

## Poor Graft Function Following Autologous Stem Cell Transplant: A retrospective review

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### **Background**

Autologous stem cell transplant (ASCT) is commonly performed to consolidate treatment response in selected hematology malignancy. Poor graft function (PGF) is a not an uncommon complication post ASCT, but with limited data in our cohort.

### **Method**

Among the 140 ASCT performed from January 2023 until March 2024, 11 patients with PGF post ASCT were retrospectively identified and analyzed. PGF is defined as platelet counts  $<50,000/\mu\text{L}$ , ANC  $<1000/\text{mm}^3$ , hemoglobin  $<8\text{g/dL}$ , or requirement of transfusions of blood products starting at +30 days post ASCT.

### **Result**

The prevalence of PGF in our cohort was 7.8%. Among the patients with PGF, 4 have plasma cell neoplasm, 3 primary CNS lymphoma, 3 acute promyelocytic leukemia and 1 diffuse large B cell lymphoma, with median age of 48-year-old (16–66-year-old). The median follow up time was 6.5 months (2 -13 months). 7 patients collected at first attempt with G-CSF mobilization. 4 patients failed G-CSF mobilization, they were then remobilized with chemotherapy and collected. The median CD34 cell collected and infused was  $3.04 \times 10^6/\text{kg}$  ( $2.06 -6.68 \times 10^6/\text{kg}$ ), with viability of 98% before infusion. All patient received full myeloablative conditioning. Median duration for G-CSF administration post infusion, was 10 days (7-17 days). Median neutrophil engraftment is 11 days (10-17 days), while platelet engraftment is 13 days (10-27days). Among the patients with PGF, the median time for full hematopoietic recovery is 3.5 months and each patient require an average of 4-unit pack cells and 5-unit apheresis platelets, during the follow up period. 3 patients were still having PGF after 6 months ASCT. 2 deaths were reported, due to severe pneumonia and disease relapse respectively. Our cohort is too small to draw any statistically significant correlation.

### **Conclusion**

PGF remains a common complication after ASCT. Its occurrence incurs higher health care cost and adversely affects patient overall survival. Malignant bone marrow diseases, difficult stem cell mobilization and a low infused CD34 cell dose were risk factors for PGF.