

Interactions of periodontitis with toll-like receptors: possible role in atherosclerosis.

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Abstract

Many studies have shown that patients with periodontitis have higher risk to atherosclerosis. These two diseases are both chronic inflammatory diseases but the etiologic factors of these two diseases are extremely different. Researches of atherosclerosis are focused on the effect of the ox-LDL to the disease site; however researches of periodontitis are focused on the pathogenesis of bacteria. In fact, there are cross talk of these two disease based on Toll-like receptor TLR. TLR functions as an important signal transducers which mediates innate immune and inflammatory responses to pathogens through pattern recognition of virulence molecules. In atherosclerotic lesions, endothelial cells and macrophages have been shown to upregulate TLR expression and may respond to TLR agonists of microbial origin, resulting in detrimental inflammatory reactions. In periodontitis, the virulence factor of *P.gingivalis*/such as Lipopolysaccharides (LPS) and fimbriae bind to the TLR and activate the inflammatory responses. This literature reviews the link between atherosclerosis and periodontitis through TLR activation.