

عنوان مقاله:

Adiponectin inhibits oxidized low density lipoprotein-induced increase in matrix metalloproteinase 9 expression in vascular smooth muscle cells

محل انتشار:

مجله آریا آترواسکلروز، دوره 11، شماره 3 (سال: 1394)

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خلاصه مقاله:

BACKGROUND: High expression of matrix metalloproteinase 9 (MMP9) during vascular injury and inflammation plays an important role in atherosclerotic plaque formation and rupture. In the process of atherosclerosis, oxidized low-density lipoprotein (oxLDL) upregulates MMP9 in human aortic vascular smooth muscle cells (HA/VSMCs). Adiponectin is an adipose tissue-derived hormone that has been shown to exert anti-atherogenic and anti-inflammatory effects. The aim of this study was to investigate the effect of adiponectin on MMP9 expression under pathogenic condition created by oxLDL in HA/VSMCs. **METHODS:** In this experimental study, HA/VSMC were stimulated with oxLDL alone and in the presence of adiponectin for 24 and 48 h. The expression of MMP9 gene was determined by real-time polymerase chain reaction method. The protein level of this gene was investigated by western blotting technique. **RESULTS:** An oxLDL increased MMP9 expression 2.16 ± 0.24 - and 3.32 ± 0.25 -fold after 24 and 48 h, respectively and adiponectin decreased oxLDL-induced MMP9 expression in a time-dependent manner. **CONCLUSION:** These results show that adiponectin changes extracellular matrix by reducing MMP9 mRNA and protein, therefore, may stabilize lesions and reduce atheroma rupture.

کلمات کلیدی:

Matrix Metalloproteinase 9, Adiponectin, Oxidized Low Density Lipoprotein

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