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Impact of hydroxyl radical modified-human serum albumin autoantigens in systemic lupus erythematosus.

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Abstract

Free radicals are important mediators for cell toxicity and pathogenesis of diseases. Reactive oxygen species (ROS) have been generated broadly in inflammatory diseases including autoimmune diseases. ROS have been not only associated with the initiation and progression of the autoimmune response but also in amplification and exploring to novel epitopes, through the unveiling of antigenic determinants. This review explores the involvement of ROS in the pathophysiology of non-organ specific autoimmune diseases like **systemic lupus erythematosus** (SLE). The modification of human serum albumin through hydroxyl radical is thought to be responsible for the induction of autoantibodies against modified human serum albumin. In the light of overwhelming evidence suggesting the association with oxidative damage in autoimmunity, the administration of antioxidants could be a viable alternative for the neutralization of free radicals that are involved in eliciting autoimmune disease. In this review, we have discussed their pro-oxidant as well anti-oxidant properties which are capable of differentially modulating the autoimmune response.

KEYWORDS: Human serum albumin; ROS; SLE; **hydrogen** peroxide (H2O2). ; hydroxy radicals (●OH)

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