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VIRTUAL LAF CONFERENCE

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SUBJECT: Taurine WITH L-arginine for arrhythmias

For the last few months myself and a fellow researcher have been using taurine WITH L-arginine as a means of preventing pre atrial contractions (PACs), pre-ventricular contractions (PVCS) and long cardiac pauses with great success. We have no experience with LAF. We are now preparing a "case histories" type report for *Medical Hypotheses* telling our results and suggesting that L-arginine is nature's regulator of sinus rhythm.

Our success with the protocol has been nothing short of spectacular, but we need more people, particularly lone afibbers to try it in order to bolster our hypothesis that a combination of taurine and arginine is effective in eliminating PACs, PVCs and perhaps, atrial fibrillation episodes.

Please read the draft of our report presented below, post your comments and - if you feel comfortable with it - try the protocol for at least a week and share your results. We noted immediate (within an hour or two) improvement by adding L-arginine. I also take 2.5 grams of carnitine along with the L-arginine and taurine.

For specific questions and to discuss your experience with the protocol please contact George Eby at george.eby@george-eby-research.com or telephone/fax 1-512-263-0805 (daytime - Austin, Texas time). I need your experiences, good bad and indifferent to add to our report.

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Draft

Elimination of cardiac arrhythmias using oral taurine with L-arginine: hypothesis for nitric oxide stabilization of the sinus node with case histories

by

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Abstract

We searched for nutrient deficiencies that could cause cardiac arrhythmias [premature atrial contractions (PACs), premature ventricular contractions (PVCs)] and sinus pauses, and found literature support for deficiencies of taurine and L-arginine. Case histories are presented showing 10 to 12 grams taurine per day reduced PACs by 50 percent and prevented all PVCs but did not prevent pauses. Adding 4 grams of L-arginine immediately terminated all remaining pauses and PACs, maintaining normal cardiac rhythm with continued treatment. Effects of taurine useful in preventing arrhythmias include regulating potassium, calcium and sodium levels in the blood and tissues, regulating excitability of the myocardium, and protecting against free radicals damage. L-arginine may have potent anti-arrhythmic properties resulting from its role as a nitric oxide (NO) precursor and from its ability to restore sinus rhythm spontaneously. It is hypothesized that L-arginine prevents cardiac arrhythmias by NO stabilization of the sinus node. It is further hypothesized that cardiac arrhythmias having no known cause are symptoms of deficiencies of one or both of these amino acids.

Introduction

Premature atrial contractions (PACs) and premature ventricular contractions (PVCs) [ectopic heartbeats] are common disorders of cardiac rhythm particularly in older people. These arrhythmias are beats that occur early in either the atria or the ventricle, causing the heart to beat before the next regular heartbeat. In both cases the heart seems to pause until the next beat. Neither are usually considered to be serious cardiac events, and patients may experience them for many years with little cardiac distress, although they can be discomforting and annoying. Sinus pauses occurs when the sinus node fails to generate an impulse for a few seconds, and long pauses require pacemakers. Normally, the pacemaking activity of the sinus node suppresses impulse production by other cardiac cells, but if conductance to some other part of the heart muscle is blocked, or if the heart is over stimulated, islands of cells may express their latent impulse-production ability, resulting in extra or early beats.

Common causes of these ectopic heartbeats among healthy persons are ingestion of caffeine, nicotine, or alcohol, stress, hyperthyroidism, electrolyte imbalances, candida albicans infection and some medications. Avoidance of or correction of these initiators, and use of drugs such as beta-blockers and calcium channel blockers have long been used to treat patients with these ectopic beats.

We searched the literature for natural anti-arrhythmic agents, ones that were potentially insufficient in the diet or insufficiently produced in the body that might account for the occurrences of these cardiac arrhythmia. Dietary deficiencies capable of producing arrhythmias included acetyl-L-carnitine, calcium, CoQ10, magnesium, potassium, selenium, taurine, thiamine, vitamin D3, vitamin E and zinc. For the subjects discussed below, none of these nutrients in supplemental form, except taurine, had beneficial effects in reducing their arrhythmias. The strong anti-arrhythmia effect of taurine was first noted when one subject switched from magnesium glycinate to magnesium taurate, while treating with magnesium to reduce arrhythmias.

In 1969 Novelli et al. first reported taurine as having anti-arrhythmic effects. Since then there have been several dozen similar reports of benefit to cardiac rhythm. Effects of taurine useful in managing arrhythmias include regulating potassium, calcium and sodium levels in the blood and tissues, and regulation of the excitability of the myocardium possibly by modifying membrane permeability to potassium. Arrhythmias may also respond to taurine because it dampens activity of the sympathetic nervous system and dampens epinephrine release. In 2004, Hanna et al. demonstrated the protective effect of taurine against free radicals damage in the myocardium.

Regardless of these benefits, the effects that we observed in treating PACs, PVCs, pauses and tachycardias showed taurine to be helpful but inadequate to prevent all PACs and to completely restore normal sinus rhythm. Therefore, we continued our search for nutrients that had anti-arrhythmic activity. While experimenting with humming to induce nasal nitric oxide (NO) production in the treatment of chronic rhinosinusitis, it was observed that PACs could be prevented simply by strong humming for an hour on each of four consecutive days and thereafter as needed. The observation suggested that L-arginine, known to be the precursor of NO, might also have anti-arrhythmic properties. We found no previous reports showing benefit of L-arginine in preventing or treating arrhythmias, but we did find support for the notion that NO is a modifier of human sinus node automaticity. Therefore, we hypothesized that L-arginine would be effective in preventing cardiac arrhythmias by induction of NO thus stabilizing the sinus node.

After explaining to the subjects some of the promising benefits of NO and L-arginine in cardiovascular research, the

anecdotal humming for arrhythmia observations, the efficacy and safety of L-arginine, the following treatments were conducted.

Materials and Methods

A 64-year old male had suffered from very frequent (25,000 per day) PACs for 6 years, occurring with nearly every fifth beat. The PACs were accompanied by physical weakness (greatly reduced energy and endurance not attributable to PACs or other cardiovascular disease) and occasional paroxysmal tachycardia. Propranolol was not successful and no other drugs were used. Taurine (3 grams with each meal and at bedtime) was taken daily. One gram L-arginine in gelatine capsules was taken with each meal and at bedtime. No drugs or pacemakers were used during amino acid therapy.

An 82-year old male had suffered from documented (24-hour Holter) very frequent (21,000 per day) PVCs for 5 years. He also had 650 bigeminal events, 90 couplets and sinus pauses every sixth to tenth beat of about 2 seconds with the longest being 2.2 seconds. His PVCs were responsive to verapamil, a calcium channel blocker, but it had no effect on the incidences of pauses. Verapamil was tapered off and taurine was substituted. He took 10 grams (2.5 grams with each meal and at bedtime) of taurine and 4 grams (1 gram with each meal and at bedtime) of L-arginine each day. No drugs or pacemakers were used during amino acid therapy.

