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VIRTUAL LAF CONFERENCE

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SUBJECT: Examining Success of Paleo Diet in Afibbers

CONNECTING THE DOTS - EXAMINING THE SUCCESS OF THE PALEO DIET IN AFIBBERS

Part 1 - INTRODUCTION

A considerable number of afibbers have been able eliminate the occurrence of atrial fibrillation while observing the plan set forth in Louis Cordain's book, "The Paleo Diet". The basic premise of Paleo eating involves the elimination of all grains and other foods not found in their natural state. It's really more than that but for now, let's focus on this one facet.

I propose that the key element to this success is the grain-elimination factor, specifically, grains containing gluten (wheat, rye, barley, spelt, kamut, triticale). A discussion on oats, rice and corn and other suspect foods follows later. Quite possibly, it may not matter what healthy-eating dietary strategy is followed as long as it is one that is gluten free.

While listening to a series of nutritional teleconferences, I had an 'ah ha' moment and would like to share my hypothesis for your consideration. This requires a multifactorial, stepwise educational approach, so bear with me while I lay the groundwork.

One of the benefits of grain elimination, more specifically gluten-containing grains, is an almost automatic guarantee of associated weight loss which can be attributed to simply less carbohydrate caloric intake but more significantly, to gluten sensitivity. Once the chemistry that holds on to stubborn extra pounds in the gluten-sensitive individual is normalized, weight falls off almost effortlessly and stays off. Afibbers carrying extra abdominal weight - especially if fat accumulation crowds stomach and diaphragm and pushes up into the heart area - often report less arrhythmia with weight loss.

I further propose that after understanding the gluten-sensitivity association with many disease conditions, we need to screen ourselves by questionnaire and family history. If we then suspect by strong indications we are positive, formal screening by serological testing is in order to avoid the far-reaching, long-term consequences of untreated gluten sensitivity. Once the inflammatory process resulting from gluten sensitivity reactions is eliminated, afib and other conditions may diminish or disappear entirely. This inflammatory connection could just be the tip of the iceberg in many ways for many people.

For the purpose of this report, let's focus on the facts about gluten, the culprit in most grains. Gluten and gliadin are protein molecules common in most grains that are not digested in some individuals. This is an intolerance or sensitivity that creates a toxic reaction in the small intestine that damages cells needed for nutrient absorption. It is not a food allergy although there can also be an independent wheat allergy or other grain allergy present in addition to the gluten/gliadin component. Often times this condition goes undiagnosed because the reaction can appear 12-24 hours after eating gluten, making it hard to identify the offending food.

Terminology is confusing. Technically, gliadin is the culprit, but gluten is the more familiar term and most commonly referenced in gluten sensitivity. For simplification, I'm going to use the word gluten which will also imply gliadin. Gliadin is a glycoprotein present in wheat and some other grains that functions in the formation of gluten. Or said another way, gliadin is a fractional part of gluten which in turn is a part of wheat. When seen as a foreign substance in susceptible individuals, both can become issues by stimulating the formation of antibodies; gliadin most often, but also gluten which is the familiar and most commonly referenced. We need to consider both as potentials and test for both molecules.

Gluten sensitivity is best defined as a state of heightened immunological responsiveness in genetically susceptible people as indicated by circulating antibodies to gliadin. Gluten sensitivity can be primarily and at times exclusively a neurological disease.(Journal of Neurology Neurosurgery and Psychiatry 2002)

For this discussion, I'm using the word, intolerance as the severe condition and sensitivity as more mild but can still be reactive in symptoms (technically, that's not correct, but serves my purpose here.)

Caution: As you read on, don't jump the gun and say, "I don't have celiac disease so this doesn't apply to me" as we are going far beyond that topic and delving into some remote connections (supported by science) that have critical relevance to the title and may serve to shed some light on why the Paleo diet seems to help some afibbers. We will examine symptoms similar to celiac disease, but from another source entirely. This is the exciting part.

The three teleconferences by nutritional experts on gluten sensitivity explained connections with neurological dysfunction and other manifestations. It was this that stimulated my mind to make a leap-of-faith connection to atrial fibrillation. I'll explain why as this examination unfolds.

Classic "celiac enteropathy" or "celiac disease" or "gluten intolerance" or "Celiac Sprue" affects a genetic population whose ancestry is typically Celtic, (Irish, English, Scottish) Scandinavian, Eastern European and sometimes Jewish. It is called The Irish Disease because 1 in 50 are diagnosed; in the US, figures vary depending on who is quoting. Some say in school-aged children it is as prevalent as one in 33. It doesn't stop there, though. The prevalence of a trace of this problem-causing genetic tendency occurs much more frequently than previously recognized and it is this that I want to address as the connection to AF.

Science indicates that gluten intolerance (celiac enteropathy) is recognized as an autoimmune disorder originally diagnosed as an intolerance to wheat but now recognizes it is the protein molecule, gluten, that causes a toxic reaction and creates a chronic intestinal condition. A refinement to that which is not new science, but remains unknown to much of the medical community, indicates there are actually two manifestations of this sensitivity; one remains in the gut (celiac enteropathy), and the other, manifests outside the gut (silent celiac) in the form of many disease conditions frequently involving inflammation as an underlying symptom. While there is the genetic influence, it isn't entirely dependent on that since over-exposure is also a cause. The factors are intertwined and the explanations are complicated. This discussion focuses on Silent Celiac and the following list indicates some of the conditions that can be linked to this disorder. (Note that many complaints are common among afibbers.)

Weight gain
Fatigue
Depression
Anxiety
Difficulty in relaxing; feeling tense frequently
Metabolic syndrome
Diabetes
Iron-deficient anemia
Iron-overload/hemochromatosis (rare)
Rheumatoid arthritis
Lupus
Auto-immune thyroiditis (Hashimoto's)
Resistant hypothyroidism
Myopathy
Peripheral neuropathy
Carpal Tunnel Syndrome
Ataxia
Multiple sclerosis
Huntington's
Parkinson's
ALS
Autism
ADD and ADHD
Seizures/epilepsy
Schizophrenia
Allergic rhinitis
Asthma
Liver abnormalities – elevated enzymes
Esophageal metaplasia (Barrett's esophagus)
Gastric reflux and digestive complaints
Difficulty digesting dairy products
Recurrent aphthous stomatitis (canker sores)
PMS symptoms/hormonal imbalances
Dysautonomia
Muscle or joint pain or stiffness of unknown cause
Migraine-like headaches
Tendency to over-consume alcohol
Cravings for sweets, bread, carbohydrates
Irritable Bowel Syndrome (IBS)
Abdominal pain or cramping, bloating or distension
Intestinal gas, constipation, diarrhea of no known cause
Unexplained skin problems or rashes
Dermatitis herpetiformis
Osteopenia
Osteoporosis

While all these are important connections, especially significant is the involvement of the central nervous system (CNS) with manifestations of depression, anxiety, schizophrenia, peripheral neuropathy, ischemic cerebellar ataxia and hypoperfusion of the cerebellar.

We know about the cardiovascular implications of the silent inflammation that Drs. Barry Sears, Stephen Sinatra and others discuss – "the cardiovascular system on fire." Now comes the auto-immune implication of another silent inflammation resulting in silent celiac disease. This time it's described as "the nervous system (CNS) and brain on fire." A body with a constant burden or overload of antigens/antibodies produces inflammation. This reflects in C-reactive Protein levels as well as elevated homocysteine and fibrinogen levels, but the key elements for testing are other markers listed in a later section. Patients with myocarditis (inflammation of the heart wall muscle), heart failure and

ventricular fibrillation showed improvement with a gluten-free diet alone as well when combined with immunosuppressive treatment. (Circulation, 2002).

The gold standard to confirm classic celiac enteropathy is biopsy of the intestinal villi in at least six areas of the small intestine to determine the presence of villous atrophy. These biopsies are obviously invasive, difficult to do perfectly and tissue sampling is often less than adequate. Frequently, people who have classic celiac symptoms will biopsy as having incomplete villous atrophy and are unfortunately then diagnosed as being disease-free. The villous atrophy may come later in the disease progression or not at all, but the patient who is sensitive to gluten will continue to have symptoms, will treat for a variety of ailments, will not find satisfactory answers, and health will deteriorate with time. Studies have found that only one third of patients with neurological symptoms of gluten sensitivity will demonstrate an enteropathy along with it. The long-term consequences of unrecognized and untreated sensitivity associations can be deadly.

In cases of what is now being identified as silent celiac, gut tissue will biopsy as normal but serological markers (blood tests) will confirm the presence of certain antibodies indicating that an immune response has been activated. Just as we have examined subclinical hypothyroidism, we now need to understand subclinical celiac disease or silent celiac. A PubMed search for celiac outside the intestine will yield about 200 references. There is much literature on this topic, yet few in mainstream medicine are aware of the distinction and masses of patients are going undiagnosed.

The remaining portion of this report focuses only on silent celiac or the manifestation of gluten sensitivity that occurs outside the intestinal tract; so, although the text may sound as if it refers to traditional celiac, the focus remains on silent celiac.

So here is the leap of faith -- If frank celiac enteropathy creates inflammation to such an extent that it's described as " the nervous system and brain on fire," might we not parallel that theme with cardiovascular inflammation and "fire in the heart" or "cardiovascular system on fire" referenced by cardiologist, Stephen Sinatra? And, might we also connect some of the dots to the manifestations of silent celiac (operating outside the gut) and link them to why the Paleo eating plan allows many people to become free of atrial fibrillation?

I think we can make some very reasonable assumptions. My search found very little in studies making this connection, but just because it hasn't been studied, doesn't mean there isn't a plausible connection between gluten sensitivity, silent celiac disease, silent inflammation and atrial fibrillation.

One study indicated a slight tendency toward occurrence of atrial fibrillation and diagnosed celiac disease, but as you'll note later on, diagnostic parameters need to be reevaluated since many people are missed. Because of the obscurity of the connection, it seems not to be a popular association. We may change that.
Aliment Pharmacol Ther. 2004 Jul 1;20(1):73-9 (PMID: 15225173)

In the next section, I'll share the speakers' findings based on research and observations from their own clinical experience with patients. In advance, if you are hung up on the osteopenia/osteoporosis claim, remember that an overload of circulating antibodies creates inflammation; if there is enough inflammation to disrupt nutrient absorption in the small intestine, disease conditions resulting from malabsorption will present – ie, iron- deficiency anemia, osteoporosis and other nutritional deficiencies which manifest in the many symptoms from the conditions in the foregoing list.

Part 2 - MEDICAL PRACTICE OBSERVATIONS

Teleconference 1
Dr. Tom O'Bryan of Libertyville, Illinois (see credentials/website in Reference section) shares his clinical experience treating patients. Most new patients are referrals and know to expect testing as part of their first appointment. He depends heavily on family history as an indicator of where the problem may lie. If they or any close relative has symptoms or diagnosis of auto-immune disease, he can fairly well expect lab confirmation of positive antibodies for gluten or gliadin. Everyone completes a questionnaire and everyone is tested. Most of the support text of the introduction came from Dr. O'Bryan's research findings. See References section.

Teleconference 2
Dr. Dan Kalish of Del Mar, California (see credentials/website in Reference section) also routinely tests all new patients which he says saves time since test results direct immediate treatment. He has treated thousands of patients by lab-based nutritional programs and instructs medical doctors on nutritional protocols and functional-medicine type tests. He also relies heavily on family history. He says if you ask enough questions about health of relatives, answers will surface that direct treatment.

Teleconference 3
Julian Ross, MA, of Mill Valley, California (see Reference section) is a nutritional psychologist. Her conference was on another topic but she addressed cravings and mood disorders to such a relevant extent, I decided to include her observations in this report. She is the author of "The Mood Cure" - a book well worth owning. It contains a 'mood type' questionnaire that is extremely helpful in assessing which neurotransmitters one might be lacking and how to improve mood. She offers a section called a "Food Craving Tool Kit' for eight secrets of breaking a carbohydrate addiction. Again…gluten sensitivity comes into play. As a result of her books, "The Diet Cure" and "The Mood Cure", she says over a hundred thousand people have reported success.

She confirms that gluten sensitivities are responsible for not only digestive distress but also the manifestations in the previously mentioned list. She notes people with depression and anxiety often have associated gluten intolerance and improve when gluten-containing grains are eliminated. She says that people with gluten intolerance have low levels of the antidepressant, anti-anxiety brain chemical, serotonin, and that gluten has been implicated in mental illness since at least 1979. She notes that wheat grown in the US is a hybrid developed specifically to increase gluten content for enhanced bakery success but this has made it the most indigestible flour in the world by turning it into a gluey, irritating mass in the small intestine.

She notes that gluten in grains affects the brain like an opiate and stimulates the production of endorphins which explains why people feel good eating carbs yet crave more and more to continue the 'feel good' drug-like rush that comes from carb intake. She says that gluten is one of the few foods that can produce a full-scale addiction which is why some people have withdrawal symptoms (headache, fatigue) when they go off grains. She says that gluten can eliminate your energy – vim and vigor. She also notes that gluten intolerance is associated with thyroid disease which reverses in about six months when gluten is eliminated. In her book, she covers that issue with The Thyroid Tool Kit. There is a two-week home test to determine if one is gluten intolerant and if positive, she has instructions for handling that in The Diet Cure.

In the teleconferences, Q & A time follows the presentation and clinicians ask questions of speakers. Many clinicians said that initially, they just put everyone on a gluten-free diet for 30 days and have them report back with a diary noting symptoms, improvements, etc. If they are greatly improved on a gluten-free diet, then they order the targeted tests.

When questioned, Dr. Kalish and others said they had not found a link to blood type which they felt was due to the extensive mixing of blood types down the lines through many marriages.

Random comments on clinical findings from all three presenters–

· Sensitivity to gluten can come as genetic tendency or from over-exposure (foods eaten all-day, everyday) creating intestinal permeability (leaky gut) issues - just from life-style exposures over a lifetime

· (+ -) 40% of celiacs could present with negative serology in conventional diagnosis and may only have neurological symptoms.

· People who are lactose intolerant have more celiac prevalence

· 4% of schizophrenics are also gluten sensitive

· Long-term depression non-responsive to drugs –definite gluten connection – SPECT scans indicate hypoperfusion. Every one had depression and anxiety.

· In 2% to 8% of children with short stature and no gastrointestinal symptoms, coeliac disease may be the underlying cause. Excluding other causes for short stature increases the risk of having coeliac disease by 19% to 59%. Children with short stature should be evaluated for coeliac disease. Lancet 1999;353(9155):813-814. Voss LD, Mulligan J, Betts PR, et al.

· Patients diagnosed with osteopenia or osteoporosis should always be tested

· Patients with headaches and migraines have 4% remission when inflammatory mediators are removed (gluten/gliadin)

· Adults diagnosed with ataxia (ages 45-54) have cerebellar atrophy and should be tested

· In patients with peripheral neuropathy, sciaticas, carpal tunnel, musculoskeletal and chiropractic involvement, muscle pain, perivascular changes in CNS – suspect gluten sensitivity

· Depression and anxiety – MRI of brain indicates white calcium deposits and cerebellum atrophy. Check every patient with anxiety or depression for gluten sensitivity

· Drug-resistant epilepsy – ½ cured with gluten free diet

· Antibodies seem to be elevated in patients with autism, Alzheimer's, asthma

· Elevated homocysteine levels are associated with gluten-sensitive enteropathy Clin Gastroenterol Hepatol. 2005 Jun;3(6):574-80.

· With auto-immune patients, the first rule is to rule/out gluten sensitivity. Celiac patients have ten times the rate of auto-immune Graves and Hashimoto's (auto-immune thyroiditis).

· It takes between 3 to 6 months for the antigliadin antibodies to disappear from the blood

· MS, ALS – check the myelin basic protein in lab tests

· When a patient is unresponsive to nutritional interventions and returns with the same or worsening symptoms and complaints, suspect the gluten sensitivity connection. The overwhelming majority of such cases respond to a gluten-free diet with 'miraculous' results and patient satisfaction.

· Cravings

An especially interesting discussion came up about associated cravings. Dr. O'Bryan indicated that antibodies, gluteomorphin and casomorphin, stimulate opiate receptors in the brain. He says, "occasionally it is okay to feel "great" but constant, 24 hours-a-day stimulation because of elevated antibodies is like any other receptor that is overworked – it becomes desensitized. Gliadin stimulates opiate receptors - gluteomorphins will stimulate until we lose the spark of life – lose the vitality of feeling good internally-- receptors dull – life is dull – as opposed to the joy of life. Monotone – Therefore, we crave our allergies, or look to further stimulate the receptor – like chocolate cravings. When patients first come in – they have craving for chocolate every day – remove gluten and they need less chocolate daily and are able to cut way back once gluten is gone."

Regarding cravings, Dr. Kalish explained that alcoholism is related to gluten sensitivity and recommends the book "Seven Weeks to Sobriety" to note there is a common component in gluten-sensitive families. He also sees a correlation with gluten, diabetes and alcoholism along with auto-immune disease.

The chemical effect is almost identical to a morphine-like effect – an opiate-like high. When gluten is consumed, the person gets that opiate high. When eliminated, they get very severe cravings when trying to stabilize brain chemistry with gluten foods. The chemical involved in alcoholics is THIQ. He notes a Celtic tendency.

Glutamine is a good nutrient to reduce alcohol cravings – plus it also heals the gut. With recovering alcoholics, there will probably be damage to the detox pathways, gut lining of the intestinal tract and will need gut repair. Probably also find Candida overgrowth. Brain neurotransmitters like serotonin have to be stabilized as well as the dopamine pathway.

Barry Sears, PhD is crusading for routine testing of arachidonic acid ratios to EPA (AA:EPA) in connection with silent inflammation of the heart and Drs. O'Bryan and David Brady (teleconference host) feel that although it's not yet in the literature, there is an obvious connection to glutenenteropathy with that silent inflammation and should have a correlation to cardiovascular disease and all other chronic diseases with an inflammatory underpinning especially with the elevated mortality rates connected to underlying inflammatory conditions.

One last topic is very important and disturbing - brain hypoperfusion - and deserves some space and consideration regarding the importance of early diagnosing and eliminating gluten sensitivity because of long-term consequences.

(O'Bryan) Especially interesting and important is the topic of Transient Ischemia from a study by Addolorato in American Journal Medicine '04, on the topic of perfusion of blood into brain tissue. (Profusia: visualize the spray from the nozzle on a garden hose ; a measure of how well the spray saturates the tissue.) This study took 15 recently diagnosed, untreated celiacs and 15 celiacs treated for a year with a gluten-free diet and no meds and 24 healthy controls. Total of 54. They looked at 26 different areas of interest in the brain.

Of the 15 recently-diagnosed and untreated celiac patients – 73% had hypoperfusion with a mean value of 4 areas affected or 1/3 of the brain - 3 out of 4 had compromised blood flow into brain.
Only 1 of 15 patients on the gluten-free diet for a year had hypoperfusia. There were no cerebral abnormalities in the healthy controls. Dr. O'Bryan indicated this can be corrected in three to six months. But left untreated…. imagine the consequences!

RESEARCHING ON YOUR OWN

Type into a PubMed search any of the symptoms or conditions plus the either the word celiac or gluten and it's easy to find studies confirming an association between gluten and that symptom. Really very interesting that so much is in the literature, but so little consideration is made to the gluten connection. For instance – celiac and spelt brings up about 7 studies. Silent Celiac has 198. Gluten and asthma brings up 27 reports. Gluten and thyroiditis - 29 studies. Gluten and hyperhomocysteinemia - 6.. Gluten –diabetes 245 studies.

Choose your symptoms/condition and see what turns up. Just get to the PubMed search engine and type in your key words. Be your own detective.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?DB=pubmed

Part 3 - TESTING

Both Drs. Kalish and O'Bryan rely on a questionnaire and history to check for genetic tendencies or family ancestry and they both do testing on all new patients as a matter of routine for the first visit.

Dr. O'Bryan has a profile panel that he uses to test all his patients over one year old; every new patient is tested (even those coming in with Alzheimer's because there is that connection.) Based on the science, the earliest diagnosis has the greatest benefit in fewer auto-immune diseases. He says it's important to get the serology early before the auto-immune response is activated. Late stage marker is the villous atrophy. Untreated, refractory cases can result in a nasty cancer – lymphoma.

His panel is Neuro-immuno Panel with Immunoscience Labs, Inc of Beverly Hills, CA, He works closely with the founder Dr. Aristo Vojdani.(website below) It's a fascinating website and Dr. Vojdani's work is highly regarded in functional medicine circles for accurate and innovative testing. They know this profile as Dr. O'Bryan's.

His profile consists of:
IgG, IgA, IgM, antibody panel for gliadin/glutens, transglutaminase, myelin basic proteins and brain neuropeptides which is cerebellar tissue. He also tests at that time for milk and casein (both) along with corn and soy. He says it is important to check for both gluten and gliadin antibodies. And, important to include IgM in the panel.

