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## Effect of apple cider vinegar and cinnamon in combination on lipid profile of mice

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This experimental study was conducted at the Department of Pharmacology, Al-Nafees Medical College and Hospital, Islamabad and animal house of National Institute of Health, Islamabad-Pakistan with the objective to evaluate synergistic effect of Apple Cider Vinegar (ACV) and Cinnamon (Cinnamomum cassia) on lipid profile of mice. For the study, 50 adult male Balap/c albino mice were randomly divided into 5 groups of 10 animals each. Group A (Normal Control) was given high cholesterol diet containing cholesterol powder 400mg/Kg body weight (BW) for 60 days. Group B (Treated Control) was given Simvastatin 0.6mg/Kg BW, Group C (Treated Group-I) was given ACV 15% of animal feed, Group D (Treated Group-II) was given Cinnamon powder 6mg/Kg BW and Group E (Treated Group-III) was given combination of ACV and Cinnamon along with high cholesterol diet. Treatment was started at 15th day of experimentation and continued for 6 weeks. Blood samples were collected at day 0, 15, 30, 45 and 60 of the experiment. On each sampling day, 02 animals from each group were anesthetized with chloroform and blood was drawn in sterilized tubes by direct heart puncturing and allowed to clot for 20 min then centrifuged at 4000 rpm for 15 min. Serum was isolated and lipid profile parameters including Total Cholesterol (TC), Triglycerides (TG) and High Density Lipoprotein Cholesterol (HDL-C) were measured using enzymatic kit method while Low Density lipoproteins (LDL-C) was calculated using Friedewald's formula. The results of the study showed significant decrease in serum TC, TG and LDL-C at day 45 and 60 of experimentation with p-value  $\leq 0.05$  when compared to normal control group. There was a decrease in serum HDL-C at day 15 in all groups due to induction of hypercholesterolemia, which was reversed in all treated groups at day 60 with maximum increase in HDL-C obtained in Group E. The results were highly significant (p-value  $\leq 0.05$ ) when compared with normal control group. Based on the results of this study, it was concluded that the antihyperlipidemic effect of Apple Cider Vinegar was significantly increased when used in combination with Cinnamomum cassia in male albino mice...