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SWISS ONCOLOGY & HEMATOLOGY CONGRESS

BeEAM with Polatuzumab (Pola-BeEAM) before ASCT in Patients with DLBCL

Clinical hemato-oncology

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INTRODUCTION

BEAM is mostly applied as high-dose chemotherapy (HDCT) before autologous stem cell transplantation (ASCT) in diffuse large B-cell lymphoma (DLBCL). Bendamustine replacing BCNU (BeEAM) is similarly effective with fewer toxicities. However, relapse remains the major cause of death in DLBCL patients. In this study, we investigated for the first time the addition of polatuzumab vedotin (PV, targeting CD79b) together with standard BeEAM conditioning (Pola-BeEAM) in 12 DLBCL patients. The aim of this study was to evaluate feasibility and safety of this novel Pola-BeEAM regimen prior to ASCT.

METHODS

This is a pilot single-center study investigating standard-dose BeEAM regimen with additional PV aiming to establish feasibility and safety of this procedure. PV was given once at the standard dose of 1.8 mg/kg at day -6, together with BeEAM-HDCT (from days −7 to −1) before ASCT in patients with DLBCL.

RESULTS

8/12 patients (67%) received PV with BeEAM as a consolidation of first-line treatment due to high-risk initial presentation, and 4/12 patients (33%) received PV with BeEAM as second-line treatment after re-induction treatment.

All patients experienced complete engraftment (neutrophils > 0.5 G/L: median 11 days; platelets > 20 G/L: 13 days). 10/12 patients (83%) had grade 3-4 toxicities. Gastrointestinal toxicities occurred in 7/12 patients (58%, grade 3). All patients developed infections during neutropenia with at least one identified pathogen (bacterial: 10/12 patients; viral: 2/12; and fungal: 1/12). *(Table 1)*

The complete remission rate by PET-CT 100 days post-ASCT was 92%, and one patient (8%) died so far during follow-up due to early progression. Eleven out of twelve patients (92%) are alive so far and without progression after a median follow-up of 15 months. *(Table 2)*

CONCLUSION

Our data suggest that combinging PV with BeEAM HDCT is feasible and safe, but the limited size of the cohort prevents definite conclusions regarding efficacy. Larger prospective trials will be needed to fully elucidate outcomes and toxicities after Pola-BeEAM treatment.

Table 2: Outcome

Parameter, *n* (%)	
CR 100 days after ASCT	11/12 (92%)
Progression before 100 days after ASCT	1/12 (8%)
Relapse during follow-up	1/12 (8%)
Death during follow-up*	1/12 (8%)
Secondary malignancies after ASCT	0/12 (0%)

***CR**: complete remission, **ASCT**: autologous stem cell transplantation.*
** at day +26 following ASCT*

Table 1: Details of high-dose chemotherapy, engraftment, infections, and hematological and non-hematological toxicities

Parameter	**Results**	
Apheresis from peripheral blood, *n* (%)	12/12 (100%)	
Pola-BeEAM administered at full dose, *n* (%)	12/12 (100%)	
PV associated transfusion reactions, *n* (%)	0/12 (100%)	
Transplanted CD34+ cells, median, x10^6/kg b.w. (range)	4.1 (2.6-7.5)	
Median time to engraftment, days (range)		
Tc > 20 G/L	13 (10-25)	
Neutrophils > 0.5 G/L	11 (10-13)	
Lymphocytes > 1.0 G/L	25 (16-51)	
Hospitalization, median, *n* (range)	23 (20-34)	
TPN given, n (%)	11 (92%)	
Units of erythrocyte transfusions, median, *n* (range)	3 (0-10)	
Units of platelet transfusions, median, *n* (range)	6 (2-15)	
Weight changes, median, kg (range)	-2 (-8;+3)	
Infections		
At least one febrile episode, *n* (%)	12/12 (100%)	
Median number of febrile episodes, *n* (range)	2 (1-3)	
Bacterial, *n* (%)	10/12 (83%)	
Viral, *n* (%)	2/12 (17)	
Fungal, *n* (%)	1/12 (8%)	
Non-hematological toxicities		
Patients with > 1 toxicity, all grades, *n* (%)	12/12 (100)	
Patients with grade 3-4 toxicities, *n* (%)	10/12 (83%)	
Grades of toxicities, *n*	**Grade 1-2**	**Grade 3-4**
Mucositis	8	4
Diarrhea	7	4
Dysphagia	8	1
Neutropenic colitis	7	0
Acute kidney injury	0	2
Gastrointestinal bleeding	0	1
Thromboembolic events	0	1
Atrial fibrillation	1	0
ICU admission, *n*	1	

***Pola-BeEAM:** polatuzumab vedotin, bendamustine, etoposide, cytarabine, melphalan, **PV:** polatuzumab vedotin, **Tc**: thrombocytes, **TPN**: total parenteral nutrition, **ICU**: intensive care unit.*

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