The Nutrition Reporter™

© Jack Challem June 2009 Vol 20 No 6

The independent newsletter that reports vitamin, mineral, and food therapies

Omega-3 Fish Oils Reduce Risk of Heart Rhythm Abnormalities, Inflammation

Two new studies reinforce the health benefits of eating fish and having high intake of the omega-3 fats.

Lana L. Watkins, PhD, of the Duke Medical Center, Durham, North Carolina, and her colleagues studied 260 patients who had survived a sudden heart attack. Such patients have a very high risk of developing fatal arrhythmias, or erratic heartbeats, in the weeks following a heart attack.

Watkins analyzed the risk of ventricular ectopy, the most common type of ventricular arrhythmia. Ventricular ectopy can lead to tachycardia and then ventricular fibrillation, resulting in uncontrolled heart rhythm and death.

She reported that the subjects, who ranged from 27 to 86 years of age, had a substantially lower risk of ventricular ectopy if they had been consuming relatively large amounts of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), the two principal fats found in coldwater fish. They also had a lower risk of ventricular ectopy if they had a high intake of alpha-linolenic acid, an omega-3 fat found in plants.

Based on data published in the *American Journal of Clinical Nutrition*, people with the highest intake of total omega-3 fats experienced about half the number of ventricular ectopy each day.

In the second study, Manohar L. Garg, PhD, of the University of Newcastle, Callaghan, Australia, and his colleagues studied the relationship between omega-3 intake and inflammation.

Garg and his colleagues measured high-sensitivity C-reactive protein (CRP) levels in 46 healthy middle-age men and 78 women. CRP is a marker of inflammation levels in the body.

He reported that people with the highest intakes of total omega-3s and high intakes of either EPA and DHA had the lowest CRP levels. Conversely, people with the highest CRP levels – more than 3 mg/L – had the lowest intakes of omega-3 fats.

Garg also noted that body weight was strongly associated with elevated CRP levels – the more a person weighed, the more likely his or her CRP level would be elevated.

"Findings from this study support previous observations that omega-3 fatty acids may improve cardiovascular health in healthy individuals," Garg wrote.

References: Smith PJ, Blumenthal JA, Babyak MA. Association between n-3 fatty acid consumption and ventricular ectopy after myocardial infarction. *American Journal of Clinical Nutrition*, 2009;89:1315-1320. Micallef MA, Munro IA, Garg ML. An inverse relationship between plasma n-3 fatty acids and C-reactive protein in healthy individuals. *European Journal of Clinical Nutrition*, April 8, 2009: epub ahead of print. ❑

Perspectives

The "Single Cause" Fallacy

One of the foundations of modern medicine is that each disease has a single cause – identify the cause and a drug treatment will follow. The idea certainly helps with the marketing and sales of drugs, but it denies the complexity of most disease processes.

In 1971, President Richard Nixon declared that cancer would be cured by 1976. Over the years, we've read hundreds (if not thousands) of promising news releases and scientific papers suggesting that the "latest" discovery could very well lead to a cure, or at least to effective treatments, for cancer. Despite all of the research – hundreds of billion dollars of funding – the death rate from cancer between 1950 and 2005 has decreased by only 5 percent. In contrast, deaths from heart disease decreased by 64 percent during this time.

Although all types of cancer share many features, such as the proliferation of abnormal cells, cancers can have many different causes. Alterations in gene function are at the root of cancer, but they can result from any number of factors, including poor nutrition, elevated hormone levels, and environmental toxins.

Continues on next page

Damage to some individual genes, such as the p53 and BRCA, certainly increase the risk of cancer. But the research increasingly shows that cancers don't develop because of one or two genes that go bad. Rather, cancers are the consequence of a lot going wrong and going out of control. An analogy: instead of one musician hitting a bad note, cancer is more like all of the musicians in an orchestra repeatedly hitting the wrong notes.

So if cancer does not have a single cause, what's the best way to tackle the disease? The only sensible approach is to emphasize prevention – eating better diets, taking some nutritional supplements, exercising, and creating an environment with fewer environmental toxins. I don't think we'll ever eliminate cancer or identify a "cure," but through mindful living we can certainly reduce the risk of cancer and the number of people who must undergo surgery, chemotherapy, and radiation – treatments that often produce as much suffering as the disease itself. – *JC*

British Study Links Junk-Food Diet, Behavior Problems in Kids

A study of 4,000 children in England has found that children eating large numbers of junk foods are more likely to exhibit hyperactive behavior.

