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In The NEWS

Novel Clinical Study Seeks Advanced Melanoma Patients

Scientists are now recruiting patients for a clinical trial to investigate a promising new treatment for advanced melanoma.

When caught early, malignant melanoma is curable in over 90% of cases.[1] However, once melanoma spreads (metastasizes) to other body tissues, the prognosis is grim, making it the deadliest form of skin cancer. A novel treatment method called in situ photo-immunotherapy (ISPI) has produced impressive results in all patients in whom it has so far been tested.[2]

Immunotherapy—stimulating the body's own immune system to recognize and destroy cancerous cells—is considered one of the most promising ways to treat advanced forms of the disease. ISPI may improve on this approach, as it enlists patients' specialized defensive cells and sensitizes them to the patient's specific tumor characteristics. ISPI makes use of an immune-stimulating, topically applied skin cream used in conjunction with infrared lasers. The topical cream, imiquimod (Aldara™), binds with receptors on tumor cells and stimulates them to activate proteins that "broadcast" the presence of the tumor cells to the immune system. In essence, the patient's own tumor cells become a unique anti-tumor vaccine.

A preliminary case report examined the use of ISPI in two patients with late-stage melanoma. Following a six-week treatment cycle, both patients are still alive—more than 30 months later in one case, and 18 months later in the second case. The median life expectancy for stage IV melanoma cases is typically six to eight months. In addition, researchers observed shrinkage of untreated systemic metastases following therapy in at least one subject.[2] These preliminary findings indicate that ISPI therapy may be a useful and relatively non-toxic way to treat patients with advanced melanoma.

Based on these findings, ISPI has received investigational new drug status from the FDA. Researchers at the University of Oklahoma are recruiting patients with stage III or IV melanoma for a clinical trial assessing ISPI's effectiveness in treating advanced-stage melanoma. All stage III and stage IV melanoma patients who enroll will receive the treatment. Prospective subjects must have at least one qualifying melanoma lesion (an unresected cutaneous metastasis), be willing to travel to Tulsa for the treatment cycle (five visits over a two-month period), and have a life expectancy of at least four months, even without therapy.

Patients accepted for the clinical trial will apply imiquimod cream twice a day to a specified area of the skin, for a total of six weeks. At weeks two and four, investigators will expose the area to an infrared laser, which is expected to enhance the effectiveness of the topical cream.

"The goal of the treatment is to stimulate significant anti-tumor host immune responses to palliate metastatic disease and potentially prolong life," notes co-principal investigator Dr. Mark Naylor. Dr. Naylor hopes to enroll at least 20 stage IV and 50 stage III melanoma patients for the trial. To inquire about participating in this study, contact:

- Lisa Perry, MA, Dermatology Clinic
- 918-743-6675 (office)
- 918-743-4821 (FAX)
- Lin Peabody, LPN, CCRC, Department of Surgery
- 918-660-3931 (office)
- 918-660-3833 (FAX)
- Email: Linda-Peabody@ouhsc.edu
- University of Oklahoma College of Medicine, Tulsa, OK

—Dale Kiefer

Reference

1. Available at: http://www.skincancer.org/melanoma/index.php. Accessed February 8, 2007.
2. Naylor MF, Chen WR, Teague TK, Perry LA, Nordquist RE. In situ photoimmunotherapy: a tumour-directed treatment for melanoma. Br J Dermatol. 2006 Dec;155(6):1287-92.

Broccoli-Tomato Combo Reduces Prostate Tumors

A diet enhanced with tomato and broccoli powders helps shrink tumors in an animal model of prostate cancer, and is more effective than a diet supplemented with either vegetable extract alone, according to a recent report.*

In a study of rats with implanted prostate cancer tumors, the animals were divided to receive diets containing 10% broccoli powder, 10% tomato powder, or a combination of both. Other rats received lycopene or finasteride (a drug used to treat prostate enlargement), or were surgically castrated. After 22 weeks of treatment, rats that received broccoli and tomato powder experienced greater shrinkage of their tumors than animals in any other group.

“Older men with slow-growing prostate cancer who have chosen watchful waiting over chemotherapy and radiation should seriously consider altering their diets to include more tomatoes and broccoli,” the study authors noted.

