

STEM CELL AND REGENERATIVE MEDICINE

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Frontier of hope and despair-immunobiology of allogeneic hematopoietic stem cell transplant

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Allogeneic Hematopoietic Stem Cell Transplantation (HSCT) is cellular immunotherapy in the true sense for the treatment of a number of benign and malignant disorders with a curative intent. Delays in immune reconstitution following HSCT considerably limit the positive outcomes and increase the risk for infection and disease relapse in the transplant recipient. Ways to measure and manipulate immune recovery following HSCT are emerging and their success depends directly upon an enhanced understanding for the underlying mechanisms responsible for reconstituted immunity and haematopoiesis. Research in transplant immunology has made considerable efforts in understanding the role of immune effector cells in HSCT. Understanding the transplant immunobiology is fundamental to elucidate the immunological process involved in engraftment, immunotolerance, immune reconstitution and donor and host reactions such as Graft-Versus-Host Disease (GVHD), Graft-Versus-Leukaemia (GVL) effect, graft rejections and reinstatement of hematopoietic and immunological function to prevent transplant-related opportunistic infections. Although much of our understanding of immunobiology in allogeneic HSCT is from research in preclinical models, the findings can however be correlated with clinical observations in transplant recipients. Meanwhile, several pharmacological and cellular therapeutic interventions have been shown impact on immunobiology and influence the outcome. As our knowledge continues to evolve in understanding immunobiology, so will our ability to decrease disease- and transplant-related morbidity and mortality in the setting of HSCT.

Biography

Ganapathi Bhat Mugulthimoole is Senior Consultant Medical Oncologist & Stem cell transplant Physician at Jaslok Hospital & Research Centre Since 2006. He gained specialized training in stem cell transplantation as part of the ESH-EBMT (2007), 2011(Labaule, France) and ICAS training program (2009) from ULM University, Germany. He is also a member of academic organizations namely ESMO, IELSHG, EHA, Asia Pacific Bone Marrow Transplant and an Affiliate of American Association for Cancer Research and BITs Congress Tank. He served on the board of teaching faculty (Kuwait) for MRCP (Pathology & Haematology). He is also editorial member of various international scientific Journals.

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