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**FILE: ■ Winged Treebine (*Cissus quadrangularis*)
■ Obesity
■ Oxidative Stress**

HC 030175-338

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RE: Comparison of Two Proprietary Extracts of Winged Treebine (*Cissus quadrangularis*) on Body Weight and Oxidative Stress

Oben JE, Enyegue DM, Fomekong GI, Soukontoua YB, Agbor GA. The effect of *Cissus quadrangularis* (CQR-300) and a *Cissus* formulation (CORE) on obesity and obesity-induced oxidative stress. *Lipids Health Dis.* 2007;6:4.

Obesity, once considered a problem only in developed countries, has become a worldwide public health problem. The epidemic of obesity is associated with complications such as type 2 diabetes, stroke, and cardiovascular disease. It has also been reported that obesity may induce systemic oxidative stress, an increase which is associated with the development of metabolic syndrome. Oxidative stress is known to be involved in the processes of atherogenesis, ischemic heart disease, obesity, the metabolic syndrome, syndrome X, and diabetes, and antioxidants have been shown to inhibit oxidative stress. Winged treebine (*Cissus quadrangularis*), a culinary plant native to India, has been used as a folk medicine in that country for generations. This plant has known antioxidative and free radical scavenging activities and has been shown in previous studies to be effective in the management of obesity and complications associated with metabolic syndrome. The objective of this study was to compare the effects of two proprietary extracts of winged treebine on body weight, blood lipids, and oxidative stress.

The first part of the study involved an in vitro evaluation of the antioxidant properties of 2 proprietary extracts of winged treebine: CORE (Soy Labs, Fairfield, CA) and CQR-300 (Gateway Health Alliance, Fairfield, CA). Three methods were used to determine antioxidant potential: measurement of polyphenol concentration, determination of ferric reducing antioxidant power, and determination of the scavenging potential against 1,1-diphenyl-2-picrylhydrazyl. The second part of the study was a double-blind, placebo-controlled trial of 168 normal-weight, overweight, and obese persons aged 19–50 years, which was conducted at the Laboratory of Nutrition and Nutritional Biochemistry, University of Yaoundé, Cameroon. The subjects received 2 daily doses of CORE (15 mg/day ketosteroids) for 8 weeks and then of CQR-300 (15 mg/day ketosteroids) for 6

weeks or placebo for 6 weeks while consuming an energy-restricted diet (2100 kcal/d) or CORE (15 mg/day ketosteroids) for 8 weeks or CQR-300 (15 mg/day ketosteroids) for 6 weeks with no diet restriction. Body weight, percentage body fat, low-density-lipoprotein oxidation, protein carbonyls, and blood lipids were measured at the beginning and end of the study period.

A total of 153 subjects completed the study. The *in vitro* antioxidant activity of CORE was significantly greater ($P < 0.01$) than that of CQR-300, regardless of the method of analysis. Compared with CQR-300, CORE significantly decreased ($P < 0.01$) the formation of thiobarbituric acid-reactive substances and carbonyls. CQR-300 resulted in a greater reduction in body weight than did placebo ($P < 0.05$), and CORE resulted in a greater reduction in body weight than did CQR-300 ($P < 0.01$). Body weight decreased after 8 weeks of CORE, and 6 weeks of CQR-300 compared to placebo ($P < 0.05-0.01$). In the participants who consumed an energy-restricted diet, CORE and CQR-300 consumption decreased total cholesterol by 26.0% and 18.0%, lower density lipoprotein (LDL) cholesterol by 32.4% and 29.0%, triacylglycerol by 28.0% and 21.7%, and fasting blood glucose by 16.1% and 14.6%, respectively. Changes in these variables were less pronounced in the participants who consumed their usual diets.

The consumption of CORE and CQR-300 at a dosage of 15 mg/day ketosteroids for 8 and 6 weeks, respectively, resulted in a significant reduction in body weight of the obese subjects, which was accompanied by a significant improvement in the lipid profile and in blood glucose concentrations. These improvements translate to a reduction in cardiovascular disease risk. The authors conclude that the results "warrant further exploration into the active phytonutrients of *Cissus quadrangularis* and the potential of its newly discovered weight loss and cardiovascular health benefits."

—Brenda Milot, ELS

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