

# INTERNATIONAL HEALTH NEWS

*Your Gateway to Better Health!*

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*Dr. Martin Blaser, a researcher at the Department of Veterans Affairs, believes he has discovered the cause of the recent increase in the incidence of GERD (gastroesophageal reflux disease). It seems that the Helicobacter pylori bacterium, which is known to cause stomach ulcers, is involved in regulating stomach acid secretion in different parts of the stomach. A lack of H. pylori correlates with the presence of GERD. Dr. Blaser points out that GERD is practically unheard of in countries where the majority of people harbour H. pylori. He believes the extensive use of antibiotics in children in Western countries is slowly eradicating H. pylori and thus exacerbating the GERD problem. Many people with a stomach ulcer deliberately*

*eradicate H. pylori as this cures the ulcer. Could it replace the ulcer with GERD? The jury is still out on this, but Dr. Blaser's findings certainly show the need for sober reflection before proceeding with H. pylori eradication. It really is dangerous to "mess with Mother Nature".*

*Vitamin D is in the news again. Two separate studies have shown that people living at or above 42° N latitude (northern USA and Canada) are likely to be deficient in this essential vitamin. This applies even to young people. Dr. Reinhold Vieth, a world-renowned vitamin D researcher, recommends daily supplementation with 1000 IU (25 micrograms) of vitamin D3.*

*Also in this issue: knee surgery to relieve osteoarthritis pain is a waste of time, the new cox-2 inhibitors, rofecoxib (Vioxx) and celecoxib (Celebrex), should not be taken by people with bone fractures as they prevent healing, researchers in the USA report the development of a new rapid, painless and very accurate test for breast cancer.*

*I hope you enjoy this issue and, if you do, please tell your friends about us – we always welcome new subscribers!*

*Yours in health,  
Hans Larsen, Editor*

## August Highlights

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## LETTERS TO THE EDITOR

I am confused about vitamin E supplementation. Some articles give amounts in mg while others use IU to indicate potency. I also hear that there may be a difference in the benefits of different kinds of vitamin E. What is the real story?

EN, USA

**Editor:** *There are actually 8 members of the vitamin E family: alpha-tocopherol, beta-tocopherol, delta-tocopherol, gamma-tocopherol,*

and 4 kinds of tocotrienols. Gamma-tocopherol is the main form of vitamin E in the diet (nuts, seeds and vegetable oils) while alpha-tocopherol is the most abundant form in human blood and tissue. Although we do need all forms of vitamin E nutritional supplements are, with very few exceptions, based on just alpha-tocopherol. Alpha-tocopherol comes in 2 forms: a natural (d-alpha-tocopherol) and synthetic (dl-alpha-tocopherol). The synthetic version contains several isomers of alpha-tocopherol only one of which is active. This is the reason why 100 mg of synthetic alpha-tocopherol has less potency than 100 mg of natural alpha-tocopherol. To make them comparable it was decided that 100 mg of synthetic (dl) alpha-tocopherol acetate is equal to 100 IU of vitamin E. According to this convention, 100 mg of natural (d) alpha-tocopherol acetate is equal to 136 IU, 100 mg of dl-alpha-tocopherol is equal to 110 IU and 100 mg of d-alpha-tocopherol is equal to 149 IU. Recent research has shown that the natural form of vitamin E is absorbed two times better by the body than is the synthetic form. So in actual fact it takes 200 IU of synthetic vitamin E to obtain the same benefits as that available in 100 IU of natural vitamin E[1,2].

[1] Burton, G.E., et al. Human plasma and tissue alpha-tocopherol concentrations in response to supplementation with deuterated natural and synthetic vitamin E. *American Journal of Clinical Nutrition*, Vol. 67, April 1998, pp. 669-84

[2] Horwitt, M.K. My valedictory on the differences in biological potency between RRR-alpha-tocopherol and all-rac-alpha-tocopherol acetate. *American Journal of Clinical Nutrition*, Vol. 69, February 1999, pp. 341-42

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I suffer from irritable bowel syndrome (IBS) and have been told to increase my fiber intake. I have switched to whole grain bread and cereals and sprinkle wheat bran on my cereal. It does not seem to help. Please advise what else I can do.

