INTERNATIONAL HEALTH NEWS

Your Gateway to Better Health!

NUMBER 116 **AUGUST 2001** **10th YEAR**

Editorial

At this time of the year I receive numerous enquiries concerning the use of sunscreens. The "official" advice given by dermatologists and other physicians is still that sunlight should be avoided as much as possible and sunscreens should be slathered on as thickly as possible. It is unfortunate indeed that this advice is largely wrong and could be highly detrimental to your health. There are three major reasons for this.

- *Several studies have confirmed that people who use sunscreens tend to spend more time in the sun than do people who do not use sunscreens. Since sunscreens protect only against sunburn, but not against melanoma and most skin cancers, this is a bad thing.*
- *Norwegian and Swiss researchers report that chemical sunscreens using octylmethoxycinnamate, benzophenone-3, octyl-demethyl-PABA and similar compounds are highly toxic and make cancer cells grow faster. They advise against using them and suggest that if you must use a sunscreen use a zinc oxide based one.*
- *Total avoidance of sunlight is unhealthy because it is likely to result in a vitamin D deficiency. There is ample evidence that this can lead to muscle cramps, osteoporosis, breast cancer, colon cancer, prostate cancer, and ovarian cancer. Remember that sunscreens not only protect against sunburn, but also inhibit the normal synthesis of vitamin D in the skin.*

So what to do? Make sure you get at least 30 minutes of unprotected sun exposure every day. Stay out of the sun (even on cloudy days) between 10 AM and 3 PM as much as possible. Use a wide-brimmed hat, protective clothing, and sunglasses when you are outside in the summer, and if necessary, use a zinc oxide based sunscreen to protect exposed areas such as the nose and ears.

If you want to read my article "Sunscreens: Do They Cause Skin Cancer?" you can find it at http://www.yourhealthbase.com/sunscreens.html. It was written in 1994, but is still as applicable now as it was then.

Hope you are enjoying a great summer!

Yours in health,
Hans

August Highlights

LETTERS TO THE EDITOR

Have you ever found anything about echinacea not being safe for multiple sclerosis patients?

CG, USA

Editor: *I have not come across anything in the medical literature indicating that echinacea is unsafe for multiple sclerosis patients. However, there is some evidence that MS is an autoimmune disease so further stimulating the immune system with echinacea may actually not be a great idea. But I have no scientific proof of this suspicion. In any case, echinacea should not be used on a continuous basis by anyone.*

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I have read many good things about supplementing with folic acid. Can there be side effects if you take too much of it? My daughter can't sleep and her legs twitch since she has been taking it.

KK, USA

Editor*: Folic acid is a very safe vitamin. It is water-soluble so any excess is excreted in the urine. As much as 40 mg/day has been used in the treatment of depression and 15 mg/day has been recommended for other conditions. Very high doses may, in extremely rare cases, cause itching of the skin or hives (urticaria). The recommended daily intake is 400-800 micrograms (0.4-0.8 mg); these low dosages are considered entirely safe and free of side effects. Folic acid should be accompanied by vitamins B12 and B6 for best effect. Folic acid can actually help prevent twitching legs (restless leg syndrome). Has your daughter had her iron level checked? Low levels can sometimes cause this syndrome. She may also want to try 250 mg of magnesium (citrate/maleate or aspartate) before bedtime.*

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I have just finished reading your article on sunscreens and skin cancer and I have to admit I was absolutely shocked at the things I have found out. I have a young child who has been playing outside quite a bit and I have taken quite a few of the precautions that you mentioned, but could sunscreen really be harming my child? Also, I have recently heard that wearing dark tinted sunglasses could actually cause you to burn easier because it tricks your body into thinking that it no longer has to protect itself from the sun's rays which allows more to be absorbed. Do you know if this is really so?

TJ, USA

Editor: *Sunscreens do not protect against melanoma or most skin cancers, but they do help prevent sunburns. The big problem is that their use gives one a false sense of security because of the (false) assumption that if they prevent sunburn they must also prevent skin cancer. I rarely use sunscreen myself, but when I do I use a zinc oxide based one. There is increasing evidence that the main components (benzophenone, etc.) of chemical based sunscreens are "bad actors". There is an article published in the "New Scientist", April 21, 2001, p. 5 discussing this topic. I have not heard about the connection between increased sun sensitivity and the wearing of sunglasses. However, wearing sunglasses should help protect against the development of cataracts later in life.*

ABSTRACTS

Antibiotics and probiotics

ANTIGONISH, CANADA. Lindsey Edmunds, a high school student in Nova Scotia, reports on a study she recently undertook to see if physicians in Nova Scotia routinely prescribed probiotics to prevent side effects of antibiotics. Treatment with antibiotics often causes diarrhea and other related complaints that can be prevented by supplementing with probiotics. Probiotics are live bacteria such as *Lactobacillus acidophilus* that produce a healthy intestinal environment.

Lindsey received replies to her questionnaire from 68 physicians all of whom stated that they prescribe antibiotics on a regular basis. Only 21 of them (32 per cent) recommended that patients take probiotics with their antibiotics. Ten said that they do so always or often while the remaining 11 seldom did. Only 12 physicians (18 per cent) were aware of any research on probiotics. The majority (62 per cent) was either not aware of any research or felt that there was not enough research to warrant the use of probiotics.

