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## Chimerism in allogeneic hematopoietic stem cell transplant beyond surveillance of engraftment

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Allogeneic hematopoietic stem cell transplantation (HSCT) is an established standard of care for various haemato-lymphoid malignancies and several other disorders. The transplant immunobiology is highly influenced by the contents of the graft and the host graft immune interactions. On one hand, the controlled and complete transfer of the donor hematopoietic and immune systems to the host is suggestive of the reliable augmentation of immune recovery. Post transplant donor cell dynamics is closely related to graft failure, graft-versus host disease and disease relapse. Therefore, surveillance after transplantation using accurate quantification of hematopoietic chimerism is useful for following up patients after HSCT. Post transplant chimerism of complete donor origin is necessary for cure of malignant disorder while coexistence of both recipients and donor will be sufficient from curative perspective though graft rejection and failures are undesired outcome irrespective of disease. Surveillance of chimerism beyond engraftment is imperative for the early finding of graft failure and for judgement of prognosis. It also directs the clinician to intervene and initiate strategies like modifying immune suppression or donor leucocytes infusion to improve chimeric status in order to conserve the graft and facilitate cure of underlying diseases. Attempts are also being made to gain a deeper understanding of additional cell subsets in chimerism analysis, which could also play a role in influencing immunological reconstitution. Close chimerism check not only gives insight to identify the early adverse outcomes of allogeneic HSCT, but also meantime guide to initiate suitable intervention to safe guard overall outcome of patient in terms of declining the morbidity and mortality.

### Biography

Ganapathi Bhat Mugulthimoole is a Senior Consultant Medical Oncologist and Stem Cell Transplant Physician at Jaslok Hospital and Research Centre, since 2006. He gained specialized training in Stem Cell Transplantation as part of the ESH-EBMT (2007), La Baule, France (2011) and ICAS training program (2009) at Ulm University, Germany. He is also a Member of academic organizations namely ESMO, EHA, Asia Pacific Bone and Marrow Transplantation group and an affiliate of the American Association for Cancer Research and BITs Congress. He is also an Editorial Member of various international scientific journals.

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