VR, CANADA

**Editor:** There are two kinds of dietary fiber – soluble and insoluble. IBS patients need more soluble fiber and should avoid insoluble. Wheat bran is insoluble and acts on the colon much like sandpaper would – not a good idea if you have an irritable one! Whole grain breads and cereals are also best avoided; sourdough bread and oatmeal porridge are good substitutes. Red meat, fried foods, and fatty foods like french fries, pork sausages and ice cream, especially soft ice cream, are potent triggers of IBS attacks and should be avoided, as should tough, stringy vegetables and fruits. Much relief can be obtained by taking one teaspoon of psyllium seed or Metamucil in 8 oz of water about one half hour before the main meal of the day.

## ABSTRACTS

### Water protects against heart disease

LOMA LINDA, CALIFORNIA. A high blood or plasma viscosity, a high hematocrit (packed cell volume), and a high fibrinogen level have all been associated with an increased risk of coronary heart disease. These blood parameters are all elevated by dehydration. Researchers at Loma Linda University now report a highly significant association between daily water intake and the risk of dying from heart disease. Their study involved 8,280 men and 12,017 women who were enrolled in the Adventist Health Study in 1976. At the time of enrollment all participants were free of heart disease, stroke and diabetes and were 38 years of age or older. During six years of follow-up 246 of the participants died from coronary heart disease. The researchers discovered that

men who drank five or more glasses of water a day had less than half the risk of dying from heart disease than did men who drank two or fewer glasses. In women the risk reduction was 40 per cent.

Frequent consumption of liquids other than water was, however, associated with a significantly increased risk of death from heart disease. Men with a high intake of milk, coffee, tea, juice and carbonated soft drinks had a 1.5 times higher risk while women with a high intake of these fluids had a 2.5 times higher risk. All the correlations were independent of other recognized risk factors for heart disease. The researchers speculate that the intake of fluids other than water may cause relative dehydration of the blood. Research has

shown that consumption of juices and carbonated drinks results in a rapid increase in blood viscosity and that sugar-containing drinks can elevate triglyceride levels quite considerably.

*Chan, Jacqueline, et al. Water, other fluids, and fatal coronary heart disease. American Journal of Epidemiology, Vol. 155, May 1, 2002, pp. 827-33*

## Celiac disease common in type 1 diabetes patients

MILAN, ITALY. Italian researchers report that celiac disease (sprue) is 20 times more common among children with type 1 diabetes than in the general population. They tested 274 children who had just been diagnosed with type 1 diabetes and found that 10 of them (3.6 per cent) had celiac disease. During a four-year follow-up period an additional seven children developed the disease bringing the total to 17 children (6.2 per cent). The researchers point out that untreated celiac disease can lead to gastrointestinal cancers, autoimmune diseases, reduced fertility,

osteoporosis, and neurological problems. They advocate that the disease be treated with a gluten-free diet even in the absence of symptoms in order to avoid complications. They also recommend that children with type 1 diabetes be screened when diagnosed and then annually for at least several years for the presence of celiac disease.

*Barera, Graziano, et al. Occurrence of celiac disease after onset of type 1 diabetes: a 6-year prospective longitudinal study. Pediatrics, Vol. 109, May 2002, pp. 833-38*

## Magnesium sulfate prevents eclampsia

OXFORD, UNITED KINGDOM. Eclampsia is a serious disorder affecting women just prior to or shortly after childbirth. It manifests itself by convulsions and is accompanied by high blood pressure, edema, and protein in the urine. The patient often lapses into a coma and it is estimated that more than 50,000 women die each year from the disorder – mostly in developing countries. Fortunately, eclampsia is not a sudden occurrence but is preceded by a condition called pre-eclampsia. Pre-eclampsia is characterized by high blood pressure and protein in the urine. Several trials have shown that magnesium sulfate injections are useful in the treatment of pre-eclampsia. A large international group of researchers now report that magnesium sulfate given (intravenously or by intra-muscular injection) prior to or just after childbirth halves the risk of eclampsia in women diagnosed with pre-eclampsia. The study involved over 10,000 pre-eclampsia women in 33 countries who were

randomized to receive either magnesium sulfate or a placebo over a 24-hour period. The incidence of eclampsia was 1.9 per cent in the placebo group versus 0.8 per cent in the magnesium sulfate group, i.e. a 58 per cent relative reduction. The mortality among women on the placebo was 0.4 per cent versus 0.2 per cent among those given magnesium sulfate. The researchers conclude that magnesium sulfate is effective in reducing the risk of eclampsia in women diagnosed with pre-eclampsia.

