

INTERNATIONAL HEALTH NEWS

Your Gateway to Better Health!

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Welcome to our summer issue. An item in the recent issue of "Majesty" caught my attention. Apparently, HM Queen Elizabeth has changed her physician. Her previous doctor is a conventional Western medicine practitioner with a Harley Street practice. Her new doctor runs an holistic health clinic and promotes yoga, reflexology, aromatherapy and Chinese herbal medicine. One can only hope that the Queen is setting an example for others to follow.

Although Western medicine is clearly needed in acute illness and trauma, its benefits, when it comes to degenerative diseases, are not so clear. Fortunately, there are many alternative means of dealing with conditions like heart disease, cancer and diabetes. In this issue we report that daily supplementation with the antioxidant pycnogenol can dramatically improve glucose control in diabetics, that vitamin B6 may help prevent coronary heart disease, that selenium is vital in preventing prostate cancer, and that a diet rich in fish oils, fruits and vegetables can cut breast cancer risk in half.

Last but not least, we have another excellent book review by William Ware. This time he reviews the new book by Dr. Mildred Seelig "The Magnesium Factor". No doubt about it, magnesium is extremely important for our health and wellbeing, but a deficiency is widespread.

Have a safe and enjoyable summer!

*Wishing you good health,
Hans Larsen, Editor*

July/August Highlights

Vitamin B6 and heart disease	p. 2
Sodium bicarbonate to the rescue	p. 3
Pycnogenol helps diabetics	p. 4
Guidelines for preventing heart disease	p. 5
Deferred treatment for prostate cancer	p. 6
Prostate cancer survival tables	p. 7
NEWSBRIEFS	p. 8
BOOK REVIEW – The Magnesium Factor	p.10

LETTERS TO THE EDITOR

I found your articles and research on coenzyme Q10 very encouraging. For the past 3 months I have been taking 100 mg daily of coenzyme Q10 in the hopes of reversing or improving the ejection fraction of my heart as I have dilated cardiomyopathy. I just had another echocardiogram and got wonderful news - my ejection fraction went from 25 to 40%. This is the first encouraging news I

have had since I was first diagnosed. I would like to up the dosage. What do you suggest?

VM, USA

Editor: *This is wonderful news about your improvement. I would suggest 100 mg of coenzyme Q10 three times a day WITH meals combined with 500 mg of L-carnitine three times a day BETWEEN meals to perhaps improve your ejection fraction even further.*

My 11-year-old son has ADD (attention deficit disorder) and also suffers from anxiety/depression and petit mal seizures. He is currently taking prescription drugs for these conditions. He has just started taking omega-3 fish oil for the ADD. I have read this will also help with the anxiety and depression, but will it help with the seizures?

PM, USA

Editor: *Fish oils should indeed help with the ADD and depression, but I am not aware of any clinical evidence to the effect that they may help prevent seizures. It is possible that they might though, because of the high fatty acid content in fish oils. You may want to ensure that your son avoids aspartame (NutraSweet) in all its many guises and also minimizes his exposure to television. Both are known triggers for epileptic seizures. You may find that ginger tea or crystallized ginger may help avoid seizures. Lavender oil fragrance is also known to be beneficial.*

My daughter was diagnosed with cancer – primary breast and also blood marrow, which is the type that

goes into the bone. We have her on mega doses of vitamin C and now one of the doctors tells us that vitamin C leaches calcium out of the bone. Is this true? She feels good, but will stop taking the vitamin C if there is some merit in what the doctor says.

RH, USA

Editor: *So sorry to hear about your daughter's diagnosis. I have never seen any medical evidence linking vitamin C supplementation to bone loss. Quite the contrary, several studies have shown that vitamin C actually increases bone mass density. I would suggest you keep on with the vitamin C if your daughter feels it helps her.*

ABSTRACTS

Vitamin B6 and heart disease

VERONA, ITALY. There is ample evidence that low plasma levels of pyridoxal-5'-phosphate (PLP), the active metabolite of vitamin B6 (pyridoxine), are associated with an elevated risk of systemic inflammation. Inflammation, in turn, is associated with a greater risk of coronary artery disease (CAD). Italian researchers recently proposed that PLP may directly affect CAD risk through several other mechanisms:

- PLP inhibits platelet aggregation by blocking ADP receptors;
- Low levels of PLP have been associated with high cholesterol levels as well as with high levels of fibrinogen and the inflammation marker C-reactive protein (CRP).

