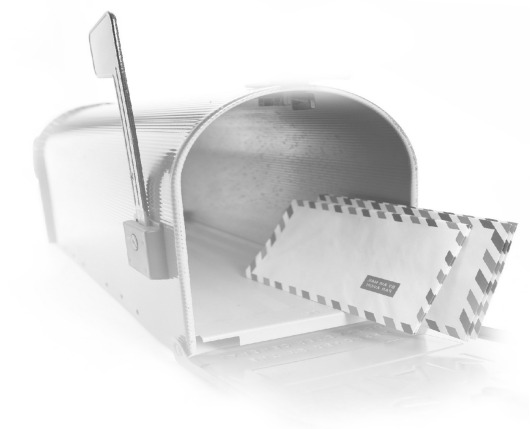

http://dx.doi.org/10.5045/kjh.2012.47.2.155
The Korean Journal of Hematology
Volume 47 · Number 2 · June 2012

Letter to the Editor

Relapse pattern and prognostic factors for patients with primary CNS lymphoma

THE AUTHORS' REPLY: We thank Dr. Dahiya and his co-investigator for their interest in our paper. We totally agree with Dr. Dahiya on the importance of patient characteristics for evaluating the outcome of chemotherapy followed by autologous stem cell transplantation (CTx-ASCT) for primary CNS lymphoma (PCNSL).

We compared the baseline characteristics of all patients, except 3 patients who received best supportive care only (Table 1). Age, Eastern Cooperative Oncology Group (ECOG) performance status (PS), and international prognostic index (IPI) of patients who received CTx-ASCT were not significantly different from those of patients who received other treatments. Complete response (CR) or partial response (PR) was shown by 100%, 62.1%, and 84.6% of the patients treated with CTx-ASCT, CTx only, and CTx followed by whole brain radiotherapy (CTx-WBRT), respectively [1]. The selection bias due to exclusion of patients who were refractory to chemotherapy might have contributed to the better outcome of CTx-ASCT. Nonetheless, 5 of the 18 patients who showed PR after CTx achieved CR after ASCT, suggesting that ASCT might have improved the clinical outcomes in these patients.

Characteristics (Age, ECOG PS, and IPI) of patients who received CTx-WBRT and CTx-ASCT were not significantly different (Table 2), but compared to CTx-WBRT, CTx-ASCT had better response, as shown in our previous report [1]. We did not assess the risk of neurotoxicity due to lack of data, but the risk of acute and late neurotoxicity after WBRT is well described by previous studies [2-4]. A previous study showed that CTx-WBRT affords the benefit of improved progression-free survival, but the increased risk of neurotoxicity limits this benefit [5]. Our study has limitations of retrospective design, such as patient selection bias and lack of data on treatment-related toxicity including

Table 1. Characteristics of patients who received different treatments (N=62).

	No ASCT (N=44)	ASCT (N=18)	*P*
Age			
Median (Range)	59 (28-76)	53 (33-65)	0.260
Age			0.253
≥60	20 (47.6%)	5 (27.8%)	
<60	22 (52.4%)	13 (72.2%)	
Gender			0.241
Male	25 (59.5%)	14 (77.8%)	
Female	17 (40.5%)	4 (22.2%)	
Involvement sites			1.000
Intracranial lesion only	38 (90.5%)	15 (83.3%)	
Extracranial involvement	6	3	
Leptomeningeal seeding	4	2	
Ocular lesion	1	1	
Spinal cord	1	0	
B Symptom			1.000
Yes	1 (2.4%)	0 (0.0%)	
No	41 (97.6%)	18 (100.0%)	
ECOG PS			0.592
1	30 (71.4%)	16 (88.9%)	
2	7 (16.7%)	2 (11.1%)	
3	2 (4.8%)	0 (0.0%)	
4	3 (7.1%)	0 (0.0%)	
IPI at diagnosis			0.765
0	10 (23.8%)	5 (27.8%)	
1	15 (35.7%)	9 (50.0%)	
2	8 (19.0%)	2 (11.1%)	
3	8 (19.0%)	2 (11.1%)	
4	1 (2.4%)	0 (0.0%)	

Abbreviations: ECOG PS, Eastern Cooperative Oncology Group performance status; IPI, international prognostic index; ASCT, autologous stem cell transplantation.

Table 2. Comparison of characteristics of patients who received subsequent treatment after chemotherapy (N=31).

	CTx-WBRT (N=13)	CTx-ASCT (N=18)	*P*
Age			
Median (Range)	50 (28–68)	53 (33–65)	0.171
Age			0.667
≥60	2 (15.4%)	5 (27.8%)	
<60	11 (84.6%)	13 (72.2%)	
Gender			0.247
Male	7 (53.8%)	14 (77.8%)	
Female	6 (46.2%)	4 (22.2%)	
Involvement sites			1.000
Intracranial lesion only	12 (92.3%)	15 (83.3%)	
Extracranial involvement	1	3	
Leptomeningeal seeding	1	2	
Ocular lesion	0	1	
B Symptom			1.000
Yes	0 (0.0%)	0 (0.0%)	
No	13 (100.0%)	18 (100.0%)	
ECOG PS			0.341
1	9 (69.2%)	16 (88.9%)	
2	3 (23.1%)	2 (11.1%)	
3	1 (7.7%)	0 (0.0%)	
4	0 (0.0%)	0 (0.0%)	
IPI at diagnosis			1.000
0	3 (23.1%)	5 (27.8%)	
1	6 (46.2%)	9 (50.0%)	
2	2 (145.4%)	2 (11.1%)	
3	5 (15.4%)	2 (11.1%)	
4	0 (0.0%)	0 (0.0%)	

Abbreviations: ECOG PS, Eastern Cooperative Oncology Group performance status; IPI, international prognostic index; WBRT, whole brain radiotherapy; ASCT, autologous stem cell transplantation; CTx-WBRT, chemotherapy followed by whole brain radiotherapy; CTx-ASCT, chemotherapy followed by autologous stem cell transplantation.

neurotoxicity; therefore, the benefits of ASCT after CTx should be verified by a prospective analysis. However, such a prospective trial would be difficult to conduct, considering the rarity of PCNSL, different treatment strategies in different institutions, and treatment-related toxicities.

In conclusion, CTx-ASCT improves outcomes in PCNSL patients and results in better response rate and failure free survival, as shown by multivariate analysis conducted for a single center cohort of patients treated with relatively consistent treatment strategies. Further, the baseline characteristics of patients who received different treatments were similar.

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1. Kim JE, Yoon DH, Kim S, et al. Relapse pattern and prognostic factors for patients with primary central nervous system lymphoma. Korean J Hematol 2012;47:60-6.
2. DeAngelis LM, Seiferheld W, Schold SC, Fisher B, Schultz CJ. Combination chemotherapy and radiotherapy for primary central nervous system lymphoma: Radiation Therapy Oncology Group Study 93-10. J Clin Oncol 2002;20:4643-8.
3. Ferreri AJ, Crocchiolo R, Assanelli A, Govi S, Reni M. High-dose chemotherapy supported by autologous stem cell transplantation in patients with primary central nervous system lymphoma: facts and opinions. Leuk Lymphoma 2008;49:2042-7.
4. Morris PG, Abrey LE. Therapeutic challenges in primary CNS lymphoma. Lancet Neurol 2009;8:581-92.
5. Thiel E, Korfel A, Martus P, et al. High-dose methotrexate with or without whole brain radiotherapy for primary CNS lymphoma (G-PCNSL-SG-1): a phase 3, randomised, non-inferiority trial. Lancet Oncol 2010;11:1036-47.