*The Magpie Trial Collaborative Group. Do women with pre-eclampsia, and their babies, benefit from magnesium sulphate? The Magpie Trial: a randomised placebo-controlled trial. The Lancet, Vol. 359, June 1, 2002, pp. 1877-90*

*Sheth, Shirish S. and Iain Chalmers. Magnesium for preventing and treating eclampsia: time for international action. The Lancet, Vol. 359, June 1, 2002, pp. 1872-73 (commentary)*

## Surgery for osteoarthritis of knee found ineffective

HOUSTON, TEXAS. Osteoarthritis of the knee affects about 12 per cent of people aged 65 years or older. When medication fails to control the pain characteristic of the condition surgery is often recommended. The procedure involves the insertion of several large catheters (rigid tubes)

into the knee. Through these tubes the surgeon washes out the inside of the knee with a saline solution (lavage) and, in many cases, also scrapes off rough cartilage and smoothes off the bony parts of the knee (debridement). The main purpose of the procedure is to remove rough

spots and debris from the knee joint so as to prevent synovitis (inflammation of the membrane lining a joint capsule). It is estimated that more than 650,000 knee surgeries for osteoarthritis are performed every year in the United States at a cost of over \$3 billion. This despite the fact that there is no evidence that the procedure cures or halts osteoarthritis.

Medical researchers at the Houston Veterans Affairs Medical Center have just released the results of a clinical trial aimed at determining whether lavage and debridement are effective in reducing the pain of knee osteoarthritis. The trial involved 180 men with osteoarthritis of the knee who were assigned to receive either lavage (with 10 liters of saline solution), lavage and debridement or a placebo treatment. In the placebo treatment the patients were sedated and incisions were made in the knee, but no catheters were actually inserted. The patients were followed for two years and evaluated periodically in regard to knee pain and their ability to walk and

bend the affected knee. At no point during the study was there any indication that the actual surgical interventions (lavage and debridement) were of any greater benefit than the placebo treatment. All three treatments reduced knee pain slightly, but had no significant effect on the actual functioning of the knee. The researchers conclude that the billions of dollars sent on knee surgery for osteoarthritis might be put to better use.

*Moseley, J. Bruce, et al. A controlled trial of arthroscopic surgery for osteoarthritis of the knee. **New England Journal of Medicine**, Vol. 347, July 11, 2002, pp. 81-88*

*Felson, David T. and Joseph Buckwalter. Debridement and lavage for osteoarthritis of the knee. **New England Journal of Medicine**, Vol. 347, July 11, 2002, pp. 132-33 (editorial)*

**Editor's comment:** Glucosamine sulfate and chondroitin sulfate have been found effective in the treatment of osteoarthritis of the knee as has therapy using leeches applied to the knee.

## Go easy on *H. pylori* eradication

NASHVILLE, TENNESSEE. The *Helicobacter pylori* bacteria which lives in the stomach, gained prominence in 1983 when two Australian doctors found that it is a major cause of stomach ulcers and some types of stomach cancer. *H. pylori* can be effectively eradicated by a one- to two-week course of antibiotics, bismuth subsalicylate and omeprazole (Losec). Eliminating *H. pylori* has become standard treatment for peptic ulcers and would also appear to be useful in the prevention of stomach cancer.