The researchers at the University of Verona School of Medicine recently concluded a clinical trial to determine the association between PLP levels and CAD risk. The trial involved 475 patients with documented CAD and 267 controls free from CAD. All participants had blood samples drawn for the determination of PLP, CRP (high sensitivity), homocysteine (total), fibrinogen, cholesterol and triglycerides. Levels of creatinine, folate and vitamin B12 were also determined.

The researchers found that the average (median) PLP concentration was 36.3 nmol/L and that 63% of the CAD patients had levels below the median as

compared to only 50% of the controls. After adjusting for all major cardiovascular risk factors, they concluded that participants with a PLP level below 36.3 nmol/L had an 89% greater risk of CAD than did participants with higher levels. Low PLP levels were found to be particularly detrimental if combined with high CRP levels or a high LDL/HDL cholesterol ratio. Patients with a PLP level below 36.3 nmol/L and a CRP level above 4.18 mg/L had a 4.61 times higher risk of CAD than did patients with a PLP level above 36.3 nmol/L and a CRP level below 0.81 mg/L. Similarly, patients with a PLP level below 36.3 nmol/L and a LDL/HDL ratio above 3.23 had an 11 times greater risk of CAD than did patients with a PLP level above 36.3 nmol/L and a LDL/HDL ratio below 1.97.

The researchers suggest that their results indicate that low vitamin B6 status as measured PLP level may be an important risk factor for coronary heart disease. They point out that low PLP levels have already been associated with an increased risk for stroke, venous thrombosis and heart attack.

Friso, S, et al. Low plasma vitamin B-6 concentrations and modulation of coronary artery disease risk. American Journal of Clinical Nutrition, Vol. 79, June 2004, pp. 992-98

Editor's comment: These findings add to the already impressive body of evidence attesting to the crucial importance of vitamin B6 in cardiovascular health. Other researchers have found that

supplementing (orally) with 40 mg/day of vitamin B6 will increase PLP levels to about 230 nmol/L within 3 days of beginning supplementation. Adequate

amounts of vitamin B2 and magnesium are required in order to convert vitamin B6 to PLP.

Sodium bicarbonate to the rescue

CHARLOTTE, NORTH CAROLINA. An increasing number of diagnostic procedures make use of a radiographic contrast agent in order to obtain useful x-ray images of internal organs. Contrast agents (dyes) are widely used in procedures involving heart catheterization (angiography and angioplasty) and CT scanning. Contrast agents contain large amounts of iodine and can, unfortunately, be very hard on the kidneys. It is estimated that more than 10% of hospital-acquired renal failure (nephropathy) is due to the use of contrast agents. Supplementation with N-acetylcysteine for two days prior to and after the procedure has been found to reduce the incidence of contrast-induced nephropathy (CIN) in a small clinical trial.

Researchers at the Carolinas Medical Center now report that using sodium bicarbonate rather than sodium chloride in the hydration fluid employed during the procedure can markedly reduce the incidence of CIN. Their clinical trial involved 119 patients scheduled to undergo a procedure using contrast agents. All patients had serum creatinine levels of at least 1.1 mg/dL (97.2 micromol/L). Patients were randomized to receive the standard saline infusion (containing sodium chloride) before

and after the administration of the contrast agent (iopamidol) or to receive similar infusions in which the sodium chloride had been replaced with sodium bicarbonate.

While 8 patients (13.6%) in the sodium chloride group experienced kidney failure only 1 patient (1.7%) did so in the sodium bicarbonate group. All the patients who experienced kidney failure (CIN) had undergone heart catheterization procedures. The researchers followed up their findings in another trial involving 191 patients who all received the sodium bicarbonate-based hydration fluid. The incidence of CIN in this group was 1.6%. The researchers conclude that infusion of sodium bicarbonate before and after procedures using contrast agents may provide an inexpensive, safe, practical, and simple method for preventing CIN.

Merten, GJ, et al. Prevention of contrast-induced nephropathy with sodium bicarbonate. Journal of the American Medical Association, Vol. 291, May 19, 2004, pp. 2328-34

Chertow, GM. Prevention of radiocontrast nephropathy. Journal of the American Medical Association, Vol. 291, May 19, 2004, pp. 2376-77 (editorial)

NSAIDs and ulcers

UTRECHT, THE NETHERLANDS. Nonsteroidal anti-inflammatory drugs (NSAIDs) are widely used in the management of inflammation and pain. These drugs, unfortunately, are very hard on the stomach lining and often cause serious ulcers and gastrointestinal bleeding. It is estimated that 2200 patients die each year in the UK alone from bleeding caused by NSAIDs. Treating NSAID-related bleeding events is also costly. It is estimated that, for every dollar spent on purchasing NSAIDs, another 55-70 cents is spent on treating their side effects. It is possible to, at least partially, protect patients taking NSAIDs by also giving them a proton inhibitor (omeprazole, pantoprazole, lansoprazole), histamine (H)₂-antagonist (cimetidine, ranitidine, nizatidine) or misoprostol (Cytotec). Another approach is to switch to a COX-2 inhibitor such as rofecoxib (Vioxx) or celecoxib

