

Calcium intake and fracture risk: results from the study of osteoporotic fractures.

Cumming RG, Cummings SR, Nevitt MC, et al. *Am J Epidemiol* 1997;145:926-934.

The relation between dietary calcium, calcium, and vitamin D supplements and the risk of fractures of the hip (n = 332), ankle (n = 210), proximal humerus (n = 241), wrist (n = 467), and vertebrae (n = 389) was investigated in a cohort study involving 9,704 US white women aged 65 years or older. Baseline assessments took place in 1986-1988 in four US metropolitan areas. Dietary calcium intake was assessed at baseline with a validated food frequency questionnaire. Data on new nonvertebral fractures were collected every 4 months during a mean of 6.6 years of follow-up; identification of new vertebral fractures was based on comparison of baseline and follow-up radiographs of the spine done a mean of 3.7 years apart. Results were adjusted for numerous potential confounders, including weight, physical activity, estrogen use, protein intake, and history of falls, osteoporosis, and fractures. There were no important associations between dietary calcium intake and the risk of any of the fractures studied. Current use of calcium supplements was associated with increased risk of hip (relative risk = 1.5, 95% confidence interval 1.1-2.0) and vertebral (relative risk = 1.4, 95% confidence interval 1.1-1.9) fractures; current use of Tums antacid tablets was associated with increased risk of fractures of the proximal humerus (relative risk = 1.7, 95% confidence interval 1.3-2.4). There was no evidence of a protective effect of vitamin D supplements. Although a true adverse effect of calcium supplements on fracture risk cannot be ruled out, it is more likely that our findings are due to inadequately controlled confounding by indications for use of supplements. In conclusion, this study did not find a substantial beneficial effect of calcium on fracture risk.

Abstracts

Recently Published Abstracts

Monitoring pancreatin supplementation in cystic fibrosis patients with the 13C-Hiolein breath test: evidence for normalized fat assimilation with high dose pancreatin therapy.

Braden B, Picard H, Caspary WF, et al. *Z Gastroenterol* 1997;35:123-129.

BACKGROUND: 13C-Hiolein is a randomly 13C-labeled mixture of long chain triglycerides synthesized by algae. **METHODS:** Because the 13C-Hiolein breath test is a suitable noninvasive tool to detect and monitor pancreatic steatorrhea, we used this new breath test for monitoring the effect of enzyme replacement therapy with an acid resistant enteric coated polydisperse pancreatin preparation (1.500 U/kg d) in children with cystic fibrosis. **RESULTS:** Administration of 1.5 mg/kg 13C-Hiolein together with a physiological mixed meal (1.5 g/kg rice cookies, containing 25% fat and 37% starch) resulted in significantly higher breath 13CO₂/12CO₂ ratios in controls than in cystic fibrosis children (maximal delta over baseline responses (DOBmax) 39.2 +/- 18.1% vs. 13.1 +/-13.9%; p < 0.001). With pancreatin, DOBmax in the cystic fibrosis patients responses returned completely to normal (39.2 +/- 29.2% DOBmax). A breath hydrogen increase indicating the malassimilation of starch was noticed in one patient with severe pancreatic insufficiency only. **CONCLUSION:** In contrast to fecal fat analysis, the 13C-Hiolein breath test reflects postprandial fat assimilation immediately after a given, labeled meal. Monitoring the oxidative fate of physiological test meal with a stable isotope breath test, this study shows that fat assimilation in cystic fibrosis patients can be normalized with high dose pancreatin.

The combined treatment of lichen ruber planus of the mouth mucosa

Volodina EV, Maksimovskii IuM, Lebedev KA. *Stomatologia* 1997;76:28-32

The treatment of 53 patients with lichen planus of the buccal mucosa included common methods of detoxication and immunomodulators in order to normalize the immune status and was supplemented with applications of codfish oil enriched with polyunsaturated fatty acids. As a result of such treatment, the duration of exacerbation was shorter and a stable more than one-year remission was attained, associated with normalization of the immunological parameters. In patients with the erosive ulcerative form of lichen local applications of codfish oil and gargling with *Potentilla tormentilla* tincture were conducive to a sooner control of the process.

