P1377 THE IMPACT OF THE TRAVELED DISTANCE TO THE TRANSPLANT CENTER ON THE CLINICAL OUTCOME OF ALLOGENIC BONE MARROW TRANSPLANT PATIENTS

Topic: 22. Stem cell transplantation - Clinical

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Background:
Several factors affect the outcome of allogeneic stem cell transplantation (Allo-SCT) in hematologic malignancy patients. The disease type, treatment modality and patients’ clinical profile largely determine the outcomes of Allo-SCT; however, the latter may vary among patients with similar aforementioned variables. Proximity to the transplant center could be an independent factor that affects the clinical outcome of Allo-SCT in patients. This is a retrospective study conducted at American University of Beirut Medical Center (AUBMC).

Aims: The aim of this study is to determine the differences in the clinical outcome between Allo-SCT patients residing at different distances from the transplant center.

Methods: We identified a total of 275 adult patients receiving Allo-SCT between January 2007 and June 2021. The patients were divided into three groups: patients residing within 20 km from AUBMC N=120 (44%) labeled as Urban, patients residing beyond 20 km from AUBMC N=111 (40%) labeled as Rural and patients who arrived from countries abroad N=44 (16%) labeled as Abroad. All patients received Allo-SCT along with the required follow up medical care at AUBMC. Using univariate and multivariate analysis, we examined the impact of distance from the transplant center along with other independent variables on the outcomes of Allo-SCT. Kaplan-Meier curves were also exploited to identify overall survival (OS), progression free survival (PFS) and transplant-related mortality (TRM).

Results:
Male predominance is seen in all three groups. The distribution of disease types was similar in all three groups, where acute leukemia was the dominant hematological disease. However, a significant difference in age at transplant was noted, with the Urban group being the eldest (median age=43) and the Abroad group being the youngest (median age=35) (P=0.011). Also, the three groups differed in their median follow up whereby the Abroad group had the shortest (30 months) while the Urban group had the longest (55 months) (P<0.001). Concerning the pre-transplant conditioning regimen, there is no difference in the intensity in all three groups (P=0.052). 89% of patients of the Abroad group, 61% of the Urban and 65% of the Rural received their stem cells from a matched related donor (P=0.047). However, both Urban and Rural groups (35% and 34%) respectively received stem cells from a haplo-identical donor unlike the Abroad group only 9% (P=0.047).

On multivariate analysis (table 2) there was no statistically significant difference at 3 years in terms of OS, TRM and acute GVHD (aGVHD) between the three groups. However, the 3 years PFS was higher among patients from the Abroad group (26.8 months) compared to the Urban group (19.2 months) (P=0.035). Moreover, chronic GVHD (cGVHD) was higher the closer the patient was to the transplant center with a hazard’s ratio (HR) = 2.183 (P=0.044).

Image:

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Summary/Conclusion: Distance didn’t show any significant difference in OS, TRM and aGVHD. On the other hand, the closer patients from the transplant center had higher risk for cGVHD and lower 3 years PFS most probably because they have more frequent and stricter follow up compared to others. More studies should be done on the current matter with adjustments for confounding variables.