

## Factors Influencing Engraftment in Patients Undergoing Autologous and Allogeneic Hematopoietic Stem Cell Transplantation

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Hematopoietic stem cell transplantation (HSCT) is a widely accepted therapeutic modality for a number of malignant, hematologic, immunologic, and genetic diseases. Allogeneic HSCT involves the transfer of marrow from a donor to another person and autologous HSCT involves the use of the patient's own marrow to reestablish hematopoietic cell function. The objective of this study is to identify predictive factors affecting a rapid engraftment in patients undergoing autologous and allogeneic HSCT. Kruskal-Wallis ANOVA followed by Mann-Whitney U ( $p < 0.05$ ) demonstrated that neutrophil and platelet recovery were more rapid in autologous PBSCT than in allogeneic BMT (neutrophil occurring in median on day 10.00 (09.00/11.00) and 19.00 (16.00/23.00) and platelet on day 11.00 (10.00/13.00) and 21.00 (18.00/25.00), respectively). The type of disease also affected engraftment, where multiple myeloma (MM) and lymphoma showed faster engraftment when compared with leukemia, syndrome myelodysplastic (SMD) and aplastic anemia (AA) and MM presented the best overall survival (OS) in a period of 12 months. Other factors included the drug used in the conditioning regimen (CR), where cyclophosphamide-BCNU-etoposide (CBV), melphalan (M200) and fludarabine-cyclophosphamide (FluCy) showed faster engraftment and M200 presented the best OS, in a period of 12 months and age, where 50-59 years demonstrated faster engraftment. Sex did not influence neutrophil and platelet recovery. Then, we observed the factors that affecting the engraftment and these possibilities to know the patients prognosis.

**Keywords:** oxidative stress, bone marrow transplantation, engraftment.

**Acknowledgments:** CAPES, CNPq, FAPERGS.