Dr. Kalish has similar testing protocols.

Many studies indicate neurological symptoms with celiacs. – gait ataxia, perivascular and inflammatory changes affect both the central and peripheral nervous system. Every patient tested had the connection.

One clinician calling in related her experience with testing for anti-gliadin antibodies – IgG and IgA – under 11 is considered negative by lab standard. She says she sees patients with levels of 5 and 6 who are symptomatic and when taken off gluten, they turn around. She has seen people with fasting insulin as high as 100 drop to 50 in one month by observing a gluten-free diet. She feels if there is any antibody activity at all, the patient should go gluten free and ignore the lab standards. She also sees homocysteine levels go down on gluten-free diets.

Another caller questioned a boy with muscular dystrophy and no conclusive testing. Answer – yes a gluten free and dairy free diet would be appropriate.

Another caller asked about celiac and Metabolic Syndrome or Insulin Resistance. Dr. O'Bryan said go to PubMed and enter celiac and MB syndrome and another search for insulin resistance. – 20-30 studies confirm.

Kinesiology testing in acute phases does not always work. We adapt to the condition and achieve a homeostatic state even under adverse conditions. (quoting Jeff Bland, PhD)

Tom O'Bryan, DC, CCN, DABCN (Functional Medicine Specialist) Libertyville, Illinois
Bio: http://www.chicagohealers.com/interviews/tobryan.htm
Practice info: http://www.meta-ehealth.com/site/office/index.jsp

Julia Ross's clinic – Recovery Systems in Mill Valley, CA provides extensive assessment including saliva and other testing, individualized nutritional therapy and holistic medical consultation. (415-383-3611)

She has published self-testing tools for a variety of situations in both her books.
The Four-Part Mood-Type Questionnaire is invaluable in Chapter 2 of The Mood Cure
She named this chapter Identifying Your False Moods. See http://www.moodcure.com

Dr. Kalish has an online questionnaire: http://www.drkalish.com/forms/GLUTEN%20QUESTIONNAIRE.pdf

For parasite testing, Dr. Kalish likes – BioHealth Diagnostics #401 parasite screen (San Diego) and DiagnosTech GS 2 panel – parasite workup.

http://www.diagnostech.com
Diagnos-Tech Inc. Seattle, Washington 1-800-878-3787.
United Kingdom: (179-246-4911)

BioHealth Diagnostics, San Diego CA 800-570-2000
http://www.bioda.com

Metametrix Clinical Laboratory 800.221.4640
http://www.metametrix.com/AboutUs/

Immunosciences Lab., Inc. (800) 950-4686
http://www.immuno-sci-lab.com/index2.html

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Part 4 - EVALUATING OTHER GRAINS & FOODS

OATS – A NOTE OF CAUTION

(Dr. O'Bryan) While there are many studies indicating oats are safe for gluten-sensitive patients, there is evidence indicating contamination by gluten makes it dangerous and oats should be avoided, at least in the initial healing periods, if not permanently. Oat protein molecule is a different form from gluten but contamination from harvesting, milling, packaging, transportation, storage etc.(shared facilities) of oats makes it highly suspect.

A researcher did a test evaluating samples from three different manufacturers of oats. McCann's of Ireland which is an oats-only facility, Quaker, and Country Choice, an organic US product. Twelve samples were purchased - 4 samples at 3 different times throughout a six-month period. The International Guideline to be classified as gluten free is 20 ppm. In these 12 samples only two from McCann's met the standard. The other two of McCann's had levels of 360 and 700 ppm. Country Choice had 3000 ppm.

So it is easy to see that it is nearly impossible to guarantee that oats are safe for patients with gluten sensitivity.
http://www.mccanns.ie/pages/faq.html

Dr. Kalish's does not allow his patients to include oats as part of their diet but does allow safe grains.

SAFE GRAINS

Rice – gluten free. Quinoa, wild rice, millet, amaranth, quinoa, buckwheat are all gluten free

Corn – is gluten free, but the same contamination issues with oats could also apply. There is also considerable discussion that corn is not entirely innocent so it's best to just eliminate corn as well since it is a controversial grain as it is high in glutamic acid. While these doctors didn't think corn needs be avoided, I'm not so sure.

The Paleo Diet eliminates all grains as does Rosedale. Schwarzbein allows many from the forbidden list of gluten-containing grains including corn, so it is my recommendation for anyone starting out on this grain-free approach, they would be well-advised to stick to the Paleo or Rosedale diet when it comes to the topic of grains – at least at first, especially with the glutamic acid connection in corn. Glutamic acid is excitatory and we don't need to expose heart cells to that risk.

Do not assume "wheat free" on a label means "gluten free." Wheat-free products may contain spelt, kamut or barley which are just as toxic to gluten-sensitive patients as wheat or rye.

You also may not realize a packaged grain-type product is made with wheat. Example, orzo looks like a grain but is actually a specially-formed pasta made from wheat. Couscous is semolina wheat crushed and formed; bulgur is a type of wheat popular in the dish, tabouli.

Bad news for drinkers of Beer and other alcohol made from grains: Avoid. However, potato-based Vodka, Tequila and wine is okay if you drink alcohol.

Go here for a great source list describing each grain product and the acceptability of the protein molecules.
http://www.csaceliacs.org/gluten_grains.php
Exception – see following note on soy. Both doctors disagree with this list on the use of soy for gluten sensitive patients.

Soy - Both Drs. O'Bryan and Kalish indicate that people who are sensitive to gluten/gliadin proteins may have an associative condition that aggravates the inflammation. While soy has no gluten, they recommend patients with gluten issues avoid soy and soy products altogether. Here again, though is the glutamic acid association with soy.

Eggs and dairy - Both doctors agree that people who have aggravated immune systems from overexposure to gluten/gliadin proteins, are often also highly sensitive or reactive to eggs and dairy. Frequently, patients improve significantly by avoiding all grains, eggs and dairy, at least in the initial healing phases. Eggs and dairy can be experimentally re-introduced separately and sparingly after at least six months healing.

Some health foods list 'vital gluten' on the label. Beware. Also watch supplement fillers.

Watch out for fillers and additives containing wheat or misleading labels. Fillers and food additives may contain gluten – we know not to eat texturized vegetable protein because of MSG, but it also may contain gluten.

Avoid: Malt and malt vinegar, modified food starch and natural flavorings – not only because of MSG and free glutamate but also because some are made with barley.

Can you see a pattern here? Many of the triggers we attribute to MSG may also be from a reactive gluten sensitivity as well.

Avoiding packaged foods is the safest and simplest way to avoid both gluten/gliadin and the undesirable excitotoxins like MSG and other chemical additives. That's why diets like Paleo, Schwarzbein, Rosedale, Metabolic Typing and others and others emphasize whole foods.

Rice milk is not considered a safe product, as Rice Dream rice milk is actually NOT completely gluten-free due to the use of barley enzymes in its manufacture.

Be aware that the term "gluten-free" is unregulated in the US. For this reason, celiac organizations recommend avoiding foods labeled 'gluten-free' that contain wheat starch which may contain gluten. Congress signed the Food Allergen Labeling and Consumer Protection Act (FALCPA) which requires companies to list the top eight major allergens (wheat, milk, eggs, fish, shellfish, tree nuts, peanuts and soybeans) on food labels and develop rules for the use of the term "gluten free." This labeling policy was to be effective January 1, 2006.
http://www.foodallergy.org/Advocacy/labeling.html

There are many excellent websites listing acceptable grains free of gluten including:
Dr. Kalish's www.drkalish.com and www.celiac.org

PUTTING THIS IN PERSPECTIVE

First determine if there is any remote chance you are gluten sensitive. Your first clue will be if you feel much better eating a no-grain strategy such as Paleo Diet. Consider your ancestry; if you have any of the Celtic, Scandinavian, Eastern European or Jewish bloodlines, then you have a more than likely chance of some degree of sensitivity.

If you have always had intestinal (gut) issues or auto-immune-related conditions, then definitely consider a gluten sensitivity connection and consider testing to determine the presence of the specific markers mentioned in the testing section. If you have nutritional malabsorption issues manifesting in osteopenia, osteoporosis, B and D vitamin, definitely consider testing.

Not everyone is gluten sensitive, but indications are that there are far more people who have symptoms connected to it than is recognized. You are the detective. Compare the list of potential manifestations with your symptoms. If any

match, take steps to eliminate gluten from your diet.

If no familial or condition symptoms and you have atrial fibrillation, it is still entirely possible that the avoidance of grains will reduce or eliminate the frequency of events.

Remember, highly intolerant individuals will have already discovered the correction because of the extreme intestinal distress symptoms. These people have to exercise extreme caution to eliminate even the slightest or remote exposure.

What the rest of us need to determine is if we have enough of a reaction to create symptoms of some of the conditions listed in the introduction, then it is worth giving up all grains for a two or three months to note improvement. Remember, it takes as long as six months to eliminate the antibodies from the body. Reintroducing gluten intermittently will sabotage the progress and prevent recovery indefinitely.

People who can't possibly face giving up all grains can eat Schwarzbein or a modified Paleo and include small amounts of the safe grains – especially organic brown rice – to see if they have noticeable improvement when all gluten grains are eliminated from the diet for at least a month.

Just remember, a grain-based diet – one that takes in regular and large amounts of foods from grains like pastas and bread is not going to be a healthy choice in the long run.

Interesting addendum –
Note this connection with MSG and gluten……

One of the Celiac websites mentioned that a veterinarian, diagnosed with celiac disease, developed a theory about how celiac disease and the excitatory neurotransmitters glutamic acid and aspartic acid play a role in the damage caused by this disease.

We have recently found that many persons who report a sensitivity to MSG also report an inability to tolerate wheat products in general. This seems an odd coincidence until we realize that, grain products have been bred to contain more and more gluten which is very high in the amount of glutamic acid bound into its protein chains. This fact figures prominently in this veterinarian's theory on why wheat can be such a problem for many people, and why, perhaps, it wasn't meant to be in our diet in the first place. See: http://dogtorj.tripod.com

MSG is on the list of foods for celiac patients to avoid. Wheat is such a good source of glutamic acid, as is soy, and corn, that MSG is often made from these foods.

Part 5 - EVALUATING DIETS

An excellent, comprehensive review of diet plans is authored by Professor William R. Ware located at http://www.yorhealthbase.com/diet_zoo.htm - Be sure you read "The Diet Zoo" as the following discussion is far less thorough.

In any dietary plan, primary consideration must be given to that which supports a low or moderate intake of complex carbohydrates in the form of whole foods in natural form to ensure that blood glucose handling is optimal. Otherwise, the over-stimulation of the pancreas to produce insulin will eventually create significant health problems. Many diets do not address this and leave it up to the individual to work out a daily plan. Most people are not able to plan appropriately. Typically, because of our penchant for pleasing the sweet taste sensors, choices are too heavily weighted toward fruit. Such could be the case with the Paleo diet that allows abundant fresh fruit along with dried fruit, which in very small portions is healthy; but, if they occupy too much of a daily ration, they become harmful. Although Dr. Cordain thinks abundant fruit is acceptable in terms of glycemic load, other functional medicine clinicians specializing in metabolic disorders think otherwise. Those with metabolic syndrome or pre-conditions could have a problem eating the Paleo plan if they load on any form of fruit daily.

In the "Rosedale Diet", by Ron Rosedale, MD, he limits starchy, sugary carb intake by saying there is zero requirement in the body for carbohydrates and feels insulin is better controlled without them. He focuses on the damage done in the

body by carb consumption – advanced glycation end-products – or AGEs and overstimulation of leptin production. I recommend reading his book and the four-part article he wrote for Dr. Mercola's newletter – "The Metabolic Effects of Insulin" (see reference section).

My bias toward diets centers around the functional medicine approach to nutritional requirements thanks to exposure through my functional medicine MD. The focus is on making sure all systems in our biological web have optimal nutrition to support health and well-being. I've been fortunate to have access to seminars, literature and teleconferences that take nutritional guidelines to the next level based on science. From my treatment experiences directed by her and nutritional interventions based on metabolic testing, I can attest to the efficacy and time required to achieve metabolic improvements. Of course, once again, biochemical individuality comes into play. No one begins at the same starting point and every one responds differently. My doctor recommends the Schwarzbein Principle of eating (but will restrict grains depending on results of antibody and immune marker testing).

Dr. Schwarzbein is board-certified in both Internal Medicine and Endocrinology, and is developing a national project to combat the pandemic conditions of obesity, insulin resistance and Type II diabetes. And she has 'in-the-trenches' experience with metabolic dysfunction since she, herself, suffered from adrenal burnout from a very bad diet. (See reference section)

Dr Schwarzbein says: "Eat enough food. Be sure to eat as much protein, fat and non-starchy vegetables as you want. However, everyone needs a different amount of carbohydrate depending on current health, metabolism and activity level. It is very important to eat enough food. When you reduce your carbohydrate consumption, you must increase proteins, fats and non-starchy carbohydrates. Eating enough food is the only way to heal your metabolism and get off the accelerated aging track."

I recommend her second book, "The Schwarzbein Principle II" as a guide to healthy metabolism because she does address the stressed or compromised adrenal situation which everyone living in today's world needs since our stress levels are high. Hers is not a total grain elimination program as she does allow brown rice, oatmeal and other grains we (on Paleo) exclude. I'm rather surprised that she allows the grains she does. I found initially, I did better with a combination of Schwarzbein and the Rosedale Diet because he restricts carbohydrates and increases protein and healthy fats. So without knowing the gluten-connection story, I created my own success with grain elimination.

Dr. Kalish puts his patients on the Schwarzbein eating plan but does not permit eating oats or other gluten-containing grains.

There is really no set diet that everyone can follow to the letter. We have to listen to our body to know what works and what doesn't from the allowable and available food choices. Nutritional guidelines are only one portion of regaining or maintaining health through nutritional interventions and need to be based on testing to evaluate deficiencies, errors in metabolism and of course, improvements from using supportive supplements and correct foods. Activity level is also a very important consideration with any plan as it becomes important to burn what we take in.

Dietary strategies that exclude protein from animal, poultry and fish sources create a larger challenge to maintain adequate protein and essential nutrients since soy protein is not a healthy substitute. Vegans and vegetarians are frequently referenced as patients with the most severe metabolic imbalances and often it is extremely difficult to restore health once they become ill.

GUT ISSUES AND DIET

For people with persistent Candida overgrowth concerns or Irritable Bowl Syndrome (IBS), the nuts, dried fruit (mold risk) and over-all raw preference in the Paleo diet may be too harsh and even harmful. However, it is quite possible that once grains are eliminated via the Paleo or any other diet, the IBS issues may resolve. Much of IBS can be traced to gluten sensitivity.

Again, testing is always advised to rule out any serious intestinal issues and healing protocols for gut repair must be followed. An irritated small intestine will not be functioning optimally and nutrients from food will not be absorbed no matter what dietary plan is followed. In gut issues, testing for parasites is mandatory. The section on Treating Gut Issues will cover this briefly.

The take-home message on diets is making consistent choices that support health.

1) Whole fresh foods – preferably organic

2) No commercially prepared foods containing chemicals, additives, coloring, preservatives, natural flavorings etc.

3) Ample protein at every meal

4) Abundant servings of a variety of fresh vegetables and leafy greens

5) No skipping meals – always eat a large breakfast and smaller lunch and dinner

6) Healthy balanced snacks if there is a glucose handling issue

7) Healthy fats and oils to supply Omega 3 essential fatty acids

8) Limit grains to none or only small portions of gluten-free choices and not at every meal

9) Organic eggs are best; organic raw milk only - many people do better without milk or eggs
If you can only afford one organic product, organic eggs is the one to buy as the benefits are worth the extra cost since you won't be directly consuming the pesticides, antibiotics and other chemicals residues fed to commercially raised laying hens since those concentrate in the nucleus (yolk) of the egg.

10) Hydrate with non-municipally-treated water –(or use a good filter) .at least 6 – 8 eight ounces pure water daily - more if obesity or heavy exercise is an issue.

11) Use digestive enzymes and probiotics

12) Be mindful of meeting your nutritional requirements by using a diary or program like fitday.com or something similar.

12) Chew foods until they are a slurry to activate enzymes and begin the digestive process.

13) Enjoy what you eat.

Part 6 - TREATING GUT ISSUES

Readers who have experienced improvement with intestinal issues by strict compliance to Paleo eating are undoubtedly experiencing success from the gluten/gliadin elimination. If, however, symptoms other than elimination of afib persist, then gut issues need to be addressed following protocols for healing the intestinal tract since leaky gut is undoubtedly present.

Consideration should also be given to the presence of Candida overgrowth and parasite infestation. Testing to confirm presence of GI problems is required. A typical treatment will use anti-inflammatory supplements and healing nutrients such as L-glutamine, the amino acid known for gut repair. At some point, probiotics are also introduced. Killing Candida and parasites are other protocols.

"The 4R solution in the "The 20-Day Rejuvenation Diet Program", in the book by Jeffrey Bland PhD, Institute for Functional Medicine, is the classic protocol for gut repair.

The Functional/Nutritional Medicine Solution for All Degenerative Conditions:
The 4-R's Solution

(excerpt)
1) Remove: Abnormal kinds/amounts of intestinal microorganisms (parasites, bacterial repairing leaky intestinal membranes with friendly bacteria (acidophilus, bifidus, fructose oligosaccharides.etc.) and food-based supplements high in minerals and vitamins.

2) Replace: Hydrochloric acid, enzymes, and fiber deficiency can be replaced and enhanced with friendly bacteria, digestive enzymes and fiber supplements.

3) Restore: Symbiotic bacteria and GI bacteria fuel sources to support metabolic activity through the use of full spectrum friendly bacteria (L. acidophilus, B. bifidus, L. planetarium, L. salivarius, L. bulgaricus..etc.).

4) Repair: Replace or augment with nutrients necessary to support healing of intestinal lining, plus adequacy of calories, and adequacy of fiber. Support liver detoxification system through the use of antioxidants and food-based nutritional supplements.

CAUTION:
Dr. Kalish warns that some people on a gluten-free diet, will feel great for a period of time- months and maybe as long as 2 – 3 years, but then suddenly relapse into old symptoms and feel terrible.

What he has observed is that as the intestinal lining heals, many deeply imbedded pathogens or parasites start to surface again from their deep hiding spots and manifest in symptoms. Typically it is an old Giardia or Entamoeba histolytica infection. If this happens, it is important to have one of the stool analysis tests for parasite detection so they can be eliminated by treatment. (See References for recommended labs.)

He says that people who embark on the gluten-free diet with a history of GI complaints, should take steps to use supplements along with the diet that reduce intestinal inflammation – such as turmeric/curcumin, boswellia, ginger, and quercetin and aloe vera along with L-glutamine and other healing/restorative nutrients.

In the case of Candida, there are protocols for that which have been addressed to a great extent in the forum and the Conference Room.

It is important to remember that Candida is a persistent pathogen. Some people battle it for a long time and may require constant monitoring until they have a healthy gut. Some individuals also are highly susceptible to re-growth and proliferation simply by consuming foods that are notorious for a high mold content – ie, dried fruit, blue cheese, peanuts, vinegar and for this reason, a Paleo Diet recommendation would probably not be suitable without specific instructions to avoid these mold-carriers.

Part 7 - RESOURCES & REFERENCES

Teleconference 1
The Neurological Complications of Gluten Sensitivity
Tom O'Bryan, DC, CCN, DABCN (Functional Medicine Specialist)
Libertyville, Illinois
Bio: http://www.chicagohealers.com/interviews/tobryan.htm
Practice info: http://www.meta-ehealth.com/site/office/index.jsp
New Patient Questionnaire: http://www.meta-ehealth.com/documents/6407/NewPatientQuestionairePacket.doc

Excellent description of Functional Medicine
http://www.meta-ehealth.com/site/office/functional_medicine/index.jsp

Teleconference 2 The Hidden Gluten Epidemic
Dan Kalish, DC
The Natural Path Clinic in Del Mar, California
CV: http://www.drkalish.com/cv.htm
Practice info: http://www.drkalish.com/about.htm

Gluten Sensitivity web articles by Dr. Kalish:
http://www.drkalish.com/info/gluten/article1.htm
http://www.drkalish.com/info/gluten/article2.htm
Questionnaire:
http://www.drkalish.com/forms/GLUTEN%20QUESTIONNAIRE.pdf

Teleconference 3 Depression and Neurotransmitters
Julia Ross, MA Nutritional Psychologist
Recovery Systems – 415-383-3611 http://www.moodcure.com
Mill Valley, CA

REFERENCE LIST BY DR. O'BRYAN

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Early Infant Feeding and Risk of Developing Type-1 Diabetes-Associated Autoantibodies, JAMA.2003 Oct;290(13):1721-8

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Other names for celiac disease include sprue, nontropical sprue, gluten enteropathy, and adult celiac disease. (Tropical sprue is another disease of the small intestine that occurs in tropical climates. Although tropical sprue may cause symptoms that are similar to celiac disease, the two diseases are not related.)