Dr. Martin Blaser of the Department of Veterans Affairs now warns that a lack of *H. pylori* may be behind the recent increase in the incidence of gastroesophageal reflux disease (GERD), Barrett's esophagus, and esophageal cancer. Dr. Blaser points out that the human stomach and *H. pylori* have lived in harmony for millions of years. However, recently the incidence of *H. pylori* colonization has declined in the Western world because of, among other reasons, the excessive

use of antibiotics in children. This decline has been accompanied by a substantial increase in GERD and esophageal cancer. GERD is uncommon in countries where most people are colonized ("infected") by *H. pylori*. Dr. Blaser believes that the most common strain of *H. pylori* (*cag+*) is protective against GERD, Barrett's esophagus, and esophageal cancer but can promote stomach ulcers and cancer. He believes *H. pylori* exerts its effect by regulating acid secretion in different parts of the stomach.

*Blaser, Martin J. Hypothesis: The changing relationship of Helicobacter pylori and humans: implications for health and disease. **Journal of Infectious Diseases**, Vol. 179, June 1999, pp.1523-30*

**Editor's comment:** Dr. Blaser's work certainly points to the need for sober contemplation before embarking on *H. pylori* eradication. It also clearly confirms that it is dangerous to "mess with Mother Nature"!

## Vitamin D insufficiency in Canadians

CALGARY, ALBERTA. It is now well established that people with low levels of vitamin D are at increased risk for osteoporosis and bone fractures. Vitamin D can be obtained from an

appropriate diet, but is mainly generated through exposure of the skin to sunlight. Several studies have shown that people living at northern

latitudes (at or above 42° N) tend to be deficient in vitamin D during the autumn and winter months. Researchers at the University of Calgary have just released the results of a study aimed at determining the extent of vitamin D insufficiency in people living in Calgary (latitude 51° 07' N). The study involved 60 men and 128 women (aged between 27 and 89 years) who had their levels of the vitamin D metabolite 25-hydroxyvitamin D [25(OH)D] measured every three months for a one-year period. Not surprisingly, the researchers found significantly lower levels during autumn and winter than during spring and summer. They also observed that 34 per cent of the participants had 25(OH)D levels below 40 nmol/L at some point during the year (usually during the autumn). A level of 40 nmol/L indicates a pronounced insufficiency and some researchers believe that even levels as high as 80 nmol/L are insufficient. Virtually all participants in

the Calgary study (97 per cent) had levels below 80 nmol/L during at least part of the year. A major clinical trial concluded that people with a 25(OH)D level of less than 68 nmol/L had a four times higher risk of bone fractures than did people with higher levels.

Dr. Reinhold Vieth, a world-renowned vitamin D researcher, believes that most Canadians are deficient in vitamin D and recommends daily supplementation with 1000 IU (25 micrograms) of vitamin D3.

*Rucker, Diana, et al. Vitamin D insufficiency in a population of healthy western Canadians. Canadian Medical Association Journal, Vol. 166, June 11, 2002, pp. 1517-24*

*Vieth, Reinhold and Donald Fraser. Vitamin D insufficiency: no recommended dietary allowance exists for this nutrient. Canadian Medical Association Journal, Vol. 166, June 11, 2002, pp. 1541-42 (commentary)*

## Even young people deficient in vitamin D

BOSTON, MASSACHUSETTS. It is well established that many older people are deficient in vitamin D. Research has also shown that winter sunlight at latitudes at or above 42° N (northern USA and Canada) is incapable of producing vitamin D in the skin. Researchers at the Boston University School of Medicine now report that young people living in the Boston area are even more likely to be vitamin D deficient, especially during the winter months, than are older people. The study involved 307 Bostonians (61 per cent women) who were divided into four age groups – 18-29 years, 30-39 years, 40-49 years, and 50 years and older. The participants had their level of parathyroid hormone and 25-hydroxyvitamin D measured either at the end of winter (March, April) or at the end of summer (September, October). Thirty per cent of all participants were found to be deficient in vitamin D (blood level of 25-hydroxyvitamin D below 20 ng/mL) at the end of winter and 11 per cent were deficient at the end of summer. In the 18-29 year age group 36 per cent were vitamin D deficient at

the end of winter as compared to 16 per cent in the 50 years and older group.