Edmunds, Lindsey. The underuse of probiotics by family physicians. **Canadian Medical Association Journal**, *Vol. 164, May 29, 2001, p. 1577 (research letter)*

Trans-fatty acids implicated in diabetes

BOSTON, MASSACHUSETTS. Researchers at the Harvard School of Public Health have just released a major study aimed at determining the relationship between dietary fat intake and the risk of developing type 2 diabetes. Their study involved 84,204 female nurses who were between the ages of 34 and 59 years at their enrollment in 1980. The nurses completed extensive food frequency questionnaires in 1980, 1984, 1986, and 1990. By 1994 a total of 2507 of the participants had developed type 2 diabetes.

After adjusting for other known risk factors the researchers concluded that total fat intake is not associated with diabetes risk. However, they did find that a high intake of polyunsaturated fats markedly reduced the risk while a high intake of *trans*-fatty acids and cholesterol substantially increased it. The increase was particularly significant in obese and physically inactive women. A high intake of marine fish oils (eicosapentaenoic acid and docosahexaenoic acid) was found to decrease diabetes risk by about 20 per cent.

The researchers also provide some very interesting estimates of the effect of various dietary modifications on the risk of diabetes:

- Replacing 5 per cent of energy from polyunsaturated fats with the same amount of energy from carbohydrates is associated with a 58 per cent greater risk of diabetes.
- Replacing 5 per cent of energy from saturated fatty acids with energy from polyunsaturated fatty acids is associated with a 35 per cent lower risk.
- Replacing 2 per cent of energy from *trans*-fatty acids with polyunsaturated fatty acids is associated with a 40 per cent lower risk.

The researchers conclude that replacing *trans*-fatty acids in the diet with non-hydrogenated polyunsaturated fatty acids would substantially reduce the incidence of type 2 diabetes – perhaps by as much as 40 per cent.

Salmeron, Jorge, et al. Dietary fat intake and risk of type 2 diabetes in women. **American Journal of Clinical Nutrition**, *Vol. 73, June 2001, pp. 1019-26*

Clandinin, M. Tom and Wilke, Michaelann S. Do trans fatty acids increase the incidence of type 2 diabetes? **American Journal of Clinical Nutrition**, *Vol. 73, June 2001, pp. 1001-02 (editorial)*

Osteoarthritis and glucosamine sulfate

EDMONTON, CANADA. Several clinical trials have shown that glucosamine sulfate (GLS) is effective in the treatment of osteoarthritis of the knee. Now researchers at the University of Alberta report that GLS is also effective in the treatment of osteoarthritis (OA) of the temporomandibular joint (the joint connecting the lower jawbone to the skull [cranium]). Temporomandibular joint disease (TMJ) affects young women in their 20s and 30s and it is estimated that OA of the TMJ affects about 10 per cent of all patients seeking treatment for TMJ. The main characteristic of the disease is severe pain when chewing, yawning, talking, laughing or otherwise opening the mouth. TMJ and OA of the TMJ are usually treated with NSAIDs such as ibuprofen.

The Alberta study involved 40 women and 5 men with an average age of 37.5 years. The participants were randomized to receive either 500 mg of GLS three times a day or 400 mg of ibuprofen three times a day for the 90-day study period. The researchers conclude that GLS is at least as effective as ibuprofen in reducing pain and improving functioning. They emphasize that GLS has no serious side effects whereas ibuprofen definitely has. It is estimated that 14.6 to 43.9 per cent of patients with OA treated with NSAIDs develop gastric ulcers after six months of therapy. The researchers also noted that the beneficial effects of GLS persisted beyond the 90-day treatment period whereas those of ibuprofen did not. They take this to mean that GLS actually has a healing effect while ibuprofen does not. They estimate that about 50 per cent of patients on GLS will experience at least a 50 per cent reduction in pain and 70 per cent of patients at least a 39 per cent reduction in pain. NOTE: This study was partially funded by Jamieson and Apotex Inc., manufacturers of GLS and ibuprofen respectively.

Thie, Norman M.R., et al. Evaluation of glucosamine sulfate compared to ibuprofen for the treatment of temporomandibular joint osteoarthritis: a randomized double blind controlled 3 month clinical trial. **Journal of Rheumatology**, *Vol. 28, June 2001, pp. 1347-55 [79 references]*

Beta-carotene and breast cancer

NEW YORK, NY. Carotenoids, like beta-carotene, are important constituents of fruits and vegetables. Numerous studies have investigated the association between the dietary intake of carotenoids and the risk of breast cancer. Some have found a beneficial effect, others have not. Researchers at the New York University School of Medicine now weigh in with the results of a new study that shows a clear benefit of carotenoids.

Their study involved 270 women diagnosed with breast cancer and 270 matched controls (125 pre- and 145 postmenopausal in each group). All the participants had blood samples taken at the beginning of the study in 1985 (at least 6 months and more likely an average of four years prior to the cancer diagnosis). These samples were frozen at minus 80 degrees Celsius until analysis in 1995. The researchers found that women with the lowest levels of carotenoids in their blood serum had twice the incidence of breast cancer than did women with the highest levels (highest quartile). The specific odds ratios were 2.21 for beta-carotene, 2.08 for lutein, 1.68 for beta-cryptoxanthin, and 2.0 for alpha-carotene. The researchers conclude that, “These observations offer evidence that a low intake of carotenoids, through poor diet and/or lack of vitamin supplementation, may be associated with an increased risk of breast cancer.”

