

Thesis Title Kinetic of Hemopoietic Progenitor Cells and
 Immunological Study in Patients after
 Bone Marrow Transplantation.

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ABSTRACT

The hemopoietic progenitor cells and immunological change were studied in 24 patients who underwent allogeneic bone marrow transplantation (4 patients with aplastic anemia, 13 with leukemia, one lymphoma and 6 with thalassemia). All patients received HLA matched bone marrow from sibling. Either cyclophosphamide alone or combination of cyclophosphamide and busulfan was given as a conditioning regimen, cyclosporin or cyclosporin plus methotrexate was administered post transplantation to prevent graft-versus-host disease. The heterogeneous findings of hemopoietic committed progenitor

cells (BFU-E and CFU-GM) in the blood and bone marrow and circulating lymphocyte subpopulations prior to transplantation were observed. The level of circulating and bone marrow CFU-GM reached normal within the first month after transplantation but decreased after follow-up at 2 months to 6 months. Whereas the level of BFU-E was low at the first month upto 6 months after transplantation. Despite the hemopoietic committed progenitor cells were low, the hematological recovery in the blood of all patients was observed. It might be due to the stress effected on hemopoiesis which amplified the differentiation compartment, or the shortening transit time through the stem cell compartment. The levels of T-suppressor (T_8) and HNK₁ were rapidly recovered, while T-helper(T_4) slowly recovered in the circulation after transplantation. The lymphocyte response to PHA still depressed throughout the study. The different in recovery of each lymphocyte subpopulation may be due to its difference in response to cyclophosphamide or cyclosporin A treatment or association with the transplantation. Besides, the presence of antismooth muscle antibodies and antimitochondria antibodies in some cases of patients after transplantation might be refered to the irregulation of immune response. Long term follow-up study will be necessary.