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<http://www.stonehearthnewsletters.com/salt-blood-pressure-link-far-from-clear-says-metastudy/hypertension/>

<http://www.stonehearthnewsletters.com/sodium-ignorance-by-consumers-disturbing/information/>

- **Pramod Vora** One of the richest source of chlorine in the human diet is natural sea salt. Abstinence from salt, for prolonged periods, under the belief that it is harmful for health, will reduce chlorides in the blood and can also lead to poor hydrochloric acid flow and below normal sodium levels. So there is great importance for salt in our daily diet to keep the process of nutrition absorption from food and supplements working properly. For further details on importance of salt in our diet please read:

<http://www.space-age.com/Salt.pdf>

The paper draws the correlation between serum sodium, chlorides and gastrin levels.

Pramod Vora

spaceage2008@space-age.com 4 minutes ago



- [Pramod Vora](#) There are far less damaging methods of not only controlling but also of reversing hypertension than the restriction of salt in our diet.

For more information please download and read:

<http://www.space-age.com/HighBloodPressure.pdf>

This paper talks about reversal of hypertension and methods of improving cardiac efficiency. Contains numerous case studies done during the last two decades in preventive and anti-aging cardiology.

Pramod Vora

If I told you that I have a guaranteed cure for cancer and I know how to shrink cancer tumors with 100% success rate, but the patient has to die in the process, what would you say?

Answer: Get out you idiot!

Exactly.

One of the tenets of medicine is that “The Physician Will Do No Harm To The Patient’s Body”. The Hippocratic Oath.

All these discussions, about whether 1.5 grams of salt per day is safe, and 2.8 grams per day is better, 4.5 grams is essential and 6.5 grams is downright dangerous, renin activity will go up, blood pressure will go up or will come down with salt reduction in diet are all pointless.

Damage is damage.

The cardinal rule of medicine: “Do No Harm To The Patient”, is being violated here. Period. Nor we need such pointless and misdirected research here based on not understanding the basic workings of the human body.

Every one will agree that if the recommendation of salt reduction in diet to lower blood pressure is going to reduce the flow of gastric acids (hydrochloric acid in the stomach) which is required for essential digestion and absorption of nutrition to keep the body operating properly, then it should not be done. This idea about salt restriction is just as crazy as the idea of destroying the body to cure cancer and to destroy the tumor. Salt has essential chlorine in it to help the body daily produce hydrochloric acid required in the stomach for digestion. It does not require high level research or a “rocket

scientist” to do one’s blood report to check your gastrin levels (for achlorhydria /lack of HCl), sodium and chloride levels, if you have religiously abstained from salt for the last few years because your cardiologist told you so. You will be surprised at the results. There is really no other rich source of chlorine than natural sea salt in our diet. Make sure all these levels are at optimum value and are not border line to ensure efficient working of the body:

Optimum levels are:

Gastrin (Fasting and 2 hours after meals) = 15 to 25 pg/mL

Sodium = 140 to 142 mmol/L

Chlorides = 103 to 105 mmol/L

Since primary high blood pressure is basically a nutritional deficiency, it stands to reason that the path to correct it cannot aggravate the disease by interfering with digestion and the flow of hydrochloric acid in the stomach. Again, the treatment recommended by the physician must Do No Harm and therefore cannot aggravate the symptom in a bid to correct them. The physician will never succeed this way and that is exactly what is happening now a days.

Ask any MD to reverse hypertension, and they will tell you that you will have to learn live with it. But keep coming back, I will try to keep it in check (till you suffer from a stroke and become paralyzed or loose a kidney!). This is the standard prognosis of a hypertensive patient. Very pathetic! Well don’t worry you are not alone. Doctors themselves do suffer from high blood pressure and do take anti-hypertensive drugs!

To understand more about the reversal of primary and secondary hypertension (I will repeat secondary as medicine today believes that it is not treatable, leave aside controllable) with a very high rate of success, please read my paper with numerous case studies done during the last decade on:

Reversal of Hypertension – Primary & Secondary
&
Improving Cardiac Efficiency

<http://www.space-age.com/HighBloodPressure.pdf>

You will be surprised with the level of expertise developed at our center. Each and every patient was told to immediately begin taking normal sea salt in diet and not to continue with low sodium and salt free diet when they were put on our program.