Toniolo, Paolo, et al. Serum carotenoids and breast cancer. **American Journal of Epidemiology**, *Vol. 153, June 15, 2001, pp. 1142-51*

Vitamin E protects against heart disease

FERRARA, ITALY. Italian researchers report that vitamin E protects very old people against heart attacks, strokes (ischemic), and congestive heart failure. Their study involved 54 men and 48 women with an average age of 84 years. The participants were all healthy and independent in all activities of daily living when the study began in 1992. By 1997 members of the group had suffered 16 strokes (6 fatal), 12 heart attacks (9 fatal), and 4 congestive heart failures. Analyses

of blood samples provided at the beginning of the study showed that study participants with a high plasma level of vitamin E (greater than 43.9 micromol/L) had a 10 times lower risk of a cardiovascular event than did participants with a low level (less than 23 micromol/L) after adjusting for other risk factors. The researchers also found that participants with a high level of fluorescent products of peroxidation in their blood had a seven times greater risk of a cardiovascular event than did those with lower levels. Blood levels of vitamin C, beta-carotene, and cholesterol did not affect the risk of suffering a cardiovascular event. The researchers suggest that the benefits of vitamin E are due to its ability to reduce platelet adhesion and aggregation, inhibit vitamin K-dependent clotting factors, and reduce the oxidation of low-density lipoprotein cholesterol.

Mezzetti, Andrea, et al. Vitamin E and lipid peroxide plasma levels predict the risk of cardiovascular events in a group of healthy very old people. **Journal of the American Geriatrics Society**, *Vol. 49, May 2001, pp. 533-37*

Vitamin E benefits diabetics

NAPLES, ITALY. People with type 2 diabetes have elevated oxidative stress and decreased antioxidant defenses. They also have an imbalance in the autonomic nervous system, which manifests itself in the form of a more pronounced sympathetic (adrenergic) activity in the heart. This sympathetic over-activity is linked to oxidative stress and is believed to be responsible for many cases of sudden death even in the absence of documented heart disease.

Researchers at the Second University of Naples reasoned that if oxidative stress and sympathetic over-activity were related then antioxidant supplementation should reduce both. Their double-blind, randomized, controlled clinical trial involved 50 patients with type 2 diabetes with an average age of 65 years. The patients were assigned to receive either a daily supplement of 600 mg of alpha-tocopherol acetate (synthetic) corresponding to 300 IU of natural vitamin E or a placebo. Blood samples and heart rate recordings (Holter) were taken at the beginning and end of the four-month study.

At the end of the study the researchers noted significant decreases in oxidative stress, fasting insulin level, norepinephrine level and epinephrine (adrenalin) level, and a tripling of plasma vitamin E level. They also noted a considerable decline in the low frequency (adrenergic) component of the heart rate variability spectrum and a doubling of the high frequency (parasympathetic, vagal) component. The ratio between the low and high frequency components (LF:HF) was cut in half. The researchers conclude that long-term vitamin E supplementation reduces oxidative stress and cardiac sympathetic activity in type 2 diabetes patients.

Manzella, Daniela, et al. Chronic administration of pharmacologic doses of vitamin E improves the cardiac autonomic nervous system in patients with type 2 diabetes. **American Journal of Clinical Nutrition**, *Vol. 73, June 2001, pp. 1052-57 [43 references]*

Impotence linked to cigarette smoking

IRVINE, CALIFORNIA. Impotence (erectile dysfunction) is a growing problem in the United States. Heart disease, hypertension, and arthritis are common causes as are the use of cardiac and antihypertensive medications. Psychological and neurological dysfunction can also play a role. The evidence concerning the role of cigarette smoking has been somewhat less clear. On the one hand, the tobacco industry portrays smoking as a virile thing to do (the Marlboro Man); on the other hand, foes of smoking portray it as a vile habit that, apart from causing cancer and heart disease, can also result in impotence. What is the truth?

A group of researchers from the University of California has just completed a major study that answers this question. The researchers reviewed 19 comprehensive research articles dealing with the question of smoking and impotence involving a total of 3819 impotent men with an average age of 51 years. They found that 40.1 per cent of them smoked. This compares to an average smoking prevalence in the general male population of 27.7 per cent. The researchers

conclude that the anti-tobacco advertisements featuring impotence as a reason to avoid smoking are well grounded in scientific fact.

Tengs, Tammy O. and Osgood, Nathaniel D. The link between smoking and impotence: two decades of evidence. **Preventive Medicine***, Vol. 32, June 2001, pp. 447-52*

Fish consumption helps prevent prostate cancer

STOCKHOLM, SWEDEN. Several studies have shown an inverse relationship between blood levels of fish oils (eicosapentaenoic acid [EPA] and docosahexaenoic acid [DHA]) and the risk of prostate cancer. A study just completed by medical researchers at the Karolinska Institute confirms this association.

The Swedish study involved 3136 pairs of male twins born between 1886 and 1925. The participants completed food frequency questionnaires in 1961 and 1967 and were then followed up for 30 years. By December 31, 1997 the researchers had recorded 466 diagnoses of prostate cancer (340 fatal ones). The average age of diagnosis was 76.7 years. After adjusting for other known risk factors the researchers conclude that men who never eat fish have a two- to three-fold higher risk of prostate cancer than do men who eat moderate to high amounts. The researchers emphasize that only fatty fish such as salmon, herring and mackerel, which contain high amounts of omega-3 fatty acids (EPA and DHA), would be expected to be beneficial.

Terry, Paul, et al. Fatty fish consumption and risk of prostate cancer. **The Lancet**, *Vol. 357, June 2, 2001, pp. 1764-66 (research letter)*

Low DHEA levels linked to Sjogren's syndrome

UPPSALA, SWEDEN. Like systemic lupus erythematosus and rheumatoid arthritis, Sjogren's syndrome is an autoimmune disease that primarily affects females. It is characterized by fatigue, anxiety, depressed mood, and dryness of the mouth. DHEA (dehydroepiandrosterone) and its active metabolite DHEA-S (DHEA sulfate) are hormones primarily formed in the adrenal cortex; they serve as precursors for both male and female sex hormones.

