ent Specific Tolerance In Cells From Semi-allogeneic, H-2 Subregion Compatible Or Full Allogenic Bone Marrow Chim

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Abstract:

Specificities of tolerance induced in allogeneic bone marrow (BM) chimeras which had been established by injecting allogeneic BM cells pretreated with anti-Thy-1 mAb alone (without complement (C)) were analyzed using Simonsen's splenomegaly assay. Lymphocytes from fully allogeneic, semi-allogeneic and H-2 subregion compatible BM chimeras were specifically unresponsive to donor and recipient antigens (Ag). However, cells from H-2 subregion compatible chimeras initiated as vigorously a GVHR in F1 recipient mice, which were disparate at H-2K and I-A regions, as did spleen cells of donor mice, which were incompatible at the entire H-2 and minor histocompatibility regions of the recipients. The donor cells from such chimeras that initiated these considerable GVHR were either CD4+ or CD8+ T cells. Furthermore, synergistic effects by the CD4+ and CD8+ T lymphocytes were also observed. We found no evidence for a suppressive mechanism(s) in maintenance of the specific tolerance in allogeneic chimeras. Further, when lymphoid cells from these chimeras were adoptively transferred to irradiated mice of the donor strain and maintained for 5 days in the absence of recipient Ag (tolerogen), the adoptively transferred cells were shown to retain their unresponsiveness to the recipient Ag. These results reveal that T lymphocytes from allogeneic BM chimeras prepared by our method had been specifically induced to a tolerant state to both donor and recipient Ag and that the major mechanism of induction and maintenance of long-lasting tolerance is attributable to clonal deletion of both CD4+ and CD8+ T cell subsets rather than to the development of a population of suppressor cells of any sort