USEFUL WEBSITES

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?DB=pubmed
http://www.celiac.org
http://www.gluten.net
http://www.celiac.ca
http://www.csaceliacs.org
http://www.glutenfreecookingclub.com
http://www.glutenfreeliving.com
http://www.celiac.com
http://www.greatplainslaboratory.com/gluten-casein.html
http://www.glutenfree.com
http://www.csaceliacs.org/recipes/FlourFormulas.php
Flour substitute recipes using gluten free substitutes

Excellent Summaries of relevant research - http://www.drpincott.com/Publications/newsletters/PDF/may_jun06.pdf

RECOMMENDED READING:

Trace Your Genes to Health: Use Your Family Tree to Guide Your Diet, Enhance Your Immune System and Overcome Chronic Disease by Chris M. Reading,

Dangerous Grains – James Braly MD

The Diet Cure – Julia Ross, MA psychologist
The Mood Cure – Julia Ross

Change Your Brain, Change Your Life – Daniel G. Amen, MD

The Food Allergy & Nutrition Revolution, James Braly, MD

Your Guide to Healthy Hormones, Dan Kalish, DC.
Detailed section on gluten intolerance

The Schwarzbein Principle
The Schwarzbein Principle II

Diana Schwarzbein, MD
Founder and Director
The Schwarzbein Institute

Dr. Schwarzbein attended USC medical school and graduated in 1985. She then completed an internal medicine program at LAC/USC in 1988 and her endocrine fellowship in 1990. She became board certified in Internal Medicine in 1998 and in Endocrinology in 1993. She became the director of a diabetes program in 1990 at Sansum Clinic in Santa Barbara and in 1993 established her own clinic, initially The Endocrinology Institute of Santa Barbara which later became The Schwarzbein Institute. She retired from clinical practice in 2006 to continue writing books for the public and teaching other health care professionals about her Program. Dr. Schwarzbein is currently working on two projects-

-establishing a Women's Wellness Center at Greenwich CT hospital and developing a national project to combat the pandemic conditions of obesity, insulin resistance and Type II diabetes

The Rosedale Diet

Ron Rosedale, M.D., is an internationally renowned expert in nutritional and metabolic medicine and an anti-aging specialist. He is founder of the Rosedale Center in Denver, Colorado; cofounder of the Colorado Center for Metabolic Medicine in Boulder, Colorado; and founder of the Carolina Center of Metabolic Medicine in Asheville, North Carolina. Dr. Rosedale has helped thousands suffering from so-called incurable diseases to regain their health. As a keynote speaker, he has appeared before. He has appeared before such prestigious groups as the Eighth Congressional International Medical Conference on Molecular Medicine, the First European Conference on Longevity Medicine and Quality of Life, and many more. He has been a guest on numerous national radio and television news shows. He lives in Denver, Colorado.

Important Article: Metabolic Effects of Insulin – 4 parts. Must Read
http://www.mercola.com/2001/jul/14/insulin.htm

(I have not read these books)
The Gluten Free Gourmet Bakes Bread
More from the Gluten Free Gourmet (both by Bette Hagman).
“Throughout your life the most profound influences on your health, vitality and function are not the doctors you have visited or the drugs or the surgeries or other therapies you have undertaken; the most profound influences are the cumulative effects of the decisions you make about your diet and lifestyle on the expression of your genes.” Genetic Nutritioneering by Jeffery Bland

Part 8 - CONCLUDING OBSERVATIONS

It is highly probable but not an absolute that a gluten/gliadin sensitivity issue lies behind the success of the Paleo diet for afibbers when all grains are eliminated. Further, that connection to my proposal linking this sensitivity to inflammation and atrial fibrillation is most likely only one facet of a very complicated etiology and one which science has yet to prove, since it appears this has not been studied to any extent. However, science does tell us that a mutation in the KCNA5 gene provides a greater risk for irregular pumping in the atrium with the potential of making the heart vulnerable to atrial fibrillation. And, science also connects gene defects in certain populations with gluten sensitivities and auto-immune disorders; so perhaps, eventually, there will be multiple genetic mutation factors that will help with a definitive conclusion. Also, there is the associated connection of weight loss when gluten-containing grains are eliminated and weight loss is known to assist in preventing afib.

While we may not be able to connect the dots just yet by making a conclusive association between gluten/gliadin sensitivity to substrate alterations that support atrial fibrillation, one cannot come away from reading this report without being aware of the harmful consequences these protein molecules can create in many individuals. If nothing else, we are forewarned to circumvent serious, long-term consequences of the many potential manifestations. We have only to consider the abundance of conditions (obesity, diabetes, depression, anxiety, Alzheimer’s ADD, ADHD, cardiovascular, cancer, etc) now referenced as reaching ‘near epidemic proportions’ to know that eating plans similar to the Paleo strategy that eliminate or reduce significantly grain exposure can do nothing but increase health and longevity and quite possibly, very significantly arrest atrial fibrillation events.

We owe it to ourselves and families and to anyone willing to listen to share with them the potential risks of consuming wheat and other foods containing the gluten/gliadin protein molecules.

Newcomers to atrial fibrillation have nothing to lose but a few pounds and a myriad of chronic complaints and symptoms by first eliminating all grains from their diet.

As I always say, “Forewarned is forearmed.”

Jackie Burgess

One tiny point jumped out at me- 'soy' in the form of soy sauce DEFINITELY contains wheat (see the labels) I finally found Wheat-Free soy sauce at Whole Foods (and now other places).

Otherwise - WOW, what a lot of information. Thanks, Jackie.

Kagey

Regarding Gluten: I was diagnosed as celiac in 1992, and eliminated gluten from my diet (wheat, barley, rye, oats, and the incredible number of assorted things in which one finds gluten, such as mustards, pill fillers, soy, etc., etc.) I became largely a green salad and vegetable person, with occasional chicken, beef or salmon. It was after this that I developed the supra-ventricular tachycardia (1996) that was not diagnosed as AF until 7 years later in Lenox Hill ER - 2003 (thank you, Kaiser, for one of your lesser efforts). So at least in my case, the absence of gluten didn't help at all either in slowly increasing paroxysmal frequency, or in my eventually going into highly-resistant 24/7 AF. I had never heard of "Paleo" so certainly was not following the full dictates of that regime. We're all different!

Kagey

So Kagey, after you were diagnosed and went off all the taboo foods – did they do serology testing after six months to determine what your antibody levels were? And again annually at least? If there were/are still circulating antibodies, the inflammatory process is ongoing especially if the gut issues haven't been healed. This is the whole focus of my post and the inflammation connection. Do you know your C-reactive protein levels right now? You may be several jumps ahead with a gluten free diet, but if there is ongoing inflammation (in the whole body) it could well be contributing to your afib. Studies show a connection with elevated CRP and afib.

Jackie

Jackie, the answer is no to follow-up tests, no doctor suggested it and as long as I was obviously GI-symptom free on the non-gluten regimen, the UCSan Francisco gastro-ent group (which did the definitive diagnosis) said, "good," period. At that time I was running my usual busy professional life 60 or more hours a week, and didn't read much about details of health issues I didn't have -- like most people in the country, I think, especially as the "simple" trick of avoiding gluten made the pain go away. The quick fix, it's called I guess.

Again, like many of us on this forum, my broader "learning" has come post AF, when it became essential to take charge of my own education because the cardiologists that I got to early on in my first two months of AF seemed so clueless - and certainly knew nothing about what I was learning on forum rooms, especially from people like yourself. (My earlier brief venture with celiac forums was not at all helpful). Better late than never. I'm still learning, as are we all.

Kagey (PS, CRP is fine, and while still healing from Natale's fine work I'm not sure I have the will to haul myself in for celiac biopsies in light of 15 years of quiescence - probably wait until after my six month check in at Cleveland.)

I went originally to some of the celiac group meetings, where there were plenty of people - what their diagnostic details were I don't know, mostly it was to eat gluten free goodies! But in my personal life and a very extensive professional life as a social worker among the elderly since my 1992 celiac diagnosis, I've met only a couple of celiacs.

Kagey

I guess this would be the appropriate place to re-tell my story.

I was diagnosed with afib in 2004. I've had a total of 6 self-converting episodes lasting from 2 to 6 hours, highly symptomatic.

At the end of my first year of afib, then having experienced a total of three episodes, I sought the advice of a chiropractor who specialized in the hormonal aspects of stress disorders. His name is Richard Weinstein and he's the author of the book, "The Stress Effect".

I was given the ASI (Adrenal Stress Index) test, an at-home saliva test which among other things -- and relevant to this topic -- include Gliladin AB, SIgA.
Reading from the results from Diagnos-Techs, Inc:

"Notes on Gliadin Ab test: Gliadins are polypeptides found in wheat, rye. oat, barley and other grain glutens, and are toxic to the intestinal mucosa in susceptible individuals.

Healthy adults and children may have a positive antigliadin test because of subclinical gliadin intolerance. Some of their symptoms include mild enteritis, occasional loose stools, fat intolerance, marginal vitamin and mineral status, fatigue, or accelerated osteoporosis."

I, myself, had long-standing intestinal issues and, interestingly, a clinically inexplicable, severe bone-thinning. (In connection with this bone problem, I was given a serum gliadin test which came back negative.)

The reference range for this particular saliva test for gliadin sensitivity is:

Borderline: 13-15 U/ml
Positive: >15 U/ml

My results were 58 (!): "Patient shows moderate to severe intolerance or reactivity to Gliadin and is usually symptomatic with ongoing low to high-grade intestinal inflammation following Gliadin intake [pretty much daily] has been demonstrated. An over-representation of skin conditions, osteoporosis, thyroid and various intestinal and malabsorptive problems is found in this sub-population. Often observed is a marginal nutritional status of Vitamin B12, Folic acid, iron and other trace minerals."

As a result of this test I gave up foods containing gluten. Less than a month later I experienced a cluster of three afib episodes. Since that time, currently 16 months later, I've been afib free.

My intestinal problems cleared up and, for those of you who place a premium on measurable results, my bone density -- in the same period -- increased an unexpected and "inexplicable" (roughly) 5%. This is a significant gain.

To be sure, I instituted other changes, both dietary and, not least and with much help from Jackie, supplemental, with particular attention to K+, Mg, taurine and vitamin D.

I am, however, convinced that, in my case, the intestinal inflammation which resulted from a gluten sensitivity gave rise to a clinically measurable (ASI test) adrenal fatigue which, in turn, resulted in a severe electrolyte imbalance and, ultimately, in afib. Intestinal-tract inflammation is a precursor to hormone imbalance which, in turn, can result in an electrolyte imbalance. And, as we all know, an electrolyte imbalance can manifest in afib.

As I've pointed out in other contexts on this BB, I in no wise consider myself "cured" of afib. I think of lone afib not as a disease, but as a symptom. I am aware that whatever causes a severe hormonal imbalance, whether via the mechanism of physical or mental stressors or other causes, will likely, in my case, again manifest as afib. That is, I've got to be mindful of the risk factors.

I think that, once again, Jackie has done an amazing job of crystallizing a complex issue of profound relevance to at least a significant population of afib sufferers. If you even suspect you may not tolerate gluten, take a month off and see what happens.

Trent

Thanks Trent for you vote of confidence and for telling your story.

Clarify for me what you wrote about the gliaden sensitivity

You wrote:

I was given a serum gliadin test which came back negative.

The reference range for this particular saliva test for gliadin sensitivity is:

Borderline: 13-15 U/ml
Positive: >15 U/ml

My results were 58 (!): "Patient shows moderate to severe intolerance or reactivity to Gliadin and is usually symptomatic with ongoing low to high-grade intestinal inflammation following Gliadin intake [pretty much daily] has been demonstrated. An over-representation of skin conditions, osteoporosis, thyroid and various intestinal and malabsorptive problems is found in this sub-population. Often observed is a marginal nutritional status of Vitamin B12, Folic acid, iron and other trace minerals."

So if yours were 58 - why they they say negative? Am I missing something?
(Maybe I fried my brain on the project.)

In any event, the important issue comes from one of the conference callers who says it is important for clinicians to put people on gluten free if there are ANY antibodies to gluten or gliaden...and ignore the labs.

Glad you were able to think for yourself and get this problem behind you. I am also so pleased you have responded with this testimonial which is just another validation of the importance of 'quenching the fire within' since it does manifest in many symptoms.

Jackie

Jackie,
The _serum_ gliadin test, ordered by my rheumatologist, didn't indicate a problem. The ASI was the (saliva) test, ordered by Weinstein, that indicated a major gluten sensitivity. Sorry I didn't make that clear.

Trent

Jackie: great writing!
I have been tested at:
Prometheus Laboratories
http://www.prometheuslabs.com

They are located in San Diego, CA.
Great website and very educational. Patient friendly. You can fax them a MD lab request and they send you the test box. Their prices are pretty good.

They test for Celiac disease as well as IBD.

Susan

Jackie,

Nice job. A couple of questions.

Would inflammation due to these digestive issues show up in a high sensitivity CRP?

Would a Great Smokies Comprehensive Digestive Stool Analysis give any indication of problems with these digestive issues?

George

Thanks George....

Yes - CRP levels are an indication but it's only a general test that indicates inflammation is going on somewhere. It could be from an abscessed tooth and is not considered an adequate test to rule out circulating antibodies.

The doctors who gave the talks said the markers (in the Testing section) are the ones that confirm if you have circulating antibodies to gluten/gliaden and the other important markers connected with this issue.

Neither of them preferred the Great Smokies Comprehensive Stool Analysis and chose to use and recommend those I indicated in the report for parasite analysis.

Remember, parasites can cause inflammation as well and are a consideration to rule out.

Jackie

Jackie,

I certainly agree that a high CRP level could be caused by many things. However would a very low CRP indicate the absence of inflammation and thereby parasites and intolerance & etc?

George

Dear Jackie,
thank you for your very informative work - I so appreciate all the time and research you have undertaken to put everything together!
I believe you have connected the dots very well and I will be asking for some tests from my doctor this morning
Reading through it and also the comments of others has given me quite a few "Aha!" moments myself, I can tell you!
I stopped eating bread about 2 months ago, mainly because I loved it so much I was beginning to suspect a craving. I do feel better off it (still miss it badly - specially that chewy sourdough crust!) and I have now had my eyes opened to other food sources that may contain gluten.
I'm sure many people will benefit from your research,
warmest best wishes,

Emmie

Hi Jackie,
Great research! Can't thank you enough for all your help.

Just a thought……Could the problem be with how our bodies actually handle and process glutamate?

This is from Hans Warfarin article in latest afib report:

"The main role of vitamin K is to act as a cofactor for the conversion of glutamate into gamma-carboxyglutamate. Matrix Gla protein (MGP) is derived from gamma-carboxyglutamic acid residues and is a powerful inhibitor of arterial calcification.[30,31] There is evidence that oxidative stress and warfarin inhibit the synthesis of MGP.[33]"

Maybe the natto food I consume, or more importantly the large amount of vitamin K , helps my body to dispose of or convert the glutamate more efficiently?
Natto food is very high in glutamate so I don't quite understand how the natto is helping me.

You know a lot more about glutamate than I do. What do you think?

Dean

George - I tend to agree with you by just the logic of it, but I honestly don't know the answer. I know from my own experience with CRP levels - I had low levels but a candida and another intestinal pathogen was detected in the CSA from Great Smokies some years ago.

Jackie

Hi Dean - This glutamate issue is similar to the aspartic acid issue. Apparently some is functional in the various biochemical processes and excess is excitatory and actually toxic to cells, especially important - brain cells or in our case, heart cells.

The biochemistry is far beyond the little I know. The fact that you had success with natto food could be just your specific chemistry, or it could be that it reduced inflammation significantly which stopped that cascade of events brought on by inflammation. That's what the enzyme in the natto food (nattokinase) is supposed to do.

I wish we had a biochemist who was focused just on the specifics of atrial fibrillation and these related topics we bring up. The closest I've come to explanations seems to be in the Russell Blaylock MD, book - Excitotoxins, The Taste That Kills.

Sorry that I can't contribute more to your question.

George - I forgot to mention that there are many other markers of inflammation besides CRP:

Plasma levels of Uric Acid, several pro-inflammatory markers (IL-1ra, IL-6, sIL-6r, IL-18, TNF-alpha), and white blood cell (WBC) and neutrophil count.

Jackie

Hi Hans,

-Not sure if this fits in with the paleo diet, but you might find it interesting-

A delicious shake in the morning:

Nature's First Choice (www.rawfoods.com) - greens(best stuff on the planet!!)
Perfect Source - Seaweeds, etc
Aloe Vera Juice - George's distilled
Pomegranate Juice
Tart Cherry Juice
Lemon Juice
Whey Cool Protein Powder by Designs for Health

-add organic bananas, blueberries, etc - ice if you want

Mix in blender to your satisfaction.

Jim W.

Jackie,

On reading your research paper more carefully I have come to the following conclusions:

- What you are really saying is that AF has its beginnings in the small intestine

-The overall good health of the small intestine is of paramount importance to afibbers

-If problems occur in the small intestine like gluten intolerance, candida etc. etc. then inflammation will occur affecting the villi and the ability of the small intestine to absorb Ca, Mg, K etc. ultimately starving the heart and affecting the electrical functioning

-If the small intestine is not functioning correctly then the effectiveness of supplementing with MG, K etc. will be vastly reduced. This may explain why some afibbers like me have had little or no success with supplements

-It is up to each of us to find out more about the health of our small intestine. It may be a gluten intolerance or whatever but we need to experiment so that ultimately our small intestine is functioning as efficiently as possible

I, too, have long suspected that the gut plays a big role in the development of AF. The success people have had with the paleo diet and my own with natto food seems to suggest this.

Dean

Hi Dean - well, actually, no...I was not examining the small intestine.

The focus of my leap-of-faith was inflammation but not of the intestine as seen in true celiac disease but rather an immune response to gluten/gliadin that manifests in circulating antibodies that cause inflammation throughout the body. Each person will manifest differently...and from that list of conditions... we can see gluten has a variety of manifestations OUTSIDE the intestine beside that seen in celiac disease.

Certainly, if one has true celiac disease, there will be intestinal inflammation as well, but that's not what I was saying.

But, of course, anyone with gut issues who finds improvement with the Paleo eating plan will also find improvement in overall health which will in turn undoubtedly affect heart health. We are all a web of organ systems and each works in synergy with the other.

I haven't read it specifically but I don't think natto is a Paleo food. It doesn't exist in nature as a whole food but is actually 'processed'. I'm not saying it's not healthy, but doubt if it would be classified as a true Paleo food in the true sense of the definition. Perhaps the Paleo experts can offer an opinion.

Eliminating grains, however, is Paleo and if you also did that, I'm sure that's the largest part of the benefit. The natto just helped with an abundant source of enzymes to healthy up the GI tract.

Regards,
Jackie

"... anyone with gut issues who finds improvement with the Paleo eating plan will also find improvement in overall health which will in turn undoubtedly affect heart health. We are all a web of organ systems and each works in synergy with the other."

Dunno if i had any serious gut issues before paleo, i was not aware of anything but what is normal in my immediate family. Tums are the Merrill family condiment, any of us can be depended on to have a roll of them in pocket or purse. I have been forgetting to carry them since paleo. The only time i really need them is if i have just succumbed to some displayed temptation i should have walked past.

Improvement in overall health i can certainly attest to, including mental health. Gaining the upper hand over afib has been very empowering, too. I feel like if i can figure out how to stop having afib episodes [with a little help from my friends], then who knows what other conventional lot of naysaying may turn out to be not-quite-so too?

PeggyM

Jackie, I think you know I've been trying to find more on changes in pacemaker cells, and how those changes might trigger or influence AF and related arrhythmias. Thanks to my husband's more scientifically educated use of Google Scholar, we've read together a couple of recent articles by Dr. Jais and his colleagues (of Bordeaux - Haissaguerre is a co-author). They are finding, among other things, that changes in the electrically excitable cells inside the pulmonary veins are such that they have "shorter refractory periods" than atrial cells, and thus are likely to start firing on their own before the usual sinus signals reach them. I think that's an oversimplification, but it's probably the general idea.

Well, these are not changes in atrial cells (say, associated with aging, as I had suspected) but rather in the pulmonary vein cells that are isolated during ablations. Unfortunately, I haven't seen any speculation on his, or anyone's, part, about what dietary or other factors might be affecting these pulmonary vein "pacemakers," but it makes sense to us that things like magnesium and potassium are certainly implicated in the excitability of these electrically active cells. And in turn, diet and intestinal phenomena are related to how our bodies take in and make use of these kinds of nutrients.