Continued in the next post due to shortage of space

Part 2

Today the cardinal rule of medicine, not to damage the patient’s body, is long forgotten and at best vagrantly flaunted. This is because each drug has either GI disturbances (as in

high blood pressure lowering drugs) and / or hepatotoxicity (liver damage as in statins / cholesterol lowering drugs for example) as a standard side effect besides many other far damaging ones. MDs forget their Hippocratic Oath and prescribe these drugs though knowing that they damage the patient's body.

Do we really have any health care today?

Do we have any doctors today?

Is it true that there are only two kinds of patients today – one without a medical degree and one with a medical degree?

The unfortunate answer to all 3 questions is yes.

Do we want a change?

Can we change and accept a change?

Yes we can! Yes we can!

Rise, let us unite to struggle for a better system of health care and for not so self-serving and misdirected research in medicine.

Be Enlightened.

Blessings,

Pramod Vora

spaceage2008@space-age.com



<http://www.facebook.com/pramod.vora100>



<http://www.facebook.com/pages/SpaceAge-Anti-Aging-Center/154567131289336>



[BartUnfollow](#)

[Bart Kay](#) • Pramod, well said sir: bravo.

Dear Dr. James,

You and I have the same goals. Both of us do not want to die of a stroke or loose a kidney to hypertension. So we are on the same side.

What ever I have written, is based on 10,000+ case studies done over a 10 year period and after reading ten of thousands of blood reports. Theory has been evolved thereafter to fit the clinical data (evidence) found at our center. Hence what ever I have written is evidence based.

I have referred to my two papers on Reversal of Hypertension and Importance of Salt in diet in my previous mail. I know these papers are lengthy (totally 30 pages) and will require a whole day to read and perhaps a whole week or two to comprehend the in depth meaning to what ever is mentioned there in. But, it would be time well invested as we both don't want hypertension in our life and don't want to be on prescription medication full of side effects.

Most of the points you have raised in the above post are already answered in these two rather lengthy documents.

The daily requirement of salt is about 5.0 gram for an adult weighing about 150 lbs. Again this requirement will change depending upon the room temperature, body sweat, humidity, summer, winter, how much water you drink daily, etc. So one person may be OK with 3.0 grams per day and someone may require 5.0 grams per day because they exercise a lot and also sweat a lot.

The body knows how to excrete excess salt when taken within limits. So you do not really need to weigh the actual salt daily and take it like a tablet or a capsule. Just salt to enhance the taste of the food is enough control. You really do not need to fanatically avoid salt in peanuts or pistachios or cashews or potato chips or french fries or butter. Adding salt to drinking water on a hot summer day when you are sweating is also OK. Also I would avoid eating preserved food full of sodium preservatives. I would eat only fresh food.

What has happened in the last two decades, and we are seeing this in the patients that come to us, is that they have stopped eating salt or salty food for a number of years (because they believe it is bad for health) and their blood reports show extremely low sodium and chlorides and consequently high gastrin levels (at the upper end of the Standard Reference Range). Some times the sodium and chloride levels are well below the lower end of the Standard Reference Range.

But then like I said, there are less damaging methods of reversing blood pressure (primary and secondary) and that is what my paper is all about, with actual case studies done, with senior doctors as patients at our clinic. We should not want to just control hypertension by reducing salt at the cost of compromising digestion and absorption of nutrition. There is no other potent source of chlorine in our diet to help daily produce fresh hydrochloric acid. Why waste time controlling hypertension in this costly way when there is a far safer method of permanently reversing it. We use Orthomolecular Medicine (Intracellular Nutrition) to do it. This is explained in my paper. Salt restriction

is really not required, nor is it safe. The foundation of Orthomolecular Nutrition has to be perfect digestion. So no compromising here.

As a student of Orthomolecular Medicine, you will certainly appreciate the work we are doing with a fairly high success rate.

I can assure you that it will be time well spent to study my papers so that we can join forces to change the course of medicine for mankind. Good luck.

