

عنوان مقاله:

EFFECT OF L-ARGININE SUPPLEMENTATION ON THE CONCENTRATION OF VASCULAR ENDOTHELIAL GROWTH FACTOR IN A CHOLESTEROL-RICH DIET WITHDRAWAL MODEL

محل انتشار:

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خلاصه مقاله:

Abstract INTRODUCTION: Increased serum level of vascular endothelial growth factor (VEGF) is well-documented in hypercholesterolemia and atherosclerosis. It is associated with atherosclerotic lesions and is considered as a marker for endothelial dysfunction and injury. In the present study, experiments were designed to examine the combined effects of dietary lipid withdrawal and L-arginine supplementation on serum VEGF concentration. **methods:** After ۴ weeks on a high-cholesterol diet, white male rabbits (n=۲۲) were randomly assigned to ۲ groups. The diet withdrawal (DW) group (n=۱۱) was fed normal diet and the L-arginine group was fed normal diet and ۳% L-arginine in drinking water for another ۴ weeks. The serum levels of lipids, VEGF and L-arginine were measured before and after ۴ and ۸ weeks of experiment. **results:** The cholesterol-rich diet induced a significant increase in total cholesterol and LDL-cholesterol in all animals. There was no significant difference between the groups ($P>0.05$). After ۴ weeks of cholesterol-rich diet withdrawal, animals of the DW and the L-arginine group had similar levels of total cholesterol and LDL-cholesterol. L-arginine supplementation resulted in a significantly higher serum level of L arginine in the L-arginine group than in the DW group ($P<0.05$). After ۴ weeks, no significant difference was found between the serum level of VEGF of the two groups. By the end of study, hypercholesterolemic diet withdrawal had apparently led to decreases in VEGF in both groups, but the serum level of VEGF was significantly lower in the group treated with L-arginine ($P<0.05$). **CONCLUSIONS:** This study showed the synergistic effect of two endothelial protective factors, lipid lowering by diet withdrawal and L-arginine supplementation, on VEGF production. **Keywords:** Endothelial dysfunction, atherosclerosis, vascular endothelial growth factor (VEGF), L-arginine, diet withdrawal

کلمات کلیدی:

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