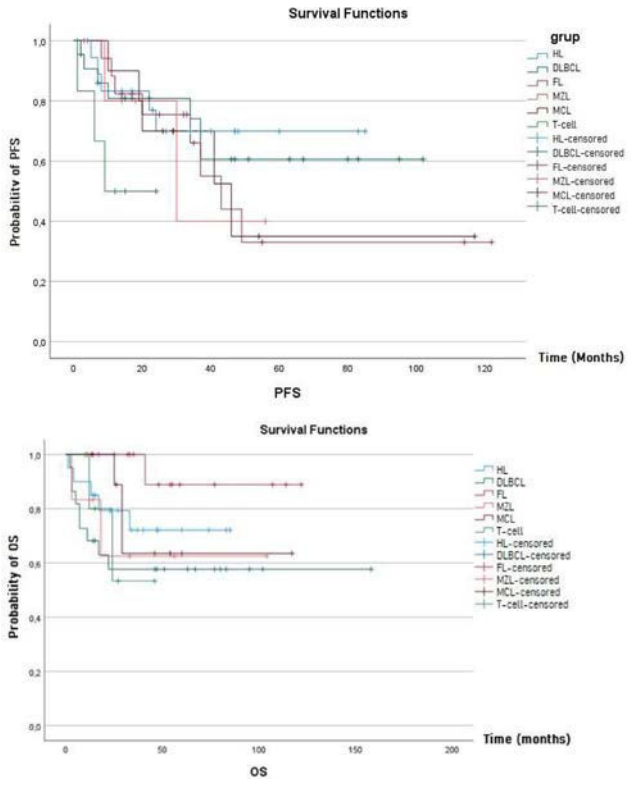
OP 10

THE PROGNOSTIC ROLE OF WHOLE BLOOD VISCOSITY AND BONE MARROW FIBROSIS IN PREDICTING SURVIVAL OUTCOMES IN NEW DIAGNOSIS MULTIPLE MYELOMA PATIENTS

Mustafa Duran [1,*]

[1] *Afyonkarahisar Health Science Unıversıty, School Of Medıcıne, Department Of Internal Medicine Hemathology*

Objective: This study aimed to evaluate the prognostic role of whole blood viscosity and bone marrow fibrosis in predicting survival outcomes and relationships with prognostic predictors, such as international scorin system albumin levels, beta2-microglobulin, total protein, albumin and lactate dehydrogenase in newly diagnosed multıple myeloma patients. **Case report:** Methodology We retrospectively evaluated 108 patients diagnosed with multıple myeloma between 2015-2022. Whole blood viscosity was calculated using the Simone formula, incorporating the haematocrit and total protein values. Bone marrow fibrosis was graded as mild (2), significant (3), or advanced. Comparisons of grade 0-3 bone narrow fibrosis and high-low calculated whole blood viscosity groups in terms of overall survival were conducted using the Kaplan-Meier survival curve and log-rank test. **Results:** The median follow-up period was 16 months, and 57.4% of patients died during follow-up. The median overall survival was 26 months. The calculated whole blood viscosity (c-WBV) value predicted mortality with 88.7% sensitivity and 45.7% specificity. Patients with a high c-WBV (≥17.14 208 mPa-s) had significantly lower one- and two-year survival rates than those with a low c-WBV (<17.14 208 mPa-s) (p<0.001). Bone narrow fibrosis was inversely related to survival, with higher grades being associated with lower survival rates. The two-year expected survival time respectively bone narrow fibrosis 2 and 3 was determined to be 56.7% and 43.6% 41.4% and 23.3% (p<0.001). This study highlights the potential of whole blood viscosity and bone narrow fibrosis as prognostic markers in patients with newly diagnosed multıple myeloma patients. **Conclusion:** Incorporating these parameters into the existing staging systems may enhance prognostic prediction and guide treatment decisions. Further prospective studies are warranted to validate these findings and explore the mechanistic links between whole blood viscosity, bone narrow fibrosis, and MM pathophysiology.



