39th Annual Meeting of the European Group for Blood and Marrow Transplantation
7-10 April 2013, London,UK

Optimizing of plerixafor use in poor mobilizers. Should remobilization or "on demand" use be preferred? A single-center experience

Imelda Marton, (1) Ágnes Báthori, (1) Ágnes Bereczki,(1) Dóra Földeák, (1) Nóra Adamkovich, (1) Szabolcs Modok, (1) Timea Gurbity –Pálfi, (1) Anita Szőke, (1) Klára Piukovics, (1) **Éva Pósfai,** (1) Éva Trucza, (2) Zita Borbényi,(1)

(1) 2nd Department of Medicine and Cardiology Center, Medical Faculty, University of Szeged Albert Szent-Györgyi Medical Center, Szeged, Hungary
(2) Department of Laboratory Medicine, University of Szeged Albert Szent-Györgyi Medical Center, Szeged, Hungary

ABSTRACT:

Objective: To assess plerixafor use in poor mobilizers to survey the incidence of patients with poor mobilization and to evaluate the effectiveness of remobilization strategy, and "pre-emptive use".

Methods: In our retrospective analysis (2009–2012), 86 patients' mobilization procedure was analyzed, 45 female, 41 male with median age of 57 years (range19–69 years). 53 myeloma multiplex ; 19 non-Hodgkin lymphoma, and 14 Hodgkin lymphoma patients. 11 patients (13%) required plerixafor for the successful completion of mobilization. Remobilization group (group1) and a pre-emptive group (group2) were created. Group1 contained 5 patients, who had previously one or more unsuccessful mobilization attempts. Group2 contained 6 patients, who had never been mobilized before in which 3 patients were defined as predicted poor mobilizers and 3 patients were difficult to mobilize due to poor stem cell mobilization kinetics. The target yield was > 4x10^6 CD34+ cells/kg body weight.. All patients received plerixafor plus G-CSF with or without chemotherapy. Plerixafor was administered depending on the kinetics of CD34+ cells and white blood cell recovery.

Results: In group1 the median of circulating CD34+ cells after plerixafor administration was 36cell/microl (range: 9-150) versus group2 in which 45cell/microl (range: 25-63) could be observed. The median of collected CD34+/kg cells was 7.11x10^6/kg (range: 4.38 -13.2) in group1, whereas in group2 the median was 5.02x10^6/kg (range: 3.08-6.34). Median apheresis number was 4 (range: 1-4) in group1,in group2 the median was 3 (range: 2-4). Two patients in group1 required 2 remobilization. The average plerixafor dose in group1 was 2.5 vials, in group2 it was 1.66 vials by which the required target cell number could be achieved. From 11 patients 9 underwent stem cell transplantation and were engrafted.

Conclusions: All detailed patients achieved the required target cell number for ASCT. Plerixafor could be combined with G-CSF only or chemomobilization strategy. Our experience confirmed the view that pre-emptive administration of plerixafor may rescue the mobilization process, and enable the patient to proceed to ASCT without delay. The kinetics of hematopoietic recovery after chemotherapy may allow for early (just in time) intervention with plerixafor and may help reduce the risk of the mobilization failure.