



Introduction: The use of peripheral hematopoietic progenitor cells (HPCs) is an engraftment choice for performing autologous transplantation. In the mobilization, the classical dose of G-CSF is 10 µg/kg of patient body weight (kg bw) in a single dose. There is a theory that higher doses of G-CSF applied twice daily could increase the number of CD34+ cells collected with a lower number of leukapheresis procedures.

Objective: The aim of this study was to compare a fractionated dose of 15µg G-CSF /kg bw and the conventional dose of G-CSF, aimed at reducing the number of leukapheresis procedures required to allow the minimum target of 3 x 10⁶ CD34+ cells /kg bw to be reached.

Methods: Patients were divided into two groups. Group 10: patients who received a single dose daily of 10µg G-CSF /kg bw; and Group 15: patients who received a dose of 15µg G-CSF/kg bw twice daily (table 1). The leukapheresis procedure was carried out in an automated cell separator. The autologous transplantation was carried out when the minimum number of 3x10⁶ CD34+ cells/kg bw was reached.

Results: Group 10 comprised 39 patients and Group 15 26 patients. A total of 146 apheresis procedures were performed: 110 (75.3%) for Group 10 and 36 (24.7%) for Group 15. For Group 10 a median of 3 (1-7) leukapheresis procedures and a mean of 8.89 x10⁶ CD34+ cells/kg bw (± 9.59) were collected whereas for Group 15 the corresponding values were 1 (1-3) and 5.29 x10⁶ (± 4.95). An important statistical difference was in relation to the number of apheresis procedures ($p < 0.0001$) Figure 1, 2 e 3.

Conclusions: To collect the minimum target of 3x10⁶ CD34+ cells/kg bw the application of a fractionated dose of 15µg G-CSF /kg bw decreased significantly the number of leukapheresis procedures performed.

Table 1: Characteristics of patients in each group

Variable	Group 10 n= 39	Group 15 n= 26
Gender: Male – n (%)	23 (59)	13 (50)
Female – n (%)	16 (41)	13 (50)
Race: White – n (%)	32 (82)	20 (77)
Non-White – n (%)	07 (18)	06 (23)
Age - median (variation)	12 (1-20)	6 (1-22)
Diagnosis		
HL – n (%)	19	02
NHL – n (%)	06	02
Solid tumor – n (%)	14	22
Prior CT - median (variation)	2 (1-3)	2 (1-4)

HL: Hodgkin lymphoma; NHL: Non-Hodgkin lymphoma; Solid tumor: Germ cell tumor, Neuroblastoma, Ewing sarcoma and Medulloblastoma; CT: Chemotherapy treatments.

Figure 1 Total numbers of collected nucleated cells

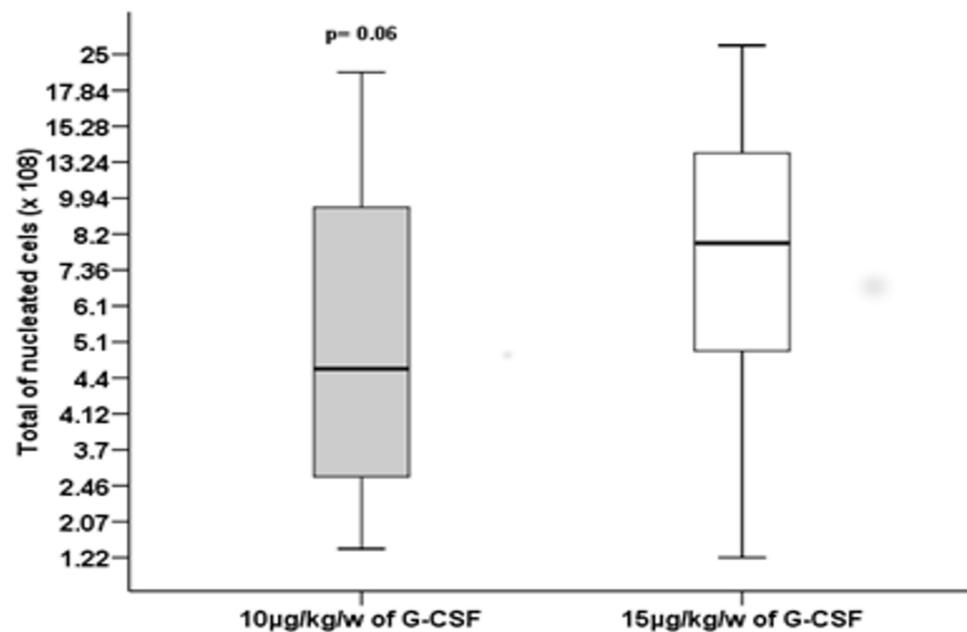


Figure 2 Total numbers of collected CD34+ cells

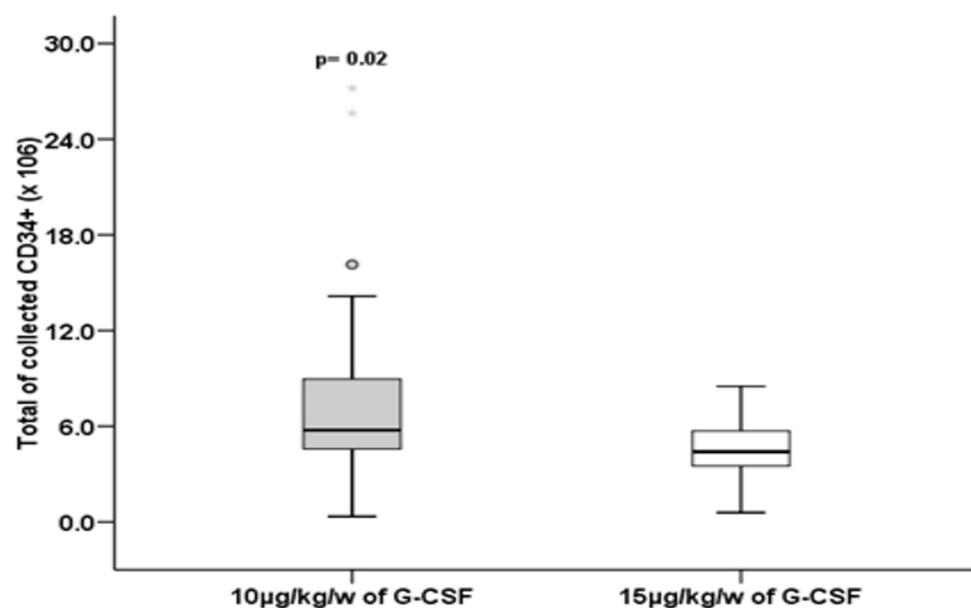


Figure 3 Numbers of leukapheresis

