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Comparison of single and double autologous stem cell transplantation in multiple myeloma patients

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Objective: Multiple myeloma (MM) is the second most common hematological malignancy and autologous stem cell transplantation (ASCT) is one of the standard treatment of choice for eligible MM patients. The role of double ASCT as a treatment in patients with MM and its superiority over single ASCT are still a matter of discussion. Herein, we aimed to analyze MM patients at our center and compare the clinical outcomes of single and double ASCT patients.

Methodology: This study has been designed retrospectively. The patients who were diagnosed as multiple myeloma and had undergone ASCT in Hacettepe Hematology Department between the years 2003–2020 were evaluated.

Results: Disease assessment after ASCT stable or progressive disease, partial remission, very good partial or complete remission in single and double ASCT groups were 62/44/105 and 8/4/5, respectively, p: 0.22. Among the double transplanted patients, five of them were transplanted within 1 year after the first transplant. The median duration between the first and second transplant was 1322 (414–4242) days in double ASCT patients. OS duration of the single and double transplanted groups were 4011 ± 266 versus 3526 ± 326 days, respectively, p: 0.33. There was no statistically significant difference between OS durations of single and double ASCT patients. Only 4 patients had died from TRM in single ASCT group, whereas no patients had died from TRM in double ASCT group. Progression free survival durations of the single and double transplanted groups were 2344 ± 228 versus 685 ± 120 days, respectively, p: 0.22. There was no statistically significant difference between PFS durations of single and double ASCT patients. The factors that are related with the OS of double ASCT patients were analyzed. In univariate analysis, serum calcium levels and IgA type M protein were found to be related with OS of double ASCT patients (p: 0.09 and p: 0.06, respectively); however this relationship was not found in multivariate analysis. In univariate analysis, serum uric acid levels and beta-2 microglobulin were found to be related with PFS of double ASCT patients (p: 0.04 and p: 0.07, respectively); however this relationship was not found in multivariate analysis.

Conclusion: ASCT remains to be one of the main treatment options in MM. Many studies tried to find the best way of this procedure to maximize the benefit for the patients. Given the survival benefits observed with ASCT, trials have evaluated the use of additional intensive chemotherapy followed by a second ASCT. The recent general opinion among clinicians is that a second ASCT tends to be a feasible and rational treatment choice, particularly in patients with high risk MM. In the present study, it has been demonstrated that there seems to be no benefit with double ASCT in MM patients in terms of disease response rates and PFS and OS durations over single ASCT. Our study points out that the double ASCT treatment option in MM may not be effective as suggested, especially in the era of novel MM drugs. Further prospective larger studies are needed to clarify the role of double ASCT especially in high risk MM.

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Are the hemoglobin values different after sex-mismatched allogeneic stem cell transplantation?

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Objective: Allogenic hematopoietic stem cell transplant (HSCT) is used as a curative treatment approach in many hematological diseases. Allogenic HKHN made for nearly 30 years bone marrow microenvironment and stroma after transplantation are known to protect the recipient identity. It is well known that if sex mismatch allogeneic HSCT is performed from multipar women to men, graft-versus-host disease frequency and therefore transplant related mortality is increased. Inborn difference and its change after transplant in hemoglobin (Hb) levels between male and female did not draw attention on a scientific basis. The aim of this study to analyze Hb and red cell distribution width (RDW) changes after mismatch allogeneic HSCT.

Case report: 18–72 years old 62 cases with acute leukemia were included in this study, between 2016–2019. All of them underwent allogeneic HSCT with used conditioning regimens like myeloablative or non-myeloablative or RIC (reduced-intensity conditioning) and were in the first complete remission.

Methodology: The patients were divided into four groups according to the transmitter and gender compliance, as well as demographic features; MM (male to male), MF (male to female), FF (female to female) FM (female to male). Hemoglobin and red cell distribution (RDW) interval differences were evaluated before and after transplantation.

Results: There was no significant difference between groups in terms of age and performance status. The mean Hb level was significantly increased in all patients from 9.16 g/dL to 12.34 g/dL ($p < 0.0001$) after transplantation. The average RDW before transplantation was 16.60% after transplantation was 15.57%. When the mean Hb values at 12 months were compared with post-transplant, it was found to be 12.79 g/dL and 12.99 g/dL in male recipients and female recipients respectively. While mean values of male recipients were 15.78% and 15.02% in the MM group and FM group, it was observed that female recipients were 13.43% and 15.13% in the FF group and in the MF group, respectively. While the male recipient