Expansion of CD8+/Perforin+ T-Cells Predicts Response to Cyclosporin A Therapy in Patients with Erythroid Hypoplasia/Aplasia

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Abstract

Erythroid hypoplasia or aplasia is a hematological condition observed in pure red cell aplasia (PRCA), aplastic anemia, and a rare form of myelodysplastic syndrome (MDS). However, the pathogenic mechanisms of erythroid hypoplasia/aplasia have not been fully elucidated. To clarify the pathogenic role of the T cells, we analyzed the T-cell subsets of bone marrow (BM) or peripheral blood (PB) mononuclear cells (MNCs) and therapeutic responses in a total of 22 patients with erythroid hypoplasia/aplasia. Intriguingly, CD8+/perforin+ T cells were significantly increased in the cyclosporin A (CsA) responders compared with those in the non-responders. It is suggested that the CD8+/perforin+ T-cell subset may have functions to reduce erythroid progenitors via immunological mechanisms. Our results show that expansion of CD8+/perforin+ T cells predicts response to CsA therapy in patients with erythroid hypoplasia/aplasia. Expansion of CD8+/perforin+ T cells in this disease entity could be a useful marker in CsA therapy.