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Sonodynamic therapy: a potential treatment for atherosclerosis

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Abstract

Atherosclerosis (AS), a chronic arterial disease, is one of the major causes of morbidity and mortality worldwide. Several treatment modalities have been demonstrated to be effective in treating AS; however, the mortality rate due to AS remains high. Sonodynamic therapy (SDT) is a promising new treatment using low-intensity ultrasound in combination with sonosensitizers. Although SDT was developed from photodynamic therapy (PDT), it has a stronger tissue-penetrating capability and exhibits a more focused effect on the target lesional site requiring treatment. Furthermore, SDT has been demonstrated to suppress the formation of atheromatous plaques, and it can increase plaque stability both *in vitro* and *in vivo*. In this article, we critically summarize the recent literature on SDT, focusing on its possible mechanism of action as

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