Journal of Blood & Lymph
ISSN: 2165-7831

Bekadja, J Blood Lymph 2014, 4:3
DOI: 10.4172/2165-7831.1000e115

Editorial Open Access

EAM as a New Conditioning Regimen for Lymphoma Patients Undergoing Autologous Progenitor Cell Transplantation

Mohammed Amine Bekadja*

Hematology and Cell Therapy Department, University Hospital of Oran, Algeria

***Corresponding author:** Hematology and Cell Therapy Department, University Hospital of Oran, Algeria, Tel: 00213773844988; Fax: 0021341421636; E-mail: mabekadja@yahoo.fr

Rec date: September 17, 2014 **Acc date:** September 22, 2014 **Pub date:** September 24, 2014

Keywords: Autologous progenitor cells transplantation; Etoposide; Cytarabine; Melphalan

Editorial

Autologous progenitor cells transplantation (APCT) after a high dose conditioning chemotherapy is now an established treatment modality for many hematological malignancies such as lymphoma [1]. Clinical results and survival after APCT depend on disease chemo sensitivity at transplant and the efficacy of the conditioning regimen at eradicating the residual tumor cell clone [2].

The impact of the conditioning regimen is a controversial matter and despite efforts to identify high-dose regimens with increasing antitumor activity and acceptable toxicity to normal tissues, there is not yet clear evidence of a superior conditioning platform that should be applied in the setting of recurring lymphoma patients, at least in terms of tumor-eradicating capacity.

In lymphoma, the protocols used were of more different type: CBV, BEAM [3], BEAC [4] CEAM [5], FEAM [6] or LACE [7]. CBV and BEAM are the two most frequently used regimens for patients with lymphoma undergoing autologous progenitor cells transplantation (APCT). A BEAM regimen is a widely used conditioning regimen for autologous progenitor cells transplant in patients with Hodgkin lymphoma and non-Hodgkin lymphoma because of its acceptable toxicity and high effectiveness. Adverse events associated with BEAM are related in part to BiCNU [8].

In overall, the outcomes were following: median time to neutrophil (>500×109/l) and platelet (>20,000×109/l) engraftment was between 11 to 14 days and 13 to 19 days respectively. The mean of the transplant-related mortality (TRM) was between 3 to 7%. The overall survival at 8 years of patients conditioned with BEAM or BEAC (58%) was more favorable than with CBV (40%), and significantly better than with CY-TBI (31%).

Throughout the years from 2011 to 2012, seventeen patients received the EAM conditioning regimen in our department as follows: Etoposide (total dose of 800 mg\m^2), Cytarabine (total dose of 8000 mg\m^2) and Melphalan 140 mg/m^2. The median age was 28 years (range: 17-48). All patients had a full hematopoietic reconstitution.

Median time to achieve neutrophils >500 /µl was 13 days (range: 10-19) and median time to achieve an unsupported platelet count >20,000/µl was16 days (range: 14-25). Toxicities included grade 4 hematologic in all patients, grade 3 mucositis in 4, grade 3 infectious in 2. One patient died at 100-Day (TRM=5,8%). After a median follow up of 34 months, the overall survival was 67% at 41 months, 13 patients are alive and 12 are in continuous complete remission.

In conclusion, these data demonstrate the safety and feasibility of EAM regimen as a new and modified regimen. Although these outcomes are encouraging, and comparison with other traditional APCT regimens used for patients with lymphoma is warranted.

References

1. Gleeson M, Cunningham D, Linch D (2014) The role of myeloablation for lymphoma. N Engl J Med 370: 576.
2. Salar A, Sierra J, Gandarillas M, Caballero MD, Marín J, et al. (2001) Autologous stem cell transplantation for clinically aggressive non-Hodgkin's lymphoma: the role of preparative regimens. Bone Marrow Transplant 27: 405-412.
3. Mills W, Chopra R, McMillan A, Pearce R, Linch DC, et al. (1995) BEAM chemotherapy and autologous bone marrow transplantation for patients with relapsed or refractory non-Hodgkin's lymphoma. J Clin Oncol 13: 588-595.
4. Jo JC, Kang BW, Jang G, Sym SJ, Lee SS et al. (2008) BEAC or BEAM high-dose chemotherapy followed by autologous stem cell transplantation in non-Hodgkin's lymphoma patients: comparative analysis of efficacy and toxicity. Ann Hematol 87: 43-48.
5. Ramzi M, Mohamadian M, Vojdani R, Dehghani M, Nourani H, et al. (2012) Autologous noncryopreserved hematopoietic stem cell transplant with CEAM as a modified conditioning regimen in patients with Hodgkin lymphoma: a single-center experience with a new protocol. Exp Clin Transplant 10: 163-167.
6. Musso M, Scalone R, Marcacci C, Lanza F, Renzo ND, et al. (2010) Fotemustine plus etoposide, cytarabine and melphalan (FEAM) as a new conditioning regimen for lymphoma patients undergoing auto-SCT: a multicenter feasibility study. Bone Marrow Transplant 45: 1147-1153.
7. Pavlů J, Auner HW, Ellis S, Szydlo RM, Giles C, et al. (2011) LACE-conditioned autologous stem cell transplantation for relapsed or refractory diffuse large B-cell lymphoma: treatment outcome and risk factor analysis from a single centre. Hematol Oncol 29: 75-80.
8. Alessandrino EP, Bernasconi P, Colombo A, Caldera D, Martinelli G, et al. (2000) Pulmonary toxicity following carmustine-based preparative regimens and autologous peripheral blood progenitor cell transplantation in hematological malignancies. Bone Marrow Transplant 25: 309-313.