If anyone wants to find a wealth of this kind of material, my husband says, "Go to Google Scholar. Click on Advanced Search. Put 'Jais, atria' in the "words" box for titles, and put 2003 to 2006 in the "dates to be searched" box, then click "Search." He says he got a huge number of Jais's recent papers that way. They're hard to read, but many of the people here on the board follow enough to get the gist of abstracts and conclusions. Many of them are on how he uses this kind of investigation in his actual ablations of all kinds, touch ups as well as initial ablations.

Onward. Thanks again, Jackie.

Kagey

Jackie...I give you a big A+ for this wonderful project so full of valuable information. As you know I have been struggling with giving up some grain products. If I eat a lot of them or eat red meat, I get bad pain in my left side and in between my shoulders. I eliminated all gluten things for one month and had no pain. Sunday, I had breakfast at my son's house. I took along my grilled chicken, because I knew I wouldn't eat the sausage she was cooking, but I am a southern gal and my daughter-in-law makes the best southern grits in the world, so I had some along with 1/2 of a delicious biscuit. I cooked a meat loaf on Sunday afternoon and had some of that too. I was a really bad girl this Labor Day weekend. Did I get away with it? NOT! I was suffering yesterday and part of today. This evening I went on afibbers and saw the reference to this conference room and devoured all of your information. I want to say, I am through with gluten stuff! I loved being free of pain and when I get through this round of pain, its over...this romance with grains has ended...never to be restored again. I can't go all Paleo, but will be sure I do only brown rice if I have to have something, that has never bothered me. Thanks again Jackie, great information. I also believe if the gut and system of our bodies is out of balance, our whole being is jeopardized.

Sharon

I am a firm believer in the Paleo new way of eating. I cannot call it a diet because it is the way I will eat for the rest of my life. I will give up anything to be A-Fib free and arrhythmia free. It is all worth it in the end!!

As I posted on the BB, I am making the diet my own, a bit at a time. Initially, I eliminated all supplements and everything not allowed on the diet and then I started to reintroduce certain foods like corn and string beans and cheese and a bit of butter. It's worked out just fine. Personally, that's all I want to reintroduce into my diet. It offers me variety and still allows me a love for food. I have ordered the Masa Harana Flour from the health food store so that I can make my own tortilla shells. I do not miss bread but I do miss tortilla shells and taco shells.

I had a store-bought corn tortilla shell today as an experiment and my heart did not skip a beat. It is just absolutely amazing how quiet my heart is.

The bottom line is, in my opinion and with my own experience, eliminate, reintroduce and see what triggers your A-Fib - Make it your own - don't listen to anyone else. We are all different and we are all sensitive to different foods and chemicals.

I did learn a good lesson when I went out to eat...make sure to tell the waiter/waitress that you do not want your food salted. You do learn to live without salt after a while.

Claire from Canada

"We are all different and we are all sensitive to different foods and chemicals." Claire from Canada

Perhaps, as many people need the gluten from wheat etc. as those that find it harmful?

Bob K.

Jackie

This is fabulous. I will have to print it off to read it in more detail.

Just a word of caution on the glutamine front. I don't think anyone with AF should take glutamine (Hans are you reading). It may help with healing the villi and microvilli in the intestinal walls etc etc, but what has to be remembered is that for those of us sensitive to MSG and grains etc is that the glutamate/glutamine/GABA pathway is impaired in some way (or is it we are too efficient at catobolising and metabolising amino acids - especially glutamate/ine). Glutamine supplementation is contraindicated in epilepsy (an electrical storm in the brain) which is very close to AF (an electrical storm in the heart).

When I started my nutrition course I had to visit a nutritionist. I gave her my history of AF and how I made it better through paleo diet. She focused in on the intolerance of grains and decided I must have a bad gut and decided it needed healed with glutamine (now I never had stomach problems before or after AF). I was a bit sceptical but read all the bumf and thought I would give it a go as the blurb does make it sound like a wonder supplement. Now remember I have been free of AF for 6 years now. I got my L glutamine and started on a very low dose (just the tip of a teaspoon). For a week it seemed fine and I thought maybe I had got over the 'sensitivity'. However I went to bed one night and on going off to sleep I was startled to feel my heart racing in an irregular way. It didn't last long. The next morning I wondered if it was the glutamine but took it anyway. That night I had an hour of very irritable heart - not had this in years I thought. It must be the glutamine. So I stopped. That night I had a little run much like the first night. The night later it was just some bigeminy and since then nothing. So glutamine in my case is not a cure all and I suspect it is adverse for all of us. If only I could get to the bottom of it and find out WHY.

Anyway Hans. I didn't realise your diet was so restricted. When reading about the foods you need to avoid I became quite concerned. Maybe I could help. At present I have only finished the anatomy physiology and pathology part of my course. But come October I start on the nutrition side and will be in clinics and lectures getting the practical and the theoretical. I need to do a certain number of case studies to gain the qualification.

I would like to be able to help you as you yourself have helped so many people yourself and deserve something back. I once kept a food diary for you, perhaps you would like to keep one for me? From there on I may be able to help with more suggestions and with any luck get to the bottom of it all.

Breakfast suggestions. Start the day with peppermint tea. How do you do with nuts (try soaking them first if you have a problem)? Maybe they are too fatty or perhaps the fibre is wrong for you. I sometimes blend a banana with berries and ground almonds. Have you tried white fish (haddock, whiting etc) instead of chicken. Fish protein is easily digested. What about other types of bird/fowl? Guinea fowl, goose, pheasant, partridge, wild duck (maybe too fatty for you but wild duck is not so fatty). What types of fibre are you eating? Do you still take quinoa? I find this really upsets my stomach along with sprouts such as aduki beans! I take it you still don't eat wheat etc. I think a major cause with IBS (not in itself a disease just a blanket diagnosis for the unexplained in the gut) is autoimmunity (as is celiac). So that would mean that beans grains etc of all description could be a cause due to the lectins etc, (something not touched on by Jackie) which all (I think) paleo experts agree on is a major cause for autoimmunity and ill health in many. From that premise I would then look to see if we could heal naturally through whole unprocessed foods. I am of the opinion that supplementing with minerals, vitamins etc is only a stop gap as the body can't deal with them efficiently (and of course they are highly processed).... and the body then gets lazy and stops absorbing them from whole food.

Anyway. Let me know what you think

Best regards

Fran

Fran - it's so nice to see you posting again and thanks for your input. When I was doing this report and mentioned the seizure link, I thought of you immediately and how you were able to conquer that issue.

Remember, I was quoting the doctors from these teleconferences. Both the doctors in these conferences addressed the glutamine issue and both said that in treating thousands of patients for gut repair with glutamine, they had only seen one case where there was a problem with it. They fully understand the potential of converting to glutamate but say it doesn't show up as a problem. Callers asking questions were also doctors and one specifically did address the conversion of glutamine to glutamate; hence the response.

I hear what you are saying, though. I did some research a while back for another afibber who was prescribed glutamine for gut repair and I believe I found it in Braverman's Healing Nutrients Within, that it was not such a worry as we might think. However, as you point out, there is a logical connection.

Dr. Blaylock says that glutamine should not be taken for more than two weeks and prefers other nutrients for gut healing:

quote:
• chondroitin sulfate
• phosphotidylcholine and the other phospholipids (lecithin)
• magnesium ascorbate
• probiotics such as Theralac™
• branched-chain amino acids (leucine. isoleucine and valine)
• omega-3 oils
• natural vitamin E
AND
• all of the vitamins and minerals
The phospholipids, branched-chain amino acids, vitamin C and omega-3-oils heal the holes in the intestinal wall.

Because the entire lining of the gut is replaced every 14 days, healing can occur rapidly when you provide your body with all of the necessary
nutrients. Some have noted that food allergies generally disappear once the intestinal lining is repaired. end quote

Thanks so much for participating in this very important connection.

Best regards,

Jackie

Kagey - Yes - definitely - be sure to read PC's contributions about P cells etc. This topic has been discussed at length and it's certainly right on the money. Conference Room - Session 35.

However, for those with gluten sensitivities, it makes sense to reduce inflammation in the body whether it's from that or other sources as anything that irritates nerve cells will impact proper function. Inflammation is the source of most chronic degenerative conditions especially cardiovascular.

The beauty of this concept is simply going without gluten containing grains for a couple of months and observing improvements. Even people who would never suspect they have issues with gluten are surprised.

Jackie

Bob - There is no nutritional requirement for gluten...unlike there is for essential amino acids, for instance.

Jackie

Thanks Jackie. Are there any adrenergic afibbers who have found that gluten is the cause of their afib? If not, then gluten intolerance/sensitivity as a cause of afib in some people may be via vagal stimulation rather than direct inflammation of the heart.

Bob K.

In reply to Hans Larsen's post of 09/03/06...When I started this new diet, I had no problems with lunch or supper. Breakfast was the problem. I soon discovered smoothies. Every other day, I have a smoothie that I make with mixed berries or with frozen bananas and frozen strawberries. I buy them fresh and organic and I freeze them myself. I will have a handful of nuts a few hours later. I rarely get hungry until lunchtime. I actually forget that it's time to eat. On the off day, I usually make myself an omelette (I've become very creative with my omelettes). I also have IBS and I am lactose intolerant. With this change in diet, I find that my digestive system is working much better.

I just want to say that I admire your work and your dedication in helping people whose lives have been changed because of A-Fib.

Claire from Canada

Bob - I thought this was an appropriate place to bring up a distinction which is along your line of reasoning. Hope you fine it useful.

"Biochemical Individuality." While I use this term frequently, it is not one I coined. Rather, it is the title of a book by a biochemist, Dr. Roger Williams. We are all genetically and biochemically unique. That's why some of us respond favorably (or unfavorably) to certain nutrients in foods, a special eating plan, or even nutritional supplements.

There is another book, which I reviewed in the forum several years ago "The Metabolic Typing Diet" by William Wolcott and one worth time spent for every anyone looking to find the correct eating plan for their biochemistry. Afibbers would be especially well-advised to read the book and determine their metabolic type based on the "dominance theory of individual metabolism."

Robert Jay Rowen, MD, writes in his holistic newsletter, "Second Opinion," (1) that people wishing to become healthy should eat right for your metabolism and not your blood type. He goes into detail about various diets used by his patients and observations that some diets worked for some and for others, they were a disaster. He references the same nutritional researchers as t William Wolcott in a historical review of the three researchers doing impeccable research but with three different theories and points out that while theories may be directly opposite, they still work when the 'dominance theory of metabolism' is applied.

I think this will be especially interesting to you since you are one of the adrenergic afibbers who doesn't respond favorably to the typical nutritional suggestions offered here.

(quoting and paraphrasing from this newsletter)
Dr. Rowen explains that there are two competing determinants of metabolism in the body: the autonomic (unconscious) nervous system (ANS) and the oxidative system. Foods and nutrients have opposing effects on body pH in each. Example – potassium and magnesium are alkalinizing –but they may not be in all individuals.

The ANS has two branches, sympathetic and parasympathetic. The latter controls digestion, tends to unwind the system, and promotes alkalinization of the body when it is active. The sympathetic branch winds us up, gets adrenaline pumping and tends to acidify the body when active.

From the Wolcott book,(page 382)
“Different nutrients and foods have varying effects on the different divisions of the autonomic nervous system. Some stimulate, strengthen, or support the sympathetic system, thereby producing an acidic shift in metabolism. For example, potassium is a powerful stimulant to the parasympathetic system, and magnesium has an inhibiting influence on the sympathetic system. Thus, these nutrients tend to increase the parasympathetic activity and decrease the sympathetic activity. On the other hand, phosphorous and calcium powerfully activate the sympathetic system, thereby increasing sympathetic qualities and decreasing parasympathetic qualities.

Significantly, it should be noted that those foods and nutrients (in general) that product an acidic shift through sympathetic stimulation have the opposite pH effect on the oxidative system, producing an alkaline shift. And those foods and nutrients that have an alkaline influence through acceleration of the parasympathetic system will actually produce an acidic response via the oxidative system. I (Wollcott) observed this phenomenon in 1983 and named it “The Dominance Factor” This explains why what works for one person an fail or even worsen the same condition in another and exemplifies the necessity of first determining the metabolic type before making dietary or nutritional recommendations.

The two systems tend to balance out each other and Wolcott teaches that, “The net effect of pH depends on which system is dominant in the given individual.”

Dr. Rowen observes that “ knowing your metabolic type is of paramount importance. If you are parasympathetic dominant and you are already alkaline, eating foods that stimulate further the parasympathetic system (vegetarian based) will only push you further into imbalance. [my comment: substitute the word “foods” for alkalizing minerals such as magnesium and potassium] If you are oxidative dominant and a ‘slow’ oxidizer, your alkalinity will be balanced by a vegetarian-based diet. It will provide the vitamins and minerals you need to speed up oxidation and generate more acids to balance out your system.

This is the secret of why one diet works for some but not for others.

“One branch of the ANS is generally dominant. And within the oxidative system, fast or slow oxidation tends to dominate. Similarly ‘dominance exists on a larger systemic level between the ANS and the oxidative system. Whether you are ‘autonomic dominant’ or oxidative dominant’ will determine how a food or nutrient behaves in your body – whether it is alkalizing or acidifying. In order to select an appropriate diet and effectively balance a person’s body chemistry, it is essential to first determine which system is dominant.” (p. 43)

You need to read the book and determine your type – fast or slow oxidizer and autonomic or oxidative dominant..

When I went back to locate this again, I decided it was time to read once again, this fascinating book. It’s hard to take it all in with just one reading. It’s a very important piece of research for everyone but especially so for afibbers.

He has many comparison charts and a questionnaire so you can take determine your own type easily.

One chart of interest compares characteristics associated with sympathetic and parasympathetic dominance. [I am parasympathetic but some of the traits definitely don’t fit my profile – so this is just generalities, I presume]

Sympathetic Dominance

Physical Tendencies
•indigestion
•heartburn
•insomnia
•hypertension
•predisposed to infection
•low appetite
•angular facial structure
•tendency to be tall, thin

Psychological/Behavioral Tendencies
•excellent concentration
•highly motivated
•cool emotionally
•irritable
•hyperactive
•socially withdrawn

Parasympathetic Dominance
•Diarrhea
•Allergies
•Low blood sugar
•Irregular heartbeat
•Chronic fatigue
•Cold sores
•Excessive appetite
•Round face and skull
•Shorter, wider build

Psychological/Behavioral Tendencies
•Lethargy
•Procrastination
•Slow to anger
•Deliberate, cautious
•Warm emotionally
•Socially outgoing

Resources:

Roger J. Williams, “Biochemical Individuality” Keats Publishing 1998

Wolcott, William, “The Metabolic Typing Diet” Broadway Books 2002

(1) Second Opinion, January 2002, Second Opinion Publishing, Inc. Suite 100, 7100 Peachtree-Dunwoody Road, Atlanta, GA 30328
800-728-2288 https://secure.secondopinionnewsletter.com/orderform.php

Jackie

Jackie, Thanks for your effort in trying to answer my question about gluten intolerance/sensitivity, adrenergic afibbers, vagal afibbers. In my mind at least, the question is still open.

Let me ask another question. Does your hypothesis that gluten causes afib by causing inflammation, apply to adrenergic afibbers?

Bob K.

Bob K. wrote:

Let me ask another question. Does your hypothesis that gluten causes afib by causing inflammation, apply to adrenergic afibbers?

This is a question that will remain unanswered until someone with adrenergic AFib tries it out for themselves. This is very new territory and one that is not really accepted in the main for vagal afibbers - Except we know that it can work

because so many people have been helped by it.

Maybe you can experiment with it. It certainly won't cause you any harm.

Fran

Great information. I am taking a supplement for inflammation, allergies and gastrointestinal repair, "Medi Clear" made by Thorne Research. I see that I am taking 500mg of L-Glutamine daily by using this supplement. Maybe I should stop taking this supplement?

BilID

Hi Jackie

It's nice to be back for a wee while. I won't be able to keep it up though. It'll be back to the grindstone in the very near future.

I understand what you are saying about glutamine, in fact there is a general consensus, even with Dr Mercola, that glutamine is beneficial to all. In fact if you read the literature it is a wonder supplement. My own experience of taking glutamine says it's not fine as far as AF is concerned. What I think we have to remember is that most people here have idiopathic AF, the cause being unknown. Nothing seems to work for us; we seem to defy everything that should work in theory. And naturally we become more and more frustrated.

I have begun to hypothesize from my own experience, that perhaps its not the glutamate pathway that is impaired, but rather it is too well developed. I keep thinking of all the athletes and so called very healthy people that develop AF. Also that many are type A personalities. It is in this subset that I think that glutamate/glutamine pathway is over developed and may be storing glutamine in different areas (see below).

Then again I hypothesize that if these people eat lots of starchy carbs (grains beans etc, which they often do for energy release) with all the enzyme inhibitors; phytic acid, lectins, antinutrients etc, the valuable vitamin B group and magnesium etc are bound up and can not be catabolised so therefore stores get very low in the body (hence why paleo eating is so beneficial). So with loads of glutamate and low levels of B and Mg etc the glutamine pathway may not be completed.

The literature says that glutamine taken orally converts within the body to glutamic acid. Glutamine must be converted to glutamic acid, otherwise it cannot pass through the blood-brain barrier. Excess Glutamic acid is then stored as glutamine - However there are questions being asked in neurosurgery about Huntington's disease and whether it is in fact a glutamine storage disease. We could apply this to other disease processes

http://www.hdlighthouse.org/abouthd/updates/1275polyglutamine.php

"Glutamate is the metabolic product of glutamine and proline. Both glutamine and glutamate are present in the brain in high concentrations, the highest of all the organic compounds. Glutamate is an extremely important neurotransmitter which rapidly conveys information from our senses as well as motor commands from neuron to neuron. It's also involved in memory and learning and energy metabolism.

There's a glutamine-glutamate cycle where glutamine is converted to glutamate in the neurons while glutamate is converted to glutamine in the astrocytes (a type of glial cell which supports the neurons). It's very important that the glutamate released during neurotransmission be taken right back to the astrocytes because too much extracellular glutamate is toxic. The excitotoxicity theory of neurodegeneration in HD and other diseases is that too much glutamate can overstimulate receptors and allow too much calcium into the cell which in turn releases enzymes which damage various cell components.

Too much glutamine can be toxic too. High concentrations of glutamine are needed to produce glutamate but too much would cause osmotic stress and cause the brain to swell.....

Huntington's disease is a neurological disorder caused by the expansion of a polyglutamine tract in the protein huntingtin. Several other neurological diseases also result from the expansion of polyglutamine regions in different proteins. Despite intense efforts, no definitive biochemical or physiological role for huntingtin has been described, nor has a function been assigned to the polyglutamine region in unaffected individuals. This article presents the hypothesis that polyglutamine expansions within huntingtin and other polyglutamine proteins provide a function in and of themselves. Incorporating multiple glutamine residues into a protein during synthesis, and releasing them during protein turnover, may represent a means of minimizing interruptions in brain levels of glutamine and glutamate during periods of malnutrition. The number and variety of different proteins containing polyglutamine expansions can be interpreted as a series of evolutionary "experiments" toward a nontoxic form for glutamine storage."

Anyway, I am none the wiser. Only working out my thoughts on line.

Great to speak again

Fran

Fran - thanks for your input and insight to this. For sure, we are all biochemically different and in different stages of life and health which undoubtedly compounds the issue when finding a 'cure'.

Good luck back at your classes again. Glad you had a bit of time to spend with us.

Healthy regards,

Jackie

BillD - I wouldn't stop because it is helpful in healing the gut lining. However, I would take it for a month and then give it a rest. Try it again in a couple of months. The most important issue is healing the gut to be sure leaky gut is no longer there. Otherwise, those molecules of undigested protein will get through to the blood stream and continue to create the antigen/antibody reaction that acts like an allergic response. If a person has leaky gut, it can take six months or more to heal properly.

Jackie

Bob - yes, all afibbers - inflammation is inflammation whether it is in the nervous system or the cardiac system - it causes damage.

I wrote to Dr. Kalish and received a brief reply. He said congratulations, I was on the right track with my theory and referenced his book for more information, so I guess, I'll have to get the book to find more clarification.

I'll post separately the Fire in the Heart Article again by Dr. Sinatra.

Jackie

This is a repost of one back in late 04 after I came back from the Anti-Aging Conference.

Part V Silent Inflammation….Barry Sears, Stephen Sinatra.

Ready for another segment?

This is from the A4M convention…this section was on “Treating the Difficult Patient”
There was one group of presenters talking on Inflammation. I sat in on Barry Sears, PhD (of “The Zone” fame) and the last portion of Stephen Sinatra, MD. Dr. Sinatra gave an abbreviated version the handout I’ve reproduced for you here. It’s like a mini book…loaded with nuggets of importance and was originally presented at another conference. I was

elated to find it in my handouts. Thought you like to print it for reading at quite times over the holidays. Food for thought, for sure. Motivation for making new resolutions for the coming year.

