Effects of Sasa coreana, Nakai on the lipid composition of serum in high cholesterol diet rats

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Abstract

This project was designed to experiment the effects of *Sasa coreana* Nakai extracts on the improvement of lipids in the serum of cholesterol supplemented diet induced dietary hyperlipidemic rats fed for 5 weeks. The experiment diet was mixed with 0.75% cholesterol. No significance differences in efficency of food on liver, kidney and heart weight. Concentration of total cholesterol and LDL cholesterol in serum was 18.5~23.7% and 13.3~18.6% lower in the methanol extracts of *sasa coreana* Nakai that of the cholesterol supplemented diet group. In the ratio of HDL-cholesterol concentration to total cholesterol concentration, the methanol extracts of sasa coreana Nakai administration group was approximately 60% higher than the other groups. Concentration of phospholipid in serum was more decreased in the methanol extracts of sasa coreana Nakai group than that of the cholesterol diet group. From these results, the methanol extracts of *Sasa coreana* Nakai were effective on the improvement of the lipid compositions in the serum of high fat diet induced dietary hyperlipidemic rats.

Key words: Sasa coreana, Nakai, cholesterol diet rats

References

1. McGrandy, R. B., Hegsted, D. M. and Stare, F.J.: Dietary fat, carbohydrates and atherosclerotic vascular disease (1967), J. Med. 277, 242-247.

- 2. Lorenz, J. P., Doormen, V. and Orlebeke, K. F.: Stress, personality and serum cholesterol level(1982), J. Human stress, 8, 24-36.
- 3. Kim, S. Y., Kim, H. S., Kim, S. H., Kim, H. S., Su, I. S. and Chung, S. Y.: Effects of the feeding platycodon grandiflorum and Codonopsis lanceolata on the fatty acid composition of serum and liver in rats(1993), *J. Korean SocFood Nutr.*, **22**, 524-530.
- 4. Miettinen, T.A.: Dietary fiber and lipids (1987), Am. J. Clin. Nutr., 45 1237-1242.
- 5. Goodman, A.: The turnover of plasma cholesterol in man.(1964) *Physiol. Rev.*, 45, 747-753.
- 6. Beynen, C. and Katan, M. B.: Why do polyunsaturated fatty acid lower serum cholesterol (1985), Am. J. Clin. Nutr., 42. 560-570.
- 7. Grundy, S. M.: Monounsaturated fatty acids, plasma cholesterol an coronary heart disease (1987), Am. J. Cfin. Jvutr., 42, 1168-1174.
- 8. Castelli, W. P., Garrison, R. J., Wilson, P. W. F., Abbott, R. D. Kalousdian, A. and Kannel, W. B.: Incidence of coronary heart disease and lipoprotein cholesterol levels (1986), *JAMA.*, 256, 283 5-2844.
- 9. Oh, S. Y. and Monaco. P. E.: Effect of dietary cholesterol and degree of fat unsaturation on plasma lipid levels, lipoprotein composition and fetal steroid excretion in normal young adult men (1985), *Am. J. Clin. Nutr.*,42. 399-408.
- 10. Faidley, T. Y., Luhman, C. M., Galloway. T. U., Foley, M. K. and Beitz, D. C.: Effect of dietary fat source on lipoprotein composition and plasma lipid concentration in pigs(1990), *J. Nutr.*, 120. 1126-1138.