

【P3-44】**Effects of pinitol isolated from soybeans on cardiovascular risk factors in patients with type 2 diabetes mellitus: a randomized controlled study**

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Pinitol(3-O-methyl-D-chiro-inositol) has been reported to show insulin-like effect. Soybean is one of good sources of pinitol and pinitol with high purity has been isolated from soybeans. Soybean-derived pinitol could have beneficial effects in the treatment of diabetes and the prevention of cardiovascular complications by improving insulin resistance. We investigated the effects of pinitol isolated from soybean on cardiovascular risk factors in subjects with type 2 diabetes. Thirty patients with uncomplicated type 2 diabetes (14 men and 16 women, mean age 61.2 ± 1.7 yr, blood glycated hemoglobin(HbA1c) $8.8 \pm 0.2\%$, fasting plasma glucose 157.7 ± 3.9 mg/dL, fasting plasma insulin 16.6 ± 0.8 μ U/mL, mean \pm s.e.m.) participated in the randomized double-blind placebo-controlled parallel trial. Patients were randomly assigned to receive an oral dose of 600 mg soybean-derived pinitol twice daily (1.2 g/day, n = 15) or placebo (n = 15) for 13 weeks. They continued their habitual diet and lifestyle. There were significant decreases in plasma cholesterol ($-0.19 + 0.07$ mmol/l, $P < 0.05$), LDL-cholesterol ($-0.24 + 0.06$ mmol/l, $P < 0.05$), and the LDL/HDL-cholesterol ratio (atherogenic index, $-0.5 + 0.1$, $P < 0.05$) and a significant increase in HDL-cholesterol concentration ($0.10 + 0.03$ mmol/l, $P < 0.05$) as a result of pinitol treatment. Plasma triglyceride concentration tended to be lowered by pinitol ($-0.05 + 0.04$ mmol/l). Pinitol significantly decreased systolic ($-12.2 + 4.9$ mm Hg, $P < 0.05$) and diastolic ($-9.9 + 2.5$ mm Hg, $P < 0.05$) blood pressures.. These data suggest that soybean-derived pinitol may be beneficial in reducing cardiovascular risk in type 2 diabetes.