

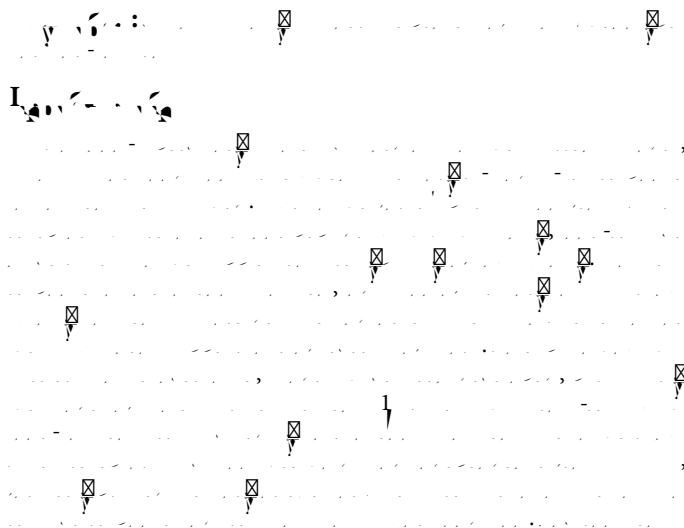
Age is a Major Risk Factor for Autoimmune Disease in Case of Older People

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Abstract

Age is a major risk factor for autoimmunity, and many autoimmune conditions tend to occur more frequently in the second half of life, when thymic T cell production and vulnerability are at their lowest. For an autoimmune condition to develop, numerous forbearance checkpoints must fail, and several of those are susceptible to the vulnerable aging process. Homeostatic T cell subsets, such as T_H17 and T_H1, are thought to be involved in the pathogenesis of autoimmune diseases. These cells can result from homeostatic T cell proliferation, which is largely responsible for T cell loss during majority. Homeostatic T cell proliferation is regulated by a complex network of cytokines and chemokines. In older individuals, the production of these molecules is often dysregulated, leading to an imbalance in the immune system. This imbalance can result in the overproduction of cytokines, thereby converting or amplifying autoimmune responses.



Abstract: The prevalence of autoimmune diseases (AIDs) is increasing worldwide, and age is a major risk factor for AIDs. This review discusses the pathogenesis of AIDs in older people, focusing on the role of aging-related changes in the immune system. The immune system undergoes significant changes with age, including a decline in the number and function of T and B lymphocytes, and an increase in the number and function of regulatory T cells. These changes lead to a state of immunosenescence, which is characterized by a reduced ability to respond to new antigens and a higher susceptibility to infections. In addition, aging-related changes in the immune system can lead to the development of AIDs, as the immune system becomes less able to distinguish between self and non-self antigens. This review discusses the role of aging-related changes in the immune system in the pathogenesis of AIDs, and highlights the need for further research to better understand the underlying mechanisms and to develop effective treatments for AIDs in older people.
