

## Outcome of allogeneic hematopoietic stem cell transplantation for SAA and PNH at Vietnam national institute of haematology and blood transfusion

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**Objective:** Allogeneic stem cell transplantation (SCT) remains the best curative option for patients with benign hematologic disorders, including SAA and PNH. We summarized our results for benign hematologic conditions and suggest recommendations for doing in our condition.

**Patients:** A total of 42 patients (median age of  $23.7 \pm 10.2$  years, range 5-42 years old) with severe aplastic anemia (n=32), PNH (n=7) or SAA/PNH (n=3) have undergone allogeneic SCT between November 2010 and Nov 2018 at the NIHBT in Hanoi, Vietnam. All most patients were transplanted from peripheral blood stem cell (PBSC) (n=37), only 2 patients from unrelated cord blood (UCB), one case received bone marrow grafts; one patient combined related cord blood and bone marrow stem cell (BMSC) and the last case was haploidentical and unrelated CB transplant. There was one graft rejection SAA patient who was did success the 2nd transplant from the same donor. The conditioning regimens consisted of Cy/Flu/±-hATG in 41 patients and cyclophosphamide post transplant in one haploidentical transplant patient. Regarding the GVHD prophylaxis, all most patients were used CSA and short course of MTX, only one haploidentical patient was given Tacrolimus and MMF.

**Results:** The incidence of engraftment at day 30 was 92.9%. The estimated 3-year overall survival (OS) and disease-free survival (DFS) were 76.6% and 72.1% respectively. Acute graft-versus-host disease (GVHD) of grade I–II occurred in 21.4% and chronic GVHD in 30.9%. CMV reactivation was observed in 30.3% of patients. The incidence of one hundred days post transplant related mortality was 7.1%. The incidence of one-year mortality was 14.2%.

**Conclusions:** Based on these results, we recognized that allogeneic hematopoietic stem cell transplantation for patients with severe aplastic anemia and PNH is an effective and safe treatment method if they had HLA matched sibling donor. Haplo-cord transplant represents a promising approach for SAA and PNH patients who lacked an HLA-identical related donor or unrelated donors.

**Keywords:** *Hematopoietic Stem-Cell Transplantation, Non-malignant Diseases, Severe Alpalstic Anemia, PNH, Matched Sibling Donor, Cord Blood Transplantation.*