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IN THE
NEWS**Elevated C-Reactive Protein May Signal Higher Cancer Risk**

Elevated levels of C-reactive protein (CRP) predict higher cancer risk and poorer disease outcomes, according to a recent report published in the *Journal of Clinical Oncology*.¹ Detectable by a simple blood test, CRP is an inflammatory marker that is increasingly recognized as an important independent risk factor for heart disease.²

More than 10,000 Danish citizens participated in this long-term study, which documented CRP levels at baseline and subsequently monitored subjects' health for up to 16 years. People with a higher baseline plasma CRP value (greater than 3 mg/L) were 30% more likely to be diagnosed with cancer than people with a relatively low baseline CRP level (less than 1 mg/L). The risk of lung cancer more than doubled among people with high baseline CRP levels. Furthermore, elevated levels of baseline CRP were associated with a dramatically higher risk of early death following a diagnosis of any type of cancer, especially in patients whose cancer had not metastasized.²



"Elevated levels of CRP in cancer-free individuals are associated with increased risk of cancer of any type...[and] with early death after a diagnosis of any cancer... wrote researchers.² These findings support the link between inflammation and elevated cancer risk, and underscore the importance of regularly monitoring CRP blood levels as part of a health maintenance program.

—Dale Kiefer

Reference

1. J Clin Oncol. 2009 Mar 16.
2. Circulation. 2008 Nov 25;118(22):2243-51, 4 p following 2251

Compound in Broccoli May Help Protect Against Asthma and Other Respiratory Diseases

In a recent issue of *Clinical Immunology*, researchers at UCLA and the US Environmental Protection Agency report that sulforaphane, a compound that occurs in cruciferous vegetables such as broccoli, may help protect against respiratory inflammation and the diseases it causes, including asthma and allergic rhinitis.*

The team administered a preparation of broccoli sprouts, which contain high amounts of sulforaphane, or a preparation of alfalfa sprouts to 65 men and women for three days. Gene expression of antioxidant enzymes was evaluated in nasal passage rinse samples collected before and after treatment.



"We found a two- to three-fold increase in antioxidant enzymes in the nasal airway cells of study participants who had eaten a preparation of broccoli sprouts," principal investigator Dr. Riedl noted. "This strategy may offer protection against inflammatory processes and could lead to potential treatments for a variety of respiratory conditions."

—Dayna Dye

Reference

- * Clin Immunol. 2009 Mar;130(3):244-51.

Clinical Studies Demonstrate Benefits of Life Extension®'s DHEA Formulation

Dehydroepiandrosterone (DHEA) is a popular anti-aging supplement associated with many health benefits. Two impressive studies utilized Life Extension's brand of DHEA to demonstrate that doses of 50 mg/day can help accelerate abdominal fat loss,¹ improve insulin sensitivity,¹ and increase lean muscle mass.²



In the first placebo-controlled study, investigators examined the effect of DHEA on visceral fat (within the abdomen) and subcutaneous fat (under the skin) in 56 men and women aged 65 to 78 years. After six months of supplementation, they found that women lost an average of 10.2% of their visceral fat, while men lost an average of 7.4%. Subcutaneous fat loss averaged about 6% for both groups. DHEA also improved insulin sensitivity in this study. The investigators concluded, "long-term DHEA replacement therapy might reduce the accumulation of abdominal fat and protect against the development of the metabolic/insulin resistance syndrome."¹

Since endogenous levels of DHEA decline by about 80% between the ages of 25 and 75 years, which correlates with a decrease in muscle mass and strength, the same research team also studied the effect of DHEA on lean tissue.² They found that after 10 months of supplementation, DHEA maximized increases in muscle mass and strength induced by four months of weight-training exercise in 56 elderly men and women. The researchers concluded, "DHEA replacement has the additional benefit of enhancing the increases in muscle mass and strength induced by heavy resistance exercise."²

—Bina Singh

Reference

1. JAMA. 2004 Nov 10;292(18):2243-8.
2. Am J Physiol Endocrinol Metab. 2006 Nov;291(5):E1003-8.

Greater Carotenoid Intake Linked With Longer Cancer-Free Survival in Breast Cancer Patients

A recent issue of *Cancer Epidemiology, Biomarkers & Prevention* published the discovery of a positive effect of high carotenoid intake on recurrence-free survival in breast cancer patients.*

Compared with women whose carotenoid levels were among the lowest one-third of participants, subjects whose levels were in the top two-thirds experienced a 33% lower risk of recurrent or new primary breast cancer.