(Celebrex). Protection against gastrointestinal bleeding is particularly important for patients who are also taking aspirin, warfarin or corticoids (prednisone) or who have special risk factors such as a history of stomach ulcers, age over 59 years or a *Helicobacter pylori* infection.

Dutch physicians recently conducted a survey to determine how often adequate measures were prescribed to prevent serious adverse effects of long-term NSAID therapy. Their survey included over 10,000 patients (70% women) who had been taking NSAIDs for 100 or more consecutive days. They found that preventive strategies had only been prescribed for 43% of the study participants and that the measures were inadequate in 36% of cases. The frequency of prescriptions for preventive strategies was 24% in patients with no additional

risk factors and 80% for those with 4 or more risk factors for gastrointestinal bleeding. The researchers conclude that a large proportion of Dutch NSAID users are not adequately protected

against serious side effects.
Herings, RMC and Goettsch, WG. Inadequate prevention of NSAID-induced gastrointestinal events. The Annals of Pharmacotherapy, Vol. 38, May 2004, pp. 760-63

Hyperbaric oxygen helps heart patients

ODESSA, TEXAS. Hyperbaric oxygen therapy (HOT) is a procedure for delivering high concentrations of pure oxygen to the body. It involves breathing 100% oxygen through a mask while inside a pressurized chamber. The added pressure causes the oxygen to be dissolved in the blood. HOT has been used to successfully treat a variety of conditions from osteomyelitis to pressure ulcers and necrotizing fasciitis. It is particularly effective in speeding wound healing.

Cardiologists at Texas Tech University Health Sciences Center decided to see if HOT would decrease the rate of restenosis after percutaneous coronary interventions (PCIs) such as angioplasty, stent implantation and atherectomy (removal of plaque from coronary arteries). They reasoned that restenosis (reclosing of opened arteries) is likely caused by the healing of miniature wounds created in blood vessel walls during the PCI. If these wounds could be healed quicker, restenosis might

be avoided. They randomly assigned 24 patients to receive two 90-minute HOT treatments after the PCI while another 37 patients served as the control group. All patients had been admitted with a heart attack or unstable angina. After an 8-month follow-up the researchers had to do a repeat PCI on 8 patients (22%) in the control group because of restenosis (vessel diameter narrowing in excess of 50%). None of the patients in the HOT group showed signs of restenosis and no repeat procedures were required. Angina recurred in 9 control group patients (24%) within 8 months as compared to only 1 patient (4%) in the HOT group. The Texas cardiologists conclude that HOT is safe and may be associated with a reduction in restenosis and recurrence of angina after PCI.

Sharifi, M, et al. Usefulness of hyperbaric oxygen therapy to inhibit restenosis after percutaneous coronary intervention for acute myocardial infarction or unstable angina pectoris. American Journal of Cardiology, Vol. 93, June 15, 2004, pp. 1533-35

Pycnogenol helps diabetics

MUNSTER, GERMANY. A team of Chinese and German researchers reports that pycnogenol helps lower glucose levels in patients with mild type 2 diabetes. Pycnogenol, a powerful antioxidant, is extracted from the bark of the French maritime pine. Their clinical trial involved 18 men and 12 women between the ages of 28 and 64 years. All patients had fasting glucose levels of between 7 and 10 mmol/L (126-180 mg/dL). Participants received 50, 100, 200 and 300 mg/day of pycnogenol during four separate 3-week periods. The maximum reduction in plasma glucose concentration was obtained at a daily dose of 200 mg. Taking 300 mg/day did not result in further improvements. At the end of the 200 mg/day-period fasting glucose levels had dropped from an average of 8.64 mmol/L (154 mg/dL) to an average of 7.54 mmol/L (135 mg/dL).

Postprandial glucose level (2 hours after a meal) decreased from an average of 12.47 mmol/L (222 mg/dL) to 10.07 mmol/L (180 mg/dL) with the 200 mg/day-dose and the level of glycosylated hemoglobin (HbA_{1c}) decreased from 8.02% to 7.37%.