Researchers at the University Hospital in Uppsala now report that women with Sjogren's syndrome have substantially lower blood levels of DHEA-S than do healthy women. Their investigation involved 10 women with Sjogren's syndrome (average age of 54 years) and 10 healthy controls (average age of 53 years). The women in the Sjogren's group had an average DHEA-S level of 2.4 micromol/L as compared to 3.9 micromol/L in the control group. The average cortisol/DHEA-S ratio in the Sjogren's group was 171 as compared to 76 in the control group.

The researchers believe that their results indicate that women with Sjogren's syndrome may suffer from adrenal exhaustion (hypofunction) and speculate that DHEA supplementation may be beneficial for them. They also point out that several other studies have found that women with rheumatoid arthritis and systemic lupus erythematosus have abnormally low DHEA-S levels.

Valtysdottir, Sigridurt T., et al. Low serum dehydroepiandrosterone sulfate in women with primary Sjogren's syndrome as an isolated sign on impaired HPA axis function. **Journal of Rheumatology**, *Vol. 28, June 2001, pp. 1259-65*

Probiotics and inflammatory diseases

TURKU, FINLAND. Allergies, autoimmune diseases and inflammatory diseases such as eczema, asthma, allergic rhinitis, chronic inflammatory bowel disease, Crohn's disease, ulcerative colitis, diabetes and arthritis are becoming increasingly common in industrialized countries. Dr. Erika Isolauri at the University of Turku believes that intestinal dysfunction is a prime cause of all these diseases and that reestablishing a healthy gut flora can help prevent and eliminate them.

Dr. Isolauri provides a thorough review of the many functions of the intestinal (gut) barrier and points out that a healthy gut is in a state of controlled inflammation. This ongoing, low-level inflammation is necessary in order to enable a rapid response to ingestion of pathogens (disease causing microorganisms). However, if the inflammatory "preparedness" gets out of hand autoimmune diseases, inflammatory diseases, and allergies may follow. Dr. Isolauri believes that oral supplementation with probiotics such as *Lactobacillus* and *Bifidobacterium* is highly beneficial in both prevention and treatment of autoimmune and inflammatory diseases as well as in the prevention of infections and more specifically, traveler's and antibiotic-associated diarrhea.

Isolauri, Erika. Probiotics in human disease. **American Journal of Clinical Nutrition**, *Vol. 73 (suppl), June 2001, pp. 1142S-46S*

Delirium and drugs

MONTREAL, CANADA. Delirium is an acute brain disorder manifesting itself by illusions, disorientation, hallucinations or extreme excitement. Delirium is particularly prevalent in elderly hospitalized patients where the incidence rate may be as high as 26 per cent. Researchers at the Montreal General Hospital now report that many common drugs can increase the severity of delirium. Their study involved 278 elderly hospitalized patients who had been or were suffering from delirium. The researchers kept track of the drugs given to the patients and then assessed the severity of their delirium on the following day. Patients received an average of 7.7 different drugs every day of which 1.4 was known to affect the parasympathetic nervous system (anticholinergic medications). The researchers found a strong correlation between the ingestion of anticholinergic drugs and the worsening of delirium. Among the worst offenders were:

- dimenhydrinate (Gravol)
- thioridazine (Mellaril)
- haloperidol (Haldol)
- ranitidine (Zantac)
- acetaminophen/codeine phosphate (Empracet)
- pethidine hydrochloride (Demerol)
- paroxetine (Paxil)

Han, Ling, et al. Use of medications with anticholinergic effect predicts clinical severity of delirium symptoms in older medical inpatients. **Archives of internal Medicine**, *Vol. 161, April 23, 2001, pp. 1099-1105*

NEWSBRIEFS

Sunlight protects against colon cancer. Researchers at the Boston University School of Medicine believe they have found the reason why the mortality from cancer of the colon and rectum is highest in areas with little sunshine. Studies have shown that people with normal to high blood levels of 25-hydroxyvitamin D (the active form of vitamin D) have a three-fold lower risk of developing colon cancer than do people with lower levels. The researchers speculate that sunlight increases the production of 1-alpha,25-hydroxyvitamin D3 in the colon itself and that this compound together with the enzyme 1-alpha-hydroxylase is responsible for preventing tumor initiation and growth. **Editor's note**: The use of sunscreens prevents vitamin D formation by sunlight.

The Lancet, Vol. 357, May 26, 2001, pp. 1673-74

New British law prevents overdosing on painkillers. Overdosing on acetaminophen (Tylenol, Paracetamol) or salicylates (aspirin) either deliberately or accidentally is common in the UK and a source of significant liver failures and mortality. A law enacted in September 1998 limits the number of tablets that can be sold at any one time to anyone to 32 tablets in pharmacies and 16 tablets in other retail outlets. Since the law became effective the number of acetaminophen poisonings has decreased by 21 per cent and the number of salicylate poisonings by 48 per cent.

