Abstract 110

EFFECT OF AN ASTAXANTHIN CONTAINING PRODUCT ON RHEUMATOID ARTHRITIS. 
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Rheumatoid arthritis (RA) is a chronic destructive disorder requiring aggressive treatment. Conventional treatments present problems in terms of safety and efficacy, and the alternative therapies so far investigated have not yielded consistent results. We investigated the effect of food for 3 times a day of an extract of Haematococccus algae grown in Hawaii, each dose supplying 10 mg of astaxanthin, 40 µg lutein, 65 IU vitamin A as beta-carotene combined with 50 IU vitamin E, on the symptoms of RA in a double-blind, placebo-controlled, parallel design study. Twenty-one subjects were randomly assigned to receive either the extract (14 subjects) or a placebo (7 subjects) for eight weeks. Pain and satisfaction with the ability to perform daily activities were measured at the beginning of the study, and after 4 and 8 weeks of treatment. The results showed a significant difference (P<0.05) both in pain and satisfaction scores between the treatment and control groups at the end of the study. Pain scores (mean ± SD, VAS scale) at 0, 4, and 8 weeks were, respectively, 0.2±0.22, 0.38±0.21, and 0.27±0.25 for the treatment group, and 0.45±0.23, 0.42±0.16, and 0.45±0.14 for the control group. Satisfaction scores were 1.75±0.72, 1.54±0.66, and 1.50±0.03 for the treatment group, and 1.83±0.69, 1.50±0.96, and 1.67±0.94 for the control group. Astaxanthin-based supplements appear to be an effective addition in the treatment of RA and further studies should be carried out with a larger number of subjects.

Abstract 111


To compare and contrast the effectiveness of commonly known nutraceuticals in their ability to effect serum lipids. The nutraceuticals analyzed were niacin, garlic, vitamin C, chromium and gugulipid. Studies were identified by a search on MEDLINE from 1970 to 2001. Published papers which involved placebo controlled trials were analyzed for their context, and 160 papers were selected for analysis. The pooled weight mean difference of placebo versus active change was calculated on the following variables: total serum cholesterol, low density lipoprotein (LDL), high density lipoprotein (HDL) and triglycerides. Statistical significances were determined using an analysis of variance (ANOVA) with a Tukey's HSD post hoc test. A two way analysis of variance and post hoc comparisons were performed on each serum group. The percentage reduction in total cholesterol for the six nutraceuticals were: garlic: 19.5%, chromium: 13.1%, vitamin C: 15.5%, niacin: 15.2%, gugulipid: 7.0%, and placebo: 1.4%. The percentage increase in HDL for the six nutraceuticals were: garlic: 12.4%, chromium: 12.8%, vitamin C: 3.8%, niacin: 6.6% and placebo: 3.3%. Gugulipid, pantethine and niacin performed significantly better than chromium and vitamin C in reduction of total cholesterol, LDL cholesterol and triglycerides. Niacin performed significantly better than vitamin C, pantethine and chromium in increasing HDL cholesterol levels. Resolution of recent problems with effective doses of garlic is necessary, as the weight mean difference of placebo versus active change was calculated on the following variables: total serum cholesterol, low density lipoprotein (LDL), high density lipoprotein (HDL) and triglycerides.

Abstract 112

ROLE OF COENZYMES Q10 IN CLINICAL MEDICINE: AN OVERVIEW. Bzimakov, E.

Bhagavan H.Biomedical Research Consultants, Pompano Beach, FL, and Lancaster, PA. Coenzyme Q10 (CoQ10 in humans), also known as ubiquinone, is a key nutrient that plays a critical role in cellular energy production as an integral part of the mitochondrial electron transport chain. In addition, coenzyme Q10 also functions as an efficient antioxidant and a free radical scavenger, and as a membrane stabilizer. Acute oxidative stress and energy deficiency are implicated in the pathogenesis of diverse disease states and the cardiovascular system is often the target first. Numerous clinical trials have demonstrated a relationship between CoQ10 status and progression of cardiovascular diseases. Consequently, clinical improvement following coenzyme Q10 supplementation, in addition, there are studies that demonstrate the cytoprotective and neuroprotective effects of coenzyme Q10 in various disorders such as neuroleptics, infections and neurodegenerative diseases. There is also evidence for the involvement of coenzyme Q10 in the aging process. Since coenzyme Q10 shares the same biosynthetic pathway with cholesterol, the widespread use of cholesterol-lowering drugs such as statins (HMG-CoA reductase inhibitors) also results in the inhibition of coenzyme Q10 synthesis in the body, with the expected clinical consequences. This decrease in coenzyme Q10 production is involved, at least in part, in the increasing number of reports of serious side effects of statins, culminating recently with the withdrawal from the market of one of the six statins - BAYOL (civaeline). There are other drugs in addition to statins that compromise coenzyme Q10 status, an event still not recognized by the medical profession. A logical and a practical consequence from this package is that extended therapy with statins and other drugs that lower coenzyme Q10 status in the body should include coenzyme Q10 supplementation to support cellular energy production, and also to counter oxidative stress. Furthermore, pathological states resulting from or manifested by coenzyme Q10 deficiency should be treated with coenzyme Q10 so as to compensate this deficiency and the development of functional insufficiency.