Blessings,
Pramod Vora

Dear Dr. James,

The points I am making in my referred articles and these posts are:

1. Hypertension is not a chronic disease, as is believed in allopathy today, but is a symptom of a serious nutritional deficiency.
2. The second important point being conveyed is that there is no need to try and correlate salt intake with hypertension, as it is really not applicable here.
3. There are many tools available at the desk of a nutritional scientist specializing in Intracellular Nutrition (Orthomolecular Medicine) to not only control but to reverse hypertension, especially primary hypertension, with a fairly high success rate and in a reasonable time.
4. The fourth point being made is that, if hypertension is a nutritional deficiency, which arose over a prolonged period of malnutrition, then to ensure that it can be corrected with nutrition, it is important that the digestive system is optimized to peak performance and that the gastrin levels, pancreatic enzyme levels and the bile flow, etc. be brought to peak performance. This will ensure that proper nutrition will be received by the body to effectively correct the situation. Like I have written before, rejuvenation of the entire digestive system will ensure speedy and efficient correction of hypertension and will further ensure that there is no reoccurrence of the symptom (not disease) in the near future once it is corrected. By the way, gastrin levels can also be brought to youthful levels even in the aged. Age is really no bar for good health.

These are the concepts which perhaps are difficult to comprehend for most scientists. But given time, perseverance, patience and a tenacious ability to ponder with an unbiased mind and clear the slate of all previous knowledge of this subject, you will see the light of the day.

I know all this is very advanced and far ahead of its time and it is perhaps as difficult as it was for mankind to understand that the earth is no longer flat (Greek philosopher Aristotle - 384-322 BC) or the earth is not the center of the universe (Italian Scientist Galileo Galilei of Pisa in 1610 AD).

Good luck, but try and read if you are seriously interested in this subject.

A lot of this is already explained in my articles. Let's keep it simple and to the point of the subject matter of the post and not digress into other areas.

I will be unable to continue writing any more posts on this subject. There is deadline given by the USPSTF on the calcium / vitamin D draft which now needs to be finalized.

Good luck once again.

Blessings,
Pramod Vora

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[Pramod Vora](#) • Bye Bye James,

Everything you have written from the beginning belongs to the old school of thought perhaps world war II.

Why HTN is a nutritional deficiency and what nutrients need to be administered to reverse it is already disclosed by me. HTN has nothing to do with salt. I said this many times but you just don't seem to understand.

Bye, Bye for now till we meet again in some other forum.

Pramod Vora

6 days ago

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[Pramod Vora](#) • James,

Once the nutritional corrections are done in the human body at intracellular levels salt has no role to play in HTN.

There are millions of healthy people who can eat all the salt they want and their human body does not manifest HTN.

It is the same analogy as, if your immunity is low you catch a cold. Other people whose immunity is good do not. Obviously the ones whose immunity is good are the healthy people who are normal and not the other group. Rules are made for the normal and not

for the abnormal.

Otherwise you will soon be propounding a new theory that it is normal of all people to get a cold and the healthy people will become abnormal to suit your hypothesis.

Anyway this is not a tutorial in logic and science. I am sure you can find a guru in your own surroundings.

Bye Bye I will not be replying to your questions in the future. Sorry about that.

I cannot accept you as a student and do not want to mentor you.

Sorry. I have enough students already.

Bye

5 days ago

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1



[Pramod Vora](#) • Hi Marc,

Can you please watch for trolls in this post and weed them out.

Thanks,

Blessings,

Pramod Vora

5 days ago

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[MarcUnfollow](#)

[Marc Onigman](#) • Pramod,

I don't manage this group, so there's not much I can do except ignore them.

I should point out that when any discussion gets nasty, I (and probably many others) just stop opening the email alerts.

There's no reason for people not be civil and polite in these forums.

Intelligent people can have intelligent discussions.

Date: Fri, 22 Jun 2012 17:33:52 +0000

5 days ago • [Like](#)

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[BartUnfollow](#)

[Bart Kay](#) • Dr Kenney is already banned from three different nutrition groups on LinkedIn because of exactly this kind of behaviour (and worse). I beseech all readers of this post who think we can do without Dr Kenney's attitude and behavioural problems on this group as well to write to Howard Tant, the moderator of this group.

