

### Substituting Vitamins and Supplements for Pharmaceuticals in Type 2 Diabetes

The treatment of diabetes in 2012 is among the least successful in medicine, despite billions of dollars spent on research and the many scientists whose careers are focused on diabetes. Medicine has succeeded in making diabetes a very expensive disease for the patient while at the same time making it a cash cow for the numerous businesses that primarily cater to the diabetic. We would expect to have achieved at least some improvement in the treatment of diabetes; in fact the basic protocols haven't changed much in twenty years. Is research getting close to a solution? In my opinion as a pharmacist, the answer is no.

Diabetes has become a managed disease, although I think the word "managed" is exaggerated, for "managed" would mean the patient is regularly going to the doctor while being in good health because of the doctor's treatment.

For fifteen years I was the pharmacy manager for a small neighbourhood family-owned business. My position allowed an unusual observation point, where I saw the results of several people over a long term as they were introduced to the "sugar-med treadmill." It was not evident to me that these people improved from their diabetes treatment. All of the severe diabetics seemed to have the same group of symptoms: they were overweight (you never lose an ounce after the doctor introduces you to hyperinsulinaemia), oedematous, suffered from poor exercise tolerance and had a generally unhealthy appearance. The number of people with peripheral neuropathy was notable. I would periodically ask people how they were doing. At the time, I wasn't as suspicious as I am now, since I have also been diagnosed with a fairly serious case of type II myself. I wasn't greatly surprised about developing diabetes as it runs in my family (my mother and sister both have the diagnoses), but when I developed severe foot neuropathy symptoms, I started doing my own research.

Due to my job, I was already aware of the poor treatments for the foot neuropathy. Ami-

triptyline, gabapentin, and lyrica don't have much effect. People usually are introduced to heavy narcotics before they get any real relief. The drugs dull the pain but there is no real healing going on because medicine claims they don't know the source of the pain in the first place.

Medicine still considers the HgbA1c as the "holy grail" of treatment outcome for diabetes. I asked people about their HgbA1c values; it was interesting to note how many of these extraordinarily unhealthy looking people had HgbA1c values in the normal range. Consequently their doctors wouldn't change their diabetes treatment (regardless of their health complaints) because these people were normal from a blood test reference point.

With medicine's dogged pursuit of the HgbA1c values in mind, I decided to examine closely the whole presentation. The most frequent argument is that diabetes is a disposal issue. The sugars in the blood have a geography problem. The body seems interested in urinating the sugars (and calories coincidentally) away, whereas what the body would be doing if there wasn't something supposedly wrong would be making the cell membranes be more permeable and allowing the sugars to be burned intracellularly.

Medical research is spending virtually all of their time and money making the membranes more permeable. I call this 'barrier breach' research. The body is deliberately closing the gate to excess calories and medicine is trying to re-open it. If you think about what happens when those extra calories flood into the cell and are metabolized what do you get? Do you get advanced glycated end products (AGEs) that the body views as a threat and decides to do something about?

In the middle of this speculative argument comes a UK researcher named Paul Thornalley, who wrote a paper in 2005 detailing the diabetic symptoms that form when there is an acute thiamine deficiency.<sup>1</sup> How do diabetics develop thiamine deficiency? When a diabetic's sugars start to rise they start losing thiamine at a rate 16-25 times higher than normal. Somewhere in the distal tubule area of the kidney there is a failure to re-uptake thiamine which it normally does (this loss is so high that it is, arguably, impossible to

correct through diet alone). As the thiamine loss becomes body wide and acute, all of the symptoms of type II diabetes appear. Polyneuropathy, nephropathy (of the kidneys), retinopathy (of the eyes) and heart failure (in particular, left ventricle ejection fraction)—are all symptoms of acute thiamine deficiency. So do you have diabetes or do you have acute beriberi?

I was diagnosed with type II diabetes three years ago and immediately balked at the diabetic med treadmill. My doctor wanted to place me on statins, metformin and Byetta, which I refused to take. The Life Extension Foundation (LEF) suggestion for the fat-soluble thiamine called Benfotiamine was approximately 250 mg four times a day. I also added the vitamin B<sub>6</sub> metabolite, pyridoxal 5' phosphate. This vitamin was listed in a LEF article as protecting the kidneys from AGEs. The dose for me is 100 mg/day. I also add in magnesium aspartate, pyridoxine and acetyl l-carnitine, depending on the severity of neuropathy of my feet. My doctor was in disagreement with my choice but I told her I was doing it this way until I was convinced it wasn't working.

