

## Introduction:

Multiple Myeloma (MM) is a neoplasm characterized by clonal proliferation of plasma cells in the bone marrow. Several studies have demonstrated the benefit of autologous bone marrow transplantation in the treatment of MM, remaining the gold standard for patients eligible for the procedure. Some studies have demonstrated the feasibility of autologous bone marrow transplantation with fresh PSC. Among the possible benefits of this modality of transplantation we could highlight: reduction of transplant cost, expansion of the number of institutions with possibility of

## Objectives:

To evaluate the time of neutrophil grafting in patients with MM who underwent PSCT with infusion of non-cryopreserved stem cells compared to those who underwent cryopreserved stem cell infusion.

## Material and Methods:

A historical cohort of MM patients who underwent autologous PSCT, from 2010 and 2017, at a single center (BMT Center of Universidade Federal da Bahia) was carried out. We compared the outcomes of 100 patients submitted to Autologous PSCT using fresh or cryopreserved cells. The fresh Protocol follows Brazilian laws, that allow the infusion of PSC within 48 hours after apheresis (D-2 apheresis, D-1 Melphalan, D0 infusion).

## Result:

Of the 100 patients included, 60 received cryopreserved PSC and 40 received fresh (non-cryopreserved cells). Neutrophil grafting was obtained with a median of 11 days in the cryopreserved group and 10 days in the fresh infusion group ( $p < 0.001$ ). There was an infusion-related acute adverse effect (AE) during the procedure in 5 patients (8.3%) of the cryopreserved group, whereas in the non-cryopreserved group there was only 1 case of intercurrent (2.5%) ( $p < 0.05$ ). There was no difference in the frequency of febrile neutropenia between the two groups (81.7% vs 72.5%), retrospectively for cryopreserved and fresh infusion groups). However, the frequency of mucositis was higher in the first subgroup - 86.6% versus 62.5% ( $p < 0.05$ ).

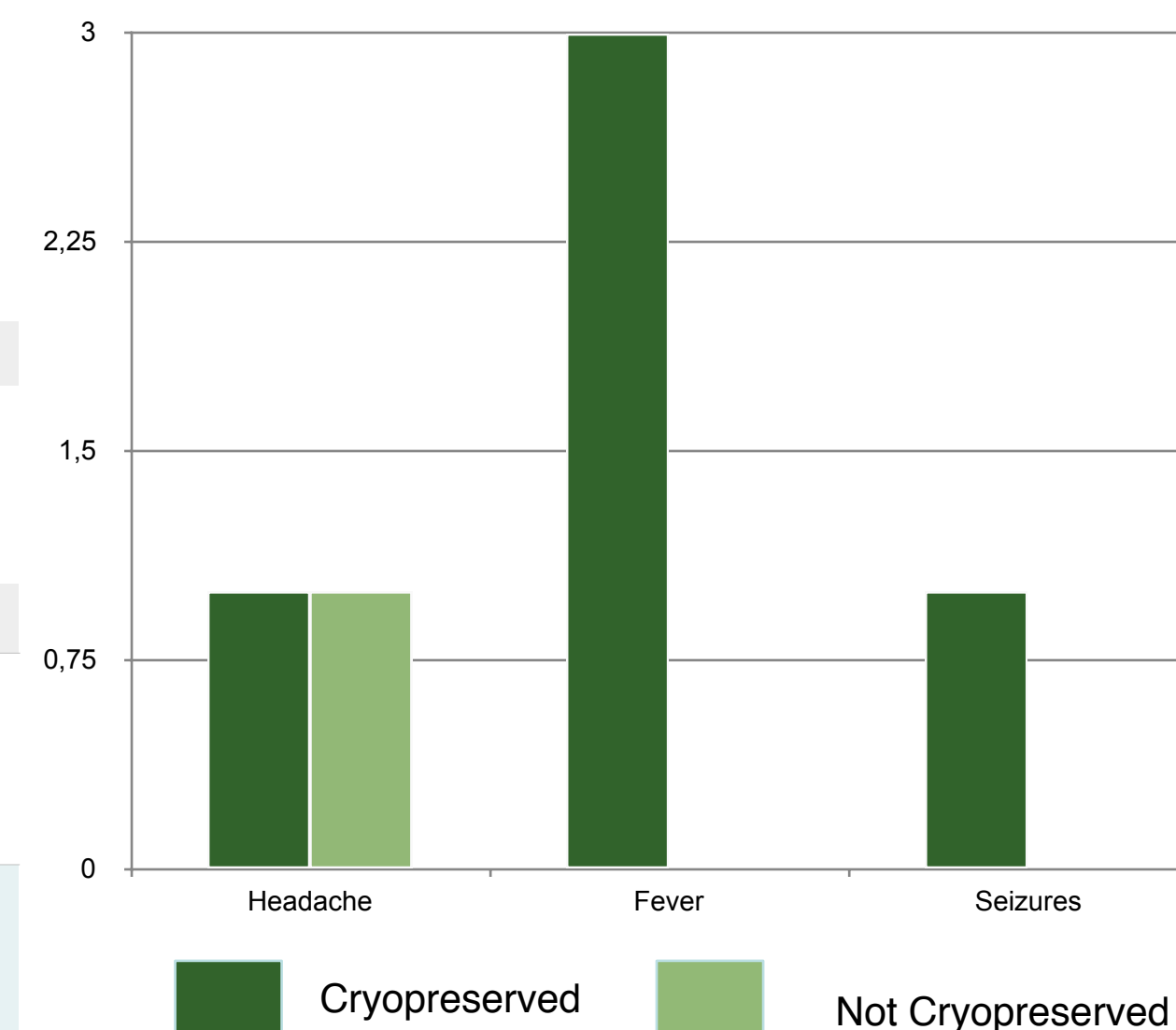
Table 1. Baseline Characteristics

	Cryopreserved	Not Cryopreserved
Male	56,7%	65%
Female	43,3%	35%
Age	50,8	54,7
Pre Transplante Response		
Not available	23,3	17,9
Stable Disease	8,3	0
Parcial Response	28,3	25,6
VGPR	16,7	41
Complete Réponse	18,3	15,4
Progression	5	0
Previous BMT	1,7%	5%
Conditioning Regime		
Mel 200	86,7%	75%
Mel 140	11,7%	22,5%
Not available	1,7%	2,5%
Total Infused Cell	4,01x10 <sup>6</sup> /Kg	3,49x10 <sup>6</sup> /Kg

Table 2: Outcomes of BMT between patients with cryopreserved stem cells and those with Not cryopreserved

Characteristics	Cryopreserved (n=60)	Not cryopreserved (n=40)
Grafting time in days (median)	D+11	D+10
Complications during infusion (%)	8,3%	2,5%
Febrile neutropenia – n (%)	81,7%	72,5%
Mucositis – n (%)	86,6%	62,5%

Graphic 1: Adverses effects during infusion of hematopoietic stem cells by subgroup



## Conclusions:

In our series autologous fresh PSCT is feasible and safe, with superiority when considering the neutrophil time to recovery. It is a more cost-effective method, especially in resource-limited countries.