https://doi.org/10.1016/j.htct.2024.11.011

Adult Hematology Abstract Categories

Stem Cell Transplant
OP 11

SURVIVAL OUTCOMES OF AUTOLOGOUS STEM CELL TRANSPLANTATION IN LYMPHOMA PATIENTS

Elif Yıldız [1,*], Güven Çetin [2], Özge Pasin [3]

[1] *Bezmialem Foundation University, Faculty of Medicine*
[2] *Bezmialem Foundation University, Faculty of Medicine, Hematology Department*
[3] *Bezmialem Foundation University, Faculty of Medicine, Biostatistics Department*

Objective: Lymphomas, a diverse group of hematological malignancies, vary significantly in their prognosis, survival outcomes and response to treatment. High-dose chemotherapy followed by autologous stem cell transplantation (ASCT) has been frequently used to treat patients with relapsed or refractory lymphoma, offering a potential for long-term remission. However, survival outcomes after ASCT can differ substantially depending on the type of lymphoma. This study aims to compare survival outcomes across six different lymphoma subtypes—Hodgkin's lymphoma (HL), diffuse large B-cell lymphoma (DLBCL), follicular lymphoma (FL), marginal zone lymphoma (MZL), mantle cell lymphoma (MCL), and T-cell lymphoma—in patients who have undergone autologous stem cell transplantation. While most reported data in the literature focus on a single lymphoma subtype, this study examined multiple subtypes within a single center, allowing for a direct comparison of survival outcomes. This study also aimed to compare these outcomes with survival and relapse rates reported in the literature, identifying potential areas for further investigation into the underlying causes of observed differences. **Methodology:** This retrospective study took place at Bezmialem Vakif University Hospital, İstanbul, Turkey. Medical records were reviewed of 81 patients from six

different lymphoma subtypes who underwent autologous stem cell transplantation (ASCT) between January 2012 and December 2023. We included 20 HL, 22 DLBCL, 17 FL, 6 MZL, 10 MCL, and 6 T-cell lymphoma patients. Lymphoma diagnoses were confirmed through pathology reports. Data were collected on each patient's age, sex, time of post-transplant relapse, time of death and last follow-up visit from patient records. Only patients who followed up at least 12 months after the ASCT were included for analysis. For survival analysis, research will evaluate overall survival (OS) and progression-free survival (PFS). PFS was defined as the time from transplantation to disease progression, relapse, or death from any cause, while OS was defined as the time from transplantation to death or the last follow-up. PFS and OS were calculated using the Kaplan-Meier method, and survival curves were compared using the log-rank test. Cox proportional hazards regression was used to evaluate the effect of age, sex, and lymphoma subtype on both PFS and OS. A p-value of less than 0.05 was considered statistically significant. Univariate and multivariate logistic regression were used to check how other factors might affect survival outcomes. **Results:** A total of 81 patients' characteristics are summarized in Table 1. Patients aged between 18 and 79 years, with a mean age of 45.79±16.01. A significant age difference was found between HL and other groups and between DLBCL and MCL patients ($p < 0.05$). 2-year PFS was %72.4 [Standart Error (SE)=%5.3] and OS was %77.6 (SE=%4.8) The estimated mean PFS for the six groups analyzed was 72.45±6.73(SE) months (95% CI 59.25%-85.65%) and the mean OS was 114.03±7.91 (SE) months (95% CI 98.51%-129.55%)(Table 2). When comparing the 2-year PFS for HL, DLBCL, FL, MZL, MCL, and T-cell results were 69.9% (SE=0.114), 80.9% (SE=0.086), 75.5% (SE=0.107), 80% (SE=0.179), 70% (SE=0.145), and 50% (SE=0.204) and 2-year OS were 79.3% (SE=0.092), 57.7% (SE=0.108), 100% (SE=0), 62.5% (SE=0.213), 88.9% (SE=0.105) and 53.3% (SE=0.248) respectively. When we compared PFS and OS durations among the groups, DLBCL had the best PFS with 70.2 months (SE = 9.59, 95% CI 51.4% –89%), while T-cell lymphoma had the worst PFS with 14.66 months (SE=3.92, 95% CI 6.96%–22.36%). For OS, the group with the best outcome was FL with 113 months (SE =8.48, 95% CI 96.36%–129.63%), and the worst outcome was T-cell lymphoma with 33.33 months (SE = 6.76, 95% CI 20.083% –46.583%)(Table 2). No significant differences in PFS ($p = 0.311$) or OS ($p = 0.263$) were observed between the groups based on the log-rank test, indicating no statistically meaningful variation in survival between the lymphoma subtypes. Cox regression analysis, adjusted for age and gender, revealed a significant difference in PFS between Hodgkin lymphoma and T-cell lymphoma ($p = 0.020$). However, no significant difference was found in OS (Table 3). Univariate and multivariate logistic regression analyses did not reveal any statistically significant differences between the groups. **Conclusion:** Our study revealed significant differences in survival rates among some groups. T-cell lymphoma patients had worse outcomes for both PFS and OS, while DLBCL showed the best PFS, and follicular lymphoma showed the best OS. Understanding these varying survival expectations after autologous transplantation in different lymphoma types can help identify strategies to improve success rates for those with shorter survival durations. When comparing our study to previous research, both similarities and differences were identified. For Hodgkin's lymphoma, our 5-year PFS was 69.9% and OS was 72.1%, they were higher compared to the 48% PFS and 53% OS reported by Majhail et al. The differences in subtype distribution, with 65% nodular sclerosis and 15% mixed cellular in our cohort compared to 87% and 8% in their study, may have contributed to this variance. For DLBCL, our 5-year PFS was 60.6%, which surpassed the 42.8% reported by Tun et al., possibly due to the younger average age in our cohort (45 vs. 59 years). For follicular lymphoma, the OS was observed to be much higher compared to other studies and to PFS. This may be due to the quick diagnosis and treatment processes in our clinic or the uneven distribution of the sample group. For other lymphoma subtypes, our findings were generally consistent with the literature. The primary limitation of our study is the small sample size, which likely influenced some of the observed differences. The absence of data on patients' risk factors and disease status at the time of ASCT is another