Results

The PACs in the 64-year old male were reduced by 50 percent with continued use of 12 grams of taurine a day. Although the total number of ectopic beats per day was reduced, when they occurred they occurred at every fifth beat. Incidences of occasional paroxysmal tachycardia were reduced by half using taurine. Energy and endurance were restored to normal by taurine. Addition of L-arginine to the taurine protocol nearly completely and immediately stopped all arrhythmias and completely prevented tachycardia for an observation period of more than three months (from initial use of L-arginine to date). Remaining PACs numbered less than 20 ectopic beats per day, and those were observed only in the early morning hours prior to breakfast, a time most distant from the previous dose of L-arginine. Missing doses of L-arginine precipitated arrhythmias.

The PVCs in the 82-year old male were completely prevented with continued use of 10 grams of taurine per day, equal in effect to verapamil. However, the pauses remained. Addition of L-arginine immediately and completely terminated the pauses for the observation period of more than 3 months (from initial use of L-arginine to date). Missing doses of L-arginine precipitated pauses, and missing doses of taurine precipitated PVCs.

Discussion

These case histories are the first published evidence of taurine with L-arginine to prevent common cardiac arrhythmias. Neither of these subjects had accepted deficiency symptoms of either taurine or L-arginine. Since both subjects had been using taurine for many months prior to starting L-arginine, it is unknown what residual effects resulted from pre-conditioning with taurine. Both subjects had tried many natural products, some drugs and life-style modifications with varying degrees of success. However, only the combination of taurine and L-arginine produced complete elimination of arrhythmias for more than a 3-month period.

Taurine is a conditionally-essential amino acid which is not utilized in protein synthesis, but rather is found free or in simple peptides. Taurine has been shown to be essential in certain aspects of mammalian development, and in vitro studies in various species have demonstrated that low levels of taurine are associated with various pathological lesions, including cardiomyopathy, retinal degeneration, and growth retardation, especially if deficiency occurs during development. Metabolic actions of taurine include: bile acid conjugation, detoxification, membrane stabilization, osmoregulation, and modulation of cellular calcium levels. Clinically, taurine has been used with varying degrees of success in the treatment of a wide variety of conditions, including: cardiovascular diseases, hypercholesterolemia, epilepsy and other seizure disorders, macular degeneration, Alzheimer's disease, hepatic disorders, alcoholism, and cystic fibrosis.

Some seafood (conch, inkfish, blood clams, shellfish, crabs, sole) eaten by long-lived Okinawans and other oceanic fishing communities are rich sources of taurine (2500 to 8500 mg/kg), while meats and other foods eaten by Western societies are much lower in taurine.

Under normal conditions, the 3.5 to 5 grams per day of arginine found in the typical Western diet would be marginally

sufficient to maintain general health. Foods richest in arginine are often fatty and include: peanuts, peanut butter, cashew nuts, pecan nuts, walnuts, almonds, chocolate, coconut, cereal grains, dairy products, gelatine, meat, oats, soybeans, and edible seeds. Foods high in arginine are avoided by the aged population sometimes on advice from physicians due to their fat content, and deficiencies become possible, precipitating arrhythmias.

Synthesis of arginine occurs principally via the intestinal–renal axis. Consequently, impairment of small bowel or renal function in aging or disease can reduce endogenous arginine synthesis, thereby increasing dietary requirements. As humans age, hepatic taurine synthesis can be reduced or fail completely, resulting in low to no energy, cardiac, digestive, and mental issues, and premature death. Since taurine has an important role in formation of bile salts and digestion, perhaps it is required in these larger amounts for the best absorption and utilization of L-arginine in the aged population, helping to explain these results with low amounts of L-arginine. There may be similar benefits in preventing arrhythmias from taurine with resveratrol and other NO inducers.

L-arginine appears to be the heart's natural anti-arrhythmic agent upon consideration of its effect in restarting normal sinus rhythm at the completion of heart surgery. For example, Kiziltepe et al. used L-arginine for protection of acutely ischemic myocardium during surgery (coronary artery bypass grafting) in a study of forty patients. They showed that L-arginine treatment increased NO levels and attenuated free O₂ radical mediated myocardial injury relative to placebo. Controlled reperfusion with L-arginine enriched non-cardioplegic blood greatly diminished ischemia/reperfusion injury. Ninety percent of their L-arginine treated group had spontaneous return of the sinus rhythm after surgery, while 80% of the control patients required defibrillation ($P < 0.0001$). In addition to significantly better hemodynamics, perioperative myocardial infarction incidence was significantly lower, and the length of intensive care unit and hospital stays were each significantly shorter in their L-arginine study group than in the placebo-treated group without any deaths in the L-arginine-treated group, but with one death in the control group.

Caffeine and the drugs digoxin and isoproterenol, suspected or proven arrhythmia inducers, can greatly reduce the arginine content of cytosol in both ventricular and atrial heart muscles of animals. Experimental dosing of rats with toxic doses of caffeine (15 mg/kg/min) lead to ectopic beats and lethal fibrillation, which responded somewhat by treatment with propranolol or verapamil. We suggest that these observations support our hypothesis that L-arginine is vital in maintaining normal sinus rhythm and that caffeine toxicity causes disturbances of L-arginine content of the heart muscles with an effect on the sinus node.

Nitric oxide (NO) is derived from oxidation of L-arginine by NO synthases. NO is an agent with wide-spread functions including maintenance of vascular tone, neurotransmitter function in both the central and peripheral nervous systems, mediation of cellular defense, cellular respiration, generation of reactive oxygen species, inhibition of platelet aggregation and adhesion, and modulation of smooth muscle cell proliferation. NO has been implicated in a number of cardiovascular diseases. Virtually every risk factor for cardiovascular diseases appears to be associated with a reduction in endothelial generation of NO. Reduced basal NO synthesis or action leads to vasoconstriction, elevated blood pressure and thrombus formation. By contrast, overproduction of NO leads to vasodilatation, hypotension, vascular leakage, and disruption of cell metabolism. However, NO has not been reported previously to have anti-arrhythmic properties such as we found for PACs and pauses.

With the discovery that caloric restriction, a promising means of life extension, induces NO production, interest in nitric oxide and its precursors will likely increase. Consequently, interest in oral use L-arginine with the intent of producing cardioprotective benefits and life extension will likely remain high, even though it has been implicated in recurrence of latent herpes infections, a disease for which topical ionic zinc treatment is effective.

One of the subjects in our study was unable to take more than 6 grams of L-arginine per day because larger doses caused extreme constipation. Gelatine capsules were preferred over hard compresses because the hard compresses greatly worsened his constipation. This suggested that L-arginine was being released from the hard compresses directly in the colon and not in the stomach. Contradicting these observations, others reported excessive L-arginine to cause diarrhea.