Antioxidants in the treatment of cholelithiasis patients

Vagner EA, Khlebnikov VV, Terekhina NA, Palatova LF. *Vestn Khir Im I I Grek* 1997;156:36-39

Results of examination and treatment of 157 patients with cholelithiasis against the background of a liver pathology were summed up. The antioxidant system in such patients was studied. The degree of a decrease of catalase activity in the liver and blood serum as well as the ascorbic acid content were found to depend on the liver state of patients with cholelithiasis. Greatest changes were found in patients with cirrhosis of the liver and chronic active hepatitis. The method of complex treatment of cholelithiasis patients with non-enzymatic antioxidants alpha-tocopherol and ascorbic acid is proposed. Activity of organ specific liver enzymes urokaninase and histidase was used for the estimation of treatment efficiency. Complex administration of ascorbic acid and alpha-tocopherol was shown to improve the liver function in patients operated upon for cholelithiasis.

Effects of Boswellia serrata gum resin in patients with ulcerative colitis.

Gupta I, Parihar A, Malhotra P, et al. *Eur J Med Res* 1997;2:37-43

Ulcerative colitis is a chronic inflammatory disease of the colon where leukotrienes are suggested to play an important role for keeping inflammation active. Boswellic acids, the biologically active ingredients of the gum resin of *Boswellia serrata* (Sallai guggal), have been shown to be specific, nonredox and noncompetitive inhibitors of 5-lipoxygenase, the key enzyme of leukotriene biosynthesis. In patients suffering from ulcerative colitis grade II and III the effect of *Boswellia serrata* gum resin preparation (350 mg thrice daily for 6 weeks) on stool properties, histopathology and scan microscopy of rectal biopsies, blood parameters including Hb, serum iron, calcium, phosphorus, proteins, total leukocytes and eosinophils was studied. Patients receiving sulfasalazine (1 g thrice daily) served as controls. All parameters tested improved after treatment with *Boswellia serrata* gum resin, the results being similar compared to controls: 82% out of treated patients went into remission; in case of sulfasalazine remission rate was 75%.

Reversal of clinical resistance to LHRH analogue in metastatic prostate cancer by the pineal hormone melatonin: efficacy of LHRH analogue plus melatonin in patients progressing on LHRH analogue alone.

Lissoni P, Cazzaniga M, Tancini G, et al. *Eur Urol* 1997;31:178-181.

OBJECTIVE: Experimental and preliminary clinical studies have suggested that the pineal hormone melatonin (MLT) may stimulate hormone receptor expression on both normal and cancer cells. Moreover, MLT has appeared to inhibit the growth of some cancer cell lines, including prostate cancer, either by exerting a direct cytostatic action, or by decreasing the endogenous production of some tumor growth factors, such as prolactin (PRL) and insulin-like growth factor-1 (IGF-1). On this basis, a study was carried out to evaluate the clinical efficacy of a neuroendocrine combination consisting of the LHRH analogue triptorelin plus MLT in metastatic prostate cancer progressing on triptorelin alone. **MATERIAL AND METHODS:** The study including 14 consecutive metastatic prostate cancer patients with poor clinical conditions (median age: 70.5 years; median PS: 50%), refractory or resistant to a previous therapy with the LHRH analogue triptorelin alone. Triptorelin was injected i.m. at 3.75 mg every 28 days, and MLT was given orally at 20 mg/day in the evening every day until progression, starting 7 days prior to triptorelin. **RESULTS AND CONCLUSIONS:** A decrease in PSA serum levels greater than 50% was obtained in 8/14 (57%) patients. Moreover, PSA mean concentrations significantly decreased on therapy of triptorelin plus MLT. In addition, a normalization of platelet number was obtained in 3/5 patients with persistent thrombocytopenia prior to study. Mean serum levels of both PRL and IGF-1 significantly decreased on therapy. Finally, a survival longer than 1 year was achieved in 9/14 (64%) patients. This preliminary study would suggest that the concomitant administration of the pineal hormone MLT may overcome the clinical resistance to LHRH analogues and improve the clinical conditions in metastatic prostatic cancer patients.