Table 1 – Patient Characteristics

	HL	DLBCL	FL	MZL	MCL	T-cell	Total
No. of patients	20	22	17	6	10	6	
Sex							
Male, *n(%)*	11 (55%)*	14 (63.6%)*	5 (29.4%)*	0*	8 (80%)*	2 (33.3%)*	40 (49.4%)*
Female, *n(%)*	9 (45%)*	8 (36.4%)*	12 (70.6%)*	6 (100%)*	2 (20%)*	4 (66.7%)*	41 (50.6%)*
Age							
Mean± Standard Deviation	33.15±15.160**	45.14±12.981**	49.59±11.587**	54.83±8.998**	55.60±14.065**	54.17±24.302**	
Median [Q1-Q3]	27[20-46]**	48[38.5-52.5]**	52[41-58.5]**	54[46.75-64.5]**	59.5[50.75-65]**	58[27.75-76]**	
Disease status after ASCT							
Progression, *n (%)*	5 (25%)	7 (31.8%)	8 (47.05%)	2 (33.33%)	5 (50%)	3 3 (%50)	30 (37%)
Mortalities, *n(%)*	5 (25%)	9 (40.9%)	1 1 (5.88)	2 (33.33%)	3 (30%)	2 (33.33%)	22 (27.2%)

HL Hodgkin Lymphoma, *DLBCL* Diffuse Large B-cell Lymphoma, *FL* Follicular Lymphoma, *MZL* Marginal Zone Lymphoma, *MCL* Mantle Cell Lymphoma, *ASCT* Autologous Stem Cell Transplantation, *p=0.008, **p<0.001

Table 2 – Mean for Survival

Subtypes	PFS Mean				OS Mean			
	Estimate	Std. Error	95% CI		Estimate	Std. Error	95% CI	
			Lower Bound	Upper Bound			Lower Bound	Upper Bound
HL	63.640	8.071	47.821	79.460	65.546	7.501	50.844	80.248
DLBCL	70.205	9.593	51.402	89.008	94.927	16.105	63.361	126.492
FL	60.899	13.367	34.700	87.098	113.000	8.485	96.369	129.631
MZL	36.200	9.543	17.495	54.905	69.250	19.674	30.689	107.811
MCL	61.075	15.882	29.947	92.203	84.429	15.081	54.870	113.988
T-cell	14.667	3.928	6.969	22.365	33.333	6.760	20.083	46.583
Total	72.452	6.735	59.252	85.652	114.038	7.918	98.519	129.557