Dr Kenney has repeatedly shown himself to be incompetent in debating the actual issues, and lacks the knowledge to engage in a sensible wide ranging real world discussion. He prefers to attempt to bully and bludgeon people around to his frankly mad way of thinking. Once anyone disagrees with his frankly ridiculous point of view, they get denigrated, misrepresented, and abused by this frankly nasty man. I believe this man has a narcissistic personality disorder, goodness, on another group from which he is now banned, he even publically proclaimed himself "the sheriff, here to wipe out all crackpots and pseudoscientists" There is only one person in need of wiping out and it is James Kenney.

Lets work together, and let Howard Tant know, we do not want this man in our group. At the very least, we should all ignore this foolish man utterly....

Thanks all.

Hi Lori, Bart and Marc,

There is a great controversy raging in this discussion. Perhaps we will qualify for the Guinness Book of Records for the highest number of posts! :-)

What I am going to do today, is to take all of us back to an undergraduate course in nutrition and we will study magnesium and salt from standard college textbooks to find out how little we really remember of what we studied years back. Once we begin way back there, it will be easier for us to time travel 40 years ahead and go to medicine for the year 2050.

I have purposely addressed this post to participants Marc, Bart and Lori and the rest of the readers to this discussion. James please don't but in like you did last time. The opportune time will be to do so after these 3 participants have said what they need to say on this subject. Let's hear them out first. You already know all this, as you studied it in undergraduate class and have taught it to the students under you. Right? So please be silent for just a bit.

In my next few posts, I will reproduce extracts from standard nutritional textbooks, on magnesium and salt, with my commentary put in brackets, to amplify and draw relevance to the subject of hypertension and salt being hotly debated here.

After an in depth study of these extracts and my commentary, it maybe a good idea to go and re-read my specific posts and the article containing numerous case studies on "Reversing Hypertension" referred to in my discussions. You will find that the information provide in my article is the next generation of nutritional science compared to the knowledge in the textbooks, and is done without in anyway disturbing the basic concepts of textbook nutrition.

Hopefully, this will bring a closure to this entire discussion, to the satisfaction of all parties (including James) to this debate and take all of us ahead to the year 2050 of medicine.

Onward Ho to the year 2050 of medicine!

Blessings,

Pramod Vora

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<http://www.facebook.com/pramod.vora100> .

<http://www.facebook.com/pages/SpaceAge-Anti-Aging-Center/154567131289336>

Extracts taken from:

(with my commentary underneath in brackets where I found the need to amplify and clarify)

Encyclopedia of Nutritional Supplements – Edition 1996 Pages 159 - 175

Michael T. Murray, N.D.

ISBN 0-7615-0410-9

Magnesium Deficiency Signs and Symptoms

Magnesium deficiency is extremely common in Americans, particularly in geriatric population and in women during the premenstrual period. Deficiency is often secondary to factors that reduce absorption or increase secretion of magnesium, such as high calcium intake, alcohol, surgery, diuretics, liver disease, kidney disease, and oral contraceptive use.

(Note the words “extremely common” and “deficiency is a result of high calcium intake”. We all know now that we are living in a highly toxic calcium society).

Low levels of magnesium in the diet and in our bodies increase susceptibility to a variety of disease, including heart disease, high blood pressure, kidney stones, cancer, insomnia, PMS, and menstrual cramps. Signs and symptoms of magnesium deficiency are fatigue, mental confusion, irritability, weakness, heart disturbances, problems in nerve conduction and muscle contraction, muscle cramps, loss of appetite, insomnia, and predisposition to stress.

(Note the words “low levels of magnesium increases”: “heart disease”, “high blood pressure”, “muscle contraction” and heart disturbances”. All point to cardiac diseases of various types including hypertension).

Low magnesium levels are common in the elderly, but most cases go unnoticed because most physicians rely on serum magnesium levels to indicate magnesium levels. Most of the body’s magnesium store lies within cells, however, not in the serum (noncellular portion of blood). A low magnesium levels in the serum reflects end-stage deficiency. A more sensitive test of magnesium status is the level of magnesium within the red blood cell (erythrocyte magnesium level).

(Note the concept conveyed here that the serum tests that doctors rely on invariably result in undiagnosed magnesium deficiency).

