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Nutrition and Fasting Mimicking Diets in the Prevention and Treatment of Autoimmune Diseases and Immunosenescence

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Abstract

Complex and coordinated signals are necessary to initiate and sustain the activation, proliferation, and differentiation of lymphocytes. These signals, which are known to determine T-cell fate and function, also depend on the metabolic state of the organism. Recent studies indicate that both the type and levels of nutrients can influence the generation, survival and function of lymphocytes and therefore can affect several autoimmune diseases. Here, we review the dysregulation of lymphocytes during autoimmunity and aging, the mechanisms associated with loss of immune function, and how fasting mimicking diets and other dietary interventions affect autoimmunity and immunosenescence.

Introduction

Aging is associated with a progressive functional decline of the immune system, commonly referred to as immunosenescence. There are several consequences of age-dependent

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