HL Hodgkin Lymphoma, *DLBCL* Diffuse Large B-cell Lymphoma, *FL* Follicular Lymphoma, *MZL* Marginal Zone, Lymphoma, *MCL* Mantle Cell Lymphoma

Table 3 – Cox Regression for PFS and OS

	PFS				OS			
			95% CI				95% CI	
	p	HR	Lower	Upper	p	HR	Lower	Upper
age	.311	.986	.959	1.013	.793	1.004	.974	1.035
group	.290				.423			
HL-DLBCL	.515	1.516	.432	5.317	.365	1.733	.527	5.703
HL-FL	.251	2.059	.600	7.062	.143	.190	.021	1.754
HL-MZL	.357	2.377	.376	15.011	.805	1.263	.199	8.015
HL-MCL	.194	2.523	.624	10.199	.954	.954	.193	4.710
HL-T-cell	.020	7.663	1.385	42.389	.635	1.528	.265	8.805
sex	.743	1.146	.507	2.591	.851	1.096	.419	2.871

HL Hodgkin Lymphoma, *DLBCL* Diffuse Large B-cell Lymphoma, *FL* Follicular Lymphoma, *MZL* Marginal Zone Lymphoma, *MCL* Mantle Cell Lymphoma, *CI* Confidence Interval, *HR* Hazard Ratio

limitation. However, the strength of our study is the ability to compare six lymphoma subtypes within the same study. Further research is needed to focus on larger patient cohorts and incorporate detailed evaluations of risk factors in patients undergoing autologous transplantation.

https://doi.org/10.1016/j.htct.2024.11.012

OP 12

RESULTS OF UNRELATED ALLOGENEIC STEM CELL TRANSPLANTATION: A SINGLE CENTER EXPERIENCE

Muhammed Murati [1,*], Yakup Ünsal [1], Güler Delibalta [1], Serdar Bedii Omay [1]

[1] *Emsey Hospital*

Objective: Evaluation of data from unrelated hematopoietic stem cell transplants performed in our transplant center. **Methodology:** At the Private Emsey Hospital Adult Stem Cell Transplantation Unit were evaluated retrospectively between 2016 and 2023 to Allogeneic hematopoietic stem cell transplantations performed on 76 patients with different diagnoses from unrelated donors. **Results:** Data of patients with a mean age of 41.9 years were retrospectively analyzed. All donors were from a Turkish stem cell bank and 51% had HLA 1 allele incompatibility. 28 transplants were performed between different genders. Average follow-up was 17.3 months. Neutrophil engraftment occurred in an average of 18.1 days. Acute GVHD was detected in 26% and chronic GVHD in 41%. 1-year overall survival was 37% and disease-free survival was 32%. **Conclusion:** Non-relative stem cell transplantation is an important option especially in hematological diseases where there is no family donor and allogeneic transplantation is required. It has been observed that non-relative data performed in our clinic are similar to data from other centers.

https://doi.org/10.1016/j.htct.2024.11.013

OP 13

MANTLE CELL LYMPHOMA PATIENT WITH SKIN GVHD AFTER AUOTOLOGOUS STEM CELL TRANSPLANT

Mehmet Sezgin Pepeler [1,*], Merve Pamukçuoğlu [1], Gulsum Özet [1], Simten Dağdaş [1], Funda Ceran [1], Beytullah Altınkaynak [2]

[1] *Ankara Bilkent City Hospital*
[2] *Kocaeli City Hospital*

Objective: Graft-versus-host disease (GVHD) after ASCT is an immunologically developing process. T cells and inflammatory cytokines formed against the recipient'ss alloantigens are responsible for this. It is less common in autologous SCT than in allogeneic SCT. It has been reported in the literature that there are MM patients who developed autologous GVHD after Auotologous SCT. **Case report:** Here, we present a case