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Outcome & Survival After Autologous Stem Cell Transplantation In Hematologic Malignancies In Mongolia

B.PUREVSUREN, M.SUKHBAATAR· E.ERDENEBAATAR, O.NOROV
THE FIRST CENTRAL HOSPITAL OF MONGOLIA

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INTRODUCTION

Hematopoietic stem cells are crucial for self-renewal and become mature blood cells. Lymphoid malignancies are the most suitable diseases for autologous hematopoietic stem cell transplantation. The First Central Hospital of Mongolia has successfully performed autologous hematopoietic stem cell transplantation (HSCT) in 32 cases.

AIM

To investigate the **5-year outcomes** of autologous HSCT and the associated survival rates among patients and evaluate **bone marrow recovery**.

METHOD

This retrospective and prospective cohort study included 31 patients with multiple myeloma and lymphoma who underwent autologous HSCT between 2014 and 2024 in Mongolia.

We categorized our study participants based on CD34+ cells ≥4×10^6/kg and <4×10^6/kg.

Neutrophil recovery was defined as >0.5×10^9/L in peripheral blood for 3 days post-CD34+ stem cell infusion, and platelet recovery was defined as >20×10^9/L.

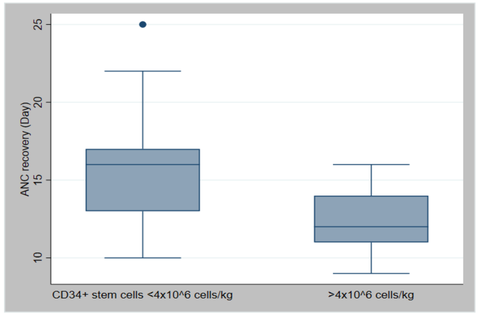
Survival functions were estimated using the Kaplan-Meier method, and the group was compared with the log-rank test.

RESULTS

Male	20	31 patients	11	Multiple myeloma
Female	11		20	Lymphoma
CD34+ 10^6 cells/kg	4.6 /1.8-13.7/		44±13.8	Age

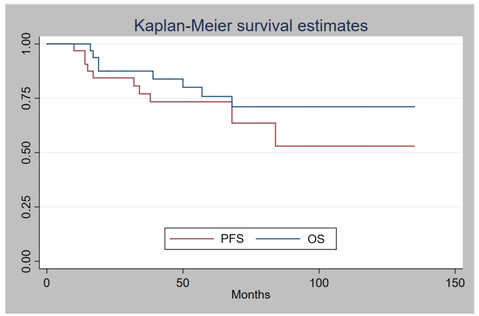
Significant relationships were observed between CD34+ cell counts and both neutrophil (*P*=0.03) and platelet recovery (*P*=0.02). The 5-year OS rates were 75% for all transplant patients, 7% for multiple myeloma, and 76% for lymphoma (*P*=0.25). PFS at 5 years was 72% (*P*=0.15).

Recovery	CD34+		P Value
	<4x10^6 cells/kg	>4x10^6 cells/kg	
ANC	15.8	12.5	0.003
PLT	16.3	12.6	0.07



The observed rates of progression-free survival (PFS) were 73% at five years (95% CI 53–87%) and 53% at ten years (95% CI 27–78%). Additionally, the overall survival (OS) rates were recorded as 75% at five years (95% CI 55–88%) and 71% at ten years (95% CI 49–85%).

Our findings indicate that participants with a higher level of CD34+ stem cells exhibited a significantly lower absolute neutrophil count recovery compared to those with lower levels (p = 0.003).



CONCLUSIONS

In the autologous HSCT treatment If the CD34+ stem cell counts **>4×10^6/kg positively impact** bone marrow recovery.

The 5-year **overall survival** and **progression-free survival** rates of **75%** and **73%** align with developing country standards, demonstrating successful outcomes for autologous HSCT in Mongolia.

REFERENCES

1. Hatzimichael E et al. Hematopoietic stem cell transplantation. *Stem Cells Cloning*. 2010;3:105-117.
2. Saba N et al. Overview of autologous stem cell transplantation. *Crit Rev Oncol Hematol*. 2000;36(1):27-48
3. Zahid U et al. A Review of Autologous Stem Cell Transplantation in Lymphoma. *Curr Hematol Malig Rep*. 2017;12(3):217-226.
4. Parrondo RD et al. Autologous Stem-Cell Transplantation for Multiple Myeloma in the Era of Novel Therapies. *JCO Oncol Pract*. 2020;16(2):56-66.
5. Ali N et al. Autologous Hematopoietic Stem Cell Transplantation-10 Years of Data From a Developing Country. *Stem Cells Transl Med*. 2015;4(8):873-877.

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CONTACT INFORMATION

Telephone: +976 95346381

E-mail: p.baljinnyam@fchm.edu.mn