"Longer-term exposure to a high vegetable and fruit dietary pattern that promotes higher plasma carotenoid concentration may improve prognosis and survival," they concluded.

—Dayna Dye

Reference

- * Cancer Epidemiol Biomarkers Prev. 2009 Feb;18(2):486-94.

New Media Campaign Highlights Dangers of Maternal Vitamin D Deficiency

In the April 2009 issue, *Life Extension*® magazine published a detailed article linking falling levels of vitamin D over the past 20 years with the rising incidence of autism. To ensure this breakthrough information reaches Ob/Gyn doctors, leading vitamin D researcher, Dr. John Cannell, is launching a media campaign to raise awareness of maintaining adequate levels of vitamin D during pregnancy. His message is echoed by the American Academy of Pediatrics, which stated recently:

"Given the growing evidence that adequate maternal vitamin D status is essential during pregnancy, not only for maternal well-being but also for fetal development, health care professionals who provide obstetric care should consider assessing maternal vitamin D status by measuring the 25-hydroxyvitamin D concentrations of pregnant women."¹

Scientists fear that many pregnant women mistakenly believe they are getting enough vitamin D from prenatal vitamins.² The sad reality is that low levels of maternal vitamin D can affect fetal development and may contribute to autism,³ which does not manifest itself until several years after birth. Mounting evidence also indicates that extra vitamin D is needed during pregnancy, with recent research revealing that pregnant women may need as much as 6,000 IU of vitamin D per day.⁴

Dr. Cannell's campaign is being sponsored by the Vitamin D Council. Targeting both print and television media, it will stress the critical need for specialists to diagnose and aggressively treat maternal vitamin D deficiency.

—Bina Singh

Reference

1. Pediatrics. 2008 Nov;122(5):1142-52.
2. J Nutr. 2007 Feb;137(2):447-52.
3. Med Hypotheses. 2008;70(4):750-9.
4. J Bone Miner Res. 2007 Dec;22(Suppl 2):V39-44.

Nutritional Supplement Plus Testosterone May Help Keep Seniors Out of the Hospital

A recent report from the *American Journal of Clinical Nutrition* describes a study that a combination of testosterone and an oral nutritional supplement containing protein may help keep undernourished older individuals out of the hospital.*

Forty-nine undernourished men and women were provided with dietary advice and assigned one of the following: testosterone, a nutritional supplement containing 18% protein, both testosterone and the nutritional supplement, or no treatment for one year.

Over the course of the year, 13 participants had a total of 18 hospital admissions, and two deaths occurred. Among the 11 participants who received both testosterone and supplemental nutritional therapy, there were no hospital admissions or deaths.

“Because hospitalizations are a common and serious event in undernourished older people, this is an exciting finding of considerable potential benefit to many people,” the authors concluded.

—Dayna Dye



Reference

- * Am J Clin Nutr. 2009 Mar;89(3):880-9.

Mediterranean Diet Associated With Reduction in Deaths From Heart Attack and Stroke

A recent article from the journal *Circulation* reports an association between greater adherence to a Mediterranean diet and a reduction in deaths from coronary heart disease and stroke in women.*

Teresa T. Fung, ScD, and colleagues evaluated data from 74,886 women participating in the Nurses' Health Study. Questionnaires were scored for adherence to the Mediterranean diet, which is characterized by a high intake of vegetables, fruits, nuts, whole grains, legumes, fish, and monounsaturated fat.

Over two decades of follow-up, women whose scores were in the top 20% of participants had a 29% lower risk of heart disease, a 42% lower risk of fatal heart disease, a 13% lower risk of stroke, and a 31% lower risk of fatal stroke, compared with women whose scores were lowest.

The authors acknowledge the need for their results to be replicated in other populations, particularly men.

Reference

* Circulation. 2009 Mar 3;119(8):1093-100.

Zinc Supplements Associated With Reduced Risk of Advanced Prostate Cancer

The journal *Nutrition and Cancer* published the finding of an association between the intake of zinc supplements and a reduced risk of advanced prostate cancer.*

Emily White and colleagues evaluated data from 35,242 men who participated in the VITAL study of the impact of dietary supplements on cancer risk. Eight hundred thirty-two participants developed invasive prostate cancers over a four-year follow-up period, categorized as local, regional, or distant invasion.



While a weak relationship was observed between a reduced risk of all invasive prostate cancers and long-term supplementation with over 15 mg of zinc per day, the risk of regional/distant prostate cancer was 66% lower among subjects who reported supplementing with this amount of zinc compared with those who did not supplement.