The researchers found no difference in vitamin D levels between participants who drank milk and those who did not. They did, however, find that supplementing with a multivitamin containing 400 IU of vitamin D was quite effective in preventing vitamin D deficiency. At the end of winter only 11 per cent of supplement users were found to be deficient as compared to 42 per cent among those not taking a daily vitamin.

*Tangpricha, Vin, et al. Vitamin D insufficiency among free-living healthy young adults. American Journal of Medicine, Vol. 112, June 1, 2002, pp. 659-62*

**Editor's comment:** Vitamin D is an essential factor in bone formation. Being deficient at a young age when bone formation is supposed to peak could predispose to osteoporosis later in life. This study also clearly shows that milk (even fortified) is a poor source of vitamin D, but that a daily multivitamin containing 400 IU of vitamin D is an effective means of reducing the risk of a deficiency.

## Antioxidants help prevent Alzheimer's disease

ROTTERDAM, THE NETHERLANDS. There is increasing evidence that oxidative stress plays an important role in the initiation and progression of Alzheimer's disease. Dutch researchers have just

released the results of a major study aimed at determining if dietary antioxidants such as vitamin C, vitamin E, beta-carotene, and flavonoids can help prevent Alzheimer's disease by reducing

oxidative stress. The study involved 5395 men and women aged 55 years or older who were free of dementia at the beginning of the study in 1990-1993. During six years of follow-up 197 participants developed dementia of which 146 cases were diagnosed as Alzheimer's disease. After adjusting for age, sex, alcohol intake, education, smoking status, body mass index, total energy intake, and mental examination score at baseline the researchers concluded that a high intake of vitamin C and vitamin E was associated with a lower risk of Alzheimer's disease. The protective effect of antioxidants was particularly

high among current smokers. Overall, participants whose daily vitamin C intake was greater than 133 mg/day had a 34 per cent lower incidence of Alzheimer's disease than did those with an intake below 95 mg/day. Participants whose vitamin E intake was above 15.5 mg/day had a 43 per cent lower incidence than those with an intake below 10.5 mg/day.

*Engelhart, Marianne J. Dietary intake of antioxidants and risk of Alzheimer disease. Journal of the American Medical Association, Vol. 287, June 26, 2002, pp. 3223-29*

## **New guidelines for prevention of heart disease and stroke**

DALLAS, TEXAS. The American Heart Association has just issued new guidelines for the prevention of heart disease and stroke. The guidelines emphasize that both conditions are almost entirely preventable by adhering to a healthy lifestyle. The Nurses Health Study, for example, clearly shows that women can reduce their risk of having a stroke or developing heart disease by an astounding 84 per cent by maintaining a desirable body weight, exercising regularly, not smoking, eating a healthy diet, and consuming only a moderate amount of alcohol. Smoking is the major risk factor for both cardiovascular disease and stroke. High blood pressure (above 140/90 mm Hg) and a high level of low-density lipoprotein cholesterol [greater than 160 mg/dL (4.1 mmol/L)] are other very significant

risk factors as is a fasting glucose level above 110 mg/dL (6.1 mmol/L). The guidelines stress the importance of a healthy diet, at least 30 minutes of moderate-intensity physical activity every day, and maintaining a body mass index at or below 25 kg/m<sup>2</sup>. A daily aspirin is recommended for people with specific risk factors for coronary heart disease only. Doses of 75-160 mg/day are as effective as higher doses. Patients with atrial fibrillation should take 325 mg/day of aspirin for stroke prevention if under the age of 65 years while those over 65 years should be anticoagulated with warfarin.

*Pearson, Thomas A., et al. AHA guidelines for primary prevention of cardiovascular disease and stroke: 2002 update. Circulation, Vol. 106, July 16, 2002, pp. 388-91*

## **New supplement helps prevent congestive heart failure**

TORONTO, CANADA. A dysfunction of the left ventricle (ejection fraction less than or equal to 40 per cent) often leads to congestive heart failure, which now affects about 1.5 per cent of all Canadians. Research has shown that the heart muscle cells (myocytes) of people with left ventricular dysfunction are depleted of carnitine, coenzyme Q10, and taurine and the extent of depletion correlates directly with the severity of the heart failure. It is also known that patients with left ventricular dysfunction (LVD) have a poorer prognosis of surviving bypass surgery than do patients without this problem.