A subsequent double-blind, placebo-controlled trial with 77 patients confirmed the glucose-lowering effect of pycnogenol. The researchers conclude that pycnogenol may be useful in controlling glucose levels in patients with mild type 2 diabetes.

Liu, X, et al. French maritime pine bark extract pycnogenol dose-dependently lowers glucose in type 2 diabetic patients. Diabetes Care, Vol. 27, March 2004, p. 839

Guidelines for preventing heart disease and stroke

CLEVELAND, OHIO. Physicians at the Cleveland Clinic have summarized the latest American Heart Association (AHA) guidelines for preventing heart disease and stroke. Highlights are as follows:

- Smoking – Do not smoke and avoid secondhand smoke.
- Diet – Adopt a healthy eating pattern emphasizing fruits and vegetables. Saturated fat intake should be less than 10% of calories, daily cholesterol intake less than 300 mg, trans-fatty acids should be avoided, and salt intake should be less than 2400 mg/day.
- Cholesterol levels – Total cholesterol level should be 200 mg/dL (5.2 mmol/L) or less, HDL cholesterol should be greater than 40 mg/dL (0.9 mmol/L) for men and greater than 50 mg/dL (1.1 mmol/L) for women, triglyceride level should be below 150 mg/dL (2.36 mmol/L). The recommended maximum level of LDL cholesterol varies from 160 mg/dL (4.1 mmol/L) for low-risk people to 100 mg/dL (2.56 mmol/L) for people with diabetes or a 10-year coronary heart disease risk of greater than 20%.
- Exercise – At least 30 minutes of moderate-intensity physical activity (walking 3-4 miles/hour, gardening, climbing stairs, dancing, moderate to heavy housework).
- Weight – Body mass index between 18.5 and 24.9 kg/m².
- For people with type 2 diabetes, fasting plasma glucose level should be controlled

between 90 mg/dL (5.0 mmol/L) and 130 mg/dL (7.3 mmol/L). Postprandial (2 hours after a meal) level should be less than 180 mg/dL (10.1 mmol/L) and glycosylated hemoglobin level should be less than 7%.

- Daily aspirin – A daily aspirin (75-160 mg) is recommended for people at high risk for cardiovascular disease or stroke or with a Framingham 10-year risk of more than 10%.
- Atrial fibrillation – Warfarin (INR=2.0-3.0) is recommended for patients older than 65 years of age or at high risk for stroke.
- Hormone replacement therapy for women is not recommended.

The researchers provide an excellent table for calculating the 10-year risk of coronary events. A simple program to calculate one's risk can be downloaded at

www.nhlbi.nih.gov/guidelines/cholesterol/index.htm

They also provide specific timetables for medical check-ups. Blood pressure, body mass index, waist circumference and pulse rate (to screen for atrial fibrillation) should be checked every 2 years and fasting cholesterol and glucose levels should be checked every 5 years.

Seballos, RJ and Gutierrez, J. Strengthening the standards for preventing heart disease and stroke: the recent AHA guidelines. Cleveland Clinic Journal of Medicine, Vol. 71, May 2004, pp. 426-32

Selenium and prostate cancer risk

BOSTON, MASSACHUSETTS. At least five major clinical trials have concluded that higher levels of selenium (in blood or toenail clippings) are associated with a sharply reduced risk of prostate cancer. The Nutritional Prevention of Cancer (NPC) trial found that supplementing with 200 micrograms/day of selenium cuts prostate cancer risk in half. Researchers at the Harvard Medical School now weigh in with another study confirming the beneficial effects of selenium. Their study involved 22,000 healthy, male physicians who were enrolled in the study in 1982 and had blood samples taken at that time. Sufficient samples to analyze for selenium content and PSA level were available for 586 men diagnosed with prostate cancer as well as

for 577 controls matched for age and smoking status.

After 13 years of follow-up the researchers concluded that study participants with a plasma selenium level of 0.12-0.19 ppm had a 50% lower incidence of advanced prostate cancer than did men with a level of 0.06-0.09 ppm. The correlation was only apparent in men with a PSA level of more than 4 ng/mL and was particularly strong for those with a baseline (1982) PSA level greater than 10 ng/mL. For these men a high selenium level corresponded to a 70% decrease in the risk of advanced prostate cancer. The researchers also observed a trend for a lower incidence of localized

prostate cancer with high selenium levels, but this trend was not statistically significant. They conclude that selenium is perhaps not too effective in preventing the initiation of prostate cancer, but that it is highly effective in slowing down tumor progression. They believe that selenium acts by selectively killing off cells whose DNA has been extensively damaged, by inhibiting cellular proliferation, and by its role as a key component of glutathione peroxidase, which protects cells from peroxide damage.

