

(PS2233) COMPARISON BETWEEN CHIDAMIDE, CLADRIBINE, GEMCITABINE AND BUSULFAN AS CONDITIONING REGIMEN AND BEAM FOR HIGH RISK NON-HODGKIN LYMPHOMA: A PROPENSITY SCORE MATCH ANALYSIS

Topic: 23. Stem cell transplantation - Clinical

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Background

BEAM has been the most widely used conditioning regimen for Hodgkin and non-Hodgkin lymphoma for decades. However, its overall effect remained unsatisfying for high risk lymphomas, with the long-term lymphoma-free survival with the long-term lymphoma-free survival rate of less than 50% in refractory cases.

Aims

To verify the effectiveness and safety profile of the chi-CGB (chidamide, cladribin, gemcitabine, and busulfan), a novel conditioning regimen for lymphoma. To explore its different anti-lymphoma efficacy across different lymphoma histopathological subtypes.

Methods

This retrospective study was conducted using electronic medical records from two China university hospitals with propensity score matching method. The **chi-CGB regimen** consists of chidamide 30mg on days -14, -10, -7 and -4, gemcitabine 2000mg/m² on days -6 and -2, cladribine 5mg/m² through days -6 to -2, busulfan 3.2mg/kg through days -6 to -3. The **BEAM regimen** is as reported previously. Kaplan-meier method was used to estimate the overall survival (OS), progression free survival (PFS). The cumulative incidences of relapse (CIR) were estimated using competing risk model with death without lymphoma progression considered as the competing event. Log-rank method was used to compare OS and PFS between groups and Gray's test was used to compare the CIRs in the competing risk model. All statistical analysis were performed using R 4.3.3.

Results

A total of 831 patients' medical records from two hospitals were screened. Thirty-one patients record were dropped according to the I/E criteria. Patient records were matched using the following parameters: *gender, age, lymphoma subtype, Ann-arbor stage, IPI score* at diagnosis, *response* to prior treatment before transplantation. After matching, 309 patients were included in chi-CGB (treatment) and BEAM (control) group respectively. The baseline characteristics of the patients before and after matching are presented in Table 1. All patients achieved neutrophil engraftment. The median time to neutrophil engraftment were 10 days and 9 days in the treatment and the control group respectively. Platelet engraftment was achieved to 99.7% and 99.3% patients in the treatment and the control groups within one month after transplant. The median time to platelet engraftment were 13 days and 11 days respectively. The 4-year PFS (79% vs. 71%, $p < 0.001$) and 4-year OS (89% vs. 83%, $p = 0.014$) for the treatment group were superior to the control group. For the subgroup analysis, patients with T cell lymphoma (including peripheral T cell lymphoma NOS, anaplastic large cell lymphoma, intestinal T-cell lymphoma and angioimmunoblastic T-cell lymphoma) or aggressive B cell lymphoma (mostly diffused large B cell lymphoma) but not natural killer/T-cell lymphoma (NK/T) benefitted from chi-CGB regimen (see Figure 1.). Grade ≤ 2 hepatic and skin adverse events were more common in the treatment group. Grade III/IV adverse events were similar for both groups.

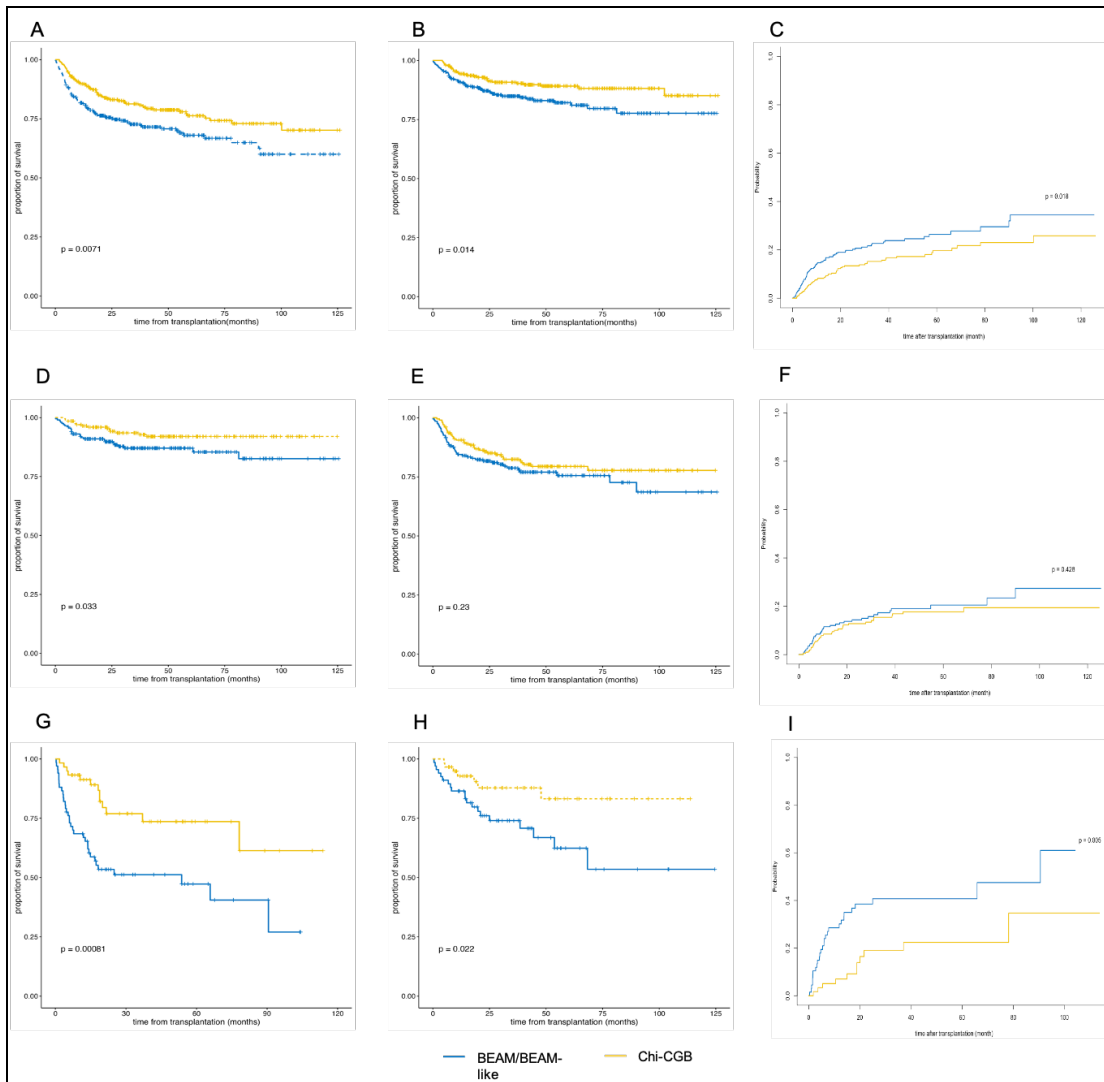
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Summary/Conclusion

Based on the results of this study, the chi-CGB regimen can effectively reduce the risk of lymphoma relapse after ASCT with limited adverse effects compared to traditional BEAM regimen. Especially, this regimen exerts pronounced anti-lymphoma effect in two histopathological subtypes: aggressive B NHL and T-NHL.



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