Some of the conditions associated with or causing magnesium deficiency are:

- Acute pancreatitis
- Congestive hearth failure
- Dietary deficiency
- Digitalis toxicity
- Excessive sweating
- Impaired intestinal absorption

- Chronic diarrhea
 - Ileal resection
 - Malabsorption syndromes
- Increase magnesium loss through the kidneys
 - Diuretic use
 - Diabetes
 - Antibiotics
 - Alcohol
 - Hyperthyroidism
 - Kidney disease

(Note: Congestive heart failure is a serious magnesium deficiency. Mostly an end-stage deficiency as mentioned in an earlier paragraph. This means that by then, it is most probably too late to save the situation. They do administer magnesium shots in the ICU to try and save the patient. For some strange reason once the patient leaves the ICU, magnesium is forgotten. Why?).

Principal Uses

Magnesium supplementation is effective treatment for a large number of health conditions. While some studies utilize injectable magnesium therapy, other demonstrate that injectable magnesium is not necessary to restore magnesium status (except in the case of an emergency situation such as an acute heart attack or acute asthma attack)³

(Note: Magnesium is useful to save life of a person who has suffered an acute myocardial infarction. If it can do that, it is obvious that magnesium will also be beneficial to prevent myocardial infarction and to treat myocardial ischemia and angina pectoris. So why is magnesium forgotten once the patient leaves the ICU?).

Oral magnesium therapy is an effective measure to raise body magnesium stores. It usually takes 6 weeks to achieve significant elevations in tissue magnesium concentrations.

Continued in the next post due to space constraints.....

Part 2

These are some conditions which benefit from magnesium supplementation:

- Asthma and chronic obstructive pulmonary disease
- Cardiovascular disease
- Acute myocardial infarction
- Angina

- Cardiac arrhythmias
- Cardiomyopathy
- Congestive heart failure
- High blood pressure
- Intermittent claudication
- Low HDL-cholesterol levels
- Mitral valve prolapse
- Stroke
- Diabetes
- Eosinophilia-myalgia syndrome
- Fatigue
- Fibromyalgia
- Glaucoma
- Hearing loss
- Hypoglycemia
- Kidney stones
- Migraine
- Osteoporosis
- Pregnancy (toxemia, premature delivery, and other complications)
- Premenstrual syndrome and dysmenorrhea

(Note magnesium is used to treat osteoporosis. Also note the number of heart conditions magnesium is beneficial for. High blood pressure is one of the most important condition which responds to magnesium therapy as we will read about in the next section).

High Blood Pressure

Population studies correlate a high magnesium intake with lower blood pressure. The principle source of magnesium in early studies was water. Water high in minerals is often referred to as “hard water.” Numerous studies demonstrate that an inverse correlation between water hardness and high blood pressure exists. In other words, where magnesium content of water is high, there are fewer cases of high blood pressure and heart disease.²¹

Early studies led to more extensive dietary studies that explored the association of magnesium and high blood pressure. These dietary studies found the same results as the hard water studies – when magnesium levels are high, blood pressure is lower. In one of the most extensive studies, the Honolulu Heart Study, systolic blood pressure was 6.4 millimeters of mercury lower and diastolic blood pressure 3.1 millimeters of mercury lower in the highest magnesium intake group compared to the lowest magnesium intake group.²²

Because of the epidemiological evidence, researchers began investigating the effect of magnesium supplementation in the treatment of high blood pressure.

The results are mixed. Some of the studies show a very good blood pressure-lowering effect, others do not. Whether or not magnesium supplementation will lower blood pressure depends on several factors. First, if the individual is taking a diuretic, there is a very good chance that magnesium supplementation will lower blood pressure by overcoming the magnesium depletion the diuretic induces. Another scenario where magnesium supplementation may be valuable is when the high blood pressure is associated with a high level of rennin, an enzyme release of aldosterone. These compounds cause the blood vessels to constrict and the blood pressure to increase. Finally, patients with elevated intracellular sodium or decreased intracellular potassium (measured by red blood cell studies) respond better to magnesium supplementation than subjects with normal intracellular potassium and sodium levels. Rather than performing a blood test to measure rennin or intracellular potassium and sodium, I recommend giving magnesium supplementation a 4-week trial. I also recommend consuming a high-potassium diet.

(Note the words “patients with elevated sodium will respond better”. Since magnesium deficiencies affect a large population today, it stands to reason that once this deficiency is corrected, sodium will not raise blood pressure but may actually help lower it. So it is clear that to conduct studies to find out the effect of salt in the diet with high blood pressure, we must first remove the magnesium deficiency variable and bring the nutritional profile of all the patients to healthy level. Only then will we be able to get consistent and conclusive results. I mentioned this when I gave the example of low immunity and cold susceptibility in one of my earlier posts).