Nicola J. Wiles, PhD, of the University of Bristol, and her colleagues assessed the dietary habits of the children at age four and one-half. The mothers of the children completed a dietary questionnaire asking about consumption of 57 foods and beverages. Some of the foods and drinks in the questionnaire included ice cream, milk chocolate bars, pizza, pasta, soft drinks and vegetables.

The children's behavior was evaluated at age seven, with their mothers completing the Strengths and Difficulties test. Children who had eaten the most junk foods were more likely to be in the top 33 percent of scores indicating hyperactivity.

Reference: Wiles NJ, Northstone K, Emmett P, et al. 'Junk food' diet and childhood behavioural problems: results from the ALSPAC cohort. *European Journal of Clinical Nutrition*, 2009;63:491-498. ❑

Early Soy Consumption Might Protect Against Cancer Later

The role of soy consumption in the risk of breast cancer has been controversial – soy contains weak estrogen-like substances called isoflavones that could either stimulate or block the activity of the hormone estrogen.

Although the jury is still out on soy, a new study suggests that childhood consumption of soy foods could confer substantial protection against breast cancer later in life.

Larissa A. Korde, MD, MPH, of the National Cancer Institute, Bethesda, Maryland, and her colleagues studied a total of 696 women diagnosed with breast cancer and 1,122 women without the disease. All of the women were of Chinese, Japanese, and Filipino descent living in California or Hawaii. Three-fourths of the women were premenopausal when they were diagnosed with cancer.

Women who consumed the largest amounts of soy foods, such as tofu, miso, and natto, as children (ages five to 11) had a 60 percent lower risk of breast cancer. In addition, women who consumed the most soy foods as adolescents and adults had about a 20 to 24 percent lower risk of breast cancer.

Reference: Korde LA, Wu AH, Fears T, et al. Childhood soy intake and breast cancer risk in Asian American women. *Cancer Epidemiology, Biomarkers & Prevention*, 2009;18:1050-1059. ❑

Ginger Root Capsules Ease Nausea and Vomiting

Ginger root has been used for thousands of years to treat digestive problems. It can also help reduce nausea and vomiting in pregnant women. An estimated 50 to 90 percent of pregnant women experience gestational nausea.

Masoumeh Simbar, PhD, of the Shahid Beheshti Medical Science University in Tehran, Iran, and colleagues asked 67 pregnant women to take either ginger root capsules or placebos for four days. The ginger was taken as one 250-mg capsule four times daily.

Nausea was reduced in 84 percent of the women taking ginger, compared with only 56 percent of those taking placebos. Vomiting decreased by 50 percent among women taking ginger, compared with only 9 percent among those taking placebos.

Reference: Ozgoli G, Goli M, Simbar M. Effects of ginger capsules on pregnancy, nausea, and vomiting. *Journal of Alternative and Complementary Medicine*, 2009;3:243-246. ❑

Curcumin May Have Benefits in Blocking Brain Tumor Growth

An experiment with laboratory mice suggests that curcumin, an extract of the spice turmeric, may have benefits in the treatment of brain tumors.

Probal Banerjee, PhD, of the College of Staten Island (CUNY), New York, and his colleagues developed a form of curcumin dissolved in DMSO (dimethyl sulfoxide) to overcome the substance's poor bioavailability.

The researchers noted that "a large number of brain tumors are caused by metastatic invasion of

cancer cells, including melanoma, from other parts of the body. First hand reports reflect the helpless state reached following such infiltration of melanoma, from other parts of the body."

Banerjee and his colleagues implanted melanomas into the brains of laboratory mice and subsequently injected curcumin. Brain tumor formation was blocked in the mice receiving curcumin.

The researchers reported that curcumin increased the activity of enzymes involved in triggering the self-destruction of the melanoma cells.

Reference: Purkayastha S, Berliner A, Fernando SS, et al. Curcumin blocks brain tumor formation. *Brain Research*, 2009: doi 10.1016/j.brainres.2009.01.066 ❑

Magnesium Drink Reduces Blood Pressure in Diabetic Patients

It's a truism in nutritional medicine that individual nutrients can successfully treat the same conditions they prevent. To wit: in patients with low magnesium levels, supplements of the mineral lead to improvements in blood pressure.