The effect of a protein concentrate from milk whey and its fractions on the macromolecular permeability of the intestinal barrier in rats with experimental food anaphylaxis

Gmoshinskii IV, Mazo VK, Zorin SN. *Vopr Pitan* 1996;1:3-6

Rats received dietary supplement of milk whey concentrate (KSP) being manufactured from skimmed milk by addition of apple pectin (Pec), KSP ultrafiltrated fractions and pure Pec during 21 day. A part of animals were sensitized i/p with chicken ovalbumin and finally subjected to systemic anaphylaxis (SA) by i/v antigen challenge. Gastrointestinal barrier macromolecular permeability (MP) for polyethylene glycol 4000 (PEG-4000) was measured by its urinary excretion after an intragastric load. MP increased significantly in nonsensitized rats after feeding with KSP and its high molecular (HM) fraction but not after feeding with low molecular (LM) KSP fraction compared to NaCl fed group. Feeding with Pec dramatically (5-fold) increased permeability. On the contrary the permeability decreased in sensitized rats subjected to SA when fed with KSP, its LM and particularly HM fraction the later group permeability being normalized down to normal value found in nonsensitized animals. It's concluded that KSP whey protein may be recommended for incorporation into specialized foods for patients with impaired gastrointestinal function.

A biochemiluminescent analysis of the pharmacotherapeutic activity of acetylsalicylic acid in combination with quercetin in a hypoxic syndrome.

Luk'ianchuk VD, Savchenkova LV, Semenova IA. *Eksp Klin Farmakol* 1997;60:62-64

The effect of acetylsalicylic acid in combination with quercetin on blood serum biochemiluminescence in the hypoxic syndrome was studied. Possessing marked antioxidant activity, this drug combination prevented changes in the kinetics of blood serum luminescence in all periods of the investigation.

Vitamin A status, other risk factors and acute respiratory infection morbidity in children.

Dudley L, Hussey G, Huskissen J, Kessow G. *S Afr Med J* 1997;87:65-70.

OBJECTIVE: This study evaluated the association between vitamin A status and the severity of acute respiratory infections (ARIs) in children, controlling for the influence of other known ARI risk factors. **DESIGN:** Case control study. **SETTING:** Ambulatory and hospital-based study. **PATIENTS:** Severe cases (N = 35) were children with ARI who were admitted to hospital for inpatient treatment, while mild cases (N = 32) were children with ARI who were treated as outpatients. The control group (N = 54) was selected from children with non-infectious diseases attending the outpatient department. Cases and controls were matched for age and area of residence. **MAIN OUTCOME MEASURES:** Serum vitamin A levels and analysis of ARI risk factors. **RESULTS:** The mean (SD) vitamin A levels were 22.09 (7.27) micrograms/dl for the controls, 20.27 (11.11) micrograms/dl for the mild cases and 13.79 (7.60) micrograms/dl for the severe cases. All pairwise comparisons of levels of the three patient groups achieved statistical significance-severe and mild (P < 0.01), severe and control (P < 0.001) and mild and control (P = 0.03). After vitamin A levels were dichotomised, the odds ratios (and 95% confidence intervals) for severe versus mild cases were 2.1 (0.8-5.6), for mild versus controls 2.9 (0.8-10.5) and for severe versus controls 6.0 (2.0-19.4). A chi 2 for trend across the three groups was 13.2 (P = 0.001). Risk factors significantly associated with disease status included a history of hospital admission in the preceding 6 months, absence of a clinic card, poor housing and lack of electricity for indoor fuel use. Factors associated with poor vitamin A status included low weight for age, previous diarrhoeal disease and poor housing. Vitamin A status was independently associated with disease status in logistic regression modelling. **CONCLUSION:** Vitamin A status has a strong association with severity of infection. The gradient of that association suggests a dose-response effect. The multifactorial nature of ARI severity and vitamin A status highlights the need for a comprehensive approach to public health programmes to address ARI. The role of vitamin A supplementation for at-risk groups is supported by this study, but needs to be clearly defined within a broader approach to health.

Selenium deficiency and thyroid function in acute renal failure.