—Dayna Dye

Reference

* Canene-Adams K, Lindshield BL, Wang S, Jeffery EH, Clinton SK, Erdman JW Jr. Combinations of tomato and broccoli enhance antitumor activity in dunning r3327-h prostate adenocarcinomas. Cancer Res. 2007 Jan 15;67(2):836-43.

Higher Vitamin D Levels Lower MS Risk

Higher serum levels of vitamin D are associated with a lower risk of multiple sclerosis among white—but not black or Hispanic—men and women, according to a recent report.* This new finding corroborates previous studies suggesting that vitamin D may have a protective effect against multiple sclerosis.

Harvard scientists used military disability databases to identify 257 people diagnosed with multiple sclerosis between 1992 and 2004. Each subject was then compared to two control subjects selected from the Department of Defense Serum Repository and matched for age, gender, and ethnicity.

For every 50-nanomole-per-liter increase in serum 25-hydroxyvitamin D among white subjects, there was a 41% decrease in the risk of multiple sclerosis. Whites in the top fifth of serum vitamin D concentrations had the lowest disease risk—62% lower than for those in the lowest fifth. Among black and Hispanic subjects, scientists found no association between serum vitamin D level and multiple sclerosis risk.

—Dayna Dye

Reference

*Munger KL, Levin LI, Hollis BW, Howard NS, Ascherio A. Serum 25-hydroxyvitamin D levels and risk of multiple sclerosis. JAMA. 2006 Dec 20;296 (23):2832-8.

Folic Acid Improves Cognitive Function

Supplementing older adults with folic acid improves their cognitive function, according to recent findings published in the Lancet.*

Eight hundred eighteen subjects took either 800 mcg of folic acid or a placebo each day for three years. Participants were limited to those whose homocysteine levels were at least 13 and no greater than 26 micromoles per liter, and were tested for memory, sensorimotor speed, information processing speed, and word fluency at the study's onset and conclusion.

In those who received folic acid, serum folate increased more than fivefold and plasma total homocysteine decreased 26% compared to the placebo group. Memory, information processing speed, and sensori-motor speed were also significantly improved in the supplemented group. Supplemental folic acid may thus be crucial for preserving cognitive function in older adults.

—Dayna Dye

Reference

* Durga J, van Boxtel MP, Schouten EG, et al. Effect of 3-year folic acid supplementation on cognitive function in older adults in the FACIT trial: a randomised, double blind, controlled trial. Lancet. 2007 Jan 20;369(9557):208-16.

Hormone Therapy May Lower Alzheimer's Risk in Men

Androgen replacement therapy could help prevent the development of Alzheimer's disease, report scientists in the Journal of Neuroscience.* Age-related depletion of testosterone, the primary male hormone, is a newly identified risk factor for Alzheimer's.

Scientists castrated mice that were genetically modified to develop Alzheimer's and administered dihydrotestosterone or a placebo for four months. At the end of the study, castrated mice that received placebo exhibited diminished working memory and elevated beta amyloid (a substance that develops in the brains of Alzheimer's patients), compared to mice that were not castrated or received hormone therapy. The results suggest reduced testosterone levels may promote beta-amyloid accumulation in the brain.

"We've known that low testosterone is a risk factor for Alzheimer's disease but now we know why," wrote the scientists. "The implication for humans is that testosterone therapy might one day be able to block the development of the disease."

—Dayna Dye

Reference

* Rosario ER, Carroll JC, Oddo S, LaFerla FM, Pike CJ. Androgens regulate the development of neuropathology in a triple transgenic mouse model of Alzheimer's disease. J Neurosci. 2006 Dec 20;26(51):13384-9.

Vitamin C May Help Fight Obesity

Supplementing with high-dose vitamin C may offset weight gain associated with a high-calorie, high-fat diet, according to Spanish researchers.*

Since obesity is considered an inflammatory condition exacerbated by oxidative stress and excessive food intake, the researchers sought to determine whether a dietary antioxidant in sufficient quantities could mitigate inflammation and thus reduce obesity.