Fernando Guerrero-Romero, MD, PhD, and Martha Rodriguez-Moran, MD, PhD, both with the Mexican Society Security Institute in Durango, Mexico, treated 82 patients with both type 2 diabetes and hypertension. The patients ranged from 40 to 75 years of age, and all had been found to have low magnesium levels.

About half of the patients received a daily drink containing 2.5 grams of magnesium chloride, which provided 450 mg of elemental magnesium. The other subjects received an inert drink.

After four months, patients consuming the magnesium drink had several significant benefits. Their systolic blood pressure decreased by an average of 20 points (mm Hg) and their diastolic blood pressure decreased by an average of almost 9 points. In addition their "good" high-density lipoprotein (HDL) cholesterol increased by almost 4 points (mg/dl).

Reference: Guerrero-Romero F, Rodriguez-Moran M. The effect of lowering blood pressure by magnesium supplementation in diabetic hypertensive adults with low serum magnesium levels: a randomized, double-blind, placebo-controlled clinical trial. *Journal of Human Hypertension*, 2009;23:245-251. ❑

Broccoli Sprouts Can Fight H. pylori Infection, Gastritis

H. pylori, a type of bacterium, is a common cause of gastric ulcers and significantly increases the risk of stomach cancer. But broccoli sprouts, rich in an antioxidant called sulforaphane, can significantly lower *H. pylori* levels.

Sulforaphane is best known for its ability to increase the activity of the liver's phase 2 detoxification enzymes, which help break down and remove hazardous substances from the body. The substance is found in all cruciferous vegetables, but sulforaphane levels are 20 to 50 times higher in broccoli sprouts compared with broccoli.

Akinori Yanaka, MD, PhD, of the Tokyo University of Science, Japan, and his colleagues asked 48 patients with *H. pylori* infections to eat either about 2.5 ounces of broccoli sprouts or alfalfa sprouts (as a placebo) daily for eight weeks.

People consuming the broccoli sprouts had decreases in three markers of *H. pylori* infection: urease in the breath, antigens in the stools, and pepsinogens 1 and 2 in the blood (indicators of gastric inflammation). A related experiment also found that broccoli sprouts lowered *H. pylori* levels in mice.

"This treatment seems to enhance chemoprotection of the gastric mucosa against *H. pylori*-induced oxidative stress," wrote the researchers.

Reference: Yanaka A, Fahey JW, Fukumoto A, et al. Dietary sulforaphane-rich broccoli sprouts reduce colonization and attenuate gastritis in *Helicobacter pylori*-infected mice and humans. *Cancer Prevention Research*, 2009;2:353-360. ❑

Topical Vitamin B12 Resolves Dermatitis in Children

Topical applications of vitamin B12 can reduce atopic dermatitis, a form of eczema, in children. The condition affects an estimated 5 to 20 percent of children.

Ronald Januchowski, DO, of the Spartanburg Regional Medical Center in Spartanburg, South Carolina, directed the treatment of 21 patients, ranging from six months to 18 years of age. The children or their parents were instructed to apply different creams to the left and right sides of their body twice daily for four weeks. One of the creams contained vitamin B12.

Januchowski evaluated the children's skin condition after two and four weeks using a version of the SCORAD (Scoring of Atopic Dermatitis) scale.

The cream containing vitamin B12 led to significant improvements, compared with the placebo cream. Overall, SCORAD numbers improved far more on the skin treated with vitamin B12, compared with placebos.

Januchowski recommended topical vitamin B12 as an alternative to steroids.

Reference: Januchowski R. Evaluation of topical vitamin B12 for the treatment of childhood eczema. *Journal of Alternative and Complementary Medicine*, 2009;15:387-389. ❑

More research summaries on next page

Quick Reviews of Recent Research

• Cinnamon improves glucose tolerance

Researchers from the University of Birmingham, United Kingdom, treated eight healthy men with cinnamon and placebos in a crossover study. They were given either 3 grams of cinnamon (six 500 mg capsules) or placebos daily for 14 days. Cinnamon reduced both the glucose and insulin responses to oral glucose tolerance tests, indicating an improvement in glucose tolerance.