British Medical Journal, Vol. 322, May 19, 2001, pp. 1203-07

Venison alert. The Centers for Disease Control and Prevention in Atlanta, USA reports on three people who recently died from Creutzfeldt-Jakob disease. All three had a history of eating venison. This finding combined with the fact that chronic wasting disease, a condition similar to mad cow disease, has been observed in deer and elk in both the USA and Canada has led scientists to warn hunters not to shoot or handle sick-looking deer and to avoid eating brain, spinal cord, and other possibly infected tissues from deer and elk.
Science, Vol. 292, June 1, 2001, pp. 1639-41

Tibetan monks don't need aspirin. A recent study of vegetarian Buddhist monks discovered that they had blood levels of salicylic acid (a component of aspirin) that were 12 times higher than those found in meat eaters. Dr. John Paterson of the Dumfries and Galloway Royal Infirmary believes that this finding may help explain why vegetarians are much less likely to develop heart disease and cancer.
New Scientist, July 7, 2001, p. 27

PCBs in chicken. A major food scandal in Belgium in 1999 revealed widespread contamination of chicken and eggs with PCBs (polychlorinated biphenyls). This particular contamination was caused by the addition of 50 kilograms of old transformer oil to 500 tons of animal feed. Belgian researchers estimate that this little "mishap" will cause as many as 8000 extra cases of cancer. The European Commission is now working on setting legal limits for PCBs and other contaminants in animal feed.
New Scientist, June 30, 2001, p. 4

Eating less may fend off cancer. Researchers at Ben Gurion University in Israel believe that eating less may help to starve cancer tumors which require an inordinate amount of energy in order to grow. American researchers have found that pancreatic cancer patients who eat a moderately low-calorie, high-fiber diet live significantly longer than patients eating a normal diet.
New Scientist, June 30, 2001, p. 21

Multiple births on the rise. Fertility treatments involving the implanting of in vitro fertilized embryos is leading to an epidemic of twins and triplets. Between 1980 and 1997 the birth rate for twins in the USA increased by 42 per cent and for triplets by 370 per cent. If this trend continues almost a third of all newborns will be a triplet within a decade or so in some countries. The reason for the high rate of multiple births is the increasing use of ovulation-inducing drugs and the fact that doctors implant more than one embryo in the womb in order to make sure that at least one survives. Several countries are now considering laws to limit the number of embryos that can be implanted at any one time.
New Scientist, July 14, 2001, pp. 14-15

THE AFIB REPORT

In this issue we list some personal advice from fellow afibbers to a question posed in our initial survey; then we will continue with the evaluation of the data gathered in the original and the follow-up surveys. We also discuss the surgical options for LAF and begin an evaluation of supplements that may be useful for afibbers.

Do you have any advice to give to fellow afibbers?

- I know this is hard but learn to live with it. Try not to become too apprehensive during episodes. You know they will eventually pass.

- Yes, the answer will come from OUR PRESSURE. I would URGE everyone who has regular, predictable sessions accompanied with the BIG PEE SYNDROME, to try their utmost to get their I know this is hard but learn to live with it. Try not to become too apprehensive during episodes. You doctors to cooperate in a testing program through the cycle. Testing changing levels of electrolytes in blood and effluent, changing ECG, etc., as one GOES THROUGH THE CYCLE FROM THE BEGINNING OF AF TO WHERE SINUS IS RESTORED. Something is happening. The answer is to be found in the changes that are taking place. But the stumbling block is the total unwillingness of

the medical people to listen to patients. They trust their pharmaceutical approach, and nothing else is to be even considered.

- Try flecainide, 50 mg twice a day...nothing else.

- Although quite frightening sometimes I believe it to be not too serious a condition.

- Read everything you can, avoid known triggers, consider the maze surgery if medications are failing (none of them do any good to the rest of your system).

- Presently, I do not know any – but if I did, it would be to first relax; it is not (at least in my case) a life-threatening disease and there are hundreds, if not thousands, of worse problems a person could have. Every time I have to go to the emergency room I thank God that I have only afib! Next, try to get to understand your system(s) and what circumstances initiate your own afib episodes. Try to understand its pattern(s) and what is happening inside your body to cause these changes. I like to use the following metaphor: for some reason my nervous system is wired with #14 wire and the breaker fuse is 15 amps. While this meets code and can withstand "normal" day-to-day loads it will break when more load is put on this circuit. My "breaker" surfaces in the sinus node where it is diagnosed as afib. I believe the same type of "overloading" occurs in other people with a low tolerance wiring system, but they are diagnosed as having migraine headaches, etc. It is hard for some people to understand our low tolerance system because their system is wired with #12 wire (with a 20-amp fuse!). We all have also met individuals who have 100-amp systems – but I won't go into that!!! Learn to recognize what is plugged into your system – that raises the amperage - and learn to unplug things before adding more!!

  Knowing yourself is so very important; e.g. if you are a type A blood type your natural wiring system is already running a few amps – with nothing plugged in!!! There are so many cultural, social, external, factors, as well as some, which we may not even be consciously aware of, that can and will "load the system". The list of these factors is almost unending. I believe that each individual only has to listen to his or her system and most of these factors will be obvious.

  Last and probably the most important is how you deal with present situations. And that you really understand how each – no matter how little or big the situation – can affect your nervous system. They do (at least in my case) have an accumulative effect. I try to keep in touch with myself and to sense when my "bank" deposits are getting low – but this is recognizably very hard, especially when the individual (as I find myself) is very creative and intense and tends at times to get involved "in the process". I find the best thing I can do is to have an "automatic" investment plan – yoga, meditation, a good diet, etc.

  To me, afib is basically an internal imbalance of energy; when I exceed the edge I have afib and in my case (at least the last few time) only an equal surge of energy – cardioversion – can get it back into balance.

- Find the most experienced electrophysiologist familiar with LAF and if your heart is otherwise structurally normal get it done (ablation).

- Remember it is not life threatening; keep notes and try to identify triggers; keep up the electrolyte supplements -- magnesium, calcium, potassium.