In the laboratory, they divided rats into three groups. One group received standard chow, a second group was free to choose from a cafeteria-style selection, and a third group ate cafeteria-style feed supplemented with high levels of ascorbic acid (vitamin C). After nearly two months, changes were assessed in the animals' fat-cell genes. In rats fed ascorbic acid, vitamin C "was able to protect against high-fat-diet effects, reducing the increase of body weight, total body fat, and enlargement of different adipose deposits induced

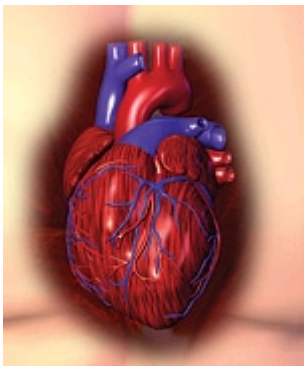
by the cafeteria diet," the researchers concluded.

—Dale Kiefer

Reference

* Campion J, Milagro FI, Fernandez D, Martinez JA. Differential gene expression and adiposity reduction induced by ascorbic acid supplementation in a cafeteria model of obesity. J Physiol Biochem. 2006 Jun;62(2):71-80.

CoQ10 Aids Chronic Heart Failure Patients



Coenzyme Q10 supplementation improves cardiac function in patients with stable chronic heart failure, Italian researchers recently reported.*

Because plasma CoQ10 levels are depressed in patients with chronic heart failure, the scientists sought to determine whether oral CoQ10 supplementation could improve such patients' prognoses. The four-phase, double-blind, placebo-controlled, crossover trial enrolled 23 male and female patients with stable chronic heart failure. In the first phase, patients received 300 mg of CoQ10 per day. In the second phase, they received the same dose of CoQ10 and supervised exercise training. In a third phase, subjects received placebo, and in the fourth, they received placebo plus exercise.

Oral CoQ10 improved the heart's functional capacity, the ability of key blood vessels to dilate, and the contractility of the heart's left ventricle in patients with stable chronic heart failure. CoQ10's effects were even more pronounced when used in conjunction with exercise.

—Dale Kiefer

Reference

* Belardinelli R, Mucaj A, Lacalaprice F, et al. Coenzyme Q10 and exercise training in chronic heart failure. Eur Heart J. 2006 Nov;27(22):2675-81.

CLA and Exercise Improve Body Composition

Conjugated linoleic acid (CLA) and aerobic exercise produce additive improvements in body composition in young women, according to a recent report.*

Scientists divided a group of 44 healthy young women into four groups: exercise and CLA; CLA only; exercise only; and a control group. The two groups supplementing with CLA took 3.6 grams CLA per day, while the exercising groups participated in 30 minutes of aerobic activity, three times weekly for six weeks. At the study's end, all three of the experimental groups had reduced their fat mass and waist and hip girth. The exercise-only and the exercise-plus-CLA groups both increased their lean body mass, while the CLA-only group reduced their body mass.

The scientists concluded that both CLA and aerobic exercise improve body composition, and that together they produce additive benefits.

—Elizabeth Wagner, ND

Reference

* Colakoglu S, Colakoglu M, Taneli F, Cetinoz F, Turkmen M. Cumulative effects of conjugated linoleic acid and exercise on endurance development, body composition, serum leptin and insulin levels. J Sports Med Phys Fitness. 2006 Dec;46(4):570-7.

In The NEWS

Heartburn Drugs Tied to Greater Fracture Risk

When used for a year or longer, heavily prescribed heartburn medications such as Nexium®, Prevacid®, and Prilosec® substantially raise the risk of hip fracture among older adults, according to a study recently reported in the Journal of the American Medical Association.*

While these medications, classified as proton-pump inhibitors, reduce stomach acid, they presumably also decrease the stomach's ability to absorb calcium, which is essential for maintaining healthy bones. The study found a 44% higher risk of hip fractures among people 50 and older who took one of the drugs for at least a year, with higher doses correlated with higher risk.

The study indicated that another class of prescription antacids, known as H2-blockers (such as Tagamet® or Pepcid®) also increase hip fracture risk, albeit to a lesser extent than proton pump inhibitors. Over-the-counter antacids such as Tums®, Rolaids®, and Maalox® have not been shown to interfere with calcium absorption.

