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An overview of the safety and efficacy of a novel, natural(-)-hydroxycitric acid extract (HCA-SX) for weight management.

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Garcinia cambogia-derived (-)-hydroxycitric acid (HCA) is a safe, natural supplement for weight management. HCA is a competitive inhibitor of ATP citrate lyase, a key enzyme which facilitates the synthesis of fatty acids, cholesterol and triglycerides. Previous studies in our laboratories have demonstrated the superior bioavailability of a novel calcium-potassium salt of HCA derived from Garcinia cambogia (HCA-SX, Super CitriMax). Greater bioavailability of HCA-SX was observed when taken on an empty stomach. HCA-SX was also shown to exhibit concentration-dependent release of serotonin in isolated rat brain cortex, which may explain its appetite suppressive action. Acute oral, acute dermal, primary dermal irritation, primary eye irritation and 90-day chronic toxicity studies, as well as Ames bacterial reverse mutation and mouse lymphoma tests, were assessed to determine the safety of HCA-SX. In the 90-day toxicity study, dose- and time-dependent effects of HCA-SX were assessed on body weight, selected organ weights, hepatic and testicular lipid peroxidation and DNA fragmentation, hematology and clinical chemistry, and histopathology in male and female Sprague-Dawley rats. No remarkable toxicity results were detected, demonstrating the safety of HCA-SX. Furthermore, clinical studies to evaluate the safety and efficacy of HCA-SX over a period of eight weeks were conducted in 60 human volunteers. Subjects were given a 2,000 kcal diet/day, participated in a 30 min walking exercise program 5 days/week and given an oral dose of placebo or 4666.7 mg HCA-SX (providing 2,800 mg HCA) in three equally divided doses 30-60 min before meals, Body weight, BMI, lipid profiles, serum leptin, serotonin and excretion of urinary fat metabolites were determined at 0, 4 and 8 weeks of treatment. At the end of 8 weeks, body weight and BMI decreased by 5.4% and 5.2%, respectively. Food intake, total cholesterol, LDL, triglycerides and serum leptin levels were significantly reduced, while HDL and serotonin levels, and excretion of urinary fat metabolites (a biomarker of fat oxidation) significantly increased. No significant adverse effects were reported. These results demonstrate the safety, bioavailability and efficacy of HCA-SX in weight management.

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