Happy Reading!
Jackie

Dr. Sears' talk was " Does Silent Inflammation Make Medicine an Art instead of a Science?" Dr. Sinatra covers this in detail below so I'll only give you some nuggets from Dr. Sears and leave the rest to your reading.
Dr. Sears New Book… "The Anti Inflammatory Zone" is one to consider owning.

He emphasized that testing for the ratio of Arachidonic Acid (AA) and EPA is the most precise marker of Silent Inflammation (SI)…. it is a predictor decades before diseases manifest. Early detection and prevention.
For inflammation… as in the case of NSAIDS… using the correct dosage is critical. He says that as many people die from side effects of NSAIDS as from AIDS.

We must practice "dietary endocrinology" Glucagon is the Mobilizing Hormone; Eicosanoids are master hormones. Anti-inflammatory diets control Eicosanoids.

Everyone should be checked for fasting Insulin. Average is 10 and idea is less than 5. If elevated, people have a 5-fold increase of likelihood of dying from heart disease.

We must lose fat. Fat cells generate inflammation. Obesity has produced an epidemic of inflammation.
Pediatric concerns indicate higher BMI's and equivalent higher CRP (inflammation marker)
Elevated insulin increases hunger.
The best diet is a balanced diet (Dr. Sinatra discusses below)… because…. too much protein increases ketosis which increases cortisol which increases insulin.

The brain needs adequate blood glucose… and if you don't put complex carbs in the diet, the body breaks down muscle to get glucose.
He said the Zone Diet to control insulin is easy. Cut back on grains and starches. Look at your plate…. the low-fat protein portion should be no bigger than the size of your palm and no thicker. The rest of the plate should be filled with veggies and fruits and a small quanity of monosaturated fat..
Insulin and EPA - EPA is an inhibitor.

We need to avoid making Acharadonic Acid…this is most toxic. Inhibit Cox enzymes with high dose EPA fish oils.
[aside:
1. Omega-3 fatty acids reduce inflammation, omega-6 increase inflammation.
2. Omega-3 fatty acids are antithrombotic, omega-6 increase blood clotting.
3. Omega-3 are non-immunoreactive, omega-6 are immunoreactive.
Flaxseed oil contains alpha-linolenic acid but no EPA and DHA.
• Fish oil contains primarily EPA and DHA]

He says fish oils act the same as statins.)
One of the most well known studies, the GISSI-3 {Gruppo Italiano per lo Studio della Sopravvivenza nell'Infarto Miocardio (GISSI)-Prevenzione}, in which 11,324 people were given 1gram of omega-3 fatty acids or control for 24 months. This large study showed that persons given omega-3 fatty acid supplements had a 45% decrease in risk of sudden cardiac death and a 20% reduction in all-cause mortality.

[GISSI-Prevenzione Investigators. Dietary supplementation with n-3 polyunsaturated fatty acids and vitamin E after myocardial infarction: results of the GISSI-Prevenzione trial. Lancet 1999;354:447-55.]
http://www.ajcn.org/cgi/content/full/74/1/50

Fish oil crosses the Blood Brain Barrier.
In Bipolar cases – people given 9 grams fish oil a day showed 500% improvement. This is close to a medical miracle.
In the Omega 3's – the EPA is anti-inflammatory and the DHA – supports the brain.
He says – use fish oil rather than eating fish. All fish are contaminated – they eat from the "sewer of the sea."

Daily Dosing: Total EPA/DHA Omega 3 Fish oil.
2.5 grams for Wellness – Omega 3 and a TBS of cod liver oil
5 gms daily to improve heart function and if diabetic
7.5 grams – to reduce pain and inflammation
10 – 25 grams for neurological diseases.
Fish oil has no impact on Coumadin. He says studies up to 16 grams a day show anti-clotting action the same as 1 aspirin a day.
We must test for AA/EPA ratio…. which should be 1.5 and 3 respectively.
Called Isolated Plasma Phospholipids.
To use fish oils in elevated doses, it is important to do testing. This is not a guessing game. It will take 7 – 14 days to make a biochemical difference and this is a lifetime commitment…the taking of Omega 3 fish oils.
Borage oil is a toxic nutrient as it goes right to AA…the very thing we are trying to avoid.

End of Sears notes… on to Sinatra….

"Fire in the Heart"

New Developments in Diagnosis, Prevention & Treatment of Cardiovascular Disease
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Introduction
Most of us have some idea of what inflammation is. If a wound gets hot, turns red, hurts, and swells, we recognize that inflammation is at work. In this instance, inflammation is a beneficial process, serving to immobilize and rest the area of injury as the rest of the immune system mobilizes to heal… Regardless of the source of assault on our bodies, inflammation is the "first alert" mechanism that calls into action the cells responsible for surveillance and protection, heralding them to go to work and limit the damage. These cells attack and destroy the invaders, and clean up the damaged cells, repairing and clearing as they go until a healthy state is restored. As such, inflammation is your body's first line of defense against injury or infection.

Silent Inflammation
Unlike the above example, researchers now recognize another kind of inflammation: silent inflammation, or SI. This type of internal inflammation has an insidious nature and is the culprit behind the many chronic diseases that are primarily caused by poor lifestyle habits and environmental pollutants. The chronic and continuous low-level demand that silent inflammation places on the body's defense systems results in an immune system breakdown.

In SI there is no regulated progression of a healthy inflammatory response, no planned sequence from the first alarm to the formation of the last new cell. Many of these reactions become intermingled and hamper one another. The body tissues themselves may lose their ability to recognize cells that are "self" from those that are not, and the body may mistakenly identify its own cells as foreign invaders. This internal programming error, if you will, continues to trigger and re-trigger immune responses, setting the stage for what we call autoimmune diseases, such as lupus, multiple sclerosis and scleroderma. The result is chaos, and what is even more disturbing is that this process may be happening year
after year without us even being aware of it.

We now know that SI also plays a central role in the chronic illness that remains our #1 Killer: coronary artery disease. In fact, elevated markers of silent inflammation -- such as homocysteine, CRP, IL-6, and Lp (a) -- have been found to be more predictive of heart disease than traditional risk factors like elevated cholesterol levels. In fact, 50 percent of patients hospitalized for heart disease have normal cholesterol levels.

A landmark study showed that people with high levels of C-reactive protein (CRP), one of the cardinal markers of inflammation, were over four times more likely to have heart attacks than those with low levels of CRP. Researchers then began to link C-reactive protein, along with other markers of inflammation, to a wide range of chronic diseases

including Alzheimer's, arthritis, Parkinson's, and even cancer. It's now accepted that chronic silent inflammation is a warning that something is drastically out of balance with one's overall health.

Although chronic SI can cause a variety of disorders, many of us (and unfortunately this includes many physicians) aren't aware of the warning signs of this kind of inflammation, or the best ways to treat it. This knowledge is critical because should a person have one inflammatory condition, the odds that they'll develop another skyrocket drastically. Researchers have discovered, for example, that a woman with rheumatoid arthritis has a 100 percent increased risk of experiencing a myocardial infarction.

Very recent research has now demonstrated that higher CRP levels are also associated with age-related macular degeneration. Thus, the same individual may suffer from more than one condition caused by SI. For all these reasons, slowing down this chronic inflammation syndrome is also a major factor for age management, so it's crucial that everyone be aware of SI, understand its causes, and take measures to stop it.

Causes of Inflammation
The many factors that trigger SI are found in both our internal and external environments and include over-consumption of hydrogenated oils, excessive insulin levels, obesity, cigarette smoking, radiation exposure, environmental toxins (mercury, heavy metals), free-radical damage, bacterial and viral infections like nanobacteria and cytomegalovirus (CMV), spirochetes such as the borrelia that causes Lyme disease, periodontal disease, emotional stress, and even some pharmacological drugs. Let's take a closer look at a few of these examples.

Insulin
The most powerful drug you can consume is the food you eat each day. Depending on the ratio of macronutrients (carbohydrates, fats, proteins) you take in at each meal, your daily diet will either keep you in an optimum "zone" for good health, or it won't. The zone is a physiological state in which the hormones (especially insulin) influenced by the diet
are within ranges consistent with optimal health. A "zone meal" is comprised of macronutrients that are kept within ideal balance. The perfect zone meal is proportioned as follows:

Carbohydrates 40-45 percent
Fat 30 percent
Protein 25-30 percent

Combining macronutrients according to the ratio listed above, will keep you "in the zone." The goal is to keep fasting insulin levels less than 12 uIU/ml, although an ideal level is 5uIU/ml. We now know that a diet that follows this ratio helps keep weight, insulin, and eicosanoids (hormone-like substances) at ideal levels, which in turn assuages silent inflammation in the body. And remember the health consequences of failing to keep insulin levels at bay (<17uIU/ml): insulin resistance, obesity, Type II diabetes, and heart disease are just a few of the many health complications that may arise from this condition.

Controlling Insulin
Insulin control is achieved through balancing the ratio of protein and carbohydrates ateach meal to maintain stable blood-sugar levels for four to six hours. We agree with our colleague Dr. Barry Sears who states, "hormonally, you are only as good as your last meal, and you will be only as good as your next meal." This means that, for optimal health, you have a dietary choice to make every four to six hours. Accordingly, the following is advised.
• Try to eat a Zone meal within one hour of waking.
• Every time you eat, aim to balance protein, carbs, and fat.
• Try to eat five times a day: three meals and two light snacks.
• Eat more vegetables and fruit, less bread, pasta, rice, and potatoes.
• Always supplement your diet with fish oil and other nutraceuticals.
• Eat a serving of slow-cooked oatmeal topped with seasonal fruit twice a week for fiber, phytonutrients and gamma linolenic acid (GLA).
• Use monounsaturated oils (olive oil) whenever possible on salads and vegetables.
• Use low glycemic carbs whenever possible.

Besides excess insulin, increased blood sugar, free radicals, and elevated cortisol levels accelerate heart disease and aging. All these contributing factors can be modified by the Zone diet, which works to establish hormonal equilibrium in the body.

The essential fatty acids omega-6 and omega-3 are also key dietary components. When these two types of essential fatty acids are metabolized, they produce eicosanoid hormones, which can have dramatically different physiological reactions. Eicosanoids have been labeled as either “good” or “bad”, depending upon their effect on the body. “Good” eicosanoids, which are produced from omega-3 fatty acids, are anti-inflammatory by nature, while “bad” eicosanoids (like too much arachidonic acid) cause inflammation within the body. The synthesis of each type of eicosanoid depends upon the types of dietary fat we consume as well as endogenous production and metabolism.

Essential fatty acid metabolism is ultimately controlled by one particular enzyme found in the body, delta-5-desaturase, which produces arachidonic acid (AA), a long-chain omega-6 fatty acid that is the precursor of the proinflammatory eicosanoids.

Two dietary constituents profoundly affect the activity of the enzyme delta-5-desaturase: (1) levels of long-chain omega-3-fatty acids, eicosapentaenoic acid (EPA), and (2) levels of insulin.

The AA/EPA balance, as measured in the blood, represents the balance of “bad” and “good” eicosanoids throughout the body. Arachidonic acid causes platelet aggregation by triggering the release of thromboxane A2. This kind of endothelial cell unfriendly process is the perfect scenario to set the stage for chronic, silent inflammation while promoting blood clotting at the same time. High levels of EPA will counteract the negative effects of AA production and keep inflammation at bay.

An ideal AA/EPA ratio is 1.5. Too much insulin in the body exacerbates AA production and therefore catalyzes inflammation. If you eat an imbalance of (too many) carbohydrates, refined sugars, and proteins at each meal, you will provoke a greater insulin response. Chronic excess insulin will accelerate inflammation, heart disease, obesity, and Type II diabetes; as such hyperinsulinemic patients also have elevated CRP levels.

Heavy Metals

There are numerous published papers describing adverse clinical effects with aluminum, cadmium, copper, iron, lead and mercury. According to data from the U.S. Toxics Release Inventory, in the year 2000 industry in the United States released 4.3 million pounds of mercury and mercury compounds into the environment, and generated 4.9 million pounds of mercury compounds in toxic waste. This toxic metal burden increases low-grade inflammation at the cellular level, which interferes with mitochondrial function and energy production, and therefore has a very negative effect on the endocrine (glandular), immune, and metabolic systems.

The cardiovascular system is extraordinarily sensitive to mercury. In one small study of 13 biopsied patients with idiopathic dilated cardiomyopathy, investigators found mean mercury concentrations in excess of 22,000 times normal! Higher mercury levels were thus implicated as causes of this form of cardiomyopathy. Researchers speculated that toxic mercury levels
adversely effected mitochondrial activity and the subsequent decrease in myocardial metabolism was a profound metabolic factor in the etiology of idiopathic dilated cardiomyopathy.

And how do we become mercury toxic in the first place? Quite simply: breathing bad air and eating bad fish! Most mercury vapors arise in the atmosphere from the industrialization of coal. Mercury is then inhaled into the lungs, and transmitted to tissues. And the precipitation of mercury vapors in the water supply is another important factor. Rainfall precipitates mercury into ponds, lakes and streams. Bacteria and algae -- your main entree if you’re a fish -- sequester mercury. First small (bait) fish ingest algae-laden methylmercury, and then the bigger fish eat these smaller fish. And the larger the fish, the more time it’s had to accumulate more mercury from its diet of smaller fish.

When we enjoy a dinner with a mercury-overloaded fish, that heavy metal has made it into our food chain. Salonen and colleagues studied the association between fish intake and myocardial infarction, using hair analysis and urinary excretion to measure mercury levels in 1,833 men. Their results: men in the highest tertile for hair mercury content had twice the incidence of acute myocardial infarction and almost 3 times the incidence of cardiovascular death as those with lower hair mercury content. Both hair and urinary mercury increase immune complex oxidized LDL, and high

levels of oxidized LDL prime the pump for further inflammation.

Although somewhat controversial, dental amalgams are another source of unwanted mercury toxins in the body. The removal of old, tired, and cracked amalgams by a biological dentist should be strongly considered by anyone with signs and symptoms of mercury overload, such as headache, tremor, cardiac disease of unknown etiology, confusion, weakness, weight loss, insomnia, joint pain, and fatigue to mention a few.

The easiest way to diagnose heavy metal toxicity is to ingest a dose of oral DMSA (dimercaptosuccinic acid) and collect the urine for twenty-four hours. In our respective practices, we commonly perform this test on patients with unexplained fatigue, fibromyalgia, neurological, and emotional problems, in addition to cardiac disease.

Free Radicals

Free radicals are highly reactive, imbalanced molecules produced during oxidation that steal electrons from cells to neutralize their charge. Free radicals interfere with enzymatic reactions, and cause significant metabolic stress, damaging cells and DNA. Oxidation may occur within the body through simple metabolic processes like eating, drinking, and breathing, which generate free radicals as byproducts of energy (ATP) production.

Alcohol, drugs, poor diets, and radiation, and other catalysts all accelerate the production of free radicals in the body. The danger of free radicals is that they fan the fires of inflammation and attack cell membranes, ultimately disrupting cellular communication. When free-radical damage disturbs the integrity of cell membranes, they leak, and excessive waste builds up inside the cells. One of the primary ways we can protect ourselves from free-radical damage is to take oral antioxidants. Because cell membranes are composed mostly of fat, fat-soluble antioxidants like alpha lipoic acid, CoEnzyme Q10, and vitamin E can best penetrate into the cell. Antioxidants slow the aging process by promoting cellular repair, inhibiting inflammation, and preventing production of the inflammatory substances that accelerate aging.

Cardiologists frequently cite the process of lipid peroxidation as a focal point for the origin of atherosclerosis. Many antioxidants, particularly CoEnzyme Q10 and quercetin (found in onions), actively block the oxidation of LDL that contributes to silent inflammation.

Nanobacteria

Although oxidized LDL cholesterol helps to set the stage for atherosclerosis, there are other causes of cardiovascular disease. Oxidized LDL may be part of the story, but it's not the entire explanation. The controversial Nanobacteria story may well be an important initiating event behind atherosclerosis.

Nanobacteria, formally known as nanobacterium sanguineum, are so minute that they eluded researchers for decades. They're 1/100th the size of normal bacteria, and until recently, nobody believed that anything so small could even be alive. It turns out, however, that nanobacteria are not only very vital and thriving, but may cause damage to our health in more ways than we could imagine.

One of our missions has been to explain how and why heart disease occurs in people who don't exhibit the traditional risk factors. If we can identify the cause, then we can help prevent thousands of unexplained deaths each year. There have been numerous hypotheses, but so many never pan out. Take chlamydia pneumoniae, the pathogen that causes acute respiratory disease, for example. In news reports, from just a few years ago, authorities proclaimed that infection with this bacterium probably accounted for much of the unexplained plaque in people. They hoped that doctors could treat the C. pneumoniae and thereby eradicate the plaque. Well, further research uncovered that C. pneumoniae was only found in a small percentage of all plaque and was certainly not pervasive enough to be a major cause for it.

An Apt Analogy:

To help illuminate what the discovery of nanobacteria could ultimately mean for our health, let's take a look at H. pylori and ulcers. It was only after years of having patients undergo gastric surgery that doctors learned the real culprit in many ulcers was a bacterium known as
helicobacter pylori. Surgeons were putting their patients with ulcers through major surgery, cutting their vagus nerve and revamping part of their small intestine when, in most cases, the only treatment needed was antibiotics.

In the same way another alarmingly common procedure, cardiac surgeons have been cutting and pasting blood vessels to "bypass" plaque-filled arteries. We may learn, instead, that a course of the right antibiotic is all that's needed

for severely calcified arteries.

Scientists from the Hungarian Academy of Sciences have reported finding nanobacteria in more than 60 percent of carotid artery-clogging plaques studied. The Hungarians also validated previous research reports of how truly miniscule these bacteria are, and how easily they can enter the body via blood exchange and blood products. Their protective calcified apatite coat makes nanobacteria highly resistant to heat, radiation, and all antibiotics except tetracycline.

Nanobacteria has been implicated in nephrolithiasis, polycystic kidney disease, and renal stone formation. More research will determine whether nanobacteria is a real culprit behind coronary arteriosclerosis. For now it's prudent to keep in mind that microbes could play a substantial factor in the genesis of silent inflammation that could culminate in cardiovascular disease. We'll now discuss some of the research that looks at other viruses and spirochetes as well as the relationship of periodontal disease and the heart.

Spirochetes
In 1982, Willy Burgdorfer discovered the cause of Lyme disease when he isolated spirochetes of the genus Borrelia from the mid-gut of Ixodes ticks. Some researchers believe that as many as 60 million people in the U.S. are infected with Borrelia, but that Lyme disease occurs in them only when their immune systems become overloaded.

Lyme disease has been reported in forty-seven states and on four continents, and ticks are not the only sources. Blood transfusions, fleas, mosquitoes, sexual intercourse, and unpasteurized cow's and goat's milk have also transmitted the disease. People with Lyme disease are often simultaneously co-infected with other viruses and bacteria.

The spirochetes responsible for Lyme disease do best in an anaerobic (low-oxygen) environment and cannot tolerate large quantities of oxygen. They can change their shape and chemical structure, and are more evolved than bacteria in many ways. Furthermore, these spirochetes can turn off several surface proteins, which have the effect of keeping the immune system from being able to detect them. This stealth-type camouflage of theirs prevents antibodies from attaching to them, and prevents the enzymes in the blood from finding and destroying them. In this way, the spirochete can penetrate virtually any tissue in our body including blood vessels, heart, brain and oral cavity.

Periodontal Disease
Multiple microbes including spirochetes, bacteria, and viruses can be cultured in and around the teeth and periodontal sections of the oral cavity. There is a significant relationship between gum disease and chronic inflammation. Low-grade inflammation, particularly in the periodontal areas of the mouth can cause immune system decline. Chronic persistent low-grade inflammation can raise CRP levels. In one study of 50 patients referred for angiography and assessed for periodontal disease, there was a significant relationship between the extent of coronary atherosclerosis and periodontal disease.

Cardiologists are especially cognizant of the relationship between oral hygiene, edentulous teeth, gum disease, halitosis and a strong probability of subsequent cardiovascular disease. Practicing good oral hygiene, taking antioxidants, magnesium, essential fatty acids and CoEnzyme Q10 can help support gum health, thereby reducing chronic inflammation.

Toxic Blood Syndrome
Many heart attacks and strokes occur when arteries are only one-third narrowed, so it's not the blood vessels that are of interest to us, but the blood flow when it's compromised by plaque rupture. Inflammation is the primary culprit responsible for vascular disease. In fact, 95 percent of chronically sick patients are hypercoagulable. Many of these patients have "toxic blood syndrome," characterized by elevated levels of oxidized LDL, C-reactive protein, fibrinogen, homocysteine, LP(a), and ferritin.