Cardiologists at St. Michael's Hospital and the University of Toronto reasoned that supplementation with carnitine, coenzyme Q10, and taurine might increase ejection fraction and

reduce the extent of LVD. They enrolled 41 patients scheduled for bypass surgery in their clinical trial. Half the patients received a placebo for 30 days before their surgery while the other half supplemented with 250 ml of a nutritional drink MyoVive. The MyoVive drink contained 3000 mg of L-carnitine, 150 mg of coenzyme Q10, and 3000 mg of taurine; it also contained other micronutrients including potassium (750 mg), vitamin C (250 mg), and vitamin E (538 mg). Biopsy samples of the heart muscle were obtained during the bypass surgery and analyzed for carnitine, coenzyme Q10, and taurine.

The researchers found that the myocyte level of coenzyme Q10, carnitine, and taurine was 144 per cent, 40 per cent, and 66 per cent respectively higher in the supplement group than

in the placebo group providing clear proof that the supplements actually found their way to the heart cells. They also noted that while the left ventricular end-diastolic volume (LVEDV) fell by 7.5 ml in the supplement group it increased by 10.0 ml in the placebo group. A lower LVEDV indicates a better prognosis for the outcome of bypass surgery. The researchers conclude that

supplementation with MyoVive may be useful in the management of left ventricular dysfunction and may improve the outcome of bypass surgery. *Jeejeebhoy, Farida, et al. Nutritional supplementation with MyoVive repletes essential cardiac myocyte nutrients and reduces left ventricular size in patients with left ventricular dysfunction. American Heart Journal, Vol. 143, June 2002, pp. 1092-1100*

## Combating gout with diet

TORONTO, CANADA. Gout, a very painful form of arthritis, is characterized by a high blood level of uric acid (serum urate greater than 7.0 mg/dL [450 micromol/L] in men and greater than 6.0 mg/dL [350 micromol/L] in women). Gout attacks are caused by the deposit of monosodium urate crystals in joint (synovial) spaces, particularly in the big toe. Gout has been around for a very long time and Hippocrates, in the 5<sup>th</sup> century BC, linked it to overeating and alcohol consumption. He counseled dietary restrictions and abstention from alcohol. This is still very good advice says Dr. Adel Fam, MD, Professor of Medicine at the University of Toronto. Uric acid is formed by the metabolism of purine. About one-third of the daily purine load comes from the diet while the other two-thirds is generated internally in the body. High uric acid levels are primarily caused by a relative inability of the kidneys to excrete it rather than from internal over-production.

Dr. Fam points out that a purine-free diet can lower urate levels by as much as 2 mg/dL. Such

a diet would exclude all meats, seafood, yeast, beer and alcohol as well as peas, beans, lentils, asparagus, spinach, and mushrooms. It is particularly important to avoid all alcoholic drinks. It also appears that a diet containing 40 per cent carbohydrates, 30 per cent protein, and 30 per cent unsaturated fats (the "Zone Diet") is very effective in reducing blood levels of uric acid and gout attacks and, in addition, results in weight loss and a significant reduction in total cholesterol, low-density cholesterol and triglycerides. This diet also improves insulin sensitivity, which is very important as some 76 per cent of gout sufferers also have insulin resistance syndrome. Recent research has also shown that supplementing with gamma-linolenic acid (evening primrose oil) and eicosapentaenoic acid (fish oil) suppresses urate crystal induced inflammation.