Li, H, et al. A prospective study of plasma selenium levels and prostate cancer risk. Journal of the National Cancer Institute, Vol. 96, May 5, 2004, pp. 696-703

Taylor, PR, et al. Science peels the onion of selenium

effects on prostate carcinogenesis. Journal of the National Cancer Institute, Vol. 96, May 5, 2004, pp. 645-47 (editorial)

Editor's comment: The evidence is now indeed overwhelming that selenium helps protect against prostate cancer. While this study concluded that the protection mainly involves slowing down tumor progression, other studies have shown that selenium also helps prevent initiation of the cancer. Thus daily supplementation with 200 micrograms of selenium should be an integral part of all supplementation programs for men.

Deferred treatment safe for low-grade prostate cancer

NEW YORK, NY. It is not clear whether men diagnosed with low-grade, localized prostate cancer need immediate, aggressive treatment such as radical prostatectomy (removal of the prostate gland) or radiation therapy. A group of American and Australian researchers now report that deferring treatment until clear progression of the cancer is evident may be a safe, acceptable alternative. Their study involved 88 men who had been diagnosed with localized prostate cancer by needle biopsy or during an intervention (transurethral resection) to deal with an enlarged prostate. The men were between the ages of 44 and 79 years (average age of 65) and had Gleason scores (a measure of the aggressiveness of the tumor) of 2-7 with a median of 5. The average PSA level was 5.9 with a range of 0.09 to 30.2 ng/mL. The men, in consultation with their physician, had all decided to defer radical treatment until there was clear evidence that their cancer was progressing. They had a digital rectal examination (DRE) and PSA measurement every 3 months for the first year and every 6 months thereafter. A repeat biopsy was recommended 6 months after initial diagnosis or if the DRE or PSA tests showed abnormalities. In 61% of the repeat biopsies, no cancer was found. The patients with no cancer on repeat biopsy were highly unlikely to show progression of their cancer. (Editor's note: Could this indicate that their original diagnostic biopsy had produced a false positive result, ie. they did not have cancer in the first place?)

During a median follow-up of almost 4 years (44

months) 22 patients showed progression. The overall probability of experiencing no progression was 67% 5 years after initial diagnosis and 55% after 10 years. In other words, more than half the patients showed no progression 10 years after initial diagnosis. A total of 31 patients were treated during follow-up – 17 because they showed clear progression of the cancer, 7 because of anxiety and their physician's concern that the cancer might be progressing, and another 7 underwent radical treatment because they were unable to live with the fear of cancer. The treatment consisted of radical prostatectomy in 17 cases, radiation therapy in 13 cases, and hormone therapy in 1 case. No recurrence had occurred in the patients treated with radical prostatectomy after an average 15-month follow-up. One recurrence was observed in the 13 radiation therapy patients after an average 20-month follow-up. The researchers conclude that deferring radical therapy may be a safe, acceptable alternative in men at low risk and that the results of a follow-up biopsy is the most significant prognostic factor for progression.

Patel, MI, et al. An analysis of men with clinically localized prostate cancer who deferred definitive therapy. Journal of Urology, Vol. 171, April 2004, pp. 1520-24

Editor's comment: This study clearly shows that not rushing into aggressive treatment is a viable option for men diagnosed with low-grade, localized prostate cancer. The most reliable indicator of the eventual need for treatment would seem to be a positive repeat biopsy result 6 months to a year after the initial biopsy.

Carrots and fish help prevent breast cancer

MONTREAL, CANADA. Breast cancer is the most common cancer in Canadian women. In 2002, about 20,700 new cases were diagnosed and 5,400 women died from the disease. Many studies, most of them inconclusive, have been carried out to seek correlations between diet and the risk of breast cancer. Researchers at the University of Montreal now report that a diet rich in carotenoids and fish oils may reduce breast cancer risk. Their study involved 411 French-Canadian women diagnosed with breast cancer and 429 matched controls. All participants completed validated food-frequency questionnaires in face-to-face interviews. The interviewers found no overall correlation between carotenoid intake and cancer risk; however, they did find intriguing correlations in subgroups of women.

Among premenopausal women who were now smoking or had smoked in the past, a high intake of alpha-carotene was associated with a 2.4-fold increase in cancer risk. Among postmenopausal women total intake of carotenoids was associated with a 1.92-fold increase in risk if combined with a

high intake of arachidonic acid. However, if a high intake of carotenoids was combined with a high intake of docosahexaenoic acid (DHA), a main component of fish oils, the cancer risk was cut in half. These associations remained after adjustments for other known breast cancer risks such as age at first full-term pregnancy, history of breast cancer in first-degree relatives, history of benign breast disease, number of full-term pregnancies, marital status, and calorie intake. The researchers conclude that a diet with a high content of fruits, carotenoid-rich vegetables, and DHA-rich fish may reduce the risk of breast cancer.