I started the vitamin regimen and did minimal monitoring of my condition for 2.5 years. I was watching for the supposedly inevitable deterioration of my health due to my elevated blood sugars. Ignoring your elevated blood sugars is at your peril, according to the doctors. You will have kidney issues, your pancreas will stop cooperating and your vision will become blurry as your sugars cause retina damage. When I started this experiment my fasting blood sugars were typically between 160-190 when I woke up in the morning and my HgbA1c was about 8.9. The only sign of some active problem was the neuropathy of my feet. I had all of the symptoms of diabetic neuropathy: numbness of my toe area, shooting pains in my joints. I also had the feeling that the general circulation in my feet was poor as my feet were always cold.

As the months went by my doctor (who was aware of my experiment and a little sceptical) kept asking me when I was going to get sick. Jokingly, I said maybe I'm not going to. So now after approximately 2.5 years since my last blood tests I got my results. I was actually

afraid to look at the results and finding that I had finally outsmarted myself and got hurt. There is quite a propaganda machine built around the treatment of diabetes. As I drove over to retrieve my blood tests I did a mental check-up of how I felt. I ended up thinking that I can't have a lot wrong with me, I just plain feel too good. Vision, weight (I've lost 35 lbs), energy levels and psychological attitude were all fine. All of these parameters are supposed to have gone haywire by now...correct? Well, my blood test results are almost like science fiction and I hope you'll agree. After letting my blood sugars run rampant for 2.5 years I have no discernible health defects that can be related to my still elevated blood sugars.

Treating my diabetes symptoms was not complicated because I got some early positive feedback. The neuropathy of my feet was the symptom that I wanted to solve. The pain in my feet was so great that it was interfering with my job as a pharmacist, as I am standing a lot. I didn't even want to try the treatments (mostly revolving around different types of painkillers) to solve my foot problems. My first inkling that there were other ideas came from a pamphlet from a Florida doctor who thought that there was a great deal of correlation between diabetes and beriberi. The logic path is as follows. As a diabetic's sugar levels raise, the kidneys for some reason start sloughing off thiamine (failure to re-uptake) 16-25 times higher than normal. At a loss rate like this, replenishing body stores through diet alone is probably impossible. Supplementation will be necessary.

As I started absorbing the new thiamine information the association between mainstream medicine's treatment of diabetes and thiamine manipulation was hard to visualize. Diabetes treatment by manipulating the blood sugar levels (using HgBA1c as a guideline) seems sensible but at the same time the results aren't encouraging. Millions of people currently have diabetes and millions more are diagnosed every year. I know it's not a very scientific observation but people with diabetes don't look very healthy. They tend to be oedematous and overweight. The longer the people are on the sugar-med treadmill the

worse these symptoms seem to become.

Within a short time the most overt of the neuropathy symptoms started to subside. The shooting pains with the “ice-pick in the ankle joint” symptoms were mostly gone in seven days. All of the other symptoms of numbness of the toes and overall pain of the feet including the ‘boot effect’ the (feeling that you have your boots or socks on) are mostly gone in three weeks. Now this isn’t a cure...it is a control. The symptoms are held at bay as long as you keep your thiamine levels high. If you quit taking benfotiamine, the symptoms come roaring back. Some other vitamins are involved in keeping the foot pain at bay including 200mg/day of B<sub>6</sub>, and alpha-lipoic acid (600 mg/day).

Mainstream medicine tells you to keep your HgbA1c values low or your health suffers. My HgbA1c values have been elevated at and my fasting blood sugar levels around 190. Values like these are supposed to guarantee a poor quality of life, from a health standpoint. These values have been in this approximate range for 2.5 years so my poor health should have evidence in my recent blood tests:

HgbA1c 9.1% Scale = 0.0-5.7 (high)  
 Glucose, fasting 190 mg/dL Scale=65-99 (high)  
 BUN 17mg/dL Scale = 7-25 (normal)  
 Creatine 0.82 mg/dL  
 Scale = 0.76-1.46 (low normal)  
 Albumin 4.2g/dL Scale 3.6-5.1 (normal)  
 Bilirubin 0.4mg/dL Scale = 0.2-1.2 (low normal)  
 ALK 85 IU/L Scale = 40-115 (normal)  
 AST 31 Scale = 10-35 (high normal)  
 ALT 37 Scale = 9-60 (normal)  
 eGFR 95. Scale = > 59  
 Cholesterol 178mg/dL Scale = 125-200 (normal)  
 Triglycerides 174mg/dL Scale = 0-150 (high)  
 SED Rate 5mm/h Scale 0-20 (low normal)  
 Creatinine, urine 86.7mg/dL  
 Scale 20-370 (low normal)  
 Microalbumin/Creatinine ratio 9.2mg/GCr  
 Scale 0-30