Because the biosynthesis of taurine and L-arginine (and l-carnitine, propionyl-l-carnitine, and coenzyme Q10, alpha-lipoic acid, betaine, chondroitin sulfate, glutamine, and d-ribose,) may become inadequate in aging, they are no longer conditional essential nutrients, rather they become essential nutrients, comparable to vitamins. Unnecessary morbidity and mortality will result if they are not provided in sufficient amount. It is hypothesized that doses of taurine in the 10 to 12 gram per day range combined with L-arginine in doses of 4 grams per day, will be found effective in the prevention of cardiac arrhythmias in clinical trials, and such trials are strongly recommended.

The original article with references can be found at:

<http://george-eby-research.com/html/taurine-l-arginine-arrhythmias.pdf>

George Eby

George: I read your protocol and studies with great interest.

One question is the timing of the two supplements you recommend. Frequently it is recommended that amino acids be taken separately from each other as some apparently negate the effects of another. And some are recommended to be taken on an empty stomach.

Do you have any dosing recommendations for your protocol?

Gordon

In the March issue of Dr. Andrew Weil's Newsletter, *Self Healing*, there is an article on L-Arginine. It states that, "A planned two-year study of L-Arginine was halted after only six months when six participants in a clinical trial who were taking this amino acid supplement died." The article goes on to state that roughly one half of 153 participants who had previously suffered a heart attack took about 3 grams a day while a second group took a placebo. No deaths were reported in the second group. The article was attributed to the Journal of the American Medical Association, January 4, 2006.

Steve W.

Some months ago your protocol was taurine, carnitine, potassium, and one other nutrient, as I remember.

Can you provide a little historical summary of how the present protocol evolved so we can judge how much the present protocol has been optimized. This will allow us to better guess how much latitude in further experimentation with the dosing is likely to be useful.

While I understand why you'd probably initially choose to include taurine in the protocol, it isn't clear from your article whether l-arginine was ever tested alone after you determined it was important.

Wil Schuemann

That was done with 9 grams a day, not 3.

George Eby

We worked with taurine for years, never L-carnitine, and have fooled around with magnesium, potassium and zinc. I think the reason some of the "non-essential" or "conditional" amino acids works is because they are so important that our bodies make them. If our diets are poor in them, we can survive on what we make, if we continue to make them. Consequently, "conditional" amino acids in aging may become "essential" in that we must supplement them or be sick or die.

George Eby

Sorry for the misinformation about the amount of L-carnitine; my quote from Dr. Weil's article was correct but he evidently misquoted the article in the JAMA.

Steve W.

Hi George,

I'm traveling, so can't try your experiment at the moment. However, i will say that 4 grams of taurine along with 3 grams of potassium citrate and 0.8 grams of magnesium glycinate have been sufficient to keep me out of afib for 11 months.

I take the above in divided doses & typically monitor myself for 20 minutes before taking the supplements. I monitor with a recording heart rate monitor (Polar S 810) from which I can see PAC's & PVC's in the data. The monitoring is usually ~12 hours after supplement ingestion. The routine keeps my PVC rate at <20/hour & many times < 10/hour. It also keeps my PAC rate < 2/hour.

I've noticed that several hours after supplementing, my PAC/PVC rate drops to zero or nearly that.

When I return home in a couple of weeks, I'd love to try your protocol & see if it keeps the PAC/PVC rate around zero.

Thanks for letting us in on your research!

George Newman

Here's my post from 2/04. Thought I'd repost. Sidenote: I did not continue on with my arginine regimen, as I feared that it would cause problems with my Dermatitis Herpiformis (form of Chicken Pox Herpes). I am considering taking it again, as I'm interested in this experiment. Thank you, George. Richard

Author: Richard (---.gh.centurytel.net)

Date: 02-24-04 17:18

John,

I have not tried arginine yet, but do have it, and it's on my nightly vitamin regimen, beginning tonight.

Here's some excerpts from the book "The Arginine Solution" by Fried Ph.D and Merrell M.D.

It relaxes arteries, thereby helping to maintain normal blood pressure, which would otherwise skyrocket when arginine derived nitric oxide (ADNO) is in short supply.

It helps keep open the coronary arteries that supply blood to the heart, preventing angina pain.

It's a potent free-radical scavenger that helps to both lower serum cholesterol and prevent the bad LDL cholesterol from oxidizing and becoming even worse.

It's a powerful anticoagulant, or blood thinner, that helps prevent blood platelets from clumping together into the clots that can cause heart attack and stroke.

It enhances blood flow to the penis, helping to boost erections. (Viagra keeps nitric oxide from breaking down, which is why it works. I believe it's due to a shortage of arginine)

It serves as a critical "bullet" by different immune-system cells that use it to kill foreign bacteria and viruses and even shrink or destroy some cancerous tumors.

It's used by the brain to encode long-term memory and ensure blood flow to brain cells.

It functions as a messenger molecule that allows nerve cells in the body and the brain to communicate with each other.

It may reduce pregnancy related hypertension, a potentially life-threatening condition for mother and child.

It may help regulate insulin secretion by the pancreas, thereby reducing the risk of diabetes.

It helps control the lung airways, allowing you to breathe easier and avoid common lung disorders.

It relaxes hypertonic sphincter muscles, preventing and healing hemorrhoids and anal fissures.

It stimulates the body into releasing the all-important human growth hormone (HGH), a key to longevity as well as improvement in body composition by boosting lean muscle mass and bone density while decreasing fat tissue.

The Nobel Prize on October 12, 1998 was awarded to Furchgott, Ignarro, and Murad, for their discovery of the critical functions of nitric oxide in the body.

The book goes on to say:

In a clinical study reported in Journal of Cardiovascular Pharmacology, five patients with high blood pressure were given intravenous arginine. They had an average BP of 154.5/95 mm Hg before getting arginine, but shortly afterwards, their systolic BP dropped an average of nearly 30 mm Hg and the diastolic BP decreased an average of 22 mm Hg.

Researchers found that 2000 mg of arginine worked to lower BP significantly. This was published in *Circulation*.

Numerous other studies now corroborate this finding that oral ADNO can successfully reduce elevated BP. One recent study that appeared in the Journal of the American College of Cardiology in 1998, looked at 14 patients in Italy newly diagnosed with borderline high BP. The researchers found that it took only 2 grams a day of L-arginine administered orally for a week to trigger nearly 20 point drops in systolic BP--a fact they credited to L-arginine's ability to improve endothelial function.

So, hopefully that helps John. If you're going to buy arginine, the best price is at www.jomarlabs.com for the quantity you get. Tahoma Clinic uses this brand, and this clinic is run by Dr. Jonathan Wright. I would always suggest taking the Pure Form 20 Blend along with any extra aminos, such as arginine, so one doesn't get out of balance. All my amino books state this. The book I derived my info from is a very good read.

http://www.afibbers.net/forum/read.php?f=3&i=7401&t=7368#reply_7401

Richard

Richard, man, i am so glad to see you posting here again. Have you looked at the taurine/arginine posts on the regular bb? Someone mentioned the use of lysine with the arginine to keep arginine from causing problems with a herpes infection. Since chickenpox/shingles is a herpes virus too, could this provide you with some protection?