Elevated hs-C-reactive protein (CRP) was the most significant of 12 markers in 28,263 healthy postmenopausal women as a predictor of future cardiac events. It was the strongest risk factor associated with an acute coronary event such as plaque rupture and myocardial infarction. In acute myocardial infarction there has also been an increased mortality in patients with higher C-reactive protein levels when compared to age-matched cohorts with lower levels.

Homocysteine

Not only is hyperhomocysteinemia a risk factor for cardiovascular disease, it's also been implicated in osteoporosis, low birth weight, neural tube defects, some cancers and Alzheimer's disease. Homocysteine is directly toxic to blood vessels in the brain and heart. Elevated levels wreak oxidative stress, and cause endothelial dysfunction, neuronal DNA damage, and even mitochondrial membrane weakening. High homocysteine levels in the brain cause cerebral microangiopathy and apoptosis of neural cells.

Hyperhomocysteinemia has been shown to double the incidence of Alzheimer's disease. In one study of 1092 people who were "dementia free" over an eight-year follow-up, 111 developed dementia and 83 developed full-blown Alzheimer's disease. Those with homocysteine levels above 14 µmol/L doubled their risk, and for every 5µmol/L increase their risk for Alzheimer's disease rose by 40%. The correlation between homocysteine levels and Alzheimer's was independent of age, gender and APOE genotype.

One of the most important factors in lowering homocysteine is the use of various B vitamin components including folic acid, calcium folinate, vitamin B6, vitamin B12, pyridoxal phosphate, and betaine hydrochloride (trimethylglycine). Garlic, beets, broccoli, and SAMe are also potent methyl donors in reversing toxic homocysteine back to harmless methionine.

But genetic polymorphisms of 5,10-methyltetrahydrofolate reductase (MTHFR) exist in approximately 40% of the population. What this means is that a large percentage of people, particularly those of European and French Canadian decent, cannot adequately metabolize synthetic folic acid. For these patients, refractory homocysteine levels will persist despite the use of B vitamin components and natural methylators.

People with hyperhomocysteinemia, resistant to usual B vitamin and methylator treatment, need Metafolin (HS Fighters: 877.877.1970), a very highly bioavailable form of ethyltetrahydrofolate that also readily crosses the blood brain barrier.

What are acceptable levels of homocysteine?

A homocysteine level less than 7 µmol/L is ideal. Levels over 10 are unacceptable, especially in those with pre-senile dementia or arteriosclerotic cardiovascular disease. And remember that high homocysteine levels are treacherous, especially in the company of elevated Lp(a) because together they can induce the binding of LP(a) to fibrin, a clot promoting mechanism . On an anecdotal note, Dr Sinatra has seen elevated homocysteine in the company of high Lp (a) in many his patients who have heart disease, and treats it aggressively in them as well as those at risk for developing it.

Lp (a)

Lipoprotein (a) is a cholesterol particle with a disulfide bridge that's highly inflammatory and thrombotic. In a ten-year follow-up of myocardial infarction in 5,200 participants, those with the highest Lp (a) levels had a 70% increased incidence of myocardial infarction. For the clinical cardiologist Lp(a) is a most difficult risk factor to neutralize, and because statin therapy is known to increase Lp(a), it's only prudent that physicians track Lp(a) levels whenever treating hypercholesterolemia with statin therapy. We have found that targeted nutraceuticals, especially liver supporting nutrients, CoEnzyme Q10, policosanol, and especially Omega 3 essential fatty acids, i.e., fish oils, in combination with niacin, and/or Niaspan will often neutralize the toxic effects of Lp (a).

Fibrinogen

Fish oils, garlic, bromelain, and natural Cox 2 inhibitors such as ginger and green teas will also help to alleviate high fibrinogen, a phenomenon observed in smokers and postmenopausal women with more frequency. Levels greater than 360 mg/dl are undesirable and have been associated with coronary calcification. This coagulation protein has been successfully neutralized with the nutrients we've mentioned above as well as enzymes that will be discussed later in this chapter.

Ferritin

Serum ferritin (high levels of stored iron) is also associated with increased risk for myocardial infarction. The high levels of iron that can oxidize LDL cholesterol may reflect iron overload or hereditary hemochromatosis. In the setting of high iron overload it's important to cut iron consumption to a minimum and use high-dose vitamin C with caution, as mega doses of greater than 500mg daily may enhance more iron absorption from the diet.

In summary, it's important to assess all these "toxic blood" components, particularly when treating an individual with a family history of early-onset, or what we call premature, cardiovascular disease. Certainly homocysteine and LP (a) associations can have a genetic predisposition. The assessment of arteriosclerosis needs to go beyond cholesterol and triglyceride monitoring, and the toxic blood components we've cited are a good place to start in light of the fact that these inflammatory and thrombotic components are the most undesirable factors in the generation and promotion of plaque.

Younger plaque is soft and covered by a thinner fibrous cap, loaded with cholesterol. And it's quite volatile. It's this young plaque that so often goes unnoticed on angiograms. To some extent many of us have atherosclerosis —the real question is, "Do you have an unstable plaque?" Inside fatty plaques, macrophages can become engorged, becoming incompetent to do the job they are designed to do. Instead, they evolve into angry foam cells, releasing pro-inflammatory toxic substances that may result in further instability to the plaque.

It used to be thought that cholesterol was the major marker for atherosclerosis. This is no longer the case. Pro-inflammatory messengers, referred to as cytokines and leukotrienes, are now recognized as behind-the-scene culprits. When inflammation is present, specific cytokine messengers are heralded into service to instruct the liver to increase intermediary inflammatory substances that are released into the blood and serve as measures of underlying chronic inflammation. C-reactive protein (aka CRP) is one of those intermediary substances. By interrupting and arresting inflammation we can help to prevent atherosclerosis, hypertension, heart disease, stroke, and even sudden death. Let us look at what we can do to lower inflammatory mediators and minimize silent inflammation in the body.

Ways to Reduce Inflammation

1. Detoxification

The chemical cocktail of stress, pesticides, industrial wastes, poor diet, heavy metals, chronic infections, and drugs greatly contribute to the silent inflammation in our bodies as we age. As the toxic load increases, so does the incidence of chronic disease (See Figure 1 below).

We believe that regular detoxification should become part of a healthy lifestyle. Although you should always avoid obvious toxins whenever possible, it is extremely difficult to avoid many toxins that are present everywhere in the environment today.

That is why each of us should incorporate certain daily detoxification strategies to help flush out the toxins that are circulating in the blood or are lodged in soft tissues and vital organs.

These strategies should include diets such as the Omega Zone diet, bathing, infrared saunas, massages, and liver and colon cleansing on a regular basis. Also, a detoxifying nutraceutical formula can provide additional protection from the various toxins. Such detox formulas should include liver supporting nutrients like milk thistle, artichoke, and L-Carnitine. Alpha lipoic acid and other sulphur-containing nutraceuticals will help chelate heavy metals. Indole-3-carbinol will also assist in the conjugation of the metabolites of petrochemicals like xeno-estrogens out of the body.

Silent Inflammation and Chronic Disease
Figure One

2. Diet/Weight Loss

Over sixty-five percent of the U.S. population is now overweight. Researchers speculate that tobacco will be replaced by obesity as the major risk factor in America today. Recent research suggests that adipocytes have become the "home" for inflammatory cytokines. This is probably one of the major reasons obese people tend to get more cancer, Type II diabetes, and heart disease, as well as other inflammatory disorders. The obesity and diabetes epidemics are linked to the "metabolic syndrome," with its deadly quartet of:

1. high insulin levels
2. weight gain (apple shape)
3. elevated TG and decreased HDL, and
4. elevated blood pressure.

Metabolic syndrome also places patients at a much-increased cardiovascular risk. In fact, the most important finding in treating hypertension in the last decade has been an understanding of metabolic syndrome and its relationship with insulin resistance, a condition that can only be reversed through diet and exercise. Hippocrates knew best, ages ago, when he proclaimed: “let food be your medicine.”

For a diet to become a lifestyle, it must be convenient and not too complex. Most people become overwhelmed deciding what they should and should not eat, based on the latest medical news.

Designing a Zone meal is simple and involves dividing a plate into three sections. First, fill one-third of it with a protein (a typical portion is approximately the size of the palm of your hand), and fill up the other two-thirds of the plate with low-glycemic vegetables (broccoli, cauliflower, dark leafy greens, and others that won’t raise your blood sugar rapidly), and fruit.

Finally, add a dash of heart-healthy fat like olive oil to your salad or greens, avocados, or almonds. This is the way we have been genetically designed to eat. Dr.Sinatra prefers a Pan Asian Modified Mediterranean (PAMM) way of eating using the Zone principles because cultural societies following traditional Asian and Mediterranean diets have the lowest rates of cancer and heart disease in the world. For more information, please visit the following websites for more details: www.zonecafe.com. and www.drsinatra.com .

3. Nutraceuticals
Nutraceuticals are components of foods or dietary supplements that support healing. They include antioxidants, enzymes, vitamins and minerals, Co-Q10 and L-carnitine, garlic, green tea, and fish oil to mention a few. At the microscopic level, many of these nutrients and antioxidants penetrate into the cell and help eradicate free-radical damage, while decreasing inflammation at the same time.

Flavonoids and carotenoids are nutraceuticals that can have a positive impact on the body. For example, dietary antioxidant flavonoids, especially quercetin, were studied in the Zutphen Elderly Study. In this European study reported in the Lancet, researchers looked at mortality in elderly men: a higher death rate was associated with a lower flavonoid intake. The dietary flavonoids consumed by the male subjects came primarily from onions, black tea, and green apples. Their results confirmed that all-cause mortality was reduced in those men consuming greater than 30 mg of flavonoids per day.

The cardiovascular benefits of similar oligomeric proanthocyanidins (OPC’s, which add the bright colors to many fruits and veggies, belong in the flavonoid class of nutrients) have also been noteworthy. OPC’s inhibit xanthine oxidase, a promoter of the superoxide radical. OPC’s inhibit platelet aggregation, as well as the oxidation of LDL. They improve blood vessel elasticity and integrity, and additionally have an “ACE effect” on lowering blood pressure. In animal research, OPC’s have also demonstrated a cholesterol lowering effect.

We’ve all heard of the “French Paradox,” a term that describes the discrepancy between the traditional pate-rich, high-fat French diet and their comparatively low incidence of heart disease. It has been suggested that red wine consumption---whether from the Holy Grail or an ordinary wine glass--- offsets the evils of a high-fat diet. But why, you ask?
Researchers postulate that we can attribute OPC’s named quercetin and resveratrol--- as well as other flavonoids--- in those grape skins for this victory over heart disease.

Magnesium
Magnesium is a mineral with favorable cardiovascular benefits: it acts like a calcium channel blocker to prevent spasm in blood vessel walls. Magnesium has a profound positive influence on vascular tone and reactivity, as well as platelet aggregations. In fact, a magnesium deficiency has been observed in those with insulin resistance and the diabetic syndrome. Taking 400-800 mg of bioavailable sources is recommended to anyone looking to lower blood pressure, block coronary artery spasm and Raynaud’s, and even relieve symptoms of mitral valve prolapse.

In one study, magnesium supplementation decreased many symptoms associated with mitral valve prolapse including weakness, chest pain, shortness of breath, palpitations and anxiety. Because many patients with mitral valve prolapse have an associated diastolic dysfunction of the heart’s left ventricle (LV), CoEnzyme Q10 therapy -- which improves LV cardiodynamics -- is also instrumental to help improve quality of life for these patients.

CoEnzyme Q10

CoEnzyme Q10 is an essential biological cofactor produced endogenously in the body that's also found in the food chain. As a critical component in the electron transport chain in mitochondria, Q10 has a crucial role in cellular energy production (by recycling adenosine triphosphate, aka ATP as well as being a cofactor in its production) as an electron and proton carrier. Because CoEnzyme Q10 is vital to mitochondrial energy production, it has become the cardinal nutrient in metabolic cardiology.

Since it takes more energy to fill the heart than to empty the heart, CoEnzyme Q10's ability to support heart cell bioenergetics translates into improved diastolic dysfunction. Because of this action, CoEnzyme Q10 is instrumental in addressing diastolic dysfunction, and subsequent systolic dysfunction that could lead to heart failure. Those with hypertensive cardiovascular disease, mitral valve prolapse, infiltrative cardiomyopathy -- and especially those who with statin-induced diastolic dysfunction -- have improved with the simple co-administration of CoEnzymeQ10.

Other potential therapeutic uses of CoEnzyme Q10 include treating stable and unstable angina, ventricular arrhythmia, mitral valve prolapse, hypertension, congestive heart failure and toxin-induced cardiotoxicity (such as that seen in Adriamycin therapy). CoEnzyme Q10 is also appropriate in the setting of myocardial ischemia, and should be used as a myocardial-preserving agent during chemical thrombolysis for reperfusion, urgent angioplasty, and coronary bypass surgery. In fact, pretreatment with Q10 for weeks before elective coronary artery bypass grafting surgery has been shown to assist patients in weaning off of heart-lung bypass with improved cardiodynamics.

Since its discovery in 1972, there have been multiple controlled trials on the use of CoEnzyme Q10 with more than 40 showing some benefit, and 4 showing none. In one double-blind study of 641 patients receiving CoEnzyme Q10 (2 mg/kg or placebo for one year), a 20% reduction in hospitalizations in the CoEnzyme Q10 group was realized compared to those taking placebo. The CoEnzyme Q10 group had a better quality of life as well as lowered bills for medical care.

And another topic of special emphasis is statins: the number of these drugs prescribed every year is astounding, and may have a link to the increase number of cases of idiopathic cardiomyopathies that abound.

Statin drugs can cause profound deficiencies in CoEnzyme Q10 because the HMG-reductase inhibitors "kill" cholesterol so successfully by interfering with the same biochemical pathway that produces endogenous CoEnzyme Q10 in the body. So, CoEnzyme Q10 should be supplemented by anyone receiving 3-hydroxy-3 methylglutaryl coenzyme A-reductase inhibitors (statins). CoEnzyme Q10 treatment has been noted to counteract the side effects of myalgias associated with statin therapy, and is appropriate to treat this side effect.

CoEnzyme Q10 production drops off with aging, and while its side effects -- nausea, abdominal discomfort, and excess energy or anxiety -- are rare, it is contraindicated for healthy pregnant or lactating women because the unborn and newborn produce sufficient quantities of the compound on their own.

For further information on CoEnzyme Q10, the reader is referred to BioFactors, Volume 18, 2003. This journal is a peer-refereed review of original papers arising from the 3rd Conference of the International CoEnzyme Q10 Association held in London UK, November 2002. Several investigations discussed the complex biochemical and metabolic functions of CoEnzyme Q10.

Metabolic Cardiology

We believe that a new subspecialty in cardiology, i.e., "metabolic cardiology", will be driven by the biochemical interventions that will be utilized to optimize metabolism in cardiac myocytes. By supporting cellular function, such as ATP production, Coenzyme Q10 and other similar agents defend precious heart cells from the ravages of aging, toxins, and the myriad other conditions that ultimately wear down mitochondrial function and eventually cause cardiovascular pathology.

Metabolic cardiology is going to be one of the next great emerging fields, arising from a new emphasis on the relationship between ATP and energy in the heart. Coenzyme Q10, L-Carnitine, and D-ribose, will be the most significant players.

The synergism of CoQ10 and L-Carnitine, for example, has been known for approximately 15 years. Italian researchers have demonstrated an extraordinary synergistic effect of these nutrients in several conditions, such as ischemia, reperfusion injury of the heart, fatty infiltration of the liver induced by alcohol, and hyperbaric oxygen toxicity in experimental animals. These nutraceuticals offer remarkable biochemical and metabolic complementary roles. L-Carnitine has the unusual ability to enhance fatty acid oxidation in cells while removing excess harmful substances -- such as acyl groups and free radicals -- from inner mitochondrialstolic dysfunction that could lead to heart failure. Those with hypertensive cardiovascular membranes. Since 60% of cardiac energy comes from the beta-oxidation of fats, employing L-Carnitine is instrumental in treating angina, myocardial infarction, congestive heart failure as well as peripheral claudication.

In the setting of acute and/or chronic ischemia, Coenzyme Q10 and L-Carnitine offer significant clinical advantages with absolutely no risk to the patient. These nutrients, while supporting cardiovascular function, also preserve the inner mitochondrial membrane and may even support vulnerable cells, particularly senescent myocardium from apoptosis.

Recently, another new emerging compound has been gaining increasing support among our fellow “metabolic cardiologists.” D-ribose is a biochemical, five-sided sugar that has been extensively investigated in both animal and clinical models. Investigators believe that under certain cardiac conditions – especially during ischemic episodes like angina and myocardial infarction, when the heart is deprived of oxygen – there is a profound depression of energy compounds such at ATP. A drop in ATP means a subsequent decrease in myocardial function causing the heart to struggle as a pump.

This is probably one of the reasons that we see “stunned myocardium” following acute coronary artery syndrome and myocardial infarction. Researchers are now learning that D-ribose plummets during ischemia, and that it takes considerable time to recover and regenerate ATP compounds. D-ribose helps to replenish the severely depleted adenosine nucleotide pool in the ischemic myoccytes, a process that is critical to ATP synthesis.
It has been previously noted that coenzyme Q10 and L-carnitine increase exercise time and delay the onset of electrocardiographic evidence of ischemia during exercise stress testing of anginal subjects. The pentose sugar D-ribose (15 Grams daily) has been similarly noted to protect cardiac cells from ischemic episodes and increase exercise time before symptom onset due to angina. The combined antioxidant, membrane-stabilizing and metabolic activities of CoQ10, L-Carnitine, and D-ribose will play a significant role in the setting of silent and overt myocardial ischemia.

As new research unfolds, these nutraceuticals provide an exciting platform in cardiovascular disease to improve quality of life for patients suffering from progressive angina, unstable angina, acute coronary syndrome, diastolic dysfunction, and congestive heart failure. Metabolic cardiologists will upgrade the level of patient care as they gain further insight into this new great emerging field in cardiovascular medicine.

4. Enzymes
Within a single cell there are roughly 100,000 genes, the majority of which house enzymes, the workhorses of the living cell. All enzymes are proteins, and are also composed of long chains of amino acids. Also recognized as the corporeal life force, enzymes are involved in nearly every metabolic process in the body.

As we age, or develop a disease, our body has fewer and fewer enzyme stores at its disposal. For example, a sixty-year-old has 50 percent fewer enzymes than a thirty-year-old. Enzymes function as catalysts and make things work faster. They have the ability to initiate, accelerate, and terminate biochemical reactions in the body. Enzymes increase the activity of the cells that are important to a healthy immune system, and they are integral in maintaining homeostasis. Provided there are sufficient enzymes, cases of acute inflammation may be healed within a few days. With chronic silent inflammation, however, the continued shortage of enzymes leads to an eventual breakdown of the reactions needed to remove diseased tissue from the body and return it to normal health.

Enzymes are important biological response modifiers and play a vital role in controlling inflammation and promoting heart health. Although Wobenzyme has been used exclusively by Olympic athletes over the years to reduce inflammations in tendons, muscles and joints, newer inflammatory mediators such as nattokinase have been gaining popularity for reducing inflammatory mediators such as C-reactive protein.

The future enzymes such as nattokinase and Wobenzyme as well as fish oil will be utilized in reducing the total “inflammatory load” in the body.

5. Omega-3 Fatty Acids
Leading medical institutions worldwide have confirmed that daily supplementation with pharmaceutical-grade fish oil, rich in omega-3 essential fatty acids, is your most powerful weapon for assuaging inflammation.

Although the evidence in the cardiovascular literature resounding that omega-3 essential fatty acids are appropriate in the treatment and prevention of cardiovascular disease, the most recent noteworthy trial appeared in the Lancet. In this study of approximately of 11,000 Italian participants who suffered a myocardial infarction, the group given fish oil had a 45% lower incidence of sudden cardiac death and a 20% reduction in all-cause death over a three- year period. Those receiving fish oil also appreciated a reduction in blood pressure, suppression in platelet activity, drop in triglyceride levels, and a marked attenuation in cardiac arrhythmia.

Perhaps the most noteworthy way fish oil seems to attain its beneficial effect is its favorable impact on heart rate variability (HRV). Omega-3 essential fatty acids also reduce plaque rupture by literally “getting inside plaque” to stabilize it and rendering it less vulnerable to rupture. Eating “healthy fish” or taking fish oil supplements is an absolute must, especially for the populations at risk for cardiovascular disease. In fact, just two fish meals per month will reduce an individual’s risk of sudden cardiac death by 50 percent.

Unfortunately, because most fish have become contaminated with toxins, such as dioxins, mercury, and PCBs, consuming fatty cold-water fish as your primary source of omega-3s is now being questioned. There is, however, a solution to this dilemma -- the OmegaRx brand of fish oils formulated by Dr. Barry Sears’ lab. These pharmaceutical-grade fish oils have been concentrated and purified to the highest standards possible. They are toxin-free and can be ingested without any fear of toxins or contaminants found in the fish we eat, or in the standard omega-3 supplements. For these reasons, we can heartily recommend them; OmegaRx fish oil supplements are available at www.zonecafe.com.

