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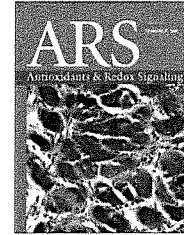
The Immune System in the Oxidative Stress Conditions of Aging and Hypertension: Favorable Effects of Antioxidants and Physical Exercise

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Abstract

Several studies have shown that both oxidative stress and inflammation are linked to the process of hypertension and that the immune system is also involved in this age-related process. More specifically, the oxygen stress related to immune system dysfunction seems to have a key role in senescence, in agreement with the oxidation/ inflammation theory of aging. From a practical point of view, and according to our own research, the immune functions change in a similar fashion in hypertension and aging. As antioxidant diet supplementation decreases oxidative stress, it may be useful to treat hypertension and increase longevity. Probably, these favorable effects are mediated by an antioxidant-induced improvement of the immune function. The practice of moderate physical exercise shows similar favorable effects, and indeed our studies on exercising hypertensive women demonstrate an improved immune function, probably linked to raised levels of intracellular antioxidant defenses. The present review summarizes a selection of data related to the above from other authors as well as some findings from our own work. *Antioxid. Redox Signal.* 7, 1356–1366.


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