PeggyM

Hi George - Sorry it has taken me so long to get to your excellent and proactive post. I do have some questions and separately, I am also posting the cautionary post I did on the regular BB regarding the chance that arginine can stimulate herpetic outbreak. I always have to be the one to create awareness. My mission.

On this post, though, I have a question about your case studies.

Did you do a baseline Exatest to determine intracellular levels of magnesium and potassium before starting your suggested protocol?

It would seem, based on what we know from our own experience along the AF journey, that these IC levels are important. But what would be really interesting is to know that the IC levels were tested...results were X Y and Z for optimal (or not) and even so, the taurine and arginine stopped ectopy and afib.

We've relied on the basic premise that optimal IC levels of Mg and K++ are essential components. Can you tell us that taurine/arginine or just arginine alone works just as well regardless if the IC levels of the other critical electrolytes are

low? Or are you optimizing the levels first in each case (verified by IC testing like Exatest) and therefore everyone is relatively equal before beginning the test protocols?

If you enlist participants from this BB, are you going to require them to have an IC measurement?

Curious minds want to know. Thanks for sharing your project with us.

Best regards,

Jackie

L-arginine improves vascular function by overcoming the deleterious effects of ADMA, a novel cardiovascular risk factor

Alternative Medicine Review, March, 2005 by Rainer H. Boger, Eyal S. Ron

http://www.findarticles.com/p/articles/mi_m0FDN/is_1_10/ai_n13557315/pg_3

Here is some more info on L-arginine:

http://www.findarticles.com/p/articles/mi_m0FDN/is_2_10/ai_n14791738

http://www.pdrhealth.com/drug_info/nmdrugprofiles/nutsupdrugs/lar_0024.shtml

Theo

Theo, I have not yet read your other arginine articles, but i am very impressed with this one. It gives exact dosages of arginine used by subjects in the studies it describes, for one thing. Also, the list of conditions for which arginine use has been studied and found effective is impressive.

"... Angina Pectoris, Congestive Heart Failure, Hypertension, Intermittent Claudication, Preeclampsia, Human Immunodeficiency Virus (HIV) Infection and Acquired Immunodeficiency Syndrome (AIDS), Growth Hormone Secretion and Athletic Performance, Burns and Critical Trauma, Diabetes and Insulin Resistance Syndrome, Gastritis and Ulcer, Gastroesophageal Reflux (GERD) and Sphincter Motility Disorders, Erectile Dysfunction (ED), Infertility, Female, Infertility, Male, Interstitial Cystitis (IC), Perioperative Nutrition, Preterm Labor and Delivery, Senile Dementia ..."

If this is not a laundry list then i never saw one. Stuff seems like the Universal Panacea. The above are just the section headings, each condition is discussed and results summarized. There are also sections headed Dosage, and Warnings and Contraindications. Astounding article, a fine companion piece to George Eby's taurine and arginine article.

PeggyM

Hello To All,

Hans sent me an email alerting me to this discussion. Thank you, Hans. I'll have to give this more thought (put my amino acid hat back on), but I have a different twist to add, and then at a later date, I'll come back and give more thoughts, as I think about this further and get my Arginine book back out. So to my twist....

In the last month or so I've been having a lot more PAC's and attributed it to the changing of seasons. I always have more problems in the spring and fall. I have kept it at bay with taking extra flecainide and lying down to rest, but nevertheless I've had a lot more PAC's, to say the least, everyday. I went to the dentist due to a broken tooth last Thurs. and it turned out that the tooth was abscessed, so he put me on penicillin. I took my first dose that day, and I haven't had a single skipped beat or pause since. We all know that penicillin, or antibiotics in general, destroy bacteria, but in reading about it I found that it basically just keeps the bacteria from multiplying. Different antibiotics do different

things, but this is for penicillin. I know that others have found that when taking antibiotics their arrhythmias have taken a vacation. So, why is this? Really, WHY IS THIS? I did a little reading on the chemical makeup of penicillin and found that it has a benzene ring attached to cysteine and valine. Cysteine is further up the chain of making taurine, but I'm not sure this has anything to do with what I'm thinking. These are my thoughts.....

If penicillin completely eradicated my PAC's, ectopics, pauses, or whatever the heck was going on, then it makes all the sense in the world to me that my problem is of bacterial origin. Taurine is a sulfur amino, and in all my reading, the sulfur aminos have many jobs, one of which is to boost the immune system. They also attach to free radicals and carry them out of the body, besides preserving Vit. C. After all the studies I did, I came to the conclusion, as many well know here, that the sulfur aminos were what we were lacking most of all. I had read the book "The Arginine Solution" quite awhile back, so I'd have to get it out to refresh my memory, but it was an interesting read, and I do remember Dr. Gersten (my CA doctor that believes aminos can cure anything, along with vitamins) said that the studies being done on arginine were quite miraculous. For any who would like to read Dr. Gersten's website go to www.aminoacidpower.com

In George's article one minor statement stood out to me. That was that arginine mediates cellular defense. Nitric oxide and histamine are gases that gas off invaders. They have many other values, but that's one of the things they both do. Could the extra consumption of arginine be just enough to be protecting the cells from some sort of bacterial invader? I just don't know.

Well it's late, and I will think about this more, but what George has presented is very interesting. I wonder if N-acetyl cysteine combined with arginine would have the same effect?

Richard

There is a cautionary note of which people considering the use of arginine should be aware.

Arginine has the ability to rev up or stimulate activation of the herpes virus if the person has it stored or dormant. While this amino acid appears to be highly beneficial, anyone who chooses to use it should be aware that it has the potential to stimulate dormant viruses left in the body from infection with chicken pox .

This means if you ever had chicken pox - Herpes zoster - this virus never leaves the body but remains dormant in ganglia. Most frequently, we recognize its emergence in the form of cold sores. This is because the virus lies dormant in the trigeminal ganglia of the face and when stimulated under the proper conditions such as stress, weakened immune system, or change of environment from less sunlight in the North and going into bright sunlight in the South for a vacation, it travels right down from that nerve ganglia and emerges right on the lip (Herpes Simplex 1).

This virus can also be stimulated to emerge in the form of shingles later in life for similar reasons, although usually not sunlight. The Herpes Simplex 1 is typically found on the lip, Simplex 2 on genitalia although both are found on opposite sites.

In any event, anyone harboring the herpes virus is at risk of activation when arginine is high in the diet. The counter-measure, then is to take another amino acid, Lysine, to prevent herpetic outbreak and/or lessen one should it occur. Many people prone to Herpes Simplex outbreaks take a prophylactic dose of lysine daily all their lives. Herpetic outbreaks and remedies are very common complaints in the dental field; lysine therapy has been effective and recommended for years.

I had been taking arginine – 4,000 mg daily in divided doses as suggested in one of my protocols. And, I also had chicken pox. I was unaware of the arginine connection to reactivating the virus and if you recall from my posts, I developed shingles in the Fall of 04. I am unsure whether or not the additional arginine was responsible, but it does give me a strong hint that it may have been contributory if not the total cause.

