Event-Free Survival at 24 Months Following Autologous Stem Cell Transplant in Diffuse Large B-Cell Lymphoma

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Introduction

- Front-line immunochemotherapy (IC) with rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisone (R-CHOP) is expected to cure 60-70% of newly diagnosed Diffuse Large B-cell Lymphoma (DLBCL) [1]
- Up to one-third of these patients will have relapsed or refractory (r/r) disease.[1]
- Current standard of care for these patients is salvage chemotherapy and, if chemosensitive, to be followed by high dose chemotherapy with hematopoietic cell rescue (autoHCT).[2,3]
- Event-free survival at 24 months (EFS24) following frontline R-CHOP is associated with overall survival (OS) similar to that of age- and sex-matched controls.[4]
- In comparison, those achieving EFS24 following autoHCT is less well-understood.
- We sought to better characterize EFS24 after autoHCT to determine the utility of this end-point for informed clinical decisions, patient management, and future clinical trials.

Materials and Methods

- Patients were prospectively enrolled onto the Molecular Epidemiology Resource (MER) of the University of Iowa/Mayo Clinic Specialized Program of Research Excellence (SPORE)
- Inclusion criteria: must have consented within 9 months of initial diagnosis of DLBCL between 2002-2015, had received anthracycline-based immunochemotherapy (R-CHOP or similar), and eventually had undergone autoHCT for r/r DLBCL.
- Exclusion criteria: Patients with primary CNS lymphoma or PTLD.
- Overall survival (OS) was defined as time from autoHCT until death due to any cause. Median OS (mOS) is calculated as time from autoSCT until 50% of patients are still alive.
- Event-free survival (EFS) was defined as time from autoHCT until progression, relapse, retreatment, or death due to any cause.
- OS from achieving EFS24 after autoHCT was compared to age- and sex-matched general US population.

Results

- 108 patients underwent autoHCT for relapsed DLBCL, median age 60 (27-78) (Table 1)
- Overall, 72 patients (67%) had an event and 64 (59%) had died.
- mOS from achieving EFS24 (136mo) was inferior to the background population (SMR=3.64, 95% CI: 2.11-6.27, p<0.0001, Fig 1).
- mOS after progression within 24mo was poor (2.8mo) (table2)
- mOS after progression after EFS24 was improved compared to progression within 24mo of autoHCT (p=0.072, Fig 2)
- Cause of death in EFS24 achievers was progression of lymphoma (n=6), infection (n=1), secondary malignancy related to therapy (n=3), heart disease (n=1), and unknown (n=1).

FIGURE 1 Overall Survival After Achieving Post–ASCT EFS24

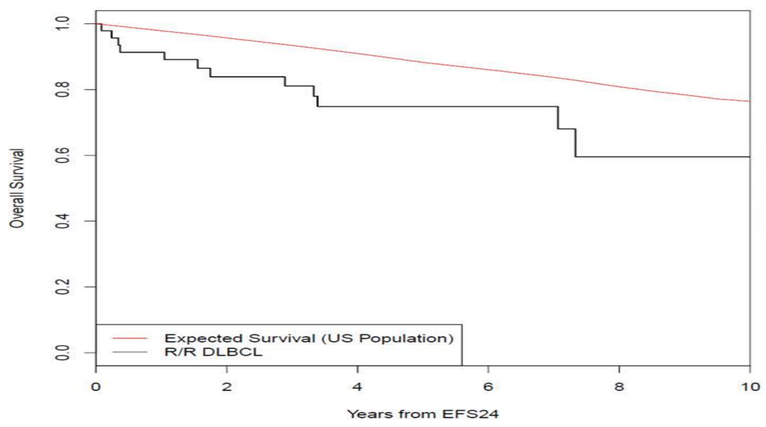

FIGURE 2 Overall Survival After Post ASCT Progression

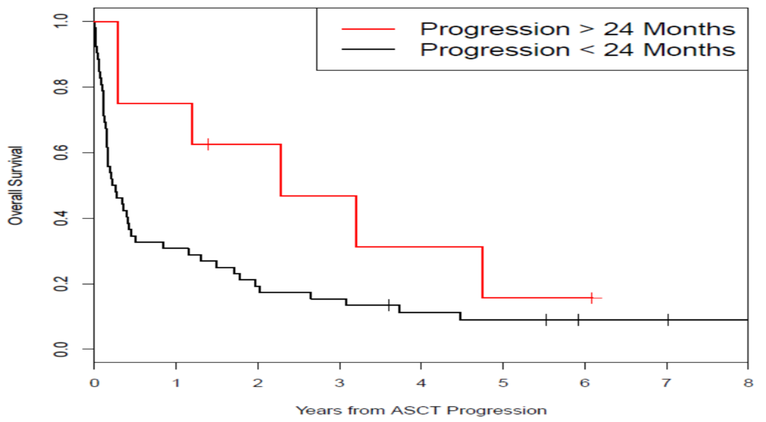

TABLE 1

		95% CI
Patients	n =108	
Median Follow-up	85mo	(1-171)
KM estimate EFS at 24mo	49%	(40-69)
KM estimate OS at 24mo	61%	(52-71)

TABLE 2

	N (%)	mOS (mo)	95% CI	5yr OS (%)	95% CI
EFS24 achievers	48 (44.4)	136	(92-NE)	9	(68-93)
EFS24 failures	60(55.6)	2.8	(1.8-6.0)	79	(2-22)
Progression after EFS24	8 (16.7)	27.3	(14.4-NE)	16	(3-93)

Conclusions

- Patients achieving EFS24 after salvage chemotherapy and autoHCT have a favorable long-term prognosis; however, overall survival remained inferior to the general population
- Most common cause of death after achieving EFS24 was progression of lymphoma
- EFS24 remains a valuable end point for informing clinical decisions, patient management, and future clinical trials.

References

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