

P5

Anti-diabetic effect of Yukmijihwangtang-Jahage in obese Zucker rats

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The effect of the traditional herbal medicine Yukmijihwangtang-Jahage (YJ) on the improvement of insulin resistance and lipid profile was studied using a model for non-insulin dependent diabetes mellitus, lean (Fa/-) and obese (fa/fa) Zucker rats. Yukmijihwangtang-Jahage feeding for 4 weeks resulted in a significant decrease in the concentration of plasma triglyceride in both lean and obese Zucker rats. Furthermore, Yukmijihwangtang-Jahage markedly decreased both plasma cholesterol and fasting plasma insulin levels, and significantly decreased the postprandial glucose level at 30 min during oral glucose tolerance test in obese Zucker rats. Although there was no statistical significance, the crude glucose transporter 4 protein level of Yukmijihwangtang-Jahage dieted obese rats tended to increase when compared to that of obese control rats. Therefore, the present results suggested that Yukmijihwangtang-Jahage may be useful in prevention and improvement of metabolic disorders characterized by hyperinsulinemia states such as non-insulin dependent diabetes mellitus, syndrome X and coronary artery disease.