Makropoulos W, Heintz B, Stefanidis I. *Ren Fail* 1997;19:129-136

The lethality of acute renal failure exceeds 50% due to multiorgan dysfunction. In such critically ill patients a reduction of thyroid hormone concentrations without clinical symptoms or laboratory evidence of hypothyroidism frequently occurs. Selenium has recently been shown to play a major role in thyroid hormone metabolism. The aim of this study was to investigate the possible influence of selenium on thyroid hormone metabolism in acute renal failure. Changes in thyroid metabolism were related to the severity of multiorgan failure and to the clinical course. Thyroxine (T4), tri-iodothyronine (T3), free-T4, free-T3, thyrotropin (TSH), serum creatinine, and plasma selenium concentrations in 28 patients (mean age 60 +/- 13) with acute renal failure and multiple-organ dysfunction syndrome were determined initially, and every 3 days after hospital admission. The plasma selenium concentration was found to be reduced compared to normal controls (32 +/- 14 vs. 70-120 micrograms/L). T4 (56 +/- 15 nmol/L, normal range 64-148), T3 (1.31 +/- 0.38 nmol/L, normal range 1.42-2.46), free-T3 (3.1 +/- 1.0 pmol/L, normal range 4.7-9.0), and free-T4 (10.8 +/- 4.0 pmol/L, normal range 10.3-25.8) values were low in 50-70% of the patients at the time of presentation. Plasma TSH concentrations were within the normal range (0.59 +/- 0.79 mU/L, normal range 0.25-3.1), and no clinical symptoms of hypothyroidism were observed. T4 concentration was higher in patients who survived acute renal failure compared to nonsurvivors (62 +/- 22 vs. 51 +/- 16 nmol/L, $p < 0.05$). Plasma selenium concentration was lower in patients with a severe organ dysfunction syndrome (36 +/- 10 vs. 29 +/- 19 micrograms/L) and correlated with the number of organ failures in these patients ($r = -0.247$, $p < 0.05$). T4 and free-T4 values paralleled decreasing selenium concentrations ($r = 0.35$, $p < 0.05$). Thyroid hormone levels were reduced in patients with acute renal failure without an increase in TSH. An increase in T4 concentrations became apparent during treatment and may be related to a favorable outcome in acute renal failure. Thyroid hormone concentrations paralleled plasma selenium levels, indicating a possible influence of selenium on thyroid function in acute renal failure.

Treatment of euthyroid struma. Comparable volume reduction with 400 micrograms iodine, 100 micrograms levothyroxine combined with 100 micrograms iodine or individually dosed levothyroxine

Peters H, Hackel D, Schleusener H. *Med Klin* 1997;92:63-67

AIM: In patients with euthyroid goitre, the efficacy of treatment with 400 micrograms iodine and 100 micrograms levothyroxine combined with 100 micrograms iodine was compared to that of the previous standard of therapy, individually dosed levothyroxine. PATIENTS AND METHODS: A total of 78 patients presenting with euthyroid diffuse goitre ($>$ or $=$ 25 ml) were prospectively enrolled, randomised and treated for 6 months. The course of thyroid volume was followed using thyroid volumetry. RESULTS: Data of 69 patients were included in the final evaluation (57 women, 12 men, age 31 \pm 1 years, thyroid volume 31.5 \pm 1.4 ml, 23 per treatment group). In the patients treated with individually dosed levothyroxine, the thyroid volume decreased by about 39% (95%-confidence limit [CL]-31% to -41%). However, the volume reductions achieved in the patients treated with 400 micrograms iodine or 100 micrograms levothyroxine/100 micrograms iodine were not significantly different ($p = 0.35$, variance analysis, mono-iodine -34%, 95%-CL -29% to -43%, 100 micrograms levothyroxine/100 micrograms iodine -39%, 95%-CL -32% to -45%). CONCLUSIONS: In patients with euthyroid diffuse goitre, treatment with mono-iodine or combination of levothyroxine with iodine should have principally the same status as the previous standard of therapy, individually dosed levothyroxine. In the view of the authors, its preferential treatment with mono-iodine appears most reasonable.

Vitamin E supplementation and in vivo immune response in healthy elderly subjects. A randomized controlled trial.

