

# THE ADD-ON EFFECTS OF *GYNOSTEMMA PENTAPHYLLUM* ON NONALCOHOLIC FATTY LIVER DISEASE

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**Context** • Other than weight reduction by dieting or physical activity, there are no well-documented medical treatments for fatty liver disease.

**Objective** • To evaluate the efficacy of the add-on *Gynostemma pentaphyllum* (GP) in research subjects with nonalcoholic fatty liver disease.

**Design** • A randomized, single-blind, controlled clinical trial.

**Setting** • Hospital-based clinic.

**Patients** • Fifty-six research subjects who were diagnosed with nonalcoholic fatty liver by abdominal ultrasound scanning.

**Interventions** • The treatment group and the control group followed a controlled diet for 2 months. After 2 months, the treatment group continued to diet and received 80 mL GP extraction for 4 months; the control group continued to diet and received a placebo capsule for 4 months.

**Main Outcome Measures** • Body mass index (BMI), biochem-

istry data, and fatty liver score were measured at baseline, at 2 months, and at 6 months.

**Results** • After 2 months of dieting, BMI and most biochemistry data decreased in both study groups. There were no significant differences in BMI or biochemistry data at month 2 between the 2 study groups. At month 6, BMI, triglyceride, aspartate aminotransferase (AST), alanine aminotransferase, alkaline phosphatase, insulin (ALP), insulin resistance index (HOMA-IR), and fatty liver score were reduced in both groups. The treatment group saw significant reductions in BMI, AST, ALP, insulin, and HOMA-IR, however. Changes in uric acid levels in the 2 groups from month 2 to month 6 were statistically significant ( $P = .028$ )

**Conclusion** • GP is an effective adjunct treatment to diet therapy for patients with nonalcoholic fatty liver disease. (*Altern Ther Health Med.* 2006;12(3):34-39)

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**N**onalcoholic fatty liver disease, a common chronic liver disorder, is strongly associated with metabolic syndromes<sup>1</sup> that include hyperinsulinemia, increased plasma triglyceride (TG), decreased high-density lipoprotein cholesterol (HDL-C), hypertension, glucose intolerance, and abdominal

obesity. More importantly, all of the metabolic syndromes are highly associated with cardiovascular disease.<sup>2-4</sup> Preventing the deposition of visceral fat or the development of fatty liver, therefore, may inhibit metabolic syndrome and indirectly reduce the risk of cardiovascular disease.

Currently, no well-documented medical treatment exists for fatty liver disease. Weight reduction by a controlled diet or increased physical activity is generally associated with improvements in liver morphology and function.<sup>3,5,7</sup> Ginseng, a botanical drug, has been found to effectively reduce total cholesterol (TC) and TG concentrations, as well as suppress fatty formation in hepatectomized rats.<sup>8</sup> *Gynostemma pentaphyllum* (GP) is named "Southern ginseng" because it has similar effects of ginseng and grows in southern China. Gypenoside, a saponins extract from GP, has been found to exhibit hepatoprotective and anti-fibrotic effects on chronic liver injuries.<sup>9</sup> Animal studies involving water extract of GP have reported antioxidative activity and effects in the prevention of liver injury.<sup>10</sup> Consequently, GP may be useful in treating fatty liver. We conducted a randomized, single trial to investigate the add-on effects of GP on plasma lipids, liver enzymes, and metabolic parameters in patients who had nonalcoholic fatty liver disease and were to undergo diet therapy.