In any event, I think the protocol suggested as a hypothesis by George Eby in the Conference Room is interesting and very well may be the solution to calming both ectopy and afib. Certainly we know taurine to be very helpful. So if you decide to add arginine, think back in your health history to determine if you recall having chicken pox. Also, if you are prone to cold sores, prophylactic doses of lysine along with the arginine would be a wise choice.

Following are some clips from various sources I located on the use of Lysine to counteract the affects of Arginine.

Please don't misunderstand my note of caution. I'm definitely in favor of trying the Eby hypothesis and if I still had afib, I'd be doing it myself.

Jackie

- The amino acids lysine and arginine have been shown to play a role in herpes flare-ups. According to some new research, lysine can help control herpes flare-ups.

Arginine, on the other hand, can actually make flare-ups worse. In turn, foods that are rich in lysine—but low in arginine— can help control both oral and genital herpes.

Fish, chicken, beef, lamb, milk, cheese, beans, brewer's yeast, mung bean sprouts and most fruits and vegetables have more lysine than arginine, except for peas. Gelatine, chocolate, carob, coconut, oats, whole wheat and white flour, peanuts, soybeans, and wheat germ have more arginine than lysine.

<http://www.projectinform.org/pdf/herpes.pdf>

What are Lysine's Method of Action?

Nine proteins have been identified in the enveloped herpes simplex viron. In addition to the capsid proteins, the naked virions contain two additional proteins (VI and VII). Protein VII is an arginine-rich protein of the viral core.

It is also known that the proteins synthesised by the herpes simplex virus infected cells contain more arginine but less lysine, methionine, phenylalanine, tryrosine, and isoleucine relative to leucine than the proteins synthesised by unaffected cells.

L-lysine 390 mg. was given orally at the first indication of onset of herpetic oral lesions in eight patients and vulvar lesions in two patients, with uniform rapid resolution of the lesions. This suggests that physicians in a position to study the effect of lysine in herpes simplex infections should do so. It appears to do no harm and may be a useful therapeutic measure.

References:

Kagan, C. Lysine Therapy for Herpes Simplex, *The Lancet*, 1:137 26 Jan 1974) 2. Griffith, R.S., "A Multicentered Study of Lysine Therapy in Herpes simplex Infection", *Dermatologica* 156: 257-267 (1978)
3. Griffith, R.S., "Success of L-Lysine Therapy in Frequently Recurrent Herpes simplex Infection", *Dermatologica* 175: 183-190 (1987)

Michael Murray ND <http://www.doctormurray.com/conditions/Herpes.asp>

Dosages:

The amount of lysine required to control herpes varied from case to case but a typical dose to maintain remission was 500 mg daily and active herpes required 1 to 6 g between meals to induce healing."

Lysine supplementation along with avoidance of arginine-rich foods can be effective in preventing herpes outbreaks according to some double-blind studies.

What is Herpes?

Herpes simplex is a virus that is responsible for cold sores and genital herpes. There are two types of Herpes simplex viruses: type 1 (HSV-1) is most often responsible for cold sores (also referred to as fever blisters) while type 2 (HSV-2)

is responsible for nearly 90% of cases of genital herpes (the remaining 10% are caused by HSV-1).

In order to be effective the necessary dosage appears to be 1,000 mg three times daily.

L-Arginine—dilates blood vessels, reduces blood pressure, replicates the activity of nitroglycerine, and is needed to produce nitric oxide.

L-arginine, along with a properly planned exercise program, assists in amending abnormalities occurring in blood vessels. Individuals with congestive heart failure often have blood vessels that fail to dilate in response to certain drugs, a sign that the inner blood vessel wall, or endothelium, is compromised.

A study reported in the American College of Cardiology concluded that treatment with L-arginine produced a fourfold increase in blood vessel dilation from 2.2-8.8% (Hambrecht et al. 2000). Regular forearm exercises increased the dilation response by the same amount, but the combination of L-arginine and exercise training resulted in an improvement from 2.9-12%. Doses of 5.6-12.6 grams of arginine increased blood flow to the extremities 29%; the distance walked on a treadmill in 6 minutes increased 8% (Rector et al. 1996).

Much of L-arginine's effectiveness comes by way of increasing nitric oxide, a blood vessel dilator and clot buster produced in endothelial cells by the enzyme nitric oxide synthase (Brunini et al. 2002). Nitric oxide counteracts the vasoconstriction and platelet-aggregating effects of the stress hormone adrenaline (epinephrine) and assists in maintaining vascular elasticity. Nitric oxide (the endothelial relaxing factor) is needed for expansion and contraction of the arterial system (Rohdewald 1999). L-arginine increases nitric oxide, but hypertension, hyperhomocysteinemia, diabetes, and smoking decrease it.

Because of arginine's vasodilating properties, it is frequently used as a treatment for angina pain and hypertension. Researchers at the University of Southern California (Los Angeles) speculate that a defect in nitric oxide production may be a possible mechanism of hypertensive disease (Campese et al. 1997). Some cardiologists, in fact, recommend L-arginine over nitroglycerine, since the two substances appear to replicate a similar vascular function: the ability to relax smooth muscles and dilate blood vessels.

In their current book, *The Arginine Solution*, Drs. Robert Fried and Woodson C. Merrell note that as people age and develop disorders such as hypertension, hypercholesterolemia, and atherosclerosis, their ability to make sufficient amounts of nitric oxide from arginine is impaired, contributing to a decline in their cardiovascular health. Drs. Fried and Merrell contend that increasing arginine intake addresses various cardiovascular risks associated with decreased nitric oxide synthesis, often improving symptomatic and clinical evaluations (Fried et al. 1999). A suggested dosage is 2 grams before bedtime. Arginine caveat: Individuals who have frequent herpes outbreaks may find arginine-rich foodstuffs or supplementation contraindicated.

Reader's guide to arginine food sources

Most protein foods and carob, chocolate, nuts, seeds, beans, oats, peanuts, and wheat and wheat germ.

-L-arginine dilates blood vessels; reduces the atherogenesis of atherogenic foods; and mimics the actions of nitroglycerine; suggested dose, 1800 mg of L-arginine 3 times a day or 4500 mg before bedtime.

<http://www.lef.org/protocols/prtcls-txt/t-prtcl-049.html>

RESEARCH SUMMARY

A number of clinical studies have found that lysine is useful in preventing and sometimes shortening outbreaks of herpes simplex infections. A few studies have found no effect. In vitro and animal studies have also found evidence of lysine's anti-herpetic effects.

In a double-blind, placebo-controlled, multicenter trial of oral lysine, the treatment group received 1000 mg of lysine three times daily (3000 mg daily) for six months. During that period, the treated subjects had an average of 2.4 fewer HSV infections, and their symptoms were significantly less severe and healing times significantly reduced.

