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NO DIFFERENCE IN OVERALL SURVIVAL BETWEEN R-CHOP AND R-EPOCH AMONG PATIENTS WITH ADVANCED STAGE MYC-REARRANGED, DOUBLE HIT, OR TRIPLE HIT DIFFUSE LARGE B-CELL LYMPHOMA

Topic: 19. Aggressive Non-Hodgkin lymphoma - Clinical

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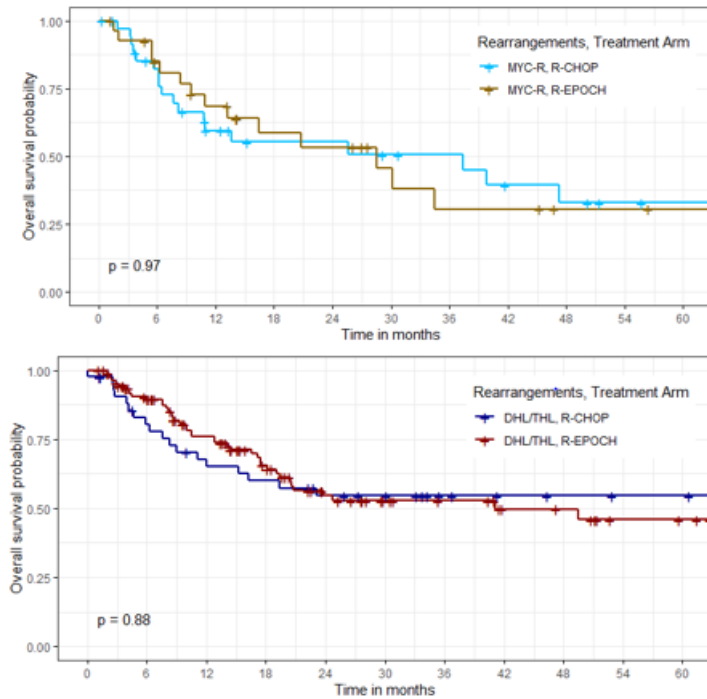
Background: Presence of MYC-rearrangement (MYC-R) in diffuse large B-cell lymphoma (DLBCL) has been associated with poor prognosis, especially if there is presence of concomitant BCL2 and/or BCL6 rearrangements. The latter entities are called double hit lymphoma (DHL) and triple hit lymphoma (THL), respectively. A few retrospective studies and a single arm prospective trial have suggested improved outcomes with the R-EPOCH regimen in DHL and THL patients. Our aim was to evaluate prognostic factors and efficacy of both regimens (R-EPOCH and R-CHOP) in a large cohort of patients with MYC-R DLBCL.

Aims: Our study aimed to compare overall survival of patients with advanced stage MYC-R DLBCL and DHL/THL who were treated with R-CHOP vs. R-EPOCH.

Methods: Data was analyzed from the nationwide Flatiron Health electronic health record-derived de-identified database, for patients diagnosed with DLBCL between 1 January 2011 and 30 June 2020. Only patients with MYC-R/DHL/THL who received R-CHOP or R-EPOCH as a first-line therapy were included in the analysis. Overall survival (OS) from date of diagnosis to date of death or last known alive was calculated using the Kaplan-Meier method and compared between MYC-R and DHL/THL separately using log-rank procedure. Cox proportional hazards regression was used to assess associations between patient characteristics, treatments, and overall mortality. Univariable and multivariable models within MYC-R and DHL/THL cohorts were conducted using these factors to estimate hazard ratios (HRs) and their 95% CIs.

Results: Among 6,809 total DLBCL patients, 443 (6.5%) were found to have MYC-R. Among these, 218 (49%) had advanced stage (III/IV) disease at diagnosis and received R-CHOP or R-EPOCH, and were included in the study. 154 (70%) had high-grade lymphomas (117 DHL, 37 THL). Among those with DHL/THL, 43 received R-CHOP (median age 73y) and 111 received R-EPOCH (median age 67y). Among those with MYC-R DLBCL, 36 received R-CHOP (median age 70y), and 28 received R-EPOCH (median age 61y). There was no difference in 4-year OS rates between R-CHOP and R-EPOCH treatment cohorts among DHL/THL (54.5% [95% CI 40.9-72.6] vs. 49.6% [95%CI 38.8-63.5] Figure). Similarly, there was no difference in 4-year OS rates among MYC-R patients between R-CHOP and R-EPOCH (32.8% [95%CI 17.7-60.9] vs. 30.4% [95% CI 14.4-64.5]). Among DHL/THL patients, 89% deaths occurred within first 2y, and among MYC-R, 78% deaths occurred within 2y of diagnosis. Among entire MYC-R cohort, univariate analysis of treatment type (R-CHOP, R-EPOCH), age ≥ 60 y, sex, race, ECOG ≥ 2 , elevated LDH, and >1 extra-nodal site, only ECOG ≥ 2 ($p = <0.001$) and elevated LDH ($p = 0.041$) were significant for worse mortality. By multivariate analysis, ECOG ≥ 2 (HR 2.59 [1.317-5.1]) and elevated LDH (HR 1.61 [1.016-2.6]) were again the only significant variables associated with risk of mortality.

Image:



Summary/Conclusion: In our large multi-institutional database study, the 4-year OS was similar between R-CHOP and R-EPOCH among MYC-R DLBCL and DHL/THL. In multivariable analysis, ECOG ≥ 2 and elevated LDH were the only variables independently associated with poor prognosis in this subgroup. Most deaths occurred within 2y of diagnosis, with similar OS in both arms at 4y. Further studies are needed for better risk stratification of patients with DLBCL for optimizing outcomes.

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