Nkondjock, A. and Ghadirian, P. Intake of specific carotenoids and essential fatty acids and breast cancer risk in Montreal, Canada. American Journal of Clinical Nutrition, Vol. 79, May 2004, pp. 857-64

Editor's comment: Several studies have shown that fish oil supplementation is just as effective as eating whole fatty fish when it comes to realizing the benefits of fish consumption.

Prostate cancer survival tables

DETROIT, MICHIGAN. Urologists at the Henry Ford Health System have developed tables enabling physicians and their patients to estimate long-term survival for men with clinically localized prostate cancer. The tables are based on the patient's age, race, PSA and Gleason score, estimated annual income, and the number of other disease conditions (comorbidities) experienced by the individual. The tables are based on thorough analysis of data from 1611 men with clinically localized prostate cancer and 4538 matched controls. The mean age of the cancer patients was 69 years, 39% were black, and the average (median) PSA level was 8.5 ng/mL. Most of the patients (43%) had undergone radical prostatectomy, while 27% were treated with radiation therapy, and the remaining 29% either received no treatment or were treated with hormones (conservative treatment). Examples of estimated 10-year overall survival rates are as follows:

- 61- to 70-year-old, white male with a PSA level of 9.9 ng/mL or less, a Gleason score of less than 5, and no severe comorbid conditions. Average 10-year overall

survival rate with:

Conservation treatment – 75%

Radiation therapy – 79%

Radical prostatectomy – 89%

No cancer (controls) – 85%

- 75-year-old, black male with a PSA level of between 10 and 19.9 ng/mL, a Gleason score of less than 5, and no severe comorbid conditions. Average 10-year survival rates with:
 - Conservation treatment – 57%
 - Radiation therapy – 63%
 - Radical prostatectomy – 80%
 - No cancer (controls) – 74%

It is interesting to note that the average PSA value for the 4538 cancer-free controls was 0.8 ng/mL as compared to 8.5 ng/mL in the cancer patients. It is clear that radical prostatectomy improves survival rates, particularly in patients with fairly advanced cancer (PSA level of 10 ng/mL or above).

Tewari, A, et al. Long-term survival probability in men with clinically localized prostate cancer. Journal of Urology, Vol. 171, April 2004, pp. 1513-19

NEWSBRIEFS

Hold on to your organs! Moscow police caught four doctors about to remove both kidneys from an accident victim. The 50-year-old was still alive when police entered the operating theater. The patient had his hands tied behind his head and was just about to undergo the first incision. The case has raised fears that doctors across Russia may be involved in removing organs from live patients in order to use them in lucrative, illegal organ transplants.

British Medical Journal, May 8, 2004, p. 1092

Simvastatin without a prescription. The UK Department of Health has approved the over-the-counter sale of the cholesterol-lowering drug simvastatin (Zocor) in 10 mg tablets. British doctors warn that self-prescription of simvastatin is a very bad idea. There is no evidence that it will have any benefit at 10 mg/day and larger doses may increase the risk of myopathy and rhabdomyolysis. Simvastatin can interact with other drugs, particularly other cholesterol-lowering drugs, anticoagulants, antifungals and antibiotics. Without the input of a physician or pharmacist such interactions may become frequent and serious. The motive for the approval is, of course, increased profit for the government, which does not pay for over-the-counter drugs, and for the manufacturer of simvastatin, which foresees an increased market of 8 million people.

The Lancet, May 22, 2004, p. 1659

Calorie restriction improves health. Clinical studies involving different species of animals have shown that eating less (caloric restriction) reduces the risk of cancer, diabetes, stroke and heart disease. Now a group of American researchers reports that caloric restriction (CR) also benefits people. They compared a group of 18 volunteers who had been practicing CR for an average of six years with a group of 18 people eating a normal diet. The CR volunteers consumed between 1112 and 1958 kilocalories per day while the control group consumed between 1976 and 3537 kilocalories a day. The members of the CR group were found to have significantly lower levels of triglycerides, cholesterol and C-reactive protein (a marker for inflammation of the arteries) and also significantly lower blood pressure and no atherosclerotic plaque in their arteries. The researchers believe that this translates into a much-reduced risk of stroke, heart failure, heart disease, type 2 diabetes and most of the kidney diseases caused by high blood pressure. It is also likely that

CR would result in a reduced cancer risk. CR, however, needs to be approached with caution. Eating less can clearly result in nutrient deficiencies unless the diet is carefully planned.