In another randomized, double-blind, cross-over study, a daily dose of 1248 mg (but not 624 mg) of lysine was found to decrease the recurrence rate of HSV in non-immunocompromised subjects. In this study, the 1248 mg dosage did not shorten healing time.

There is one study suggesting that supplemental lysine can both enhance intestinal absorption and improve renal conservation of absorbed calcium and that it might thus be helpful in osteoporosis. Further research is needed.

CONTRAINDICATIONS, PRECAUTIONS, ADVERSE REACTIONS

CONTRAINDICATIONS

L-lysine supplementation is contraindicated in those with the rare genetic disorder hyperlysinemia/hyperlysinuria.

Proteins such as casein, which are high in L-lysine relative to L-arginine, are associated with elevated cholesterol levels. Those with hypercholesterolemia who are interested in taking supplemental L-lysine should be aware of this.

Those with hepatic or renal failure should exercise caution in the use of supplemental L-lysine.

Doses up to 3 grams daily are generally well tolerated. Very high doses—greater than 10 to 15 grams daily—may cause gastrointestinal symptoms, such as nausea, abdominal cramps and diarrhea.

There is one report of Fanconi's syndrome and tubulointestinal nephritis in a 44-year old woman associated with the use of supplemental L-lysine.

Concomitant use of calcium supplements and L-lysine may increase calcium absorption. This is based on a very preliminary study that needs follow-up.

OVERDOSAGE

There are no reports of overdose with L-lysine.

DOSAGE AND ADMINISTRATION

Typical dosage used for possible prevention of herpes simplex virus recurrence is 500 mg to 3 grams daily. The average dose is 1 gram daily. Higher doses are split throughout the day.

http://www.pdrhealth.com/drug_info/nmdrugprofiles/nutsupdrugs/lly_0166.shtml

LITERATURE

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Reference the earlier topic of taking amino acids together or on an empty stomach, I came up with a couple of references indicating that supplementary aminos can compete with food borne aminos if taken at the same time. From

Whole Health MD:

"Take amino acid supplements at least 1/2 hour before or after a meal; taking them when the stomach is empty eliminates the possibility that they will compete with the amino acids in high-protein foods. The only exception to this is glutathione (a combination of glutamic acid, cysteine, and glycine), which should be taken with food to prevent stomach irritation.

If you take an individual amino acid supplement for longer than one month, take it with an amino acid complex that contains a variety of amino acids. This will ensure that you get a proper balance of all the amino acids. To be safe, never take individual amino acid supplements for longer than three months unless you are under the direction of a doctor familiar with their use. "

Complete article at: http://www.wholehealthmd.com/refshelf/substances_view/1,1525,10003,00.html

And, a couple of old studies indicating that Lysine and L-Arginine don't go together:

1) According to a 1981 study by Italian researcher A. Isidori, M.D., and his associates at the University of Rome, the combination of 1,200 mg of lysine and 1,200 mg of Arginine Pyroglutamate, in 15 male volunteers, was 10 times more effective than taking Arginine Pyroglutamate alone.

2) Another study by the Gerontology Research Center in Baltimore found that L-lysine / L-Arginine combination, even at twice the dosage, used in the Italian study failed to raise HGH levels. L-Arginine & L-Lysine compete for the same receptor in the Anterior Pituitary thus is not effective when used together.

Gordon

Reposting the same info here as the BB:

Author: Jackie (---.159.131.38.Dial1.Chicago1.Level3.net)

Date: 03-10-06 07:32

Gordon Thanks - I finally found my references to taurine dosing as follows to go along with your information. Jackie

Eric Braverman MD (author of *The Healing Nutrients Within*) says taurine is a well-absorbed amino acid with a low rate of side effects.

Only patients with a tendency to increased stomach acidity have difficulty. Taking taurine with food, milk or milk of magnesia will alleviate the problem. Taurine should never be taken with aspirin. Although rare, taurine excess may cause depression.

500 mg. of taurine daily will elevate plasma taurine to one and one half times normal, which may be therapeutic in some diseases.

Those seeking natural remedies for blood pressure, diabetes, arteriosclerosis, atherosclerosis, neuropathy and anxiety can easily use 1 to 5 grams daily without significant documented risk. Doses up to 20 grams have been used IV.

Reference:

The Healing Nutrients Within

Eric R. Braverman, MD, et.al.

Basic Health Publications

North Bergen, NJ

Revised and Third edition, 2003

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Russell Blaylock, MD, neurosurgeon and author of *Excitotoxins, the Taste that Kills*, says this in his *Wellness Report*.

Taurine

Like L-carnitine, this supplement should not be taken with meals, since other amino acids will compete for absorption.

Taurine has been known for a long time to reduce atherosclerosis. More recent studies indicate that it does so by reducing total cholesterol, reducing LDL-cholesterol entry into the walls of blood vessels and reducing lipid peroxidation (the oxidation of fats in the walls of blood vessels).

In addition, taurine prevents thrombosis, the blood clots that actually cause heart attacks and strokes.

No adverse effects have been seen in taking taurine. It also has been shown to protect the brain. The suggested dose is 500 mg twice a day.

About Dr. Blaylock

Dr. Russell Blaylock edits NewsMax.com's *The Blaylock Wellness Report*. He is a nationally recognized board certified neurosurgeon, health practitioner, author and lecturer.

He attended the Louisiana State University School of Medicine in New Orleans and completed his internship and neurosurgical residency at the Medical University of South Carolina in Charleston, South Carolina.

For the past 26 years he has practiced neurosurgery in addition to having a nutritional practice. He recently retired from his neurosurgical practice to devote full time to nutritional studies and research.

Dr. Blaylock has authored three books on nutrition and wellness, including *Excitotoxins: The Taste That Kills, Health and Nutrition Secrets That Can Save Your Life*, and his most recent work, *Natural Strategies for The Cancer Patient*. An in-demand guest for radio and television programs, he lectures widely to both lay and professional medical audiences on a variety of nutritional subjects.

Dr. Blaylock serves on the editorial staff of the Journal of the American Nutraceutical Association and is the associate editor of the Journal of American Physicians and Surgeons, official journal of the Association of American Physicians and Surgeons.

He previously served as Clinical Assistant Professor of Neurosurgery at the University of Mississippi Medical Center in Jackson, Miss., and is currently a visiting professor of Biology at the Belhaven College in Jackson, Miss. The Blaylock Wellness Report is a publication of NewsMax Media, Inc., and NewsMax.com.

Jackie

Previous to this discussion I had bought a container of DR. Murad's CardioDiscovery since I have always responded well to Chest discomfort and Persistent high BP with NitroTabs and Nitro dermal patches. This formulation contains 5g of L-Arginine which is adequate according to above recommendations. Would appreciate any feedback on CD and comments from anyone who has taken it.

