

Acta Haematol.1990;84(3):139-43.

Enhancement of the fibrinolytic activity in plasma by oral administration of nattokinase.

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Source : Department of Physiology, Miyazaki Medical College, Japan.

Abstract

The existence of a potent fibrinolytic enzyme (nattokinase, NK) in the traditional fermented food called 'natto', was reported by us previously. It was confirmed that oral administration of NK (or natto) produced a mild and frequent enhancement of the fibrinolytic activity in the plasma, as indicated by the fibrinolytic parameters, and the production of tissue plasminogen activator. NK capsules were also administered orally to dogs with experimentally induced thrombosis, and lysis of the thrombi was observed by angiography. The results obtained suggest that NK represents a possible drug for use not only in the treatment of embolism but also in the prevention of the disease, since NK has a proven safety and can be massproduced.

Nutrition. 2003 Mar;19(3):261-4.

Dietary supplementation with fermented soybeans suppresses intimal thickening.

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Source

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Abstract

Although soy foods have been consumed for more than 1000 y, it is only in the past 20 y that they have made inroads into Western diets. We investigated the effect of dietary supplementation with natto extracts produced from fermented soybeans on intimal thickening of arteries after vessel endothelial denudation. Natto extracts include nattokinase, a potent fibrinolytic enzyme having four times greater fibrinolytic activity than plasmin. Intimal thickening was induced in the femoral arteries by intravenous infusion of rose bengal followed by focal irradiation with a transluminal green light. Dietary natto extract supplementation was started 3 wk before endothelial injury and continued for another 3 wk after. In ex vivo studies, euglobulin clot lysis times were measured 3 wk after the initial supplementation. Neointima formation and thickening were also initiated successfully. The intima media ratio 3 wk after endothelial injury was 0.15 ± 0.03 in the control group. Dietary natto extract supplementation suppressed intimal thickening (0.06 ± 0.01 ; $P < 0.05$) compared with the control group. Natto extracts shortened euglobulin clot lysis time, suggesting that their thrombolytic activities were enhanced. These findings suggest that natto extracts, because of their thrombolytic activity, suppress intimal thickening after vascular injury as a result of the inhibition of mural thrombi formation.

Hypertens Res. 2008 Aug;31(8):1583-8.

Effects of nattokinase on blood pressure: a randomized, controlled trial.

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Source : Yonsei University Research Institute of Science for Aging, Department of Food and Nutrition, College of Human Ecology, Yonsei University, and Department of Family Medicine, Mizmedi Hospital, Seoul, Korea.

Abstract

The objective of this study was to examine the effects of nattokinase supplementation on blood pressure in subjects with pre-hypertension or stage 1 hypertension. In a randomized, double-blind, placebo-controlled trial, 86 participants ranging from 20 to 80 years of age with an initial untreated systolic blood pressure (SBP) of 130 to 159 mmHg received nattokinase (2,000 FU/capsule) or a placebo capsule for 8 weeks. Seventy-three subjects completed the protocol. Compared with the control group, the net changes in SBP and diastolic blood pressure (DBP) were -5.55 mmHg (95% confidence interval [CI], -10.5 to -0.57 mmHg; $p < 0.05$) and -2.84 mmHg (CI, -5.33 to -0.33 mmHg; $p < 0.05$), respectively, after the 8-week intervention. The corresponding net change in renin activity was -1.17 ng/mL/h for the nattokinase group compared with the control group ($p < 0.05$). In conclusion, nattokinase supplementation resulted in a reduction in SBP and DBP. These findings suggest that increased intake of nattokinase may play an important role in preventing and treating hypertension.