New Scientist, April 24-30, 2004, pp. 12-13

Cancer and cellphones. The jury is still out as to whether the use of cell phones can cause brain cancer. Many scientists fear that it can, but acknowledge that the radiation emanating from mobile phones is too low to actually "fry" tissue or break chemical bonds such as occurs in microwave ovens. Now Bo Sernelius, a Swedish physicist, offers a plausible explanation for how the phones could alter cell structure and ultimately cause tissue damage. Dr. Sernelius found that when cells are exposed to radiation at the 850 megahertz range used by cellphones, they develop a very strong attraction to each other. The van der Waals forces involved in the attraction rise by 11 orders of magnitude (an enormous increase) when exposed to the radiation from cellphones. This could cause cells to clump together or cause blood vessels to contract. Although the new findings do demonstrate that cellphones can have an enormous effect on individual human cells, much more research is clearly required to determine whether this effect is linked to cancer.

New Scientist, April 10, 2004, p. 13

Europe tightens regulation of herbal medicines.

The European Union has passed a law that requires manufacturers of herbal supplements to register their products in the same way that pharmaceutical drugs are now registered. The registration involves extensive safety and efficacy trials. These trials, however, are not required for herbal products that have been in use for at least 30 years, including 15 years in Europe. The new law also forces herbal product manufacturers to report any adverse reactions to the newly created European Committee for Herbal Medicinal Products. The EU has banned kava kava and has severely restricted the sale of ephedra (Ma Huang).

New Scientist, April 10, 2004, p. 7

GM technology goes awry in Argentina.

Argentina and the USA have been well-ahead of the pack when it comes to growing soy genetically modified to withstand the spraying with heavy concentrations of Monsanto's weed killer, Roundup Ready (glyphosate). By 2002 almost half of Argentina's arable land was planted with soy, most of which was genetically modified. During the

period 1997 to 2003 the annual sales of glyphosate went from 14 million liters to 150 million liters. This over reliance on one genetically-modified (GM) crop is now having dramatic consequences. The vastly increased use of glyphosate and other strong weed killers has led to the emergence of super-weeds, which are almost impossible to eradicate. The soil is becoming inert because beneficial bacteria are killed off and slugs, snails and fungi are now beginning to take over the land. About 150,000 small farmers in Argentina have been driven off their land because their crops and livestock were contaminated or killed by massive spraying of weed killers on neighbouring GM farms. The production of many staple foods including rice, maize, potatoes, lentils and milk have declined sharply and some scientists believe that Argentina's agriculture will become unsustainable in another couple of years. Fortunately, GM crops are still mainly grown in Argentina and the USA. Hopefully, the Argentinean experience will give other countries second thoughts about embracing GM crops.

New Scientist, April 17, 2004, pp. 40-43

Glutamate toxicity implicated in multiple sclerosis. Multiple sclerosis (MS) is generally considered to be an autoimmune or inflammatory disease in which immune cells (T-cells) attack the myelin sheath that insulates individual neurons in the brain and spinal cord. It now appears that MS has two phases, the inflammatory phase in which the myelin sheath is damaged and a degenerative phase in which axons (nerve fibers) are damaged or broken. The latter phase is believed to involve the amino acid glutamate that can damage neurons. Glutamate toxicity is also believed to be involved in epilepsy and amyotrophic lateral sclerosis (ALS). Research is now underway to develop drugs that will block glutamate toxicity.

New Scientist, June 5, 2004, pp. 44-47

Asthma linked to use of antibiotics. There is growing evidence that the widespread use of antibiotics is strongly linked to the increase in asthma among children. A team of US researchers monitored 500 children for seven years and found that those given antibiotics before six months of age were twice as likely to develop allergic asthma.

Those given broad-spectrum antibiotics were 9 times more likely to develop asthma than were children who had not received antibiotics. Researchers at the University of Michigan believe that the antibiotics upset the balance of gut flora to such an extent that the immune system is compromised and the body loses its ability to deal with allergens. They suggest that people on antibiotics should also be given probiotics to prevent the destruction of beneficial gut bacteria.