- Maybe there's more to this mind and body thing than we thought.... try not to get obsessive about it (I'm working hard to ignore my heartbeat!).... Keep it in perspective.... don't let it rule your life!

- Have mercury testing done. I found mine to be high. Maybe there is a connection. I am having my amalgams removed and plan to detoxify.

- Keep a positive outlook and MEDITATE - find a spiritual path.

- The antiarrhythmic medication I am taking has some potentially dangerous side effects. Given the opportunity again, I am not so sure I would rely on these dangerous medications to control the LAF.

- Get rid of mercury under the strictest of protocols. Control anxiety with yoga/chi gong. Hang in there!

- Be prepared to do whatever you have to to get rid of this terrible condition. Know your own body and respond to its demands. If you feel you need to get fixed and you can't wait and don't want to wait then thank The Lord there is the maze procedure. If you want to give the ablation a shot then go to the best in the country where they are doing dozens of them every week and they have the latest technology and mapping equipment. I will take the offensive if things get worse.

- (1) Take antioxidants, (2) Do not eat meat but eat fish instead, (3) Eat vegetables, fruits, soy products and avoid dairy products, (4) read the following: The Antioxidant Miracle by Lester Packer, PhD (John Wiley & Sons, Inc.); The Total Guide to a Healthy Heart by Seth J Baum M.D. (Kensington Publishing Corp. 1999); Heart Healthy Magnesium by James B. Pierce, PhD (1994 Avery Publishing Group).

- Learn as much you can, learn your triggers by keeping notes, avoid triggers by changing lifestyle, do not panic and run to the emergency room at first sign (not a medical opinion), share your condition with others in the AF Forum. Seek second opinion from another doctor about any procedure or drugs.

- Remain calm, pray to God and do anything at all that is reasonable such as talk to friends, etc. in order to take your mind off the AF. I ONLY revert during the time my mind has been deflected from myself and the anxiety of being in AF. Remain hopeful that a non-maze cure for AF is not far away (possibly one of the new ablation procedures). By the way, I am skeptical of the evidence so far advanced that purports to show that removal of amalgams will cure AF.

- Avoid digoxin as long as condition is LONE AFib and intermittent!

- Investigate the latest forms of RF ablation.

- Make a log of your episodes - the time of day, the activity, and the length. Next time you see your cardiologist hand it in - he'll be delighted. Try to stay as healthy and as fit as you can. Try to not let it rule your life.

- Provided it is "lone" AF, you probably have some greater latitude to try alternative methods of treatment and avoid reliance on drugs that seem to be the medical profession's first but not necessarily the only choice.

- Try to remain calm and relax.

- Watch the drug flecainide - while it kept my episodes to 1-4 per year, the severity of those episodes was intense - pain and discomfort, lightheadedness, and complete incapacitation; always required cardio-conversion at the hospital. Since stopping this drug the episodes are daily but I am able to function (somewhat) and do not experience any pain.

- Relax and do not worry as the more you worry the more AF episodes you will get. After 14 years of AF I finally decided to go to hospital and my AF episode got worse!!!! I have had an afib episode in the middle of the Rockies in Canada more that 3000 meters up with just a friend and I. I lay down for 1 hour, ate as much food and drink as I could, and it went away. Then I carried on down the

mountain on my bike at 40 km per hour. AF is a worrying condition, but it should not stop you from doing what you want as long as you do not have another more serious heart/medical condition.

- Personally, I believe my life is in the hands of God so I pray about my situation and the situation of others on this list. I would also say that to let this condition get you down ultimately results in cheating yourself out of many pleasures of life. Find someone you can talk to!

- If you can identify triggers, pay a lot of attention to avoiding them. If a rapid heartbeat is your trigger, consider carrying a beta-blocker with you and using it as needed.

- Take the stress out of your life, keep your weight down, do deep breathing exercises, hike, swim, ski, etc. without overdoing it, eat a good varied diet, and see if you can get off medications.

SURVEY RESULTS – PART V

Analysis of Correlations
We now have full or partial data from 75 respondents. Sixteen of these have chronic LAF, 27 have the vagal variety, 20 the adrenergic variety, and the remaining 12 have a mixture of vagal and adrenergic LAF. Although not a large sample, we are able to draw some conclusions from the data and we will be sharing these in this and future issues.

One thing is quite obvious. There is a very large variability in the severity of the LAF between respondents; this, unfortunately, makes it difficult to reach conclusions that are valid in strict statistical terms, but we certainly can spot trends.

We have gathered data on 3 measures of severity of the condition: the number of episodes within the last 6 months, the average duration of these episodes, and the total time spent in fibrillation over the past 6 months.

Severity of Episodes
Probably the most useful expression of severity is the total time spent in fibrillation over the past 6 months. The average for all respondents with paroxysmal (intermittent) LAF is 143 hours with a minimum of 0 hours and a maximum of 936 hours. In comparison, an afibber with chronic LAF would have spent 4320 hours in fibrillation over the 6-month period. Vagal afibbers had the easiest time with an average of 97 hours spent in afib (range: 0-576 hrs). Mixed afibbers were next with an average of 173 hours (range: 0-750 hrs) followed by the adrenergic group at 197 hours (range: 0-936 hrs).

There is a strong, statistically significant correlation between time spent in afib and the number of episodes experienced over a 6-month period ($r=0.5924$ $p=0.0001$). Adrenergic afibbers had an average of 14 episodes in 6 months (range: 0-90), vagal afibbers 17 episodes (range: 0-150), and those with the mixed variety 24 episodes (range: 0-125).

