ABSTRACT

The Effect of Vitamin C and Vitamin E on Total Cholesterol, HDL, LDL of Wistar Rats

Coronary Heart Disease (CHD) is a lifestyle and socio-economic related degenerative disease. Hypercholesterolemia is the main risk factor of CHD. The objective of this study was to analyze the effect of Vitamin C and E on Total Cholesterol, HDL, and LDL. This was a laboratorial experiment with a randomized post test only control group design. The samples were 25 male Wistar rats, 2-3 months old, 100-200 grams, divided into 5 groups. Blood samples were taken and lipid profiles were analyzed with spectrophotometry method. The collected data was analyzed with One Way ANOVA and post hoc test. The results showed there were significant differences in Total Cholesterol (p=0.000), HDL (p=0.031), LDL (p=0.015) between the negative and positive control groups. The level of cholesterol in groups KP1 (p=0.024), KP2 (p=0.016), KP3 (p=0.000) showed significant difference compared to the positive control group. There was also a significant difference between the HDL level of the Vitamin C supplemented group (p=0.013) compared to the positive control group. The conclusion is that high cholesterol diet may affect the levels of Total Cholesterol, HDL and LDL. Combined Vitamin C and E preventively has more potential in lowering the cholesterol level compared to the vitamins used separately. Vitamin C can increase the HDL level. Administering Vitamin C, Vitamin E or both combined does not affect the LDL level.

Keywords: Vitamin C, Vitamin E, Lipid Profile