*Fam, Adel G. Gout, diet, and the insulin resistance syndrome. Journal of Rheumatology, Vol. 29, July 2002, pp. 1350-55*

## Inflammation linked to sleep apnea

ROCHESTER, MINNESOTA. Obstructive sleep apnea (temporary cessation of breathing while sleeping) is increasingly being linked to an elevated risk for cardiovascular and cerebrovascular disease (heart disease and stroke). Researchers at the Mayo Clinic believe they have discovered the link between sleep apnea and heart disease. Their clinical trial involved 22 patients (18 males and 4 females) with newly diagnosed sleep apnea and 20 healthy controls. The patients experienced apnea (complete cessation of airflow for at least 10 seconds) an average of 60 times an hour; their lowest average oxygen saturation level recorded during sleep was 79 per cent as compared to 96 per cent during daytime. The researchers found that the patients' average (median) blood plasma

CRP (C-reactive protein) levels were over three times higher than that of the controls (0.33 mg/dL versus 0.09 mg/dL). The association between the number of apnea events and CRP level was linear with a patient experiencing 100 events per hour having a CRP level of about 1.0 mg/dL. The researchers believe that interrupted sleep and low oxygen concentrations promote inflammation (high CRP levels) and that this inflammation in turn initiates atherosclerosis eventually leading to heart disease. They suggest that reducing CRP levels in sleep apnea patients by drug treatment may decrease their risk of cardiovascular and cerebrovascular disease.

*Shamsuzzaman, Abu S.M., et al. Elevated C-reactive protein in patients with obstructive sleep apnea. Circulation, Vol. 105, May 28, 2002, pp. 2462-64*

## New rapid, painless test for breast cancer

PHILADELPHIA, PENNSYLVANIA. The standard screening for breast cancer involves physical examination and mammography. Mammography is notoriously unreliable and often results in unnecessary biopsies and much anxiety. Researchers at the Thomas Jefferson University now report the preliminary results of a new rapid, accurate, non-invasive, painless breast cancer screening test. The test involves collecting a very small amount of breast nipple fluid (1 microliter) with an ordinary breast pump and then analyzing its protein content using the SELDI (surface-enhanced laser desorption/ionization time of flight-mass spectrometry) technique.

The researchers tested the procedure on 20 women with breast cancer and 13 healthy controls. They found that the women with breast

cancer excreted five proteins that were not excreted, or excreted in miniscule amounts, by the healthy women. Thus a protein with a molecular mass of 6500 Da was found in 75 per cent of the women with breast cancer, but not in a single one without. Similarly a protein with a molecular mass of 15940 Da was found in 80 per cent of the women with breast cancer, but not in any of the healthy women. The researchers conclude that the new technique may materially aid in detecting breast cancer in its earliest stages.

*Sauter, E.R., et al. Proteomic analysis of nipple aspirate fluid to detect biologic markers of breast cancer. British Journal of Cancer, Vol. 86, May 6, 2002, pp. 1440-43*

## Testosterone and Parkinson's disease

ATLANTA, GEORGIA. Many patients with Parkinson's disease (PD) also suffer from depression, anxiety, a decreased energy level, sexual dysfunction, and an overall decline in their quality of life. In many cases these conditions cannot be treated satisfactorily with normally prescribed medications.

Researchers at Emory University now report that these comorbid conditions, at least among men, could be due to a testosterone deficiency. They describe five cases of elderly men with PD who were suffering from depression, fatigue, decreased libido, and decreased work performance. All of them had lower than normal testosterone levels. They were given testosterone replacement therapy (TRT) involving daily applications of testosterone gel. One month later they were re-evaluated and all showed marked improvement in emotional well-being, libido (sex drive), erectile dysfunction, mobility, and work performance. The researchers also tested 68 other male PD patients for testosterone

and found that 35 per cent of them had a deficiency (total plasma level below 325 ng/dL [11.3 nmol/L]). This compares to an average incidence of 20 to 25 per cent among males over the age of 60 years in the general population.

The researchers conclude that testosterone deficiency is more common among men with PD than among men free of the disease and that the comorbid conditions (anxiety, depression, etc.) often accompanying PD may respond favourably to testosterone replacement therapy.

*Okun, Michael S., et al. Refractory Nonmotor symptoms in male patients with Parkinson disease due to testosterone deficiency. Archives of Neurology, Vol. 59, May 2002, pp. 807-11*

**Editor's comment:** The Emory researchers also found some indication that TRT may improve the symptoms of PD itself, but concluded that the sample size was too small to say for sure. Clearly men with PD should have their testosterone levels checked and adjusted with TRT if necessary.