Continued in the next post due to space constraints.....

Part 3

There are a number of studies that show magnesium supplementation is of value in lowering blood pressure. In one double-blind study, 91 middle-aged and elderly women with mild to moderate high blood pressure (between 140/90 and 185/105) who were not on blood pressure-lowering drugs randomly received either 480 milligrams of magnesium (as magnesium aspartate) or a placebo each day for 6 months. At the end of the study, systolic blood pressure dropped 2.7 millimeters of mercury and diastolic blood pressure dropped 2.7 millimeters of mercury more in the magnesium group than in the placebo group. The result was a near-normal average blood pressure reading of 143.8/86. Potassium supplementation did not produce any side effect, nor did the magnesium aspartate cause diarrhea.²³

In another double-blind clinical study, 21 male patients with high blood pressure were given 600 milligrams of magnesium daily (as magnesium oxide) or a placebo. Mean blood pressure (the average between the systolic and diastolic) decreased from 111 to 102 millimeters of mercury. Several other findings are

worth mentioning. The patients who responded the best were those with increase red blood cell sodium and reduced red blood cell potassium. After therapy with magnesium, the levels of intracellular sodium, potassium, and magnesium normalized, which suggests magnesium lowers blood pressure through activation of the cellular membrane pump that pumps sodium out of, and potassium into the cell. Magnesium supplementation also lower triglycerides from 102 to 82 milligrams per deciliter and total cholesterol from 195 to 184 milligrams per deciliter.²⁴

Dosage Ranges

Many nutritional experts feel the ideal intake of magnesium should be based on body weight (6 milligrams per 2.2 pounds body weight). For a 110 pound person, they recommend 300 milligrams; for a 154 pound person, 420 milligrams; and for a 200 pound person, 540 milligrams. Rather than relying on dietary intake to achieve this amount of magnesium, for most people I recommend supplementing their diets with additional magnesium corresponding to the recommendation fo 6 milligrams per 2.2 pounds body weight. For the conditions discussed above, I usually recommend twice this amount-12 milligrams per 2.2 pounds body weight.

References:

3. Gullestad L, et al., Oral versus intravenous magnesium supplementation in patients with magnesium deficiency. *Magnes Trace Elem* 10, 11-16, 1991
21. Whelton PK and Klag, Magnesium and blood pressure: Review of the epidemiologic and clinical trial experience. *Am J Cardiol* 63, 26G-30G, 1989
22. Joffres MR, Read DM, and Yano K, Relationship of magnesium intake and other dietary factors to blood pressure: The Honolulu Heart Study. *Am J Clin Nutr* 45, 469-475, 1987.
23. Witteman JCM, et al., Reduction of blood pressure with oral magnesium supplementation in women with mild to moderate hypertension. *Am J Clin Nutr* 60, 129-135, 1994.
24. Motoyama T, Sano H, and Fukusaki H, Oral magnesium supplementation in patients with essential hypertension. *Hypertension* 13, 227-232, 1989.

(Note: When things are in standard textbooks of nutrition, there already exist numerous references and there is nothing to report as “new findings”. Our old findings at NIH (Calcium Consensus 1994 and Osteoporosis Consensu 2000) were not in line with common knowledge which already existed in undergraduate textbooks for decades. How warped and self serving can our recent research be?)

In my next post we will start the discussion on salt, as it relevant only once the magnesium deficiency is addressed and we have a normal set of patients to evaluate salt supplementation and its effect on blood pressure.

Extracts taken from:

(with my commentary underneath in brackets where I found the need to amplify and clarify)

Textbook of Nutritional Medicine – Edition 1999 Pages 38 to 39, Pages 420 to 425

Melvyn R. Werbach, M.D.

Assistant Clinical Professor

UCLA School of Medicine, Los Angeles, CA

ISBN 0-9618550-9-6

Magnesium

Chronic primary magnesium deficit, which is estimated to be present in 15 to 20 % of the population, is the most common form of magnesium deficiency

(Durlach)

(Note it was conservatively estimated by Durlach at 15 to 20% in his paper published in 1994. You can imagine what this really is today, two decades later. Of course much higher! No brainer there.

