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RE: Small Clinical Trial Indicates that Asian Ginseng may Benefit Insulin Resistance in Type 2 Diabetes


Asian ginseng (Panax ginseng) extracts have been shown to lower glucose levels in healthy adults.1 Korean red ginseng, a processed form of Asian ginseng, has been shown to improve regulation of blood glucose and insulin levels in type 2 diabetic patients.2 This randomized, double-blind, placebo-controlled, cross-over, clinical trial was designed to assess the effects of Asian ginseng supplementation on the glycemic control and cardiovascular risk of type 2 diabetic subjects. A second part of the study measured Asian ginseng’s potential antioxidant properties in vitro and its antioxidant effects in the subjects.

Subjects diagnosed with type 2 diabetes (n=20) were randomized to receive either Asian ginseng (2 capsules 3 times daily, 2, 214 mg/day; VitaGreen; Hong Kong) or a placebo for 4 weeks after a 2-week placebo-controlled run-in period. After a 2-week wash-out period, the subjects were crossed over to the other treatment for an additional 4 weeks. A 75 g oral glucose tolerance test (OGTT), plasma glucose levels, insulin levels, and biomarkers of oxidative stress and antioxidant status were used to assess the effects. This study was conducted at the Chinese University of Hong Kong and the Hong Kong Polytechnic University in Hong Kong, China.

The results indicated an approximately 45% decrease in insulin resistance, as measured by the homeostatic model assessment (HOMA-IR) method, following treatment with ginseng, compared with an approximately 12% decrease following treatment with placebo (P<0.05). Fasting plasma glucose levels were also significantly lower following ginseng treatment, when compared with placebo treatment (P<0.05). There were no significant differences in
OGTT results, biomarkers of oxidative stress and antioxidant status, or any other measurements. According to the authors, the antioxidant properties of the ginseng powder were shown to be less potent than those of teas and fruits and vegetables: 54 µmol/g, which provides 120 µmol of antioxidant capacity per day.

The authors conclude the "results indicate that there may be some benefit of ginseng supplementation in terms of lowering insulin resistance in type 2 diabetic subjects but not in regard to improving oxidant: antioxidant balance." They write that the mechanism of action for the positive effects of Asian ginseng supplementation on fasting blood sugar levels and insulin resistance in type 2 diabetic patients seen in this study remains to be determined. Possible mechanisms include effects on "insulin release from pancreatic beta cells, insulin-stimulated glucose disposal" and increasing insulin sensitivity related to the peroxisome proliferator-activated receptor.

—Marissa N. Oppel, MS

References

The American Botanical Council has chosen not to reprint the original article.