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Dose-Adjusted EPOCH-R is Superior to R-CHOP in Frontline Treatment of Mediastinal Large B-Cell Lymphoma

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Context

- Primary mediastinal large B-cell lymphoma (PMLBCL) is a rare, aggressive B-cell non-Hodgkin lymphoma.
- Dose-adjusted etoposide, prednisolone, vincristine, cyclophosphamide, doxorubicin and rituximab (DA-EPOCH-R), and rituximab, cyclophosphamide, vincristine, doxorubicin and prednisolone (RCHOP), are used as front-line treatments.

Objectives

To compare the efficacy of DA-EPOCH-R and RCHOP in the treatment of newly diagnosed PMLBCL.

Methods

- We retrospectively reviewed the medical records of adults (≥18 years) diagnosed with PMLBCL and treated in our center from 2010 to 2023.
- Baseline characteristics were compared using chi-square and Mann-Whitney U tests.
- Survival outcomes were plotted using the Kaplan-Meier method and compared using the log-rank test.

Results

- Eighty-seven patients were included in the study, with a median age of 30 years (range: 18-55).
- The majority (86.5%) had bulky mediastinal disease (>7.5 cm).
- 29 (32.6%) had advanced-stage disease (stage III or IV).
- The international prognostic index (IPI) was >1 in 28 (31.5%).
- Of the 87, 48 (55.2%) were given R-CHOP, and 39 (44.8%) were given DA-EPOCH-R.
- Baseline characteristics were comparable between the 2 groups.
- The median number of chemotherapy cycles was 6 in both groups.
- Radiotherapy was more frequently administered to the R-CHOP group (66.7% vs 15.4%, *P*<0.001).
- Following completion of first-line therapy (chemotherapy with or without radiotherapy), the complete response (CR) rate was higher in patients treated with DA-EPOCH-R (92.3% vs 66.7%, *P*=0.004).
- After a median follow-up of 46.7 months (58.2 months for R-CHOP group and 26.8 months for DA-EPOCH-R), patients treated with DA-EPOCH-R had superior overall survival (OS), the 2-year OS rates were 94.4% vs 72.1%, respectively (*P*=0.014), figure (1) , as well as progression-free survival (PFS), the 2-year PFS rates were 86.5% vs 62.2%, respectively (*P*=0.017), figure (2).
- However, relapse-free survival (RFS) was similar in both treatment groups (2-year RFS 93.5% vs 93.3%, respectively, *P*=0.93).
- No therapy-related deaths were observed in either group.

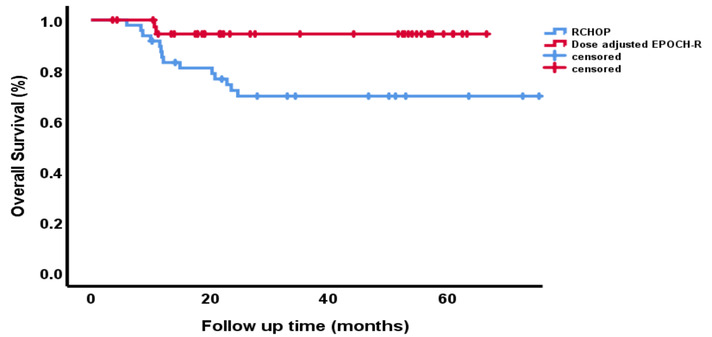


Figure (1) : Overall survival

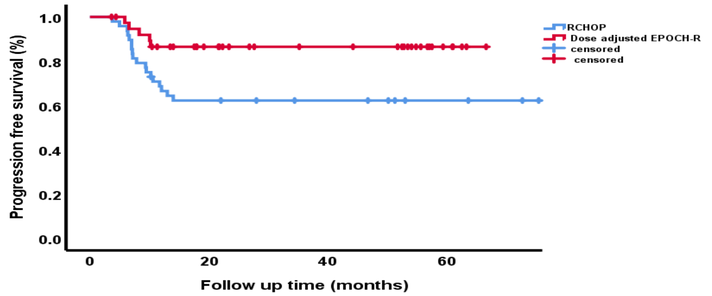


Figure (2): Progression free survival

Conclusions

In PMLBCL, front-line treatment with DA-EPOCH-R is associated with higher CR rates and superior PFS and OS than R-CHOP. However, RFS was similar in both groups. Longer follow-up is required to evaluate long-term toxicities.

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