Reversal of Atherosclerotic Indicators During Peanut Consumption in Hamsters.

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Cardiovascular Disease (CVD) is the number one cause of death in the U.S and atherosclerosis is a prominent factor in CVD. Peanuts have been shown to reduce development of atherosclerosis in hamsters but the potential for reversion of existing atherosclerosis has not been determined. One of the first markers for atherosclerosis is accumulation of cholesterol esters (CE) in the aorta. Atherosclerosis, as determined by elevated CE in aortas, was induced by 8 weeks of feeding a 20.1% fat, 1.25% cholesterol diet to male Syrian golden hamsters. At 8 weeks cholesterol in the diet was lowered to 0.5 % and hamsters were placed into diet feeding groups, with and without peanuts. Diets were isocaloric based on energy. Plasma and tissue samples were collected at 6 wk intervals over 18 wk. Results indicated that peanuts in the high fat, 0.5% cholesterol diet significantly reversed atherosclerotic indicators (CE) within 6 weeks compared to the control diet. Hamsters that consumed the peanut containing diet had significantly lower total plasma cholesterol and lower density lipoprotein (LDL) cholesterol at all time points. Hamsters in the peanut diet group had significantly lower very low density lipoprotein (VLDL) and higher high density lipoprotein (HDL) cholesterol at all time points compared to the non-peanut diet group. Further, the peanut diet also prevented increases in aortic CE over the 18 week study resulting in up to 92% less aortic CE than animals in the control diet.