My estimate based on thousands of blood reports seen in the last decade, more than 60% of the population today have very severe magnesium deficiency by the age of 50 years, which is further confirmed by symptoms of hypertension. This percentage goes up as the age advances to 75% by the age of 75 years. This is due to over cultivation of the land and use of synthetic fertilizers. The soil is totally depleted of minerals. There are figures on the Shrinking Value of Nutrition released by USDA to prove it).

Cardiac symptoms are not uncommon and include symptoms of idiopathic mitral valve prolapse, palpitations, extrasystoles and dysrhythmias. Muscle symptoms, primarily painful cramping and involuntary fasciculations (twitches), are a frequent manifestation. In the hands and feet, there may be acroparesthesias (“pins and needles” sensations in the hands and feet) as well as Raynaud’s syndrome (vasospasm causing the digits to turn a reddish-purple and to feel cold, numb and sometimes painful).

(Note a lot of cardiac diseases are actually linked to magnesium deficiency).

Hypertension (Pages 420 to 425)

Minerals

Hard versus Soft Water

While the results of studies are mixed, most show that hard water is associated with lower blood pressure levels than soft water. Since absorption of elements in drinking water is usually twice that of foods (as there are no chelating agents present), they may have a greater influence, even though the concentrations of these elements is usually small in relation to that in the food.

Water hardness is usually caused by dissolved calcium and magnesium although, in a few areas, hardness may also result from iron or aluminum salts. The beneficial influence of water hardness may be from alkalinity or from competition between divalent ions. Toxic elements, such as cadmium and lead (see Cadmium and Lead below), may be leached from pipes in soft water areas because of low pH. Also, the intestinal absorption of cadmium and lead may be retarded by the presence of competing ions in hard water, i.e. calcium and magnesium (*Borgman*).

Salt (sodium chloride)

Even though public health policy emphasizes sodium restriction as its principal recommendation, experts continue to debate sodium's role in arterial blood pressure control (*McCarron, 1988*)

A large meta-analysis of randomized controlled trials recently concluded that the evidence in the normotensive population does not support current recommendations for universal sodium restriction (*Midgley*)

(Note: When you take a group of normotensive people, it is most probably true in a very large majority of these people that they were not terribly deficient in magnesium. Here we have the ideal case and lo and behold we find that salt has no effect in raising their blood pressure as they have adequate magnesium in their body. Case closed! I mentioned this in my earlier post that if we were to begin with a population of people with corrected magnesium levels, and other nutrient profile in the first place, there would be no merit to the hypothesis that salt causes an increase in blood pressure.

C ontinued in the next post due to space constraints.....

Part 2

(Note from above is continued: How many case studies done so far to prove the contrary have actually logged the data on magnesium in the group of patients taken for their study on salt effect on blood pressure? Probably none).

Moreover, salt intake cannot usually be restricted successfully below 5g daily on a long-term basis (*Staessen, 1997*)

It does appear that moderate salt restriction (2 to 5g daily) may result in about 5 mm Hg decline, on average, in both systolic and diastolic blood pressures for perhaps half of the total population (*Egan, 1985; Luft*)
(Note that half of the population had adequate levels of magnesium. So salt helped to lower their blood pressure).

Another estimate is that 30% of the general public, and 40 to 50% of hypertensives, are salt-sensitive (*McCarron, 1991*); (*Preuss, 1997*)
(Note that the group who were sensitive were those that were magnesium deficient).

Conversely, in a small minority of people, moderate sodium restriction may actually increase blood pressure (*Luft*).

Other research suggests that certain populations, such as African-Americans, the elderly, and diabetics, may have a relatively high prevalence of salt sensitivity. However, the salt sensitivity noted in these groups appears to be more related to decreased ingestion of calcium and potassium than to excessive salt intake (*Sowers JR*).

Low Magnesium intake may also be a cause of salt sensitivity (*McCarron, 1997*).
(Note: Finally, they hit the nail on the head and found out the importance of magnesium in studying the effect of salt on high blood pressure).