The certification process for OmegaRx measures the levels of contaminants in parts per billion. OmegaRx is found to be at least 100 times purer than the typical health-food-grade fish oils. It sets the standard for fish oil purity and goes beyond the same quality control standards established for the oils that were used in recent clinical trials.

If you make no other changes in your diet to enhance insulin control and reduce inflammatory mediators, consider supplementing with OmegaRx to help maintain brain, cardiovascular, and immune function. Dr. Sears’ recommended daily maintenance dosage is four OmegaRx capsules or one teaspoon of OmegaRx liquid. The half-life of fish oil is two days so you only need to take it once a day.

6. Control of Chronic Infections without Antibiotics
Current research from the National Institutes of Health (NIH) and elsewhere shows that while chronic infections are really never eradicated, they can be controlled as long as a person remains on an antimicrobial program. The disadvantages of living on antibiotics, however, do not make this an attractive or plausible way to live.

Research has shown that some people who have taken tetracycline for acne for years have less atherosclerosis. This previously anecdotal observation now makes sense when we recognize that many people have chronic infections, such as CMV and nanobacteria, that contribute to the silent inflammation and the elevated CRP levels we see. It is our opinion that if we boost the body’s natural immunity with select nutraceuticals and practice good oral hygiene, we can thwart many of these chronic infections. These formulas can be taken for an entire lifetime without any substantial risk.
“
We have already seen how most infections are masked by soluble fibrin monomers such as the ones in the protein coats of the agent that causes Lyme disease, and how useful enzymes like Wobenzym are in the treatment of these chronic infections.

After studies done in Florida at Hemex Laboratories (www.hemex.com), researchers are now convinced that the presence of any form of infection is associated with inflammation and severely localized hypercoagulability (toxic blood). Therefore, to help get adequate blood flow to the infected tissues to completely extirpate these stubborn infections, we believe it is essential to take targeted nutraceuticals.

Garlic is also important because many microbials cannot grow well in its presence. Malic acid helps bind iron so that many harmful organisms requiring iron for their reproductive cycle are kept from replicating. We have found TOA-Free Cat's Claw (aka samento) to be very helpful for Lyme disease. Samento (uncaria tomentosa), is extremely potent and able to significantly strengthen the immune system. Samento also has powerful anti-inflammatory, antioxidant, and anti-tumor properties. Research shows that samento eliminates dependence on steroids and inhalers, reduces HIV and hepatitis-C levels, drops CRP levels, and lowers some tumor markers, such as PSA. We like Nutramedix 1-800-730-3130 and their related websites nutramedix.com and www.samento.com.ec.

Other nutraceuticals, such as elements of colostrum, grapefruit seed extract, rice bran, rhodiola rosea (found in Northern Alpine regions), and many different mushrooms like shiitake and reishi, also have powerful effects in fighting chronic infections and inflammation.

7. Pharmacology

While many physicians are unaware of the important role of eicosanoids, the pharmaceutical industry is very cognizant of these powerful hormones because many of the more popular drugs used today alter eicosanoid levels. Most of these drugs inhibit the enzymes that synthesize eicosanoids and have little therapeutic effect in altering the balance of "good" and "bad" eicosanoids.

As an example, the cyclooxygenase enzymes (Cox-1 and Cox-2) are responsible for the synthesis of prostaglandins and thromboxanes, but they can be blocked by aspirin, Cox-2 inhibitors, and non-steroidal anti-inflammatory drugs (NSAIDs). Furthermore, the only drugs that can inhibit all types of eicosanoid synthesis are corticosteroids; while blocking the synthesis of "bad" eicosanoids may reduce inflammation, the anti-inflammatory and other beneficial properties of "good" eicosanoids are obstructed in the process. Unfortunately, the undesirable side effects make long-term corticosteroid usage inadvisable.

Recent research indicates that the cardiovascular benefits of statin drugs (first used to decrease cholesterol levels) may be due primarily to their anti-inflammatory actions that reduce C-reactive protein levels. As pointed out earlier, C-reactive protein is associated with generalized inflammation and is considered a significant biomarker for the development of heart disease.

New research suggests that statin therapy also increases insulin levels and insulin resistance, which may amplify the future risk of heart disease, diabetes, and obesity. Our position on statins was summarized in an editorial in the March 2003 issue of The Southern Medical Journal.

Although there is little doubt that statin therapy can significantly reduce the incidence of coronary morbidity and mortality, especially for those who are at the greatest risk of developing coronary artery disease, over-utilization of statins in the population that does not have overt coronary artery disease or silent inflammation should be avoided.

However, recent interventions using electron beam computerized tomography (EBCT) to demonstrate an association between high coronary calcium burden (score greater than 1,000) and cardiac events suggest that statin therapy may prove to be a good intervention. In other words, in patients with myocardial infarction, coronary artery bypass surgery, stent emplacement, stable or unstable angina, and high coronary calcification, statin therapy should be utilized regardless of their cholesterol levels.

In diabetics with high cholesterol and high inflammation indices determined by elevated CRP, homocysteine, LP(a), and other inflammatory cytokines, statin therapy is also beneficial.

The use of statins in high-risk coronary patients, especially those with inflammatory markers, is good medicine. However, overuse of these potent pharmacological agents with known and unknown side effects in otherwise healthy people is not considered smart medicine. We also do not know the long-term effect of statin therapy, especially since longitudinal studies for those taking statins for more than 10 years are lacking.

Carcinogenicity and cardiomyopathy (diastolic dysfunction) associations with statin therapy may cause us to rethink our posturing on statin therapies in the future. For now, we implore physicians to select statin therapy to address the individual risks and health needs of each patient, and avoid prescribing them simply to treat high cholesterol numbers alone.

8. Exercise and Stress Management
There is no doubt that exercise should be an indispensable part of any person's total health promotion program, not only because of its many benefits, but also because of the sense of well being that exercise provides.

The biological basis of all these benefits is that they are mostly a consequence of the hormonal and weight loss changes that various types of exercise induce. The real key is that the higher the intensity of exercise, the more the hormonal responses are affected. Moderate to higher-intensity aerobic exercises reduce insulin (and therefore inflammation), and increase glucagon levels -- exactly as a Zone-favorable diet does. However, high intensity exercises such as marathon running, wrestling, boxing, and other professional and Olympic sports, to mention a few, can cause enormous oxidative stress and subsequent antioxidant insufficiency. The most common antioxidants that are depleted with regular intense exercise include CoEnzyme Q10, magnesium, and vitamin E. In a pre- menopausal woman athlete severe iron deficiencies may also been noted. High intensity exercise, like emotional stress, can enhance the oxidation of LDL.

Emotional stress can cause inflammation just as easily as oxidized LDL. The medical community now recognizes that a supercharged sympathetic nervous system (SNS) can set you up for cardiac events and sudden death. Heart rate variability, an assessment of sympathetic and parasympathetic nervous system balance or imbalance, can now be performed in an office setting. Anger, hostility, and the inability to express feelings are also serious cardiovascular risk factors. In addition to exercise, various mind-body approaches, listed in our book, Spa Medicine (Basic Books, 2004), can be very effective in altering SNS response and inflammation.

Summary
As this book goes to press, a front page Time article (Feb.23, 2004) highlights the link between inflammation, cancer, heart attacks, Alzheimer's and other diseases. Everywhere we turn we are facing evidence that inflammation plays a larger role in chronic disease than we physicians ever thought. We need to ask ourselves the rhetorical question "is your heart on fire?"

To some degree, silent inflammation is insidiously eroding our vital organs.
One of our colleagues, neurologist Dr. David Perlmutter, would agree. His newest book, "The Better Brain Book" with Carol Colman, discusses the inflammatory and toxic environment of the aging brain. Plaque stabilization, whether in the brain, heart or other organs will eventually come under the domain of dietary Cox 2 inhibitors including green tea, ginger, curcumin, oregano, onions, garlic and fish oil. In addition, vital nutraceuticals such as folic acid, fish oil, enzymes, CoEnzyme Q10, magnesium, quercetin, L-Carnitine, D-ribose, and others will continue to be utilized by like-minded physicians as safe alternative options.

More integrative therapies will include statin therapy, ACE inhibitors, low-dose aspirin, antibiotics and leukotriene inhibitors as more conventional approaches to halting the ravages of inflammation. The integration of proven complementary therapies with conventional treatments in heart disease will allow physicians to offer many additional options to their patients.

"
We urge physicians to keep an open mind and harbor a willingness to support conventional methodologies while investigating alternatives that can improve quality of life and reduce human suffering. Choosing from the best conventional and complementary options is the only logical and ethical thing to do to help douse the inflammatory inferno in the heart.
=====end.

My notes…congrats if you made it to the end. Don't be turned off if you go to some of the web sites and see they are quite commercial. Both Dr. Sears and Sinatra have gone into satellite businesses promoting their health knowledge.

I don't think that detracts from the substantial content of the information presented. We don't have to patronize their establishments.

Jackie

Jackie, Thanks for your response to my question regarding adrenergic afibbers, gluten and inflammation:

"yes, all afibbers - inflammation is inflammation whether it is in the nervous system or the cardiac system - it causes damage."

Maybe I'm wrong but it seems like the only ones here that report success with gluten reduction are vagal afibbers. This is puzzling if it is inflammation that should affect all afibbers.

Hey out there, were any of you successful gluten reducers, adrenergic afibbers?

Bob K.

Fran, Nice to see you posting again:

"*This is a question that will remain unanswered until someone with adrenergic AFib tries it out for themselves*."

Perhaps they have tried it but haven't reported because they were unsuccessful?

_____

"*This is very new territory and one that is not really accepted in the main for vagal afibbers - Except we know that it can work because so many people have been helped by it*."

If so many people have been helped by it, it's puzzling that we haven't heard any successes from adrenergic afibbers. Maybe one of them will post a message here. Let's hope.

Bob K.

P.S. I might try not eating bread after I finish with another approach to my afib which involves more vitamin C and water.

Bob K, because I wasn't diagnosed as AF until I was in 24/7, and then they couldn't keep me out of it, I can only do a retrospective over the 7 years when I was diagnosed with atrial tachycardia which, in retrospect, was clearly an increasingly frequent paroxysmal AF. I would usually go into my episodes during the night (vagal) but they ceased almost instantly (40 minutes typical) after a tiny dose of propranolol, a beta-blocker (adrenergic Afibber response, as I understand it). Again in retrospect, I could not identify any triggers at all, and I did occasionally have the palpitations etc during the day, definitely not always at night - and the propranolol also worked during the day just as quickly.

Prior to those 7 years of atach, I was a diagnosed celiac who became gluten free and stayed there, free of all the painful GI symptoms that had caused me to be studied for the celiac diagnosis in the first place. Other than the occasional (6,7 times a year gradually increasing) AF bouts, my "metabolic" health after going gluten-free remained (ahd remains) superb, no GI issues, no GERD, no fatigue (except from the AF meds....), no headaches, no allergies, no asthma, no depression, etc. I did, and do, have a 35 year osteoarthritis, but I haven't seen that linked to celiac or gluten (though I'm sure I've missed that link!). I don't think any of that answers your "adrenergic-gluten" question directly, but then this is AF, no question ever has a straightforward answer, as well we all know. I buy the "individual metabolism" concept wholeheartedly!

Kagey

Kagey - Here's the first hit I had with a PubMed search on celiac osteoarthritis....

" Finally, the interesting data of this study put into question the rather dogmatic view that OA is a noninflammatory disease. As many as 50%, at least, of advanced-OA patients clearly do not conform to this rule. "

Clin Diagn Lab Immunol. 1998 July; 5(4): 427–429.

Cellular Immunity in Osteoarthritis: Novel Concepts for an Old Disease

Stamatis-Nick C. Liossis1 and George C. Tsokos1,2*

All of the information I've seen says that OA is a chronic degenerative disease resulting from lifestyle (diet) so it may not only be the gluten you need to avoid.

I agree with you, we are still looking for straight-forward answers to the etiology of AF. Many cardiologists and EPs don't address the adrenergic or vagal concept either, so that makes it even more difficult.

Jackie

Bob when you decide to check out vitamin C, be sure you read what Robert Cathcart MD, has to offer on the subject. He's a well known expert with many, many years of research and clinical experience in orthomolecular medicine.

Jackie

I don't think OA is always diet based, Jackie, though it may be diet influenced; e.g., athletes commonly develop it in particular stress points. When I first started having knee problems, x-rays revealed that I had a genetically altered placement of the patella, that had by then for decades been putting unusual stresses on my knees, which in turn triggered the OA there. And of course once knees are not functioning quite right, those stresses in turn put stress on the hips, which also suffer cartilage loss. It is interesting, though that the progression over 30 years has been slower than anyone predicted, and that in turn could be related to the gluten-free diet. Well, at least I'm not in a wheelchair and still have my own knees at 66, and am still more than functioning. Thanks for the tip.

Kagey

Kagey, Your experience with propranolol caught my attention.

"I would usually go into my episodes during the night (vagal) but they ceased almost instantly (40 minutes typical) after a tiny dose of propranolol, a beta-blocker (adrenergic Afibber response, as I understand it)."

I try to avoid drugs when possible and I don't know much about them. The idea of "a tiny dose" of a drug sounds like something I might consider. How low was your dose and what is the usual dose for most people? Would you happen to know if propranolol is appropriate for adrenergic afibbers? I'm not sure what you meant by, "adrenergic Afibber response, as I understand it." One thing I didn't understand was your remark, "no fatigue (except from the AF meds....)" which seemed inconsistent with the tiny dose propranolol pill-in-pocket approach.

It's interesting that you gained so much benefit from going gluten free because of your celiac disease but it didn't mitigate your afib. Anyhow, thank goodness for the benefits.

Bob K.

Bob, the pill I took while having my "tachycardia - which in retrospect was really paroxysmal AF" was a single 20 mg version of propranolol. The lowest dose usually used for say blood pressure control is 60 mg a day.

The propranolol was used only before I started having serious breathing trouble during my "palpitations," and was then diagnosed in ER with AF, which almost instantly locked into 24/7 AF (and strong problematic genetic links emerged from the shadows when I started talking about AF, but I won't go into that story here). Once one is in 24/7 AF, rate control becomes a major issue, and while I used a variety of med strategies, it ended up that 100 mg per day of atenolol and a small amount of verapamil kept my HR in the 60's and prevented it from skyrocketing during activity. Unfortunately, even mid-range doses of beta-blockers like atenolol cause fatigue in, in my experience, almost everyone who uses them - despite the fact that the official literature says about 15 percent show fatigue as a side effect. Most people I know say that beta-blockers induce lots of fatigue. That was one of the reasons i opted for ablation, even though my rate control while in 24/7 was good. Also, now I realize from newer data still emerging that staying in 24/7 AF for any long period of time seriously decreases the probability of success in the ablation.

So the fatigue was not associated with the "pill in the pocket" propranolol. Hope that's useful.

Bob, sorry, I simply didn't and still don't know what "adrenergic AF" is, but I saw somewhere that normally beta-blockers are not helpful in getting one out of AF if indeed one is "adrenergic." You used the term, so I presume you know what it is. Anyway, beta blockers (e.g., propranolol) aren't supposed to be of help in adrenergic AF. KG

Kagey

Beta blockers aren't helpful to vagally mediated afibbers.

From the Glossary on the home page of the BB

Adrenergic - Pertaining to the sympathetic branch of the autonomic nervous system.
Adrenergic LAF - Lone atrial fibrillation triggered by excessive sympathetic stimulation.
Adrenergic tone - The strength or vigour of the sympathetic branch of the autonomic nervous system.

From the other afib forum:

The Adrenal (Adrenergic) Glands sit above the kidneys and produce the hormone epinephrine (adrenaline) in response to stress, which causes an increase in heart rate and blood pressure. This adrenaline stimulates what is called the Sympathetic Nervous System to speed up the heart and constrict the blood vessels. The Vagus Nerve, in contrast, controls the abdomen and is part of the Parasympathetic Nervous System that tends to slow the heart and dilate blood vessels.

The majority of A-Fib is "Adrenergically-Mediated" which means it usually is triggered by exercise, stress, stimulants, exertion, etc. But if your A-Fib occurs usually at night, after a meal, when resting after exercising, or when you have digestive problems, you may have "Vagally-Mediated" A-Fib. Many people have both Adrenergic and Vagal A-Fib.

It's important to determine which one you have so you can better identify what triggers your A-Fib, and because the treatments are different for each.

http://www.a-fib.com/Glossary.htm#Vagal%20A-Fib

Jackie

Hello Jackie,

Thank you so much for your comments. I think we pretty well covered your questions and suggestions in our e-mail correspondence. However, in case other posters are interested I'll provide a little more background.

The whole saga began about 3-4 weeks ago with a very bad case of intestinal infection that was making the rounds in Victoria. I suffered with watery diarrhea for 2 days. As a consequence, my IBS was severely aggravated and I found that there were so many foods that I could not eat without repercussions. Normally, I am not that sensitive to different foods -- thank goodness!!:~)

I have now embarked on a gluten-free diet and am pretty well on the paleo diet for dinner - hope to include lunch as well pretty soon. It really seems to help.

Thank you all for your comments.

Hans

Claire,

Thank you so much for your suggestion about the smoothie. I have started that for breakfast and have also found well-cooked quinoa porridge and millet porridge with applesauce to be very acceptable for breakfast.

All the best
Hans

Hello Fran,

Thank you so much for offering your help in solving my diet dilemma. Actually my IBS is now pretty well under control and my food choices are now much wider. However, I have decided to go on a gluten-free diet and that really seem to agree with me, so I'll continue with that. It really is not that hard to give up bread and cookies :~) Actually, I found a cookie made from rice flour that is quite nice. Our dinners are pretty well paleo anyway, so maybe a gluten-free, semi-paleo diet will be OK for me - we'll see.

All the best
Hans

I've never been diagnosed as having IBS but have had gut problems off & on since childhood (68 now). I'm fairly certain this has caused my LAF. I've recently been battling diarrhea for nearly a year. About a month ago I quit using all grain products and the problem disappeared almost immediately. I have had an afib event since quitting the grain products and the duration was 45 minutes--is usually 2-4 hours. I have very positive respect for the gluten free diet at this point.

I use no pharma drugs--though I did until about 7 months ago. Have been using all the usual helpful supplements mentioned on the BB, plus more than several others. I am dedicated, at this point, to avoiding ablation. My opinion is: if my gut problems have caused the AFIB, and I get the ablation, I still have the gut problem--and then what other future havoc will it cause. I am very happy to have finally given the gluten free diet a fair shot--though I still have a piece to go with the total diet, progress so far is far better than I even hoped for. And I have Jackie to thank for most of my progress!

And thanks to you all--------

Jack M

Hans, when I went gluten-free years ago, I discovered Pamela's Products. They're marketed in the US at Whole Foods and now many other places. She makes excellent wheat-free, gluten-free cookies, and other products - one I especially enjoy is Pecan Shortbread.

http://info@pamelasproducts.com or 707-462-6605 puts you in contact with the company to find out where their products are marketed near you.

I don't know if Whole Foods is in Canada, but if so seek one out; they are a real leader in helping those of us want to be gluten-free stay that way, with highly detailed labels on pretty much everything they sell.

Unfortunately Pamela's cookies are not paleo, they do contain salted butter!

All my best.
Kagey

Hans,
Just a thought: I've read that as great and nutritious as quinoa is, it requires an overnight soaking to eliminate certain anti-nutrients. I use it frequently as a breakfast cereal with blueberries and coconut milk, but I do soak it first.

Second, if it's available, you might also want to try amaranth, another South American grain. It makes a great porridge with a very mild taste and a great nutrient profile. Like other alternative "grains" it's not a grain at all, but rather a seed. No gluten in other words.

Trent

PS on Inflammation/Gluten Sensitivity Connection

I have received a response to a query I wrote Dr.Tom O'Bryan about the inflammation connection between silent celiac and atrial fibrillation. He has responded by directing me to the article referenced in my Conference Room post – currently featured and has added the following comment:

" Another theory you may want to consider is how Celiac Disease will cause peripheral nerve degeneration. My suspicion it is throughout the body (depending on genetics, environment, and lifestyle). The enclosed study is the first I am aware of referencing peripheral neurological degeneration specifically from Gluten Intolerance. Who is to say it couldn't be nerve fibers to the heart muscle? Food for thought."

Jackie

Aliment Pharmacol Ther. 2004 Jul 1;20(1):73-9.
Risk of vascular disease in adults with diagnosed coeliac disease: a population-based study.