The correlation between the average duration of the episodes and total time spent in fibrillation is much less pronounced. There is a slight upward trend, but it is not statistically significant. The average episode lasted 11 hours for the mixed group (range: 0-37 hrs), 15 hours for the vagal group (range: 0-168 hrs), and 20 hours for the adrenergic group (range: 0-72 hrs).

Effect of Age
There is a statistically non-significant trend ($r=0.2234$ $p=0.089$) for the time spent in fibrillation to increase with age. Thus, according to the trend line, the average time spent in fibrillation was about 50 hours (over 6 months) at age 30 years and about 125 hours at age 50 years. There were no significant correlations between age and the number of episodes experienced in 6 months nor between age and the average duration of those episodes. The average age of vagal afibbers was 48 years, adrenergic 55 years, mixed 56 years, and chronic 57 years. The age difference between vagal and chronic afibbers was statistically

significant (p=0.0247); the difference between vagal and adrenergic was not significant (p=0.0797) nor was the difference between vagal and mixed afibbers (p=0.1206). Thus it would appear that the vagal variety is associated with a younger age while the chronic variety is associated with an older age.

Effect of Gender
There were only 10 women in our sample (65 men) so conclusions regarding the effect of gender should be treated with some caution. Nevertheless, there were some interesting observations.

Only 1 woman had the vagal variety of LAF with the remaining 9 being evenly split between adrenergic, mixed, and chronic. Women with LAF (at least those that responded to the survey) were significantly older than men with LAF. The average age for the women was 66.3 years while that of the men was 51.2 years. This difference was statistically significant (p=0.0002). Women spent less time in fibrillation (over a 6-month period) than did men (43 hours versus 156 hours on the average). They also had fewer episodes (8 versus 18) and the average duration of their episodes was less than those of men (4 hours versus 17 hours). It was not possible to establish the statistical significance of these differences due to the small size of the group of women with paroxysmal LAF. There was no significant difference in the percentage of women and men who were taking antiarrhythmics (71% versus 62%).

Effect of Years of LAF
There was no correlation between the number of years a respondent had had LAF and the time spent in fibrillation (over a 6-month period). There was a slight, but statistically non-significant (r=0.1966 p=0.1355) increase in the number of episodes with increasing years of LAF, but no increase in the duration of episodes. The average number of years of LAF was 6 years for both vagal and adrenergic afibbers, 7 years for mixed, and 5 years for chronic. The figure for chronic afibbers may be a bit misleading though in that many may have had the condition (without symptoms) for several years prior to being diagnosed through a routine electrocardiogram. Nevertheless, the data does not support the idea that vagal, adrenergic or mixed LAF tends to progress to the chronic version with time.

That is all for this edition of the survey. In the next issue we will take a look at the correlation between episode severity and the use of pharmaceutical drugs (antiarrhythmics). Stay tuned!

The Surgical Options for LAF

Lone atrial fibrillation, by definition, is not a heart disease as such, but rather a combination of an imbalance in the autonomic nervous system and the presence of easily excitable heart tissue. Because the symptoms of LAF involve the heart the disorder is usually treated by cardiologists or electrophysiologists and little attention is paid to correcting the autonomic nervous system imbalance.

The current treatment options for LAF are therefore almost exclusively directed towards “numbing” the excitable heart tissue with pharmaceutical drugs (antiarrhythmics), eradicating the offending heart tissue with radio frequency ablation, or carving intricate channels of scar tissue on the surface of the heart to direct electrical impulses along a specific path (maze procedure).

The use of beta-blockers and antiarrhythmics with beta-blocking properties (propafenone, amiodarone and sotalol) is an attempt to address the autonomic system imbalance. This approach blocks the heart’s receptors for norepinephrine. While sometimes beneficial for afibbers with the adrenergic variety, this treatment is precisely wrong for people with the vagal variety.

The mechanism of atrial fibrillation
The beating of the heart is controlled by a finely tuned interaction between the autonomic nervous system and the heart’s natural pacemaker, the SA or sinoatrial node. Impulses from the SA node spread across the atrium and cause it to contract and relax at a rate of about 70-75 contractions per minute. The impulses eventually reach the AV or atrioventricular node, which controls the contraction and relaxation of the ventricles, the heart’s main pumping chambers[1].

As long as it is only the impulses originating in the SA node that reach the AV node everything is fine. It is when extraneous impulses are generated in the atrium that trouble (fibrillation) can occur. Extraneous impulses can be generated by an overactive sympathetic nervous system (adrenergic), an overactive parasympathetic system (vagal) or simply by an agglomeration of "rogue" heart cells that decide to start a beat of their own (ectopic beats). A combination of rogue cells and an imbalanced autonomic nervous system is another possibility.

The aim of ablation or surgery (maze procedure) is to ensure that only the impulses from the SA node reach the AV node or, in the case of AV node ablation, to completely block any signals originating from the SA node or elsewhere and replace them with signals from an artificial pacemaker. The first step on the road to ablation is the electrophysiology study.

The electrophysiology study (EPS)
An EPS is an invasive test designed to map the electrical activity of the heart during fibrillation. Small tubes (catheters) are inserted into the veins in the groin, arms, or neck or under the collarbone and then directed into the heart. Once the measuring electrodes are in place fibrillation is induced and the electrophysiologist is then able to pinpoint the areas where the rogue beats originate. As mentioned previously, these areas are often found at the junction between the left atrium and the pulmonary vein[1].

The study can be somewhat uncomfortable and can last from one to three hours. At the end of it the electrophysiologist may report "nothing to ablate" if he has not located any foci of rogue cells or he may go directly to the next step and ablate the active area(s).