Short-term, very-low-salt diets appear to be contraindicated in patients at risk for hypertension along with hyperinsulinemia / insulin resistance ("syndrome X"). Such patients have raised concentrations of rennin and aldosterone, and salt restriction results in further increases in these variables (*Egan, 1997*)
(Note for the sake of uniformity, it is better not to fool around with salt for all types of patients including those with very high insulin levels which are encountered in type 2 diabetes patients due to insulin resistance).

Since most of the data suggesting a link between salt intake and blood pressure comes from epidemiologic studies, long-term, large-scale clinical trials are still needed to resolve this lingering controversy.
(Note for such trials to make sense, the magnesium and other nutritional

deficiencies need to be corrected first, before the clinical trials are begun to resolve this lingering controversy)

Salt intake, however, is believed to be primarily responsible for determining how much calcium is excreted. In fact, within the usual ranges of salt and calcium intake, salt intake is more important than calcium intake in determining urinary calcium excretion. Increased urinary calcium excretion due to a high salt intake may not be adequately compensated for by increase calcium absorption; thus calcium may be resorbed from bone in order to maintain calcium homeostasis (*Antonios;Massey*).

Because of the importance of calcium in blood pressure regulation (see Calcium below), excess sodium intake may contribute to hypertension via its effect on calcium levels. This suggests that decreasing a high sodium intake is most likely to be effective when accompanied by an increase in a low calcium intake (*Levey*)
Levey WA et al. Blood pressure responses of white men with hypertension in two low-sodium metabolic diets with different levels of dietary calcium. J Am Diet Assoc 95(11): 1280-7, 1995

Magnesium Deficiency (Pages 424 – 425)
Magnesium is a potent vasodilator (*Altura, 1981*).
(Note this action can help lower blood pressure)

Continued in the next post due to space constraints.....

Part 3

A Low magnesium concentration reduces production of prostacyclin (a vasodilating, anti-aggregating prostanoid), and increase release of thromboxane (a vasoconstricting, platelet-aggregating prostanoid). Other endothelial derivatives (endothelium-derived relaxing factor [nitric oxide], endothelin, and fibronectin) may also be affected (*Seelig*).

Dietary magnesium intake is inversely related to both systolic and diastolic blood pressure (*Ma*).
(Note more evidence in support of magnesium being inversely related to lowering blood pressure)

In one study, low magnesium intake was the strongest of 61 dietary variables in predicting hypertension (*Joffres*).

(Note some more evidence supporting the role of magnesium in lowering hypertension)

In fact, half of all patients suffering from magnesium depletion are hypertensive and, once their deficiency is corrected, blood pressure returns to normal (*Anonymous, 1983*).

(Note some more evidence supporting the role of magnesium in lowering hypertension)

Although the results are conflicting, serum (Ma), urinary (Fischer), Ionized (Seelig), Lymphocyte (*Kisters*), and erythrocyte free (Resnik, 1984) magnesium have all been reported to be low in hypertensives.

(Note: Long and short of all this is: no salt studies should be carried out without first correcting magnesium at intracellular levels, otherwise the results obtained will be false. We need to disregard all such papers published without first correcting the magnesium and nutritional profile of each participant in such clinical trials).

Supplementation

The findings have not been entirely consistent, yet magnesium supplementation has repeatedly been demonstrated to lower blood pressure in hypertensives under double-blind conditions (*Sanjuliani; Witteman*).

Moreover, supplemental magnesium can reduce blood pressure in normotensives with type I (*Eriksson*), or type II (*Purvis*) diabetes. Also, potassium and magnesium supplementation together have been found to be more effective than potassium alone in restoring the anti-hypertensive efficacy of diuretics (*Wester*).

Inconsistent results from clinical trials may be because supplementation only appears to be of value when the patient is magnesium-deficient (*Moore*).

(Note: Magnesium deficiency is today found in majority of the population, due to depletion of soil nutrition as is evident from the Shrinking Value of Nutrition reported by USFDA).

Since magnesium deficiency is associated with the loss of cellular potassium (*Altura, 1984*), it may be wise to increase potassium intake when evidence of magnesium deficiency is found.

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Part 4

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Trust the above data will bring a closure to this entire discussion, to the satisfaction of all parties to this debate and take all of us ahead to the year 2050 of medicine.

Onward Ho to the year 2050 of medicine!

Be Enlightened.

Blessings,

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