Abstract 113

RANDOMIZED, DOUBLE BLIND, PLACEBO CONTROLLED CLINICAL TRIAL EVALUATING AN L-ARGININE, L-PANTETHINE, AND GUGULIPID COMBINATION ON SEXUAL SATISFACTION IN HEALTHY MEN. Coton, G.M., Swain, M., Peak Wellness Foundation, Greenwich, CT.

The amino acid L-arginine is the immediate precursor for nitric oxide synthesis vasodilator and in this way has been demonstrated to enhance erectile function. Yohimbine is an alpha-2 blocker, shown to help sexualfunction by slowing ejection. Gingko is a known promotor of circulation, it was our survey that these ingredients given in combination, in a dosage consistent with efficacious prior art, would prove to improve the sexual function in men within clinical defining confinements of a small-scale study and a non-parametric analysis. Sixteen subjects were assigned to two groups. Eight subjects were randomized to receive an L-arginine, yohimbine, and gugulipid-based supplement while the other group received placebos prior to each sexual encounter. All subjects were required to have at least one sexual encounter each week. The study duration was six weeks with all participants completing three visits (baseline, week 3, and week 6). A sexual satisfaction questionnaire was administered at each visit. All sixteen subjects finished all three assessments without dropout and the data were analyzed for statistical difference in the analysis. A P-value <0.05 was considered statistically significant. At week six there was a significant improvement in overall satisfaction when compared to placebo (1.0 vs. -0.50, p=0.05). The L-arginine, yohimbine, and gugulipid-based supplement group also had a significant time trend of improvement in satisfaction versus placebo in all three visits throughout the study (0.50 vs. -0.25, p=0.05). As a result, it can be concluded that L-arginine, yohimbine, and gugulipid-based supplement can significantly improve sexual satisfaction in otherwise healthy male subjects. Funded in part by a grant from VitalBasics, Inc., Portland, Maine.

Abstract 114

PHYSIOLOGICAL EFFECTS OF AN EXOPOLYSACCHARIDE PRODUCED BY LACTOBACILLUS KERRIPRANOCACIES. H. Maeda1, X. Zhu2, S. Suzuki2, S. Ktemura3, 4.

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Lactobacillus kerripranocacies is known to produce an exopolysaccharide named kerripranocaci. In the present study, we developed a new medium, rice hydrolysate (RH) medium, for the culture of L. kerripranocacies. The production of exopolysaccharide was examined in RH medium, modified MRS medium and skim milk medium, respectively. Compositional and chemical characterization, metylation analysis, specific rotation and 1H and 13C NMR spectroscopy revealed that the compositions of exopolysaccharides from different fermentation media are essentially identical. The exopolysaccharide is composed of a hexa-saccharide, repeating unit and thus known as kerripranocaci. The study on the effects of kerripranocaci in animals demonstrated that kerripranocaci significantly suppressed the increase of the blood pressure and reduced the serum cholesterol levels in SHR/SK/los rats when subjects consumed excessive dietary cholesterol, and kerripranocaci supplementation had a significant effect lowering blood glucose in KK-Ay mice. Furthermore, the results of fecal moisture and wet weights of feces in constipated SD rats indicated that the administration of kerripranocaci was effective for improving defecation. These results suggest that kerripranocaci could be used as a functional food to prevent some nowadays very frequent disease.

Abstract 115

EVENING READINESS-TO-EAT-CEREAL CONSUMPTION CONTRIBUTES TO WEIGHT LOSS. NV Dhurandhar5, S, Welte, JS Vander Wal, KL Veltri, JM, McBurney, J Daily6 and S Biligan7. 1Department of Nutrition and Food Science and Center for Human Nutrition, Wayne State University, Detroit, MI; 2Rochester Center for Obesity Research, Rochester Hills, MI, and 3Kaufman Company, Del. More Ltd.

Post-dinner snacking may constitute a significant proportion of the total daily energy intake and contribute to obesity for some individuals (night snackers). Providing a structured snack such as a "ready-to-eat" breakfast cereal after dinner may help regulate excess energy intake and contribute to weight loss. To test this hypothesis, 170 men and women (BMI ≥ 25kg/m2, age 18-65) ingesting post-dinner snacking as a major source of weight management problems (92%) and consuming 34% of daily calories after dinner but not breakfast. After comparing reimbursement of these individuals with those completing 4 weeks of the study were further analyzed. Body weight of the NC group did not change significantly after 4 wk (paired t-test; N=19; baseline: 216.8 ± 5.7 g; wk 4: 215.6 ± 5.7 g; change: -1.6 ± 3.1 lb; p = 0.51). In the CR group, weekly weight was significantly more positive with the days of cereal consumption (0.02 ± 0.01). Body weight after 4 wk was significantly lower for those eating cereal on at least 24 days N=15, 224.2 ± 46.3 ± 223.0 ± 45.0; change: -1.5 ± 3.1 lb; p < 0.01). For those eating cereal on at least 12 days (N=23): 213.4 ± 5.9 ± 222.0 ± 45.0; change: -1.9 ± 3.1 lb; p<0.02). It appears that simple and minimal intervention such as the addition of an evening snack of ready-to-eat breakfast cereal may help night snackers to lose weight. (Funded by the Kellogg Company.)