

Japanese Nuru-Neba Diet extends healthy life longevity (2): Evaluations of Mechanism of Anti-obesity effects using normal and High Calorie-Diet Mice

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In this study, we cleared the different effects of commercially available Japanese Nuru-Neba diet (JNN) on the visceral fat in normal and high fat diet mice considering about changes in adiponectin and leptin levels.

5-week-old male ICR strain mice were divided as follows: normal diet group (ND group), ND + JNN (0.35g) group, high-fat diet group (HFD group), HFD + JNN group. Each mouse was reared individually and then allowed to free access to diet of 3.5 g per day for eight weeks. At the end of the treatment period, the visceral fat was collected. The expression levels of adiponectin and leptin in visceral fat were measured by real-time RT-PCR.

In ND+JNN group not HFD+JNN group, the significant increases of adiponectin levels were seen. The changes in body weight in ND+JNN group were same as seen in those of ND group. In visceral fat leptin levels, any changes could not be seen in ND+JNN group. However, in HFD group, more than 500 times of leptin levels were detected compared to those of ND group. In HFD+JNN group, the abnormal leptin levels induced by high fat diet was significantly suppressed.

These results suggest that daily intake of NJJ activates adiponectin secretion under normal conditions and has an obesity preventive effect and that obesity is prevented by suppressing leptin resistance in the obese state.