The creatinine and microalbuminuria values are the so called “Canary in the Coal mine” values. The kidneys are supposed to go first when AGEs have started your march to health failure because you didn’t keep your HgbA1c values within range.

I think 2.5 years is long enough for this concept to fester. I have also had my eyes checked for sugar based destruction of my retinas. I have no retinopathy caused by hypercholesterolemia, blood pressure and more importantly no sugar/retina issues of any kind. I am 61 years old and have 20/25 vision in both eyes.

Where is the predicted failure of my health due to hyperglycemia? I have two outlying values. Is it possible the values are unimportant in predicting overall health? It is important to remember that these results did not come from doing nothing. What I did do was substitute several nutritional substances for pharmaceuticals. A question could be, instead of the body destruction from diabetes being an active process from AGEs are the health issues actually nutritional shortages that can be augmented?

I am hoping this simple (and non-toxic) experiment on me will open up some serious discussions about diabetes. Having diabetes is complicated (and expensive). Once someone shows you which ones to take, taking vitamins is relatively simple. It’s also cheaper than the other method. I am spending \$100-150 per month on nutritional supplements. During this 2.5 year experiment I have not given my doctor a single dime for advice on how to regulate my HgbA1c value.

If nothing else I’m hoping my home experiment will generate some spirited discussions about the validity of substituting vitamins in diabetes treatment. But this editorial is also an attempt to unseat some basic tenets of the medical fiasco known as diabetes. The prevalence in 2011 of type 2 diabetes worldwide according to the World Health Organization (WHO) is 346 million, and some 3.4 million people died in 2004 as a consequence of the disease.<sup>2</sup> The WHO predicts that the deaths attributable to diabetes will double between 2005 and 2030.<sup>2</sup> With this kind of projection a “Manhattan Project” kind of response seems necessary.

So what is the intellectual problem that seems so intractable to the medical research community? The medical community seems ignorant of the projections for prevalence as virtually all levels of medical treatment from

family practice to endocrinologists use the same stale protocols as the diabetes prevalence goes up every year. The obvious lack of improvement in most people's health from being placed on the "sugar-med treadmill" doesn't seem to register on their physicians. The people are oedematous, lethargic, have poor exercise tolerance and are constantly gaining weight. I'm not sure these symptoms qualify as health improvements.

The observation failures by the physician were exposed by the ACCORD trial failures.<sup>3</sup> The ACCORD trials were meant to validate once and for all that the closer a patient got to the almost magical HgA1c value of six the healthier a person became. Instead, there was a 22% increase in mortality from heart failure. This unexpected value caused the FDA to terminate the trial midstream. Is it possible that the HgA1c value is not a relevant value in evaluating diabetes as an illness?

The HgA1c value can obviously be moved up and down with some predictability. The catch is exposed by the ACCORD trials. One would think the value is showing a direct relationship between this value and health. But what if there is no correlation? What other values would you use to show diabetes' effect on the body?

If you go to PubMed and together use the keywords "thiamine deficiency" and "diabetes" you will get over 120 references. Why this isn't a mainstream argument for therapy is truly sinister. I wouldn't mind seeing some narrow minded endocrinologists (with whom I have butted heads with recently) into getting reprogrammed. Supplement-based nutrition therapy is utterly neglected in conventional management of diabetes.

Diabetes is big business. The National Diabetes Fact Sheet reported that in 2007, the direct medical costs of diabetes nationally was estimated at \$116 billion (USD).<sup>4</sup>

While feeling overwhelmed by a diagnosis of hyperglycemia, patients often are comforted by the complicated explanations and the sudden increase in activity and attention. The possibility that they are being misled just doesn't come up. Even if patients decide to do their own research it's confusing. The cause of diabetes is basically unknown but with some

major alterations to one's lifestyle and lots of chemicals liberally applied will allow the patient to lead a relatively normal life. For the truly curious, a large, relatively comprehensