Prognostic factors and international prognostic index variants in patients with b-large cell lymphoma - an observational study of KroHem, the Croatian cooperative group for hematologic diseases

Periša, Vlatka; Aurer, Igor; Radić-Krišto, Delfa; Duletić-Načinović, Antica; Radman, Ivo; Bašić-Kinda, Sandra; Ajduković, Radmila; Gaćina, Petar; Jakelić Piteša, Jasminka; Ostojić-Kolonić, Slobodanka; ...

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ALC and AMC, univariate and multivariate Cox regression models were applied.
Results: The median ALC at diagnosis was 1.74x 10^9/L (range 0.28–7.16x 10^9/L) and abnormal ALC were detected in 16.8% (42/255) of the patients. A significantly higher proportion of patients with ALC<1.0x 10^9/L had elevated levels of LDH and β_2 M (76.2% vs 36.1% and 86.8% vs 57.6%, respectively), advanced disease stage (III – IV) (60.9% vs 34.9%), high risk (R-IPI 3-5) disease (43.9% vs 15.8%) in comparison to patients with ALC ≥ 1.0x 10^9/L. The median AMC at diagnosis was 0.59x 10^9/L (range 0.28–7.16x 10^9/L) and AMC >0.8x10^9/L were detected in 24.3% (62/255). Similarly, a significantly higher proportion of patients with abnormal AMC had elevated levels of LDH and β_2 M (59.7% vs 37.3% and 76% vs 60.1%, respectively), advanced disease stage (III – IV) (52.4% vs 34.9%), high risk (R-IPI 3-5) disease (36.8% vs 15.5%) in comparison to patients with AMC ≤0.8x 10^9/L. Patients with abnormal ALC at diagnosis experienced an inferior 5-year OS (18% vs 64.7%, P<0.001) and 5-year DFS (48.9% vs 78.2%, P<0.001). Patients with abnormal AMC at diagnosis experienced an inferior 5-year OS (60% vs 79.2%, P=0.002) and 5-year DFS (53.6% vs 80.4%, P=0.001). However, regarding nodal and extranodal origin of lymphoma the analysis revealed that only primary nodal DLBCL patients with abnormal baseline ALC and AMC experienced inferior 5-year OS and 5-year DFS. Moreover, an independent significant association between abnormal ALC and poor clinical outcome in terms of OS (hazard ratio (HR) 2.14, 95% confidence interval (CI) 1.13-4.06, P=0.019) and DFS (HR 5.88, 95% CI 2.00-17.25, P=0.001) was identified by multivariate analysis only in primary nodal DLBCL patients.
Summary and Conclusions: Our data suggest that ALC and AMC in peripheral blood at diagnosis predict survival in primary nodal DLBCL treated with R-CHOP. However only ALC is independent, poor prognostic factor for DFS and OS, and can be used in combination with other prognostic features to better predict the outcome of these patients.

PB1675

PROGNOSTIC FACTORS AND INTERNATIONAL PROGNOSTIC INDEX VARIANTS IN PATIENTS WITH B-LARGE CELL LYMPHOMA-AN OBSERVATIONAL STUDY OF KROHEM, THE CROATIAN COOPERATIVE GROUP FOR HEMATOLOGIC DISEASES

V. Periša[1,*] I. Aurer[2], D. Radić-Krišto[3], A. Duletić-Načinović[4], I. Radman[2], S. Bašić-Kinda[2], R. Ajduković[5], P. Gaćina[6], J. Jakelić-Piteša[7], S. Ostojić-Kolonić[3], V. Pejša[5], D. Nemet[2]
[1]Hematology, University Hospital Centre Osijek, Osijek, [2]Hematology, University Hospital Centre Zagreb, [3]Hematology, Clinical Hospital Merkur, Zagreb, [4]Hematology, University Hospital Centre Rijeka, Rijeka, [5]Hematology, Clinical Hospital Dubrava, [6]Hematology, University Hospital Centre Sestre Milosrdnice, Zagreb, [7]Hematology, University Hospital Centre Split, Split, Croatia

Background: B-large cell lymphoma (B-LCL) is the most common form of NHL. 5-year survival rates vary between 40 and >90% depending on prognostic factors but the importance of many of them is disputed. Those found most important and reproducible in the pre-rituximab era were included in the IPI. Since the original description, various variants of this index have been published.
Aims: To reassess the value of the IPI, revised IPI (R-IPI), age-adjusted IPI (aaIPI), stage-adjusted IPI and different possible clinical prognostic factors in an unselected population of patients with B-LCL receiving rituximab containing front-line therapy.
Methods: 371 patients diagnosed with B-LCL during 2007 and 2008 and treated with rituximab plus chemotherapy in 16 Croatian hematology departments were included in this study. Patients were registered at the time of treatment start, and data on demographics, clinical features and laboratory parameters collected. Follow-up was performed yearly. The study was approved by the Croatian Central Ethics' Committee. Prognostic values of IPI, R-IPI, aaIPI, stage-adjusted IPI, individual factors used in indices (age, PS, LDH, stage, number of extranodal organs involved), bulk, gender, anemia, bone marrow infiltration and the presence of B symptoms were evaluated with respect to overall survival (OS) and progression-free survival (PFS) were evaluated. Survival analyses were performed using the Kaplan-Meier method and comparisons using the log-rank test. Multivariate analysis is ongoing.
Results: 5-year OS and PFS of the whole cohort were 50% and 49.5%. Significant negative prognostic factors in univariate analyses for OS and PFS were: age>65, LDH high, PS>1, stage>2, Hb<120 g/l, male gender, bone marrow infiltration and presence of B symptoms. Number of involved extranodal sites and presence of bulky disease did not influence prognosis. Regarding prognostic indices, conventional IPI was most useful, distinguishing 4 categories with reasonable proportions of patients. R-IPI was less useful; the differences in PFS between the three prognostic categories were significant, but there was no difference in OS between patients with scores 0 and 1-2. aaIPI distinguished only two categories; patients with score 0 had excellent prognosis, while there was no difference in outcomes between those with scores 1 and 2-3. Stage adjusted IPI distinguished three prognostic groups, but very few patients had a score 0.
Summary and Conclusions: Our study suggests that conventional IPI remains the most useful prognostic index. Bulky disease does not seem to be of prognostic importance, probably because of widespread use of adjuvant radiotherapy to initial bulky sites after immunochemotherapy. As seen in some other studies, men have a worse prognosis, possibly related to differences in rituximab metabolism. Additional negative prognostic factors include anemia, B symptoms and bone marrow infiltration, possibly as markers of aggressive systemic disease.

