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POSTER ABSTRACTS

905.OUTCOMES RESEARCH-LYMPHOID MALIGNANCIES

Improved Survival with Rituximab-Based Chemoimmunotherapy in Patients with Primary Testicular Diffuse Large B-Cell Lymphoma

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Background:
Primary testicular lymphoma (PTL) accounts for 1% to 2% of non-Hodgkin's lymphomas. Diffuse large B-cell lymphoma (DLBCL) is the most common histological subtype of PTL, accounting for 80% to 98% of cases. The introduction of rituximab was a breakthrough in DLBCL treatment. However, the impact of rituximab on primary testicular DLBCL (PT-DLCBL) is controversial. A study by Gundrum et al (Gundrum JD, *et al. J Clin Oncol* 2009) found that PT-DLBCL survival did not improve in the rituximab era (i.e., after 2000). However, that study was based on a Surveillance, Epidemiology, and End Results (SEER) database cut-off of 2005. The follow-up period of PT-DLBCL patients in the rituximab era was relatively short, at only 4 years (from 2001 to 2005). Considering the wide use of rituximab in all kinds of DLCBL, we conducted a study based on the SEER database to evaluate the potential impact of the introduction of rituximab on PT-DLBCL.
Methods:
Data from the SEER 13 registries were analyzed in this study. Cases with PT-DLBCL diagnosed from 1992 to 2018 were included. Baseline characteristics, including age at diagnosis, laterality (left, right, bilateral), age, race, Ann Arbor stage, SEER cause-specific death classification, survival months, and vital status, were collected. Cancer-specific survival (CSS) was used as the study endpoint and defined as the time from diagnosis to death from DLBCL or last follow-up. The Kaplan-Meier method was used to build survival curves and the log-rank test used to compare groups. All p values were two-sided, and p-values $< .05$ considered statistically significant. All analyses were conducted using GraphPad PRISM 6.
Results:
A total of 961 patients were included in this analysis. Among them, 271 were diagnosed from 1992 through 2000 (pre-rituximab era) and 690 from 2001 through 2018 (rituximab era). In all, 435 patients showed unilateral left-side testicular involvement, 455 right-side, 63 bilateral, and 8 unknown. At last follow-up, 489 patients had died of PT-DLBCL. Patients diagnosed in the pre-rituximab era had more stage I disease than their counterparts in the rituximab era. No difference was found in age, race, or laterality across the two eras. For the entire cohort, there was a significant improvement in CSS in the rituximab era compared with the pre-rituximab era. The median CSS in the pre-rituximab era was 98 months compared to not reached in the rituximab era ($p = .001$) (Figure 1A). We also compared the CSS of patients in different stages: early stage (I/II) or advanced stage (III/IV) in the pre-rituximab and rituximab eras. We found that CSS improved significantly in either early or advanced stage (early stage, $p < .0017$; advanced stage, $p = .026$; Figure 1B and 1C). We also explored the role of laterality in survival of PT-DLBCL. Compared with the pre-rituximab era, CSS of either left-side (Figure 1D) or right-side (Figure 1E) PT-DLBCL improved significantly (left-side, $p < .001$; right-side, $p = .04$) in the rituximab era. The introduction of rituximab decreased CSS by about 50% in patients with left-side PT-DLBCL but only about 30% in those with right-side disease, which indicated that patients with left-side (vs right-side) PT-DLBCL derived greater survival benefit from the introduction of rituximab.
Conclusions:
Survival of PT-DLBCL patients improved significantly in the rituximab era, with the survival curve reaching a plateau from the tenth year after treatment. Patients with left-side (vs right-side) PT-DLBCL derived greater survival benefit from the introduction of rituximab.

Disclosures No relevant conflicts of interest to declare.

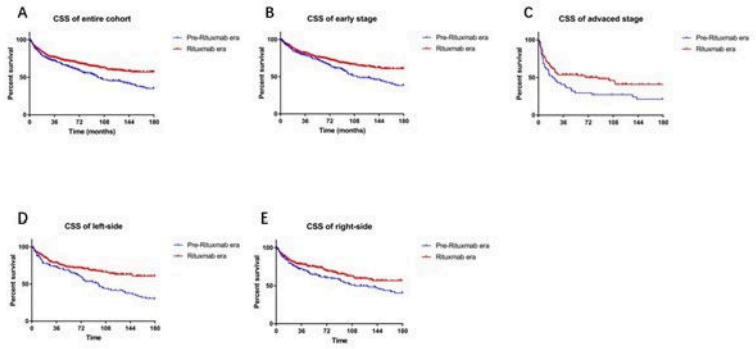

Figure legend

FIGURE 1 Comparison of Cancer-specific survival (CSS) of patients with PT-DLBCL) by era of diagnosis.

(A) CSS of PT-DLBCL in the entire study cohort by era of diagnosis.

(B) CSS of PT-DLBCL in patients in early stage (Ann Arbor I/II) by era of diagnosis.

(C) CSS of PT-DLBCL in patients in advanced stage (Ann Arbor III/V) by era of diagnosis.

(D) CSS of PT-DLBCL in patients with left-side PT-DLBCL by era of diagnosis.

(E) CSS of PT-DLBCL in the patients with right-side PT-DLBCL by era of diagnosis.

Figure 1

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