“If future studies support these results, it may suggest that zinc supplements may be beneficial for some subgroups of men for the most adverse forms of the disease,” the authors concluded.

—Dayna Dye

Reference

* *Nutr Cancer*. 2009 Mar;61(2):206-15.

Dietary Lignans May Help Control Body Weight

High consumption of dietary lignans is associated with lower body fat and greater insulin sensitivity according to a study in Canadian women.* Lignans are a type of phytoestrogen found in fruits, vegetables, whole grains, and seeds, especially flaxseed.

Subjects were 115 postmenopausal women who were free from endocrine diseases and not using hormone replacement. The women underwent testing for body fat, insulin sensitivity, dietary phytoestrogen intake, and blood levels of enterolactone, the major lignan metabolite. Women with the highest levels of lignan intake, whether measured as dietary lignan consumption or blood levels of enterolactone, had significantly lower body mass index, lower total-body fat mass, and better insulin sensitivity than women with the lowest dietary intake or the lowest enterolactone levels. Fat mass alone was 8.5 kg lower in the high-enterolactone group. Better metabolic profile with high lignan consumption was independent of calorie intake or physical activity.



These findings underscore the importance of consuming a plentiful amount of lignans for good health.

—Laura J. Ninger, ELS

Reference

* <http://journals.cambridge.org/action/displayAbstract?jsessionid=ECF40C9DB355FCBBAC3C0C1B71ADF5FA.tomcat1?fromPage=online&aid=3387180>.

Superoxide Dismutase Improves Cognitive Function

Supplementation with the antioxidant superoxide dismutase (SOD) prevents stress-induced impairment of learning and memory

in mice.*

Chronic stress was induced in the mice by immobilization for 12 hours per day in narrow cages. Four randomly assigned groups were studied: restrained mice fed a normal diet, restrained mice supplemented with vitamin E, restrained mice supplemented with a specialized SOD extract derived from melons (GliSODin®), and control mice without restraint or dietary changes. After five weeks, cognitive function was tested with a standard water-maze swimming test. SOD supplementation, but not vitamin E supplementation, was associated with significantly faster learning and better spatial memory when compared with the restrained, non-supplemented mice. Learning and memory in the SOD group were equivalent to those in the control group.

Brain autopsies revealed that only SOD supplementation achieved both lower lipid peroxidation (oxidative stress) and greater generation of neurons than in the restrained, non-supplemented group.

—Laura J. Ninger, ELS

Reference

* www.nutraingredients.com/Research/SOD-supplement-may-ease-brain-impairment-Mouse-study.

Osteoporosis Drug Effective in Breast Cancer

Zoledronic acid (Zometa®) improves outcomes when added to standard therapy for estrogen-responsive breast cancer in premenopausal women.¹ Zoledronic acid belongs to the bisphosphonate class of medications, which fight bone loss and osteoporosis.

The study enrolled 1,803 premenopausal women after surgery for early-stage breast cancer that tested positive for estrogen receptors. The women were randomly assigned to one of two different endocrine (hormone-suppressive) regimens, with or without zoledronic acid, for three years.

Disease-free survival was analyzed at a median of 48 months later. At that time, 137 deaths, relapses, or new tumors had occurred. Disease-free survival was similar for the two endocrine regimens when given alone. However, individuals using both zoledronic acid and endocrine therapy had a 36% lower risk of disease progression, compared with individuals using endocrine therapy alone.

These data confirm research indicating that bisphosphonates have cancer-fighting properties and further support *Life Extension*®'s recommendation that certain cancer patients use bisphosphonates. For more than 10 years, *Life Extension* has reported that bisphosphonates may help prevent certain sequelae of breast and prostate cancer, such as bone metastasis.²

Any patient taking a bisphosphonate drug should also take at least 1,000 mg of highly absorbable calcium, along with vitamins D and K.

—Laura J. Ninger, ELS

Reference

1. N Engl J Med. 2009 Feb 12;360(7):679-91.

2. Medical updates. Preventing bone metastasis. Life Extension. April 1998.

Gamma Tocopherol May Prevent Prostate Cancer

The gamma-tocopherol form of vitamin E may prevent prostate cancer, according to a newly published study.*

Japanese researchers conducted a series of experiments using mice specially bred to develop human-type prostate carcinoma. In one experiment, young male rats received either the alpha-tocopherol form of vitamin E in the diet, or gamma tocopherol, for 10 weeks. In a second experiment, young male rats received one of three different concentrations of gamma tocopherol in the diet for seven weeks.

