

Hypocholesterolemic effects of dietary soybean vs. casein proteins in a crossed over diets in rat

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Abstract

To investigate the effects of dietary proteins on the level of serum total cholesterol (TC), triglyceride (TG) and high density lipoprotein (HDL), 32 male Wistar rats were randomly divided in control and 3 experimental groups (E¹, E² and E³). The feeding regimes of rats were as follow: control, standard diet; E¹, a cholesterol free diet containing 20% soybean protein; E², a cholesterol free diet containing 20% casein and E³, a cholesterol free diet containing 10% soybean protein and 10% casein. The experimental period was 11 weeks but at the end of 7th week the diets of E¹ and E² groups were crossed over for the next 4 weeks. Blood samples were collected weekly, via the ophthalmic sinus and the serum levels TC, TG and HDL were measured. In comparison with control group, the results show that at the end of 7th week TC levels in E¹ and E² groups were significantly ($p < 0.05$) increased while HDL level unchanged and the TC value of E² was bigger (not significant) than E¹. However by crossing over the diets, the TC level was significantly ($p < 0.05$) diminished in E² while TG value remarkably ($p < 0.05$) increased. These results indicate that soybean protein may insert its hypocholesterolemic effect in hypercholesterolemic condition than in normolipidemic condition. © 2008 Asian Network for Scientific Information.

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