SOHO ANNUAL MEETING 2024

Association Between ADAMTS-13 Activity and the Prognosis of Multiple Myeloma After Bone Marrow Transplantation

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INTRODUCTION

Multiple myeloma (MM) is one of the most common hematological neoplasms. Autologous stem cell transplantation (ASCT) is currently the standard plan of care as consolidation for fit, eligible patients after receiving induction chemotherapy.

AIM

The aim of this study to assess the significance and validity of the plasma level of ADAMTS-13 activity before autologous hematopoietic stem cell transplantation as a predictor of prognosis (outcome, disease- free survival) and complications (transplant- related mortality, relapse) in multiple myeloma patients.

METHOD

In this prospective cohort study, we measured the pre-transplantation plasma level of ADMATS13 for its potential effect on survival, incidence of MM relapse and outcome of autologous hematopoietic stem cell transplantation. The study took place in a single bone marrow transplantation facility and included 51 patients previously diagnosed with MM, who received induction chemotherapy and were admitted for ASCT.

RESULTS

Blood samples were collected prior to transplantation, and the patients were followed up throughout the transplantation process and until 12 months after transplantation. ADAMTS-13 levels came between 24.6% and 152.4%. The average level was 74.78%, with half of patients below 64.77%. Twelve of 51 patients (23.5%) had ADAMTS-13 levels below 50%. Forty-four of 51 patients (86.3%) survived through the follow- up period without any evidence of relapse. Only 7 patients (13.7%) had MM relapse.

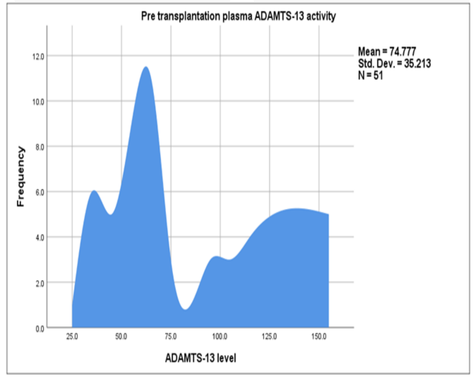


Figure 1: Frequency of pre transplantation plasma levels of ADAMTS-13.

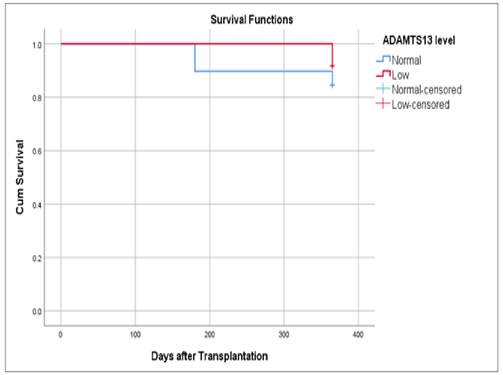


Figure 2: Kaplan Miere curve showing median disease-free survival among Studied cases according to different plasma ADAMTS-13 levels.

CONCLUSIONS

The pre-transplantation plasma level of ADAMTS-13 had no statistically significant effect on the outcome, relapse incidence, or disease-free survival during the first 12 months after transplantation.

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ACKNOWLEDGEMENTS

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