Radio frequency (RF) ablation
RF ablation is an invasive procedure, which utilizes radio frequency energy to heat the tip of a special catheter inserted through one of the tubes used in the EPS. The cardiologist or electrophysiologist places the catheter next to the area initiating the fibrillation and then "zaps" this area. This produces a scar, which destroys the offending area or prevents impulses originating in it from going anywhere.

The ablation procedure is generally fairly painless (except for the $30,000 US cost) and lasts four hours or less. Its success rate for atrial fibrillation is currently around 80%, but with improved mapping and ablation techniques this is bound to improve[2,3]. There are potential adverse events though[4]:

- Bleeding or infection can occur at the catheter insertion site.
- Heart and blood vessels can suffer damage.
- Blood clots can form.
- The heart's normal electrical pathway can be damaged requiring the insertion of a permanent pacemaker.

As with any invasive procedure, the key to success is an experienced surgeon with lots of successful procedures to his credit.

AV node ablation
Another approach to eliminating the effects of the fibrillation of the atrium is to isolate the AV node (the ventricular beat controller) from any extraneous impulses and feed it its marching orders from an implanted pacemaker. This procedure has two very major drawbacks[4]:

- It does nothing to stop the fibrillation of the atria, which in itself can be quite uncomfortable and necessitates continuing anticoagulation (warfarin) therapy.
- It makes the patient entirely dependent on the pacemaker. If it malfunctions or the batteries run out the patient dies.

AV node ablation is performed in much the same way as the RF ablation except that it is the area around the node that is ablated. A recent study found the procedure to be relatively safe for patients with lone atrial fibrillation[5].

The maze procedure
This is open-heart surgery with a price tag of about $60,000 US. After making a foot long incision and cracking open the ribs, scar tissues are created on the surface of the heart to create a new pathway through which signals travel directly from the SA node to the AV node. The procedure is performed under general anesthesia and takes about 3 hours. This is followed by a week in the hospital and 6 to 8 weeks recovering at home. It can take 3 months or more to return to full energy levels[6,7].

Nevertheless, if performed by a competent surgeon, the procedure is very effective in eliminating atrial fibrillation. Dr. James Cox at the Georgetown Cardiovascular Institute developed maze surgery. During the past 10 years Dr. Cox has operated on 346 patients with a 94% success rate[8]. Swedish surgeons recently reported that the quality of life of 48 patients (80% with lone AF) who had undergone maze surgery improved very significantly after the procedure to equal the level of a healthy Swedish population. Nevertheless, 12 patients had fairly serious complications. Two required a permanent pacemaker installed and three needed a temporary pacemaker. None of the patients died during one year of follow up[9].

In conclusion, the maze procedure, although very effective for lone atrial fibrillation, is very major surgery and probably best left alone unless you are really desperate and can find a surgeon who has performed many successful ones.

Supplements for Afibbers

There are many supplements that may be useful for lone afibbers. The first order of business is to make sure that you have an adequate intake of the vitamins, antioxidants, and minerals required to promote overall health and well-being. Many physicians still believe you can get all the vitamins and minerals you need from a varied diet. This may be true if you eat only organic produce and meats “brought up” in a healthy soil replete with minerals, live in an unpolluted environment, drink pure spring water, and have little, if any, physical or psychological stress. For the rest of us a daily multivitamin is a must.

For basic support you require the following daily intake of vitamins and essential minerals:

Vitamins
Vitamin A (retinol) – 5000 IU
Beta-carotene – 5000-25,000 IU *****
Vitamin D – 400-800 IU
Vitamin B1 (thiamine) – 10-50 mg
Vitamin B2 (riboflavin) – 10-50 mg
Vitamin B3 (niacin) – 10-100 mg
Vitamin B5 (pantothenic acid) 25-100 mg
Vitamin B6 (pyridoxine) 25-100 mg
Choline – 10-100 mg
Inositol – 10-100 mg
Biotin – 10-300 micrograms
Folic acid – 400-800 micrograms
Vitamin B12 – 400-800 micrograms
Bioflavonoids – 500-1000 mg

Essential Minerals
Calcium – 300-1000 mg
Magnesium – 300-1000 mg
Potassium – 200-500 mg
Boron – 1-3 mg
Copper – 1-2 mg
Manganese – 10-15 mg
Silica – 1-25 mg
Zinc – 15-45 mg

Chromium – 200-400 micrograms
Iodine – 50-150 micrograms
Molybdenum – 10-25 micrograms
Selenium – 100-200 micrograms
Vanadium – 50-100 micrograms
Iron - **

***** preferably together with other carotenes such as lycopene, alpha-carotene, and zeaxanthin
****** men and most postmenopausal women rarely need supplemental iron

In addition you need to make sure that your intake of the two major antioxidants, vitamins C and E, is adequate. Supplementation with the water-soluble vitamin C should be spread throughout the day (500 mg of ascorbic acid or calcium ascorbate with each meal is a common recommendation). Vitamin E can be taken just once a day (400-800 IU per day of natural vitamin E [d-alpha-tocopherol or d-alpha-tocopherol acetate or succinate] is a common recommendation).

In the next issue of The AFIB Report we will tackle the other commonly used supplements like coenzyme Q10, hawthorn, etc.

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INTERNATIONAL HEALTH NEWS is published monthly by:
Hans R. Larsen MSc ChE, 1320 Point Street, Victoria, BC, Canada, V8S 1A5
E-mail: health@pinc.com World Wide Web: http://www.yourhealthbase.com
ISSN 1203-1933