Meydani SN, Meydani M, Blumberg JB, et al. *JAMA* 1997;277:1380-1386

OBJECTIVE: To determine whether long-term supplementation with vitamin E enhances in vivo, clinically relevant measures of cell-mediated immunity in healthy elderly subjects. **DESIGN:** Randomized, double-blind, placebo-controlled intervention study. **SETTING AND PARTICIPANTS:** A total of 88 free-living, healthy subjects at least 65 years of age. **INTERVENTION:** Subjects were randomly assigned to a placebo group or to groups consuming 60, 200, or 800 mg/d of vitamin E for 235 days. **MAIN OUTCOME MEASURES:** Delayed-type hypersensitivity skin response (DTH); antibody response to hepatitis B, tetanus and diphtheria, and pneumococcal vaccines; and autoantibodies to DNA and thyroglobulin were assessed before and after supplementation. **RESULTS:** Supplementation with vitamin E for 4 months improved certain clinically relevant indexes of cell-mediated immunity in healthy elderly. Subjects consuming 200 mg/d of vitamin E had a 65% increase in DTH and a 6-fold increase in antibody titer to hepatitis B compared with placebo (17% and 3-fold, respectively), 60-mg/d (41% and 3-fold, respectively), and 800-mg/d (49% and 2.5-fold, respectively) groups. The 200-mg/d group also had a significant increase in antibody titer to tetanus vaccine. Subjects in the upper tertile of serum alpha-tocopherol (vitamin E) concentration (>48.4 micromol/L [2.08 mg/dL]) after supplementation had higher antibody response to hepatitis B and DTH. Vitamin E supplementation had no effect on antibody titer to diphtheria and did not affect immunoglobulin levels or levels of T and B cell s. No significant effect of vitamin E supplementation on autoantibody levels was observed. **CONCLUSIONS:** Our results indicate that a level of vitamin E greater than currently recommended enhances certain clinically relevant in vivo indexes of T-cell-mediated function in healthy elderly persons. No adverse effects were observed with vitamin E supplementation.

Abstracts

Recently Published Abstracts

Kava-kava extract WS 1490 versus placebo in anxiety disorders—a randomized placebo-controlled 25-week outpatient trial.

Volz HP, Kieser M.
Pharmacopsychiatry
1997;30:1-5

101 outpatients suffering from anxiety of non-psychotic origin (DSM-III-R criteria: agoraphobia, specific phobia, generalized anxiety disorder, and adjustment disorder with anxiety) were included in a 25-week multicenter randomized placebo-controlled double-blind trial with WS 1490, a special extract of kava-kava. In the main outcome criterion, the Hamilton Anxiety Scale (HAMA), there was a significant superiority of the test drug starting from week 8 on. WS 1490 was also found to be superior with respect to the secondary outcome variables. HAMA subscores somatic and psychic anxiety, Clinical Global Impression, Self-Report Symptom Inventory-90 Items revised, and Adjective Mood Scale. Adverse events were rare and distributed evenly in both groups. These results support WS 1490 as a treatment alternative to tricyclic antidepressants and benzodiazepines in anxiety disorders, with proven long-term efficacy and none of the tolerance problems associated with tricyclics and benzodiazepines.

Withania somnifera Dunal (Ashwagandha): potential plant source of a promising drug for cancer chemotherapy and radiosensitization.

Devi PU. *Indian J Exp Biol*
1996;34:927-932

Study of antitumor and radiosensitizing properties of *W. somnifera* (Ashwagandha), a well known medicinal plant, have yielded encouraging results. The alcoholic extract of the dried roots of the plant as well as the active component withaferin A isolated from the extract showed significant antitumor and radiosensitizing effects in experimental tumors in vivo, without any noticeable systemic toxicity. Withaferin A gave a sensitizer enhancement ratio of 1.5 for in vitro cell killing of V79 Chinese hamster cells at a non toxic concentration of approximately 2 microM. The mechanism of action of this compound is not known. The studies so far indicate that *W. somnifera* could prove to be a good natural source of a potent and relatively safe radiosensitizer/chemotherapeutic agent. Further studies are needed to explore the clinical potential of this plant for cancer therapy.

Amantadine and L-carnitine treatment of Chronic Fatigue Syndrome.