These are the ingredients of CardioDiscovery:

Supplement Facts:

Serving Size: 10 g

Servings Per Container: 60

Amount Per Serving - % Daily Value:

Calories 30, Total Carbohydrates 3 g - 1%*, Vitamin C (as Ascorbic Acid) 500 mg - 833%, Vitamin E (as dl-alpha Tocopheryl Acetate) 400 IU - 1333%, Folic Acid 400 mcg - 100%, L-Arginine 5 g (5000 mg) - **, L-Glutamine 100 mg - **, Green Tea Extract (Camellia sinensis) (leaf) 50 mg - **, Alpha Lipoic Acid 10 mg - **, Lemon Balm Powder (Melissa officianlis) (leaf) 10 mg - **.

*Percent Daily Values are based on a 2,000-calorie diet.

**Daily Value not established.

Other Ingredients:

Citric Acid, Maltodextrin, Malic Acid, Natural & Artificial Flavors, Sucralose, Yellow 6, Yellow 5.

Thanks,
ChrisR

Peggy,

This link has a list of the highest arginine content foods.

<http://www.nutritiondata.com/foods-000089000000000000000000-w.html>

You might have seen this website before but it has just been updated and is tops for searching nutrients in all foods.

Dean

Thanks, Dean, that is a really neat site. Looks even easier to use than www.fitday.com. I think i will post it to the regular bb.

About the arginine bearing foods, it seems that the homemade trail mix i use contains a lot of high arginine items - pumpkin seeds, sunflower seeds, plus whatever mixed nuts are on sale the day i go to re-up my supply at the healthfood store. I take taurine anyway, have been for a couple years, maybe i have been combining arginine and taurine without knowing i was doing it. That may be one of the reasons i have been afib free for such a long time. I plan to keep right on doing what i am doing, so hopefully this state will keep right on.

PeggyM

Hi Jackie,

I am very concerned about low magnesium and potassium. I avoid calcium and supplement with 500 mg of magnesium every single day without exception. I avoid sodium and only use Morton's salt substitute, which is pure potassium chloride. My Exatest intracellular mineral values are normal, although they were not a few years ago. Whether or not they were normal or not did not affect my incidence of PACs.

George Eby

Hi George,

I returned home early Monday and was able to sample my ectopic counts again. They were 22 PVC's and 3 PAC's in a 2 hours 15 minute sample, or an average of 9.8 PVC and 1.3 PAC per hour.

In the evening my rate was 4 PVC's in 15 minutes or 16/hour.

Last evening before bed (& after the above sample) I added 4 grams of L-arginine to my normal supplement routine of twice a day - 1.5 grams of potassium citrate, 0.4 grams magnesium glycinate and 2 grams taurine powder.

This morning my ectopic count was 2 PVC's in 29 minutes or 4/hour. Also my resting HR was 66 this morning vs 54 the day before (normal for me). I will be interested to see if this is all random variation or if these trends continue. I will stay at the 4 grams of L-arginine, 2x/day, for a few days & see what happens, then maybe play around with the dosage.

George N.

I agree that imbalances between arginine and lysine have been reported to cause "flare-ups" of herpes. I have not studied whether or not adding lysine to arginine would still have the anti-arrhythmic activity or not. However, I suspect that it would.

There is another way of treating herpes infections that is directly and absolutely antiviral, and that is with topical ionic zinc compounds such as zinc gluconate, zinc sulfate and zinc acetate. The research goes back many years and I wrote a major review article on the matter in 1985. That article is preceded by a general discussion of zinc and herpes at my page <http://coldcure.com/html/herpes.html>. I also mention that other common agents such as topical iodine, topical chlorox, and oral resveratrol can either treat or prevent herpes. I don't believe lysine is an effective treatment for herpes, and I am 100% positive that the combination of zinc and lysine is totally ineffective, because the lysine binds ionic zinc to a non-ionic form.

If I am right about taurine and L-arginine being vital to the function of the sinus node, arrhythmias are a symptom of a general decline in the body's ability to produce these vital amino acids and such cannot be good for us, and it appears life-limiting.

I will go with more taurine and arginine, and if need be, treat the herpes with ionic zinc.

George Eby

Does anyone have data for the normal intake and/or internal production of L-arginine for humans ???

Wil

Hi Wil,

For what it is worth the following is from the I-herb site for NOW brand L-Arginine powder:

L-Arginine is a conditionally essential basic amino acid involved primarily in urea metabolism and excretion as well as DNA synthesis.

Suggested Usage: As a dietary supplement, take 1/2 level teaspoon one or more times daily preferably on an empty stomach as needed.

Supplement Facts

Serving Size: 1/2 Teaspoon (1.5 g)

I seem to have no adverse reaction to 10 grams/day (& possibly a reduction in ectopics, but too early to tell).

George N.

Interesting success.

After rereading George's paper, I realized I had my ratio of L-arginine to taurine reversed. I corrected this and upped the taurine to 8 grams/day of powder, while taking 4 grams/day of L-arginine. The dropped my ectopic count to 0/hour. I've monitored my PVC/PAC count objectively with a recording r to r heart rate monitor (Polar S810) 2x a day and for the last 16 months & it has generally been between 5 and 20/hour - mostly PVC's (in addition, I take 3 grams potassium citrate and 0.8 grams magnesium glycinate).

I'll keep this up & see if it continues.

George N.

George

Can you please explain, "In the March issue of Dr. Andrew Weil's Newsletter, *Self Healing*, there is an article on L-Arginine. It states that, "A planned two-year study of L-Arginine was halted after only six months when six participants in a clinical trial who were taking this amino acid supplement died. The article goes on to state that roughly one half of 153 participants who had previously suffered a heart attack took about 3 grams a day while a second group took a placebo. No deaths were reported in the second group. The article was attributed to the Journal of the American Medical Association, January 4, 2006"

I realise that there was an error as far as 3 grams go - and that it was 9 grams, but even so - from all that I have read about L-Arginine - it seems to be an amazing amino acid, with so many cardio health benefits (before and after heart-attacks) - that it seems unbelievable to me that by upping the dosage - it can cause death.

Can you explain this please.

Maureen

Hello George,

Would you kindly advise if you are still having success using this (George Eby's) suggested protocol. If so would you please advise how and when you take these amino acids.

Regards,

Bill Deering

Hi Bill,

I've used Taurine (4 grams/day) for over a year, in combination with potassium citrate (3 grams/day) and magnesium glycinate (0.8 grams/day). This has been a great success, as I have not had any afib since 4/22/05 and only 3 episodes since 11/05/04.

Generally, my measured ectopic counts are now below 20/hour, with all most all of these being PVC's (sampled 2x /day for 20 minutes +/- with a Polar S810 heart rate monitor).

When I saw George's post, I decided to see if I could reduce the ectopic count to zero or near that. The first couple of days, I took 9 grams l-arginine in divided doses along with my regular taurine, K & Mg. Then I realized, after rereading George's article, that my ratio of l-arginine to taurine was inverse to what George used. So I went to 8 grams of taurine and 4 grams l-arginine/day. Initially this looked to be successful, but then I had several days of high ectopics - 60 PAC's/hour. There could be several reasons for this, including eating more junk than usual while sitting at home doing income taxes. Anyway, I decided to go back to my basic taurine/K/Mg routine (as well as clean up my diet) for a few days. My ectopics have normalized back to <20/hour (sometimes much less).