New Scientist, June 5, 2004, p. 13

Infant formula linked to meningitis. British researchers have discovered high levels of bacteria in samples of powdered infant formula and dried infant food. One of the bacteria, *Enterobacter sakazakii*, has been linked to a particularly virulent form of meningitis. About 10% of the powdered formula and 25% of the dried infant foods tested contained undesirable bacteria. The researchers found that formula made from the dried product doubled in bacteria count for every one half hour left at room temperature while it took 10 hours for the bacteria count to double if the prepared formula was left in the refrigerator. They caution that leaving prepared formula at room temperature can result in the development of dangerous levels of bacteria.

New Scientist, June 5, 2004, p. 16

The Queen goes alternative. Her Majesty Queen Elizabeth has changed her physician. Her previous doctor, Sir Nigel Southward, is a conventional Western medicine practitioner with a Harley Street practice. Her new doctor, Timothy Evans, runs an holistic health clinic and promotes yoga, reflexology, aromatherapy and Chinese herbal medicine. The change in doctors is being seen as a significant shift in the Queen's attitude to alternative medicine.

Majesty, Vol. 25, April 2004, p. 29

Diclofenac reduces prostate biopsy pain. Having a needle biopsy of the prostate gland is a very painful procedure. British researchers now report that inserting a diclofenac suppository (100 mg) in the rectum 1 hour prior to the procedure can reduce the pain by about 50%.

Journal of Urology, Vol. 171, April 2004, pp. 1487-91

BOOK REVIEW

The Magnesium Factor

by M. S. Seelig, MD, MPH, and A. Rosanoff, PhD
Avery (Penguin Group, Inc), New York, 2003 ISBN 1583331565

The front cover of the paperback edition expands on the title as follows: "How one simple nutrient can prevent, treat and reverse high blood pressure, heart disease, diabetes, and other chronic conditions." A bold claim indeed! Dr. Seelig has been studying the role of magnesium in health and disease for over 35 years. She is chair of the Magnesium Advisory Board which oversees the New York Weill Cornell Medical Center's Magnesium Information Center. Dr. Rosanoff has been involved in the study of magnesium nutrition for the past 17 years. The authors' thesis is as follows; (a) Magnesium deficiency is widespread and aggravated in part by its removal from many foods during processing. (b) Magnesium is involved in innumerable human biochemical processes and is directly involved in the action of more than 350 enzymes and indirectly implicated in many more. (c) Magnesium deficiency is involved in many disease states, including heart disease, hypertension, Syndrome X and diabetes. (d) Deficiency is easily corrected with rather low levels of supplementation (up to 700 mg/d) or attention to diet or both. Supplements are inexpensive, safe for almost everyone, and normally very well tolerated.

The following list of chapters provides a good indication of the scope of this book and the relevance of magnesium to health and disease:

- Magnesium: the mineral that combats heart disease and keeps blood vessels healthy.
- Metabolic Syndrome X, diabetes and magnesium.
- High blood pressure, salt and magnesium.
- Obesity, physical activity and magnesium.
- Fat, cholesterol and magnesium.
- Magnesium, stress and the Type A personality.
- Magnesium and genetics; family history and sex differences.
- Magnesium and other heart disease risk factors.
- Are we really low in magnesium?
- Do you need more magnesium?
- Making sure you have enough magnesium.
- Magnesium, the silent guardian of our hearts and arteries.

In the chapter "Making Sure You Have Enough Magnesium," guidance is provided on maximizing magnesium from food and water, and on selecting supplements. Guidance is also given on the appropriate ratio of magnesium to calcium intake. Many readers will find the discussion of magnesium and hypertension of particular interest, and as well, the chapter titled "Fat, Cholesterol and Magnesium" contains a modern discussion of this subject which is currently very relevant. Included is a section on the HMG-CoA reductase inhibitory action of magnesium which includes a discussion of the similarities and differences in its action compared to the statin class of drugs which inhibits the same enzyme.

Ten appendices include a magnesium questionnaire which is provided for self-assessment of status, tables of common foods classified by magnesium content and a list of common medications that influence magnesium status. The book also contains some interesting case histories describing the almost magical effects of correcting a magnesium deficiency.

This appears to be an authoritative treatment of a very important subject, both for the layman and the health-care professional. It is up-to-date and comprehensive. The authors make a strong case that magnesium is clearly an important and often overlooked factor in some of the most serious and prevalent disorders that are encountered in the practice of medicine, in fact, frequently on a daily basis. It is probably true that not nearly enough attention is given to this essential mineral nor is there sufficient awareness of the potential role magnesium plays in a number of disease states or the need in some cases for aggressive supplementation. This book should provide a wake-up call.

Published in 2003, *The Magnesium Factor* includes very recent research and an extensive set of references. Unfortunately, while the references are listed by chapter, they are not cited in the text.

Reviewed by William R. Ware

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