Plioplys AV, Plioplys S.
Neuropsychobiology
1997;35:16-23

Carnitine is essential for mitochondrial energy production. Disturbance in mitochondrial function may contribute to or cause the fatigue seen in Chronic Fatigue Syndrome (CFS) patients. Previous investigations have reported decreased carnitine levels in CFS. Orally administered L-carnitine is an effective medicine in treating the fatigue seen in a number of chronic neurologic diseases. Amantadine is one of the most effective medicines for treating the fatigue seen in multiple sclerosis patients. Isolated reports suggest that it may also be effective in treating CFS patients. Formal investigations of the use of L-carnitine and amantadine for treating CFS have not been previously reported. We treated 30 CFS patients in a crossover design comparing L-carnitine and amantadine. Each medicine was given for 2 months, with a 2-week washout period between medicines. L-Carnitine or amantadine was alternately assigned as first medicine. Amantadine was poorly tolerated by the CFS patients. Only 15 were able to complete 8 weeks of treatment, the others had to stop taking the medicine due to side effects. In those individuals who completed 8 weeks of treatment, there was no statistically significant difference in any of the clinical parameters that were followed. However, with L-carnitine we found statistically significant clinical improvement in 12 of the 18 studied parameters after 8 weeks of treatment. None of the clinical parameters showed any deterioration. The greatest improvement took place between 4 and 8 weeks of L-carnitine treatment. Only 1 patient was unable to complete 8 weeks of treatment due to diarrhea. L-Carnitine is a safe and very well tolerated medicine which improves the clinical status of CFS patients. In this study we also analyzed clinical and laboratory correlates of CFS symptomatology and improvement parameters.

Abstracts

Recently Published Abstracts

Combination oral antioxidant supplementation reduces blood pressure.

Galley HF, Thornton J, Howdle PD, et al. *Clin Sci* 1997;92:361-365

1. Hypertension affects 30% of adults and low intakes of antioxidants have been associated with increased risk of hypertension and cardiovascular disease. To investigate the effect of short-term high-dose antioxidant supplementation on blood pressure in hypertensive and normotensive outpatients, we undertook a randomized, double-blind, crossover design placebo-controlled study. 2. Forty subjects were recruited from medical outpatient clinics, of whom 38 completed the study. Twenty-one were attending for treatment of hypertension and 17 were normotensive, attending for minor gastrointestinal complaints. Subjects were randomly assigned to receive either 8 weeks placebo followed by 2 weeks washout then 8 weeks antioxidants or vice versa. The combination of antioxidants consisted of 200 mg of zinc sulphate, 500 mg of ascorbic acid, 600 mg of alpha-tocopherol (sodium succinate salt) and 30 mg of beta-carotene daily. 3. Systolic blood pressure fell at the end of the antioxidant phase compared with the placebo phase both in subjects receiving anti-hypertensive therapy ($P < 0.01$) and those who were normotensive ($P = 0.067$). Circulating levels of beta-carotene and alpha-tocopherol increased in all subjects during supplementation ($P < 0.01$) and urine nitrite increased in hypertensive patients ($P < 0.05$). 4. Short-term oral high-dose combination antioxidant therapy reduces blood pressure, possibly via increased availability of nitric oxide. This study may have implications for the innovative use of antioxidants as an adjunct to anti-hypertensive therapy.

Dehydroepiandrosterone (DHEA) treatment of depression.

Wolkowitz OM, Reus VI, Roberts E, et al. *Biol Psychiatry* 1997;41:311-318

Dehydroepiandrosterone (DHEA) and its sulfate, DHEA-S, are plentiful adrenal steroid hormones that decrease with aging and may have significant neuropsychiatric effects. In this study, six middle-aged and elderly patients with major depression and low basal plasma DHEA or DHEA-S levels were openly administered DHEA (30-90 mg/d x 4 weeks) in doses sufficient to achieve circulating plasma levels observed in younger healthy individuals. Depression ratings, as well as aspects of memory performance significantly improved. One treatment-resistant patient received extended treatment with DHEA for 6 months: her depression ratings improved 48-72% and her semantic memory performance improved 63%. These measures returned to baseline after treatment ended. In both studies, improvements in depression ratings and memory performance were directly related to increases in plasma levels of DHEA and DHEA-S and to increases in their ratios with plasma cortisol levels. These preliminary data suggest DHEA may have antidepressant and promemory effects and should encourage double-blind trials in depressed patients.

Effect of L-carnitine treatment in vivo on apoptosis and ceramide generation in peripheral blood lymphocytes from AIDS patients.

