

**Lipid metabolism in hypercholesterolemic rats
affected by feeding cholesterol-free diets containing
different amounts of non-dialyzed soybean protein
fraction**

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Abstract

Objective

We investigated lipid metabolism in hypercholesterolemic rats after replacing casein with different amounts of undialyzed soybean protein fraction.

Methods

The hypercholesterolemic rats were fed cholesterol-free diets containing 2%, 5%, or 10% undialyzed soybean protein fraction (UDSP) for 4 wk.

Results

The 5% and 10% UDSP groups had significantly lower plasma cholesterol, triacylglycerol, and low-density lipoprotein cholesterol concentrations than did the other groups ($P < 0.05$). In addition, significantly higher fecal total steroid excretion was observed in these two groups. However, the different amounts of UDSP did not influence liver lipid, plasma high-density lipoprotein cholesterol, body weight gain, daily food intake, or feeding efficiency.

Conclusion

These results suggested a dose-dependent reduction in plasma cholesterol when casein was replaced stepwise with UDSP (5% or 10%) as a protein source. The hypocholesterolemic effect might have been due to an increase in total fecal steroid excretion.