Solomon TPJ. *European Journal of Applied Physiology*, 2009;969-976.

• Eating fish lowers risk of heart failure

Men who ate fish rich in omega-3 fats at least once a week were a 12 percent less likely to develop heart failure, compared with men who rarely ate fish, according to a study by researchers at the Karolinska Institute, Sweden, and the Harvard Medical School in the United States. Heart failure is characterized by fluid retention, fatigue, and the heart's inability to pump blood.

Levitan EB. *European Heart Journal*, April 21, 2009: epub ahead of print.

• Green tea may enhance fat burning

Researchers from Japan and the United States tested whether green tea, rich in a family of antioxidants called catechins, could enhance weight loss. They asked 132 overweight or obese adults to consume one of two beverages: one contained 625 mg of catechins and 39 mg of caffeine, while the placebo drink contained 39 mg of caffeine and no catechins. The subjects drank one of the beverages daily, and they also engaged in three supervised exercise sessions each week during the 12-week study. Subjects consuming the catechin-containing tea lost an average of almost 5 pounds, whereas people drinking the placebo beverage lost about half that weight. In addition, people consuming the catechins lost substantially more abdominal fat and abdominal subcutaneous fat, and they also had a significant decrease in blood triglyceride levels.

Maki KC. *Journal of Nutrition*, 2009;139:264-270.

• Fructose increases abdominal fat

Researchers from several campuses of the University of California and other U.S. universities asked 32 overweight men and women to consume either fructose-sweetened or glucose-sweetened beverages as 25 percent of their calories for 10 weeks. Both groups gained similar amounts of weight, but those consuming fructose had significant increases in visceral abdominal fat – that is, the type of fat most strongly associated with a greater risk of type 2 diabetes and heart disease. Furthermore, subjects consuming fructose had increases in blood sugar and insulin and decreases in insulin sensitivity.

Stanhope KL. *Journal of Clinical Investigation*, 2009; 119:1322-1334.

• Drinking water prevents overweight

Researchers from Germany studied almost 3,000 second and third grade students at 32 elementary schools. Some of the schools had water fountains installed, students were given refillable water bottles, and teachers gave four classroom lectures about drinking water – all to encourage water consumption. In the intervention group (1,641 of the students), water consumption increased by 1.1 glasses daily. By the end of the school year, children were 30 percent less likely to be overweight in the schools where water consumption was encouraged, compared with the schools that did not enact any changes.

Muckelbauer R. *Pediatrics*, 2009;123:e661-e667.

• Higher vitamin D intake lowers fracture risk

Higher vitamin D levels are associated with a lower risk of hip fractures, according to an analysis of 12 studies by researchers at the University of Zurich and other institutions. The researchers found that vitamin D intake of more than 400 IU daily was associated with at least a 20 percent lower risk of nonvertebral (nonback) and hip fractures among people at least 65 years of age.

Bischoff-Ferrari HA. *Archives of Internal Medicine*, 2009; 169:551-561.

• Low vitamin D linked to more serious illness

The sickest patients in hospital intensive care units (ICUs) are most likely to have the lowest vitamin D levels, according to a brief report by Australian physicians. The doctors reported that vitamin D levels tracked with illness severity and that the three patients with the lowest vitamin D levels died.

Lee P. *New England Journal of Medicine*, 2009;360: 1912-1914.

The Nutrition Reporter™ newsletter (ISSN 1079-8609) publishes full monthly issues except for August and December and is distributed only by prepaid subscription. This issue, Vol 20 No 6, © June 2009 by Jack Challem. Phone: (520) 529.6801. Email: nutritionreporter@gmail.com. The Nutrition Reporter™ is strictly educational and not intended as medical advice. For diagnosis and treatment, consult your physician. Subscriptions are $28 per year in the U.S.; either $34 US or $40 CND for Canada; and $42 for all other countries, payable in U.S funds through a U.S. bank. The Nutrition Reporter™ is a trademark of Jack Challem.

The Nutrition Reporter™
Post Office Box 30246 • Tucson AZ 85751-0246 USA
Editor and Publisher: Jack Challem
Copy Editor: Mary E. Larsen