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Safety and Efficacy of an Herbal Dietary Supplement Containing Caffeine and Ephedra for Obesity Treatment

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Dietary herbal supplements containing caffeine and ephedra (C&E) have become a popular method of self-treating obesity by the public since passage of the Dietary Supplement Health Education Act in 1994. In this period of time there has been remarkably little scientific evaluation of the safety and efficacy of this practice. Two-hour resting metabolic rate (RMR) was measured twice, one week apart, in 12 healthy subjects with a BMI 25-35 kg/m^2. Placebo was given on one occasion and C&E (70 mg of caffeine and 24 mg of ephedra) on the other. The order was balanced and the study double-blind. These 12 and 28 additional subjects were then randomized to a 3-month, double-blind clinical trial comparing C&E (70 mg & 24 mg 3 times a day) with placebo. C&E gave an 8% $\pm$ 0.4% (SD) rise in RMR compared to placebo ($p<.01$). Weight loss at 3 months was 4 kg $\pm$ 4.2 kg in the C&E group and 0.7 kg $\pm$ 2.6 kg in the placebo group ($p<0.05$). Pulse and blood pressure fell 4/1 mm Hg and 0.5 bpm in the C&E group which was not significantly different than placebo. C&E increased metabolic rate and gave weight loss safely in this 3-month trial.