I may try George's routine again, but will be traveling quite a bit in the next week or so. This is not a good time to evaluate changes to my routine.

I generally take my supps in the morning w/breakfast & then again after dinner have had an opportunity to clear the stomach. Mostly this is because it is easiest for me - I don't have any other good reason for the timing.

Certainly my normal rate - < 20 ectopics /hour - is "good enough". I never feel them and I don't go into afib at this level. I mainly experimented to see if I could drop the rate to zero, out of curiosity. I may be able to yet, but I need to spend some more time with the experiment.

Hope this helps.

George N.

I have not seen anything here or on the Forum about the interaction between L-arginine and warfarin, yet when I Google the two of them together I see that there may be an interaction.

Anybody have any experience with this?

Thanks,
Gordon

Yes, I recently updated my article at <http://george-eby-research.com/html/taurine-l-arginine-arrhythmias.pdf> with the following two paragraphs:

L-arginine may have interactions with anticoagulants, antiplatelet and blood pressure drugs and it may change electrolytes in the blood. People taking coumadin may require less or none while taking L-arginine to prevent excessive blood thinning and bleeding. Arginine worsens inflammation in the lungs and contributes to asthma and allergy symptoms requiring magnesium throat lozenges as preventative and treatment. Arginine may raise blood sugar levels requiring changes to diabetes medications. Many drug interactions are possible since arginine has many functions for which drugs are currently substituted. People with liver or kidney disease may be especially sensitive to these interactions and they should avoid using L-arginine except under medical supervision.

People having had heart attacks who were receiving "standard postinfarction therapies" had an increased incidence of death when L-arginine was added to the protocol. Blood levels of L-arginine in both treatment and placebo groups remained normal and they did not increase or differ from those receiving identical treatments without arginine. Added arginine did not improve vascular stiffness or left ventricular function. We were unable to ascertain from this article the other drugs also used with L-arginine to discuss any possible interactions.

George Eby

"... People having had heart attacks who were receiving "standard postinfarction therapies" had an increased incidence of death when L-arginine was added to the protocol. Blood levels of L-arginine in both treatment and placebo groups remained normal and they did not increase or differ from those receiving identical treatments without arginine. Added arginine did not improve vascular stiffness or left ventricular function. We were unable to ascertain from this article the other drugs also used with L-arginine to discuss any possible interactions."

That would seem to me to explain the deaths noted from the arginine experiment cited elsewhere here. Those of us without other heart problems than afib and not taking any heart drugs would seem to be perfectly safe.

Thank you, George.

PeggyM

Hello,

I had been taking 500mg taurine and 500mg arginine twice a day for about 2 weeks and noticed a considerable decrease in ectopics. Then last night I was awakened at 2AM with a fib. A trigger for me is fatigue and I expect my pulse had dropped into the 40's too. I took a taurine and think it helped as I converted in about an hour. Maybe I should increase the dose to 1000 mg? Please advise. Is it true that taurine has some blood thinning properties as well?

Lisa

Hi Lisa,

I can say that I've taken 4 grams of taurine for 16 months. George Eby talks about taking a lot more in his post. The only advice I can give is to slowly increase & see what happens.

George N.

I have been doing well on 1g taurine twice a day and 500mg arginine 3 times a day. I was having 2 hour windows of ectopic beats if I took the arginine twice a day. I think that twice a day is not enough because arginine has an 8 hour half life.

What a huge improvement. I had 3 days straight of ectopic beats that were much worse than normal. I took 500mg L-arginine with 1000mg Taurine at night. The next morning the ectopic beats were gone (I couldn't feel any). I continued with 500 mg L-arginine 2x per day and Taurine 1000mg 2x per day. The second day I felt some ectopics for 2 hours. I increased my L-arginine to 500mg 3x per day. I haven't felt any ectopic beats for the last week on that dosage. These amounts seem to work for me, but are much less than the study suggests. The other benefit I noticed is I sleep much better at night. Has anyone else tried the L-arginine and Taurine?

John F.

John,

Yes - I've been on taurine (4 grams/day) for 16 months or so, along with potassium citrate (3 grams /day) and magnesium glycinate (0.8 grams/day).

This has kept me in rhythm for 11 months. I recently have added 4 grams L-arginine and 4 more grams of taurine/day. I've seen a drop in ectopics but it is not consistently zero. I should add that I never feel ectopics, but use electronic measuring devices (Polar S810 HR monitor). This gives me a quantitative answer as to how my ectopics are doing. If you asked me how many I have, I would say zero if I did not have the hard data.

George N.

I am just reading so many wonderful suggestions for helping A Fib and arrhythmia's. I am confused about Taurine. I just researched it a bit and found this information on it:

Taurine is one of the active ingredients commonly found in energy drinks such as Red Bull, and in pills which often feature caffeine and/or other stimulant ingredients. The manufacturers claim that taurine enhances the effects of caffeine, but to date there have been no studies performed to confirm this.

Taurine is essential for cats; cat food is supplemented with taurine, which is why other pet foods are not recommended for cats. In cats, taurine "helps maintain good eye health, regulate the heart beat, maintain cell membrane stability, and prevent brain cell over-activity" [2] [3].

My question is why would this help someone that is already having problems with A Fib? Also, we are told not to have a stimulant?? Perhaps someone can help me with this??

Thanks

Sheryl

Sheryl, try putting taurine into the search function on the regular bb, and look for Jackie's long, thorough post on it. She explains all the questions you have asked and some more. Quite a number of afibbers on this board, myself among them, have found that taurine is one of the things, together with magnesium glycinate and potassium, that has gotten rid of afib for quite a few people here. It is not a stimulant at all.

PeggyM

From this info does this mean I can take L-arginine if I am on ToprolXL25mg once a day and Rhythmol 325SR twice a day? My cardio does not believe in supplements, so I cannot depend on his opinion.

Thank you,
Lynda

Hi Lynda,

First off, I do not know. However, I suspect that it would NOT be safe.

I don't know why you are taking these drugs, but <https://www.toprol-xl.com/index.aspx> and <http://www.drugdigest.org/DD/DVH/Uses/0,3915,7354%7CRhythmol+SR,00.html> gives some indications.

Please consider some alternatives such as:

Zinc for angina pectoris and Reynaud's disease. See: <http://george-eby-research.com/html/zinc-angina.pdf>

Magnesium for heart function generally (search this page on magnesium and depression for cardiac uses <http://george-eby-research.com/html/dep.html>)

Taurine for heart activity <http://george-eby-research.com/html/taurine.html>

Taurine and L-arginine for arrhythmias <http://george-eby-research.com/html/taurine-l-arginine-arrhythmias.pdf>

Maybe by getting your nutrition up to snuff you won't need those drugs. That is what I am doing.

George Eby