Cifone MG, Alesse E, Di Marzio L, et al. *Proc Assoc Am Physicians* 1997;109:146-153

Lymphocyte apoptosis in HIV-infected individuals may play a role in T-cell depletion and therefore favor progression to AIDS. In this study, we examined the effects of a short-term (5-day) intravenous treatment with L-carnitine (6 g/day) on apoptosis of CD4 and CD8 cells from 10 AIDS patients. L-carnitine administration has been shown to induce a strong reduction in the percentage of both CD4 and CD8 cells undergoing apoptosis. Interestingly, the L-carnitine treatment, which did not show relevant side effects in four patients, led to a strong and significant reduction of peripheral blood mononuclear cell-associated ceramide, an intracellular messenger of apoptosis, that positively correlated with the decrease of apoptotic CD4- and CD8-positive cells. These results suggest that L-carnitine could be an effective antiapoptotic drug in the treatment of AIDS patients.

Effects of treatment with the antioxidant alpha-lipoic acid on cardiac autonomic neuropathy in NIDDM patients. A 4-month randomized controlled multicenter trial (DEKAN Study).

Ziegler D, Schatz H, Conrad F, et al. *Diabetes Care* 1997;20:369-373

OBJECTIVE: To evaluate the efficacy and safety of oral treatment with the antioxidant alpha-lipoic acid (ALA) in NIDDM patients with cardiac autonomic neuropathy (CAN), assessed by heart rate variability (HRV). **RESEARCH DESIGN AND METHODS:** In a randomized, double-blind placebo-controlled multicenter trial (Deutsche Kardiale Autonome Neuropathie [DEKAN] Study), NIDDM patients with reduced HRV were randomly assigned to treatment with daily oral dose of 800 mg ALA (n = 39) or placebo (n = 34) for 4 months. Parameters of HRV at rest included the coefficient of variation (CV), root mean square successive difference (RMSSD), and spectral power in the low-frequency (LF; 0.05-0.15 Hz) and high-frequency (HF; 0.15-0.5 Hz) bands. In addition, cardiovascular autonomic symptoms were assessed. **RESULTS:** Seventeen patients dropped out of the study (ALA n = 10; placebo n = 7). Mean blood pressure and HbA1 levels did not differ between the groups at baseline and during the study, but heart rate at baseline was higher in the group treated with ALA (P < 0.05). RMSSD increased from baseline to 4 months by 1.5 ms (-37.6 to 77.1) [median (minimum-maximum)] in the group given ALA and decreased by -0.1 ms (-19.2 to 32.8) in the placebo group (P < 0.05 for ALA vs. placebo). Power spectrum in the LF band increased by 0.06 bpm² (-0.09 to 0.62) in ALA, whereas it declined by -0.01 bpm² (-0.48 to 1.86) in placebo (P < 0.05 for ALA vs. placebo). Furthermore, there was a trend toward a favorable effect of ALA versus placebo for the CV and HF band power spectrum (P = 0.097 and P = 0.094 for ALA vs. placebo). The changes in cardiovascular autonomic symptoms did not differ significantly between the groups during the period studied. No differences between the groups were noted regarding the rates of adverse events. **CONCLUSIONS:** These findings suggest that treatment with ALA using a well-tolerated oral dose of 800 mg/day for 4 months may slightly improve CAN in NIDDM patients.

The effect of sucrose- and aspartame-sweetened drinks on energy intake, hunger and food choice of female, moderately restrained eaters.