In both experiments, gamma tocopherol significantly suppressed the progression of prostatic lesions from a microscopic, precancerous state to full-blown prostate cancer. Furthermore, the suppression effect increased with escalating doses of gamma tocopherol.

The study, “clearly demonstrated that gamma tocopherol suppresses prostate tumor progression in [a live animal model], and could be a candidate chemopreventive agent for human prostate cancer,” the investigators noted.

—Dale Kiefer



Reference

* Prostate. 2009 Jan 13.

Tea Drinkers May Have Lower Stroke Risk

Daily consumption of green or black tea is associated with a reduced risk of stroke, according to a review of the medical literature.*

Investigators searched for studies that examined the association between green or black tea drinking and fatal or non-fatal stroke. Nine studies from six countries were identified that included 4,378 strokes among nearly 200,000 persons.

Pooled data revealed that drinking three or more cups of tea per day was associated with a 21% lower risk of stroke when compared with the consumption of less than one cup per day. The results were independent of type of tea, country of origin, and Asian versus non-Asian race.

Proposed mechanisms for a reduction in stroke include beneficial effects of tea polyphenols (catechins) and the amino acid theanine on cardiovascular health.

—Laura J. Ninger, ELS



Reference

* Stroke. 2009 Feb 19.

Daily Consumption of Potato Chips Encourages Inflammation, Atherosclerosis

According to the results of a study published in the *American Journal of Clinical Nutrition*, chronic consumption of fried foods, such as potato chips, sharply increases inflammation.* Foods exposed to high heat during cooking contain acrylamides: toxic chemicals linked to the proinflammatory state. Increased inflammation is a risk factor for atherosclerosis, the root cause of most cardiovascular disease.

Investigators recruited 14 healthy subjects who consumed approximately six ounces of potato chips daily for one month. Potato chips have a relatively high acrylamide content. At the end of the study period, various markers of oxidative stress and inflammation, including oxidized low-density lipoprotein (LDL), high-sensitivity interleukin-6, and plasma high-sensitivity C-reactive protein (CRP), were significantly increased in all subjects. Four



weeks after the end of the study, inflammation markers “decreased to some extent,” researchers noted.

“These novel findings seem to indicate that chronic ingestion of acrylamide-containing products induces a proinflammatory state, a risk factor for progression of atherosclerosis,” investigators concluded.

—Dale Kiefer

Reference

* Am J Clin Nutr. 2009 Mar;89(3):773-7.

Published Study Confirms Weight Loss and Metabolic Benefits of Irvingia

Irvingia extract “significantly reduces body weight and improves metabolic parameters in overweight humans,” according to a study recently published in *Lipids in Health and Disease*.^{*} Derived from wild African mango seed, Irvingia extract was first widely introduced to the American public by Life Extension®, for the control of overweight and obesity, in 2008.

In this randomized, double-blind, placebo-controlled clinical trial, scientists examined the effects of Irvingia (*Irvingia gabonensis*) on obesity and related health parameters in 102 overweight and obese individuals. They received either 150 mg Irvingia extract or placebo twice daily, 30-60 minutes before meals, for 10 weeks.

The individuals receiving Irvingia experienced significant reductions in body weight, body fat, waist circumference, and blood lipid parameters, compared with placebo subjects. Additionally, serum levels of C-reactive protein (CRP) dropped by 52% in the test group, as opposed to just 1.2% in the placebo group.



Irvingia may benefit the millions of Americans who struggle with health challenges related to excess weight.

—Dale Kiefer

Reference

* Lipids in Health and Disease. 2009 Mar 2;8:7.

Calcium Helps Prevent Cancer

High calcium intake reduces the risk of cancer, especially in women, according to the National Institutes of Health (NIH)-AARP (formerly American Association of Retired Persons) Diet and Health Study.^{*}

Data were gathered from questionnaires mailed in six states to AARP members aged 50 to 71 years. Respondents indicated typical food, dairy, and supplement consumption and health characteristics at baseline. After seven years of monitoring, 36,965 cancer diagnoses in men and 16,605 in women were recorded.

Among women, the overall risk of cancer decreased as total calcium intake increased, up to a level of 1,300 mg/day but not beyond. Calcium had no significant effect on overall risk of cancer in men. However, both women and men with the highest level of calcium or dairy food intake had a reduced risk of digestive system cancers, amounting to a 23% decrease in women and a 16% decrease in men. The risk was especially low for colorectal cancer.

—Laura J. Ninger, ELS

Reference

* Arch Intern Med. 2009 Feb 23;169(4):391-401.

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