

THE INFLUENCE OF NORTH AMERICAN GINSENG ON THE
INITIATION AND PROGRESSION OF ATHEROSCLEROSIS

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ATHEROSCLEROSIS)

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ABSTRACT

Atherosclerosis is a major cause of cardiovascular morbidity and can lead to complications such as stroke and myocardial infarction. Ginseng, a natural health supplement, has been shown to have anti-atherogenic properties, including attenuating inflammation, oxidation and hyperlipidemia. I examined the effects of North American ginseng on inflammation-associated VCAM-1 and ICAM-1 expression in cultured porcine endothelial cells and monocyte adhesion to the activated endothelium in hypercholesterolemic and hyperhomocysteinemic rats. No definitive downregulation of inflammatory VCAM-1 and ICAM-1 expression was observed *in vitro* and only an aqueous ginseng extract was effective in reducing homocysteine-induced monocyte adhesion to the aortic endothelium. I also examined the effects of North American ginseng on lesion progression in a rabbit model of atherosclerosis, but found no significant effects on serum total cholesterol, lesion area or lesion composition. Further studies are required to determine if trends seen here would yield a more robust result in a larger study.

Keywords: *Panax quinquefolius*; North American ginseng; atherosclerosis; inflammation; adhesion molecules; VCAM-1; ICAM-1; cholesterol; homocysteine; rat; rabbit; endothelium; aorta