West J, Logan RF,Card TR, Smith C, Hubbard R.
Division of Epidemiology and Public Health, Medical School, Queen's Medical Centre, University of Nottingham, Nottingham, UK. joe.west@nottingham.ac.uk

BACKGROUND: It has been suggested that vascular disease mortality may be reduced in coeliac disease because of lower levels of blood pressure, cholesterol and body mass. AIM: To examine whether people with coeliac disease are at reduced risk of various vascular diseases.

METHODS: We identified 3,790 adults with diagnosed coeliac disease and 17,925 age- and sex-matched controls in the General Practice Research Database. We estimated odds ratios for diagnosed hypertension, hypercholesterolaemia and atrial fibrillation and hazard ratios for myocardial infarction and stroke.

RESULTS: Adults with coeliac disease, compared with controls, were less likely to have had a diagnosis of hypertension [11% vs. 15%, odds ratio 0.68 (95% confidence interval: 0.60-0.76)] or hypercholesterolaemia [3.0% vs. 4.8%, odds ration 0.58 (95% confidence interval: 0.47-0.72)] but slightly more likely to have had atrial fibrillation [2.1% vs. 1.7%, odds ratio 1.26 (95% confidence interval: 0.97-1.64)]. The hazard ratio for myocardial infarction was 0.85 (95% confidence interval: 0.63-1.13), while the hazard ratio for stroke was 1.29 (95% confidence interval: 0.98-1.70).

CONCLUSIONS: Although rates of myocardial infarction and stroke were not substantially different, adults with coeliac disease do have a lower prevalence of hypertension and hypercholesterolaemia compared with the general population. The effect of a gluten-free diet on cardiovascular risk factors should be determined before any screening programmes for coeliac disease are instituted.

Jackie, It appears that the article you mentioned shows the **benefits** of coeliac disease with respect to less risk for vascular disease! Now that's a turnaround!!

From the results section:

Adults with coeliac disease, compared with controls

1) were less likely to have had a diagnosis of hypertension [11% vs. 15%]
2) were less likely to have had a diagnosis of hypercholesterolaemia [3.0% vs. 4.8%]
3) slightly more likely to have had atrial fibrillation [2.1% vs. 1.7%].

4) the hazard ratio for myocardial infarction was 0.85
5) the hazard ratio for stroke was 1.29 .

From the above, it doesn't appear that coeliac disease is very likely to cause afib. Only 2.1% with coeliac disease had afib which is nearly the same as the control group with 1.7%. Does this mean that gluten intolerance is not very likely to cause afib?

Thanks for sharing the article.

Bob

Actually, the reasoning is tricky, so I took another look at it.

One can say that of the 2.1% who had afib and coeliac disease, 0.4% (i.e. 2.1% minus 1.7%) might be caused by gluten intolerance. That might mean that the cause of afib in about 1 in 5 people with coeliac disease and afib is gluten intolerance.

Bob

Bob - as the focus of the CR post and Dr. O'Bryan's message back to me points out, inflammation from gluten sensitivity could be at the root of causing irritability in the nerve fibers in the heart. It's speculative but we know inflammation is a player in afib. It's the chain of events or the inflammatory cascade that deserves consideration for the potential.

I think it's interesting just to note that a connection to gluten/inflammation and afib actually turned up in a study- even though the study wasn't about afib.

Just another reason to try a diet free of grains.

Jackie

Jackie,

From the article in your message, it looks like 1 in 5 people with coeliac disease and afib might reduce or eliminate their afib with a gluten-free diet. Not sure what percentage of afibbers without coeliac disease would be helped with a gluten-free diet but I would expect it to be much less than 1 in 5.

Bob

I suspect you're right, Bob. If there's no allergy. and a good diet including whole grains does not contribute to a person's a-fib, I should think that gluten can be an important and healthful component. As we keep saying, every individual is different.

http://www.whfoods.com/genpage.php?tname=foodspice&dbid=66

This article addresses the benefits, the allergies, etc.

Lynne

"... and a good diet including whole grains does not contribute to a person's a-fib ..."

About that, you will never know whether the grains are contributing to the afib unless you try dropping them completely to see if the afib lessens. This would, of course, include dropping most packaged foods, especially condiments, because a lot of them have wheat in them somewhere, concealed in the polysyllabic gobbledygook in the small print.

PeggyM

Peggy - absolutely - and let's not forget the insulin factor which is why we all became interested in the Paleo diet in the first place.

Everyone needs to address the intake of too many carbs and the consequences of insulin resistance and advanced glycation end products...aka: Ron Rosedale, MD. We are not different in that regard at all.

Jackie

Thanks for the reminder, Jackie. The website I referenced did indeed make a point of discussing the insulin issue:

Whole Grains Reduce Risk of Metabolic Syndrome

First we were told, "Don't eat fat, and you'll stay trim." After following this advice only to see obesity expand to never before seen proportions, we're told by the food gurus, "Eating fat is fine. Shun carbohydrates to stay slim."

In our opinion, neither piece of dietary advice is complete, accurate or likely to help us stay slim or healthy. Just as different kinds of fats have different effects in our bodies (e.g., saturated and trans fats are linked to increased risk for cardiovascular disease while omega 3 fats decrease cardiovascular disease risk), some carbohydrates, such as whole grains, are healthful while others, such as refined grains and the foods made from them, are not.

The latest research is clearly supporting this vital distinction. Refined grains and the foods made from them (e.g., white breads, cookies, pastries, pasta and rice) are now being linked not only to weight gain but to increased risk of insulin resistance (the precursor of type 2 diabetes) and the metabolic syndrome (a strong predictor of both type 2 diabetes and cardiovascular disease), while eating more wholegrain foods is being shown to protect against all these ills. Common features of the metabolic syndrome include visceral obesity (the "apple shaped" body), low levels of protective HDL cholesterol, high triglycerides, and high blood pressure.

In one of the most recent studies, which appeared in the February 2004 issue of Diabetes Care, researchers who analyzed data on 2,834 participants in the Framingham Offspring Study, found that the prevalence of both insulin resistance and the metabolic syndrome was significantly lower among those eating the most cereal fiber from whole grains compared to those eating the least.

Prevalence of the metabolic syndrome was 38% lower among those with the highest intake of fiber from whole grains. Conversely, study subjects whose diets had the highest glycemic index and glycemic load, both of which are typically low in whole foods and high in processed refined foods, were 141% more likely to have the metabolic syndrome compared to those whose diets had the lowest glycemic index and glycemic load. In other words, compared to those whose diets were primarily composed of whole high fiber foods: whole grains, legumes, vegetables and fruits.

The researchers concluded, "Given that both a high cereal fiber content and lower glycemic index are attributes of wholegrain foods, recommendation to increase wholegrain intake may reduce the risk of developing the metabolic syndrome." Our perspective at the World's Healthiest Foods is that a way of eating that relies on the healthiest foods from all the food groups—the whole foods that contain the healthiest fats, carbohydrates and proteins—is the most effective, intelligent, and most enjoyable way to not only lower your risk of developing the metabolic syndrome, but to stay slim, vital and attractive throughout a long and healthy life.>

And Peggy, if a person has gone nearly six months without a-fib, while eating whole grains, it would seem to indicate that that person, at least at the moment, has no gluten issues.

Thanks for your comments!

Lynne

Lynne - It's true. There are no absolutes in a connection between afib and gluten - just potentials and possibilities stemming from the inflammation factor present in both afibbers and those with gluten sensitivities.

That said, however, a person can be gluten sensitive without dramatic symptoms and the only sure way of determining that is the gluten/gliaden antibody testing. People suffering from the conditions I listed in the Conference Room most likely have not and will not be tested for gluten sensitivity since this whole topic of silent celiac is relatively new and hasn't caught on in mainstream medical communities. But functional medicine professionals see metabolic disturbances all the time.

Going without afib for six months is not at all unusual or uncommon in the early stages of this condition. Many people will not be revisted with another event for a year or so.

The emphasis on healthy aging today lies with avoiding carbohydrates in any measureable quantity. Anytime carbohydrates are consumed from foods other than vegetables, the potential is there to cause metabolic imbalances. If you haven't read the entire article by Ron Rosedale, MD, on "Insulin and Its' Metabolic Effects", you should take the time to do so. He's considered the expert in this field. He addresses the high fiber comparison of carbohydrate consumption.

You can find this article at http://www.mercola.com

Jackie

Lynne, Thanks for the info. It gives a better balance to the discussion.

Jackie, Regarding your comment, "Going without afib for six months is not at all unusual or uncommon in the early stages of this condition. Many people will not be revisted with another event for a year or so." I think you're trying to hold onto an untenable position regarding Lynne's case. There doesn't seem to be any reason to believe that Lynne is gluten sensitive and plenty of reason to believe that she is not gluten sensitive.

Good health everyone.

Bob

I came across your material in the conference room and found that interesting as well as this article. I have celiac disease and do feel it contributed to my condition. I don't have high cholesterol or high blood pressure. Celiacs have greater levels of autoimmune diseases and hypothyroidism compared to non celiacs. Also, some older material I looked at showed that even though celiacs stop eating wheat, they often still have unresolved damage in the digestive system and the researcher, Helen Gothschall has suggested in her book "Breaking the Vicious Cycle" that the cause is certain types of carbohydrates, which includes all grains.

I was off wheat for 6 years before being diagnosed with a-fib, but while on wheat, I developed cateracts at age 42 and hypothyroidism at about that time as well. Clearly, there is oxidative damage in untreated celiac disease. Definitely for me, exposure to small amounts of wheat has definite nervous system consequences for me. I become depressed and irrational and often will not sleep at night for being somehow wired up and uncomfortable. It will also send me into a-fib the next day.

It is estimated that between 1 in 100 and 1 in 150 people have celiac disease. In the US it is infrequently tested for, so most celiacs don't know they have it and have about a 15% risk of developing cancer from it. I think it is definitely worth checking into when you develop chronic health problems. In Italy, all children are tested for before the age of 6.

Tish

"some carbohydrates, such as whole grains, are healthful while others, such as refined grains and the foods made from them, are not."

Considering the success of diets such as Donaldson's "Strong Medicine" (book title), it looks like all carbohydrates are poison. Usually subtle.

He was treating serious obesity with a diet composed only of fatty porterhouse steak with a half cup of black straight coffee. He found that it had side effects, which were that it cured (yes, cured) heart disease and the other five of what was called the "Big Six" diseases usually found in very fat people.
IIRC the steak had to be raw.

William

So far, no mention has been made of the role of the Enteric Nervous System (ENS). The ENS is very susceptible to changes in gluten. If you google enteric nervous system and glutamate you will find a wealth of information.
This article below mentions how the ENS is intertwined with the vagus nerve. No wonder food plays such a major role in afib. The paleo diet is successful because it calms down the ENS.

http://www.psyking.net/id36.htm

The Enteric Nervous System: The Brain in the Gut

The gut has a mind of its own, the "enteric nervous system". Just like the larger brain in the head, researchers say, this system sends and receives impulses, records experiences and respond to emotions. Its nerve cells are bathed and influenced by the same neurotransmitters. The gut can upset the brain just as the brain can upset the gut.

The gut's brain or the "enteric nervous system" is located in the sheaths of tissue lining the esophagus, stomach, small intestine and colon. Considered a single entity, it is a network of neurons, neurotransmitters and proteins that zap messages between neurons, support cells like those found in the brain proper and a complex circuitry that enables it to act independently, learn, remember and, as the saying goes, produce gut feelings.

The gut's brain is reported to play a major role in human happiness and misery. Many gastrointestinal disorders like colitis and irritable bowel syndrome originate from problems within the gut's brain. Also, it is now known that most ulcers are caused by a bacterium not by hidden anger at one's mother.

Details of how the enteric nervous system mirrors the central nervous system have been emerging in recent years, according to Dr. Michael Gershon, professor of anatomy and cell biology at Columbia-Presbyterian Medical Center in New York. He is one of the founders of a new field of medicine called "neurogastroenterology."

The gut contains 100 million neurons - more than the spinal cord. Major neurotransmitters like serotonin, dopamine, glutamate, norepinephrine and nitric oxide are in the gut. Also two dozen small brain proteins, called neuropeptides are there along with the major cells of the immune system. Enkephalins (a member of the endorphins family) are also in the gut. The gut also is a rich source of benzodiazepines - the family of psychoactive chemicals that includes such ever popular drugs as valium and xanax.

In evolutionary terms, it makes sense that the body has two brains, said Dr. David Wingate, a professor of gastrointestinal science at the University of London and a consultant at Royal London Hospital. "The first nervous systems were in tubular animals that stuck to rocks and waited for food to pass by," according to Dr. Wingate. The limbic system is often referred to as the "reptile brain." "As life evolved, animals needed a more complex brain for

finding food and sex and so developed a central nervous system. But the gut's nervous system was too important to put inside the newborn head with long connections going down to the body," says Wingate. Offspring need to eat and digest food at birth. Therefore, nature seems to have preserved the enteric nervous system as an independent circuit inside higher animals. It is only loosely connected to the central nervous system and can mostly function alone, without instructions from topside.

This is indeed the picture seen by developmental biologists. A clump of tissue called the neural crest forms early in embryo genesis. One section turns into the central nervous system. Another piece migrates to become the enteric nervous system. According to Dr. Gershon, it is only later that the two systems are connected via a cable called the vagus nerve.

The brain sends signals to the gut by talking to a small number of "command neurons," which in turn send signals to gut interneurons that carry messages up and down the pike. Both command neurons and interneurons are spread throughout two layers of gut tissue called the "myenteric plexus and the submuscosal plexus." Command neurons control the pattern of activity in the gut. The vagus nerve only alters the volume by changing its rates of firing.

The plexuses also contain glial cells that nourish neurons, mast cells involved in immune responses, and a "blood brain barrier" that keeps harmful substances away from important neurons. They have sensors for sugar, protein, acidity and other chemical factors that might monitor the progress of digestions, determining how the gut mixes and propels its contents.

As light is shed on the circuitry between the two brains, researchers are beginning to understand why people act and feel the way they do. When the central brain encounters a frightening situation, it releases stress hormones that prepare the body to fight or flee. The stomach contains many sensory nerves that are stimulated by this chemical surge - hence the "butterflies." On the battlefield, the higher brain tells the gut brain to shut down. A frightened running animal does not stop to defecate, according to Dr. Gershon.

Fear also causes the vagus nerve to "turn up the volume" on serotonin circuits in the gut. Thus over stimulated, the gut goes into higher gear and diarrhea results. Similarly, people sometimes "choke" with emotion. When nerves in the esophagus are highly stimulated, people have trouble swallowing.

Even the so-called "Maalox moment" of advertising can be explained by the interaction of the two brains, according to Dr. Jackie D. Wood, chairman of the department of physiology at Ohio State University in Columbus, Ohio. Stress signals from the head's brain can alter nerve function between the stomach and esophagus, resulting in heartburn.

In cases of extreme stress, Dr. Wood say that the higher brain seems to protect the gut by sending signals to immunological mast cells in the plexus. The mast cells secrete histamine, prostaglandin and other agents that help produce inflammation. This is protective. By inflaming the gut, the brain is priming the gut for surveillance. If the barrier breaks then the gut is ready to do repairs. Unfortunately, the chemicals that get released also cause diarrhea and cramping.

There also is an interaction between the gut brain and drugs. According to Dr. Gershon, "when you make a drug to have psychic effects on the brain, it's very likely to have an effect on the gut that you didn't think about." He also believes that some drugs developed for the brain could have uses in the gut. For example, the gut is loaded with the neurotransmitter serotonin. According to Gershon, when pressure receptors in the gut's lining are stimulated, serotonin is released and starts the reflexive motion of peristalsis. A quarter of the people taking Prozac or similar antidepressants have gastrointestinal problems like nausea, diarrhea and constipation. These drugs act on serotonin, preventing its uptake by target cells so that it remains more abundant in the central nervous system.

Gershon also is conducting a study of the side effects of Prozac on the gut. Prozac in small doses can treat chronic constipation. Prozac in larger doses can cause constipation - where the colon actually freezes up. Moreover, because Prozac stimulates sensory nerves, it also can cause nausea.

Some antibiotics like erythromycin act on gut receptors to produce ascillations. People experience cramps and nausea. Drugs like morphine and heroin attach to the gut's opiate receptors, producing constipation. Both brains can be addicted to opiates.

Victims of Alzheimer's and Parkinson's diseases suffer from constipation. The nerves in their gut are as sick as the nerve cells in their brains. Just as the central brain affects the gut, the gut's brain can talk back to the head. Most of the gut sensations that enter conscious awareness are negative things like pain and bloatedness.

The question has been raised: Why does the human gut contain receptors for benzodiazepine, a drug that relieves anxiety? This suggests that the body produces its own internal source of the drug. According to Dr. Anthony Basile, a neurochemist in the Neuroscience Laboratory at the National Institutes of Health in Bethesda, MD, an Italian scientist made a startling discovery. Patients with liver failure fall into a deep coma. The coma can be reversed, in minutes, by giving the patient a drug that blocks benzodiazepine. When the liver fails, substances usually broken down by the liver get to the brain. Some are bad, like ammonia and mercaptan, which are "smelly compounds that skunks spray on you," says Dr. Basile. But a series of compounds are also identical to benzodiazepine. "We don't know if they come from the gut itself, from bacteria in the gut or from food, but when the liver fails, the gut's benzodiazepine goes straight to the brain, knocking the patient unconscious, says Dr. Basile.

The payoff for exploring gut and head brain interactions is enormous, according to Dr. Wood. Many people are allergic to certain foods like shellfish. This is because mast cells in the gut mysteriously become sensitized to antigens in the food. The next time the antigen shows up in the gut, the mast cells call up a program, releasing chemical modulators that try to eliminate the threat. The allergic person gets diarrhea and cramps.

Many autoimmune diseases like Crohn's disease and ulcerative colitis may involve the gut's brain, according to Dr. Wood. The consequences can be horrible, as in "Chagas disease," which is caused by a parasite found in South America. Those infected develop an autoimmune response to neurons in their gut. Their immune systems slowly destroy their own gut neurons. When enough neurons die, the intestines literally explode.

A big question remains. Can the gut's brain learn? Does it "think" for itself? Dr. Gershon tells a story about an old Army sergeant, a male nurse in charge of a group of paraplegics. With their lower spinal cords destroyed, the patients would get impacted. "At 10am every morning, the patients got enemas. Then the sergeant was rotated off the ward. His replacement decided to give enemas only after compactions occurred. But at 10 the next morning everyone on the ward had a bowel movement at the same time, without enemas." Had the sergeant trained those colons?

The human gut has long been seen as a repository of good and bad feelings. Perhaps emotional states from the head's brain are mirrored in the gut's brain, where they are felt by those who pay attention to them.

Dean

Dean - thanks for this contribution! As mentioned by others, though, the Paleo diet doesn't work for everyone in curing from AF.

This focus is certainly plausible and once again speaks to irritation or inflammation which is the focus of my connection, as mentioned in this paragraph from your text:

" In cases of extreme stress, Dr. Wood say that the higher brain seems to protect the gut by sending signals to immunological mast cells in the plexus. The mast cells secrete histamine, prostaglandin and other agents that help produce inflammation. This is protective. By inflaming the gut, the brain is priming the gut for surveillance. If the barrier breaks then the gut is ready to do repairs. Unfortunately, the chemicals that get released also cause diarrhea and cramping."

There can be no doubt that inflammation and irritation of the vagus is at least in part responsible for triggering afib in some individuals and there can be many sources of inflammation. In this post, the focus is on the sensitivity to gluten/gliaden and the production antibodies which cause inflammation. In inflammatory responses, it may be antibodies to something else, but inflammation is still inflammation regardless of the source and if it's severe enough and continual, there will be manifestations.

In the future, we're going to see much more exposure on the relevance of silent inflammation. Brain on fire, CNS on fire, Heart on fire.

Everyone interested in health, healthy aging and especially atrial fibrillation needs to wrap their mind around the concept of inflammation, how it occurs and what the manifestations or consequences are.

Jackie

The Enteric Nervous System (ENS) in humans evolved hand in hand with the paleo diet over human evolution. They complement each other. Over the last 40 or so years our eating habits have drastically changed mostly due to the "jumbo jet factor" shrinking the world. We now eat all sorts of (mostly bad) food from all around the world and lots of it too - we eat food for pleasure.

Imagine what sort of effect this has on the ENS. Evolution is very is slow - the ENS has had no time to evolve to match our present day eating habits so you can imagine the acute stress the ENS is under with inflammation etc.
This "gut brain" can only do one thing to handle our modern day eating habits and that is to GROW! It has to add extra nerves and neurons (can it make new neurons?) to handle and process the massive intake of different foods in the gut. We afibbers have extra sinus node tissues in our PV's so is afib an unfortunate consequence of the ENS trying to grow itself to handle our Western style of eating?

Dean

I have a link to a web article with very useful information on gluten sensitivity that was forwarded to me by Ray to contribute here if I thought it was helpful. I do and here it is:

http://www.startribune.com/438/story/720995.html

Jackie

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