PB1676

CLINICAL IMPACT OF EARLY RECOVERY OF POST-TRANSPLANT PERIPHERAL BLOOD ABSOLUTE LYMPHOCYTE COUNT ON THE OUTCOME OF FRONTLINE AUTOLOGOUS STEM CELL TRANSPLANTATION FOR DIFFUSE LARGE B-CELL LYMPHOMA

Y. Kim[1,*] J.Y. Lee[1], H.S. Park[1], J. Jang[1], S.J. Kim[1], J.W. Cheong[1], Y.H. Min[1], J.S. Kim[1]
[1]Yonsei University Severance hospital, Seoul, Korea, Republic Of

Background: Several studies have shown that lymphopenia, which is considered a surrogate marker of immunological incompetence, has considered as an adverse prognostic factor in Non-Hodgkin`s lymphoma (NHL). Recently, it has been suggested that early recovery of an absolute lymphocyte count (ALC) at 2-3 weeks following therapy has been associated with superior progression-free survival (PFS) and overall survival (OS) in patients who received autologous stem cell transplantation (ASCT) for NHL,. However, the prognostic significance of early recovery of peripheral ALC following frontline ASCT in diffuse large B-cell lymphoma (DLBCL) remains unclear.
Aims: The purpose of this study was to investigate the prognostic role of early recovery of peripheral ALC after ASCT in patients with DLBCL who underwent frontline ASCT.
Methods: We retrospectively evaluated 51 patients who underwent ASCT for DLBCL at Yonsei University Severance Hospital between January 2006 and 2014. All patients were treated with R-CHOP (rituximab-cyclophosphamide, doxorubicin, vincristine, and prednisone) every 3 weeks for 3 to 8 cycles as first-line therapy and received frontline ASCT as consolidation. Most patients (n=40) received intravenous busulfan-based conditioning chemotherapy. The ALC at the time of D+14 after ASCT was obtained. Receiver operating characteristics (ROC) analysis was performed to determine the optimal cut-point for the ALC.

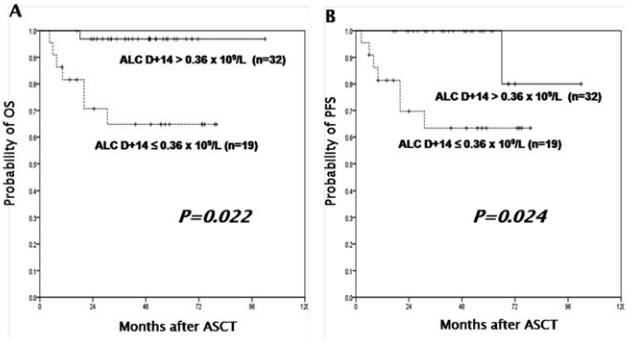

Figure 1.

Results: The study population included 51 patients with a median age of 53 years (range, 19-66 years). Fourty-six (90.2%) had stage IV disease according to the Ann Arbor staging system. Most patients (87.3%) were younger than 60 years. Thirty-five (68.8%) patients had B symptoms. International prognostic index (IPI) was low in 2 (4%), Low-intermediate in 15 (30%), high-intermediate in 25 (50%) and high in 8 (16%). Pre-transplant disease status was complete remission (CR) in 30 (58.8%) patients and partial remission (PR) in 21 (41.2%) patients. The median ALC at D+14 after ASCT was 0.43x 10^9/L (range, 0.03-1.57x 10^9/L). The ROC curve analysis identified 0.36x 10^9/L as the cutoff value of ALC at D+14 for predicting relapse with an area under curve of 0,759 (95% CI, 0.628-0.890, P=0.020). When comparing the baseline clinical characteristics of patients with an ALC at D+14 of ≤0.36x 10^9/L (low ALC group, n=19) and >0.36x 10^9/L (high ALC group, n=32), no significant difference was found between two groups, except for a female dominance and presence of B symptoms at diagnosis in the low ALC group. The median survival of patients following ASCT was 49.4 months (range, 4.4-101.9 months). In a univariate analysis from the time of ASCT, it appears that high ALC at D+14 was associated with a better OS (HR=0.083; 95% CI 0.010-0.694, P=0.022) and PFS (HR=0.086; 95%CI 0.010-0.720, P=0.024) and event-free survival (EFS) (HR=0.283; 95% CI 0.082-0.971, P=0.045). Multivariate analysis revealed that high ALC at D+14 was a good prognostic factor for OS (HR=0.086; 95%CI 0.008-0.979, P=0.048).
Summary and Conclusions: The early recovery of ALC at D+14 after ASCT can be regarded as a good prognostic marker in patients with DLBCL who underwent frontline ASCT.