4)	–
Median (95% CI) DOR, months	NR (16.9–NR)	9.1 (5.1–NR)	0.603 (0.364–1.000)

[a]Based on stratified Cox proportional hazards model.
HR, hazard ratio.

Keywords: CAR-T, Autologous hematopoietic stem cell transplantation, B cell lymphoma, Cellular therapy