## NEWSBRIEFS

**Switch to decaf coffee after lunch.** Researchers at Tel Aviv University report that people sleep less well if they drink regular coffee in the afternoon or evening. Their experiment

involved six volunteers who either drank caffeinated or decaffeinated coffee and then underwent an evaluation of their sleep pattern. Regular coffee drinkers took half an hour longer



to fall asleep and slept over an hour less than did the drinkers of decaf. The researchers also found that melatonin (the "sleep hormone") concentrations during the night were twice as high in decaf drinkers as in those who had consumed caffeinated coffee. They recommend that coffee lovers switch to decaf for the afternoon and evening.

*New Scientist, April 20, 2002, p. 18*

**Another dangerous chemical enters the food chain.** Polychlorinated biphenyls (PCBs) have long been recognized as very toxic chemicals and their use has gradually been phased out. Now scientists warn that a close and equally toxic cousin to PCBs, polybrominated diphenyl ethers (PBDEs), are entering the food chain at an alarming rate. Canadian scientists report that the level of PBDEs in Arctic seals has increased exponentially over the past 20 years and is set to overtake that of PCBs in 2050. PBDEs are used to fireproof everything from plastics to carpets. They are banned in much of Europe, but are not regulated at all in the USA and Canada.

*New Scientist, May 25, 2002, p. 25*

**Hot chemotherapy.** Encasing chemotherapy drugs in liposomes (hydrated phospholipid globules) before injecting them is becoming increasingly popular as it encourages the drugs to enter only cancer cells and leave healthy ones alone. Researchers at the Duke Cancer Center in North Carolina have found that heating up the tumours with microwaves or hot water (in the case of breast cancer) while injecting the liposomes make them far more effective. In a trial involving 21 women with breast cancer the researchers found that a combination of heat and chemo drug/liposomes shrank or completely destroyed all 21 tumours involved. Other medical centers have had equally encouraging results and work is now underway to test the technique on prostate cancer.

*New Scientist, May 25, 2002, p. 13*

**Safety of soy formula questioned.** It is estimated that around 750,000 infants in the United States are fed soy-based infant formula. Several studies have found them to be safe but others are more equivocal in their endorsement. Researchers at the University of Illinois now ring the alarm bells. They report that soy-fed babies

have blood levels of genistein, a phytoestrogen found in soy products, that are about 200 times higher than those found in breastfed babies or in babies whose formula is based on cow's milk. The researchers also found that giving laboratory mice genistein, in amounts similar to those in soy-based formula, shrank their thymus glands and dramatically reduced the number of immune cells. They caution that giving infants soy-based formula could compromise their immune system, but admit that more investigations are required to confirm this suspicion.

*New Scientist, May 25, 2002, p. 9*

**Drug interaction with olestra.** Olestra (Olean) is a popular fat substitute which, because it is not absorbed, reduces overall caloric consumption. Its use is particularly widespread among overweight or obese people. Pharmacists at the Purdue University School of Pharmacy now warn that olestra may interact with orlistat, a new drug for the long-term management of obesity. They report the case of an 18-year-old girl who developed serious gastrointestinal problems by combining the two. The pharmacists conclude that patients prescribed orlistat should be informed of this potential interaction with olestra.

*Annals of Pharmacotherapy, Vol. 36, June 2002, pp. 1003-05*

**Painkillers may slow healing of broken bones.**

Dr. Thomas Einhorn, an orthopedic surgeon at Boston University Medical Center, warns that taking certain painkillers when trying to heal a broken bone may slow or totally block the healing process. It has long been known that certain NSAIDs (nonsteroidal anti-inflammatory drugs) such as ibuprofen and indomethacin can delay healing by several weeks. Aspirin does not have this effect. Dr. Einhorn has found that two new NSAIDs, rofecoxib (Vioxx) and celecoxib (Celebrex), not only delay the healing process, but actually block it completely – at least in laboratory rats. The new drugs inhibit the cox-2 enzyme, which appears to be crucial in bone formation and regeneration. Dr. Jeremy Saklatvala of the Kennedy Institute of Rheumatology calls for more investigation, but says, "In the meantime, people with healing fractures should steer clear of these drugs".

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