Lavin JH, French SJ, Read NW. *Int J Obes Relat Metab Disord* 1997;21:37-42

OBJECTIVE: To compare the effects of aspartame-sweetened and sucrose-sweetened soft drinks on food intake and appetite ratings of female restrained eaters. **SUBJECTS:** Fourteen female students, shown to have eating restraint. **METHODS:** Subjects were given four drinks (330 ml) of aspartame-sweetened lemonade, sucrose-sweetened lemonade and carbonated mineral water on three separate days. Seven of the subjects were informed of the drink type they were consuming on each occasion. **MEASUREMENTS:** Appetite ratings were recorded and energy and macronutrient intakes were measured during the study day and day after leaving the department. **RESULTS:** During the first study day energy intake was lower whilst drinking the sucrose-sweetened lemonade compared with the aspartame-sweetened lemonade, although neither differed significantly from energy intakes during the day the drank water. When the calories from the sucrose-sweetened lemonade were included (1381 kJ, 330 Kcal) energy intake did not differ between treatments. The following day energy intake was significantly higher after the aspartame-sweetened lemonade compared with both sucrose-sweetened lemonade and the water due to an increase in the amount of carbohydrate consumed and resulted in a higher total energy intake over the two days studied. Knowledge of the drink types had no effect on energy intake or macronutrient intake. Appetite ratings did not differ between drinks and were not affected by knowledge of the drink types. **CONCLUSION:** These results suggest that in females with eating restraint, substituting sucrose-sweetened drinks for diet drinks does not reduce total energy intake and may even result in a higher intake during the subsequent day.

Abstracts

Recently Published Abstracts

In vitro effects of echinacea and ginseng on natural killer and antibody-dependent cell cytotoxicity in healthy subjects and chronic fatigue syndrome or acquired immunodeficiency syndrome patients.

DM, Broumand N, Sahl L, Tilles JG.

Immunopharmacology
1997;35:229-235

Extracts of *Echinacea purpurea* and *Panax ginseng* were evaluated for their capacity to stimulate cellular immune function by peripheral blood mononuclear cells (PBMC) from normal individuals and patients with either the chronic fatigue syndrome or the acquired immunodeficiency syndrome. PBMC isolated on a Ficoll-hypaque density gradient were tested in the presence or absence of varying concentrations of each extract for natural killer (NK) cell activity versus K562 cells and antibody-dependent cellular cytotoxicity (ADCC) against human herpesvirus 6 infected H9 cells. Both echinacea and ginseng, at concentrations ≥ 0.1 or 10 micrograms/kg, respectively, significantly enhanced NK-function of all groups. Similarly, the addition of either herb significantly increased ADCC of PBMC from all subject groups. Thus, extracts of *Echinacea purpurea* and *Panax ginseng* enhance cellular immune function of PBMC both from normal individuals and patients with depressed cellular immunity.

Folates and the fetus.

Eskes TK. *Eur J Obstet Gynecol Reprod Biol*
1997;71:105-111

It is proven that folic acid supplied in the periconceptional period can lower the recurrence and occurrence rate of neural tube defects (NTDs). Our research team on prevention of birth defects could demonstrate that folic acid preventable NTDs are partly based on hyperhomocystinemia and a genetic predisposition (mutation of the methylenetetrahydrofolate-reductase gene (MTHF-R)). Reduced activity of the folate methylation cycle seems to be an attractive working hypothesis in the aetiology of NTDs. This genetic metabolic defect can be overcome by treatment with folic acid and/or vitamin B12.

Pathogenesis and treatment of liver fibrosis in alcoholics: 1996 update.

Lieber CS. *Dig Dis* 1997;15:42-66.

Fibrosis is a common end stage for most chronic liver diseases. It results from an imbalance between collagen production and degradation. One promising approach for prevention and treatment is the stimulation of collagenolytic processes. In nonhuman primates it was found that polyenylphosphatidylcholine (PPC), extracted from soybeans, protects against alcohol-induced fibrosis and cirrhosis and prevents the associated hepatic phosphatidylcholine (PC) depletion by increasing 18:2-containing PC species; it also attenuates the transformation of lipocytes into collagen-producing transitional cells. Furthermore, it increases collagen breakdown, as shown in cultured lipocytes enriched with pure dilinoleoyl PC (18:2-18:2 PC), the main PC species present in the extract, which may be the active ingredient. Since PC appears to promote the breakdown of collagen, there is reasonable hope that this treatment may affect not only the progression of the disease, but may also reverse preexisting fibrosis, as demonstrated for CCl₄-induced cirrhosis in the rat. Therefore, PPC may be useful for the management of fibrosis of alcoholic and nonalcoholic etiologies as well. S-Adenosylmethionine opposes CCl₄-induced fibrosis and can affect some of the consequences of the ethanol-induced oxidative stress in experimental animals and in man. Anti-inflammatory medications (corticosteroids, colchicine) are also being used and agents that interfere with collagen synthesis, such as inhibitors of prolyl-4-hydroxylase and antioxidants, are being tested.