—Dale Kiefer

Reference

* Yang YX, Lewis JD, Epstein S, Metz DC. Long-term proton pump inhibitor therapy and risk of hip fracture. JAMA. 2006 Dec 27;296(24):2947-53.

Hydroxycitric Acid Supports Weight-Loss Efforts

Hydroxycitric acid helps support weight-management efforts in obese adults, report Georgetown University researchers.*

In a trial of 90 obese adults, one group took a daily dose of hydroxycitric acid, a second group received hydroxycitric acid in combination with niacin-bound chromium and Gymnema sylvestre extract, and a third group took a placebo. All three groups consumed the same diet and participated in a 30-minute walking program five days a week.

After eight weeks, the hydroxycitric acid group reduced their body weight by 5.4%, their triglycerides by 6.9 %, and their low-density lipoprotein (LDL) by 12.9%, while increasing beneficial high-density lipoprotein (HDL) by 8.9%. Urinary excretion of fat metabolites increased by 32-109%. The hydroxycitric acid-chromium-Gymnema extract group demonstrated similar but even more pronounced effects.

Hydroxycitric acid—used along or in combination with niacin-bound chromium and Gymnema extract—thus helps to reduce body weight, improve blood lipid profiles, and increase fat oxidation.

—Elizabeth Wagner, ND

Reference

* Preuss HG, Garis RI, Bramble JD, et al. Efficacy of a novel calcium/potassium salt of (-)-hydroxycitric acid in weight control. Int J Clin Pharmacol Res. 2005;25(3):133-44.

Selenium May Slow HIV Progression

Consuming a daily selenium supplement is associated with suppression of the HIV virus and improved immune function, report scientists writing in the Archives of Internal Medicine.*

Two hundred sixty-two HIV-positive men and women were randomly assigned to receive a placebo or 200 mcg daily of supplemental selenium. Blood selenium levels, CD4 count (a measure of immune function), and HIV viral load (the number of copies of the virus in the blood) were assessed at the study's beginning and end. Greater selenium levels predicted a decline in HIV viral load, which subsequently predicted increased CD4 counts, which are associated with a lower risk of secondary infections.

"Our results support the use of selenium as a simple, inexpensive, and safe adjunct therapy" in treating HIV, the scientists concluded.

—Dayna Dye

Reference

* Hurwitz BE, Klaus JR, Llabre MM, et al. Suppression of human immunodeficiency virus type 1 viral load with selenium supplementation: a randomized controlled trial. Arch Intern Med. 2007 Jan 22;167(2):148-54.

Supplement Lowers Weight, Cholesterol in Kids

Supplementing with vitamins, minerals, and fiber helps overweight children lose weight, according to a recent study.*

Twenty-five mildly to moderately obese boys and girls, aged 7-13, took one multivitamin-mineral tablet at breakfast, and two mixed fiber capsules with water 15 minutes before lunch and dinner.

At the study's onset and conclusion, investigators measured the children's body weight, body fat percentage, waist circumference, total cholesterol, and triglycerides. Six weeks of supplementation produced statistically significant weight loss and a decrease in body fat percentage. The children's cholesterol and triglyceride levels also declined markedly, while waist circumference decreased modestly.

The scientists concluded that a combination of vitamins, minerals, and fiber is a safe, effective way to help overweight children reduce their weight, body fat percentage, and cholesterol and triglyceride levels.

—Elizabeth Wagner, ND

Reference

* Gonzalez MJ, Miranda-Massari JR, Ricart CM, Guzman AM. Effect of a dietary supplement combination on weight management, adipose tissue, cholesterol and triglycerides in obese children. PR Health Sci J. 2005 Sep;24(3):211-3.

Fish Oil May Improve Coordination in Infants

Children born to pregnant women who consumed fish oil supplements had better hand-eye coordination than those born to mothers who did not consume fish oil, according to new findings.*

In a double-blind trial, 98 pregnant women supplemented with 4 grams of fish oil (yielding 2.2 grams of DHA and 1.1 grams of EPA) or 4 grams of olive oil from the twentieth week of pregnancy until birth. The children were tested for language, behavior, practical reasoning, and hand-eye coordination at the age of 30 months. Those whose mothers took fish oil scored higher on measures of language comprehension, average phrase length, and vocabulary. Hand-eye coordination skills were significantly greater among the children of mothers who were given fish oil.

