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Premature immunosenescence in rheumatoid arthritis and multiple sclerosis patients.

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Abstract

Patients with T-cell-mediated autoimmune diseases show immune system abnormalities that resemble the typical characteristics of autoimmune dysfunction described in the elderly. In addition, the incidence of autoimmune disease increases with advancing age. To evaluate whether patients with rheumatoid arthritis (RA) and **multiple sclerosis** (MS) have premature immuno-senescence, we measured two indicators of aging: the number of T-cell-receptor excision circles (TRECs) and the percentage of CD4+CD28(null) T cells. We studied them in the peripheral blood mononuclear cells (PBMCs) of 60 RA patients, 32 MS patients, and 40 healthy controls (HCs). We found that TREC numbers were lower in RA and MS patients than in age-matched HCs, indicating premature thymic involution. Moreover, a subset of these patients contained age-inappropriate high frequencies of CD4+CD28(null) T cells. This study provides evidence of premature immune system senescence in both RA and MS patients. Premature aging could be a risk factor for developing autoimmune disorders in genetically predisposed individuals in a susceptible environment.

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MeSH Terms, Substances

LinkOut - more resources