"Maternal fish oil supplementation during pregnancy is safe for the fetus and infant, and may have potentially beneficial effects on the child's eye and hand coordination," the authors concluded.

—Dayna Dye

Reference

* Dunstan JA, Simmer K, Dixon G, Prescott SL. Cognitive assessment at 21/2 years following fish oil supplementation in pregnancy: a randomized controlled trial. Arch Dis Child Fetal Neonatal Ed. 2006 Dec 21; [Epub ahead of print]

Life Extension Green Tea Extract Guards Against Neurodegeneration

Life Extension's green tea extract protects the brain against oxidative stress and degeneration, report scientists from Italy and China.* The researchers, who have no financial ties to Life Extension, will present their findings at an upcoming meeting of the International Association of Biomedical Gerontology in Greece.

Stress and aging contribute to neurodegenerative disorders. To assess the potential neuroprotective effect of green tea extract, the researchers exposed aged rats to stress for four hours daily. One group received a single dose of caffeine-free green tea extract (equal to 250 mg per kilogram of body weight) each day following the stressful stimulus, while a second group did not receive green tea.

After 30 days, the stressed animals exhibited substantial neurodegeneration of the hippocampus (a brain area associated with memory that deteriorates in Alzheimer's disease), along with increased markers of oxidative stress and depleted levels of essential antioxidants.

By contrast, rats that received green tea extract were protected against stress-induced neurodegeneration. Green tea extract improved or normalized brain cell count in the hippocampus, while preventing much of the oxidative stress and antioxidant depletion associated with the stressful stimulus.

These remarkable findings demonstrate that a potent green tea extract helps protect against stress-induced neurodegeneration.

Editor's note: This experiment utilized Life Extension's Super Green Tea Extract.

—Elizabeth Wagner, ND

Reference

* Marotta F, Chui DH, Lorenzetti A, Liu T, Marandola P. Green tea mitigates stress-induced hippocampal neuronal oxidative stress and degeneration in old rats. Poster to be presented at: "Molecular Mechanisms and Models of Ageing": 12th Congress of the International Association of Biomedical Gerontology meeting; May 20-24, 2007; Spetses Island,Greece.

Weight Loss Cuts Prostate Cancer Risk

Even modest weight loss reduces prostate cancer risk, report researchers from the American Cancer Society.*

In a study of nearly 70,000 men, those who lost 11 pounds or more over the course of a decade reduced their risk of being diagnosed with aggressive prostate cancer by approximately 40% compared to men whose weight remained unchanged. The subjects were followed for more than 20 years.

While scientists have previously shown that obesity increases the risk of prostate cancer, this study is thought to be the first to clearly demonstrate that weight loss has the opposite effect.

—Dale Kiefer

Reference

* Rodriguez C, Freedland SJ, Deka A, et al. Body mass index, weight change, and risk of prostate cancer in the Cancer Prevention Study II Nutrition

Calcium, Vitamin D Improve Lipid Profiles

Women who supplement their weight-loss program with calcium and vitamin D achieve better lipid profiles than those who do not, according to a just-published report.*

During a 15-week trial, 63 overweight or obese women supplemented twice daily with 600 mg of calcium and 200 IU of vitamin D, or an inactive placebo. Compared to the placebo group, those who took the calcium-vitamin D supplement significantly reduced their low-density lipoprotein (LDL), total cholesterol to high-density lipoprotein (HDL) ratio, and LDL to HDL ratio, while also lowering their total cholesterol and triglycerides.

Supplementation with calcium and vitamin D thus augmented the beneficial effects of weight loss on lipid and lipoprotein profiles in overweight and obese women.

—Dayna Dye

Reference

* Major GC, Alarie F, Dore J, Phouttama S, Tremblay A. Supplementation with calcium + vitamin D enhances the beneficial effect of weight loss on plasma lipid and lipoprotein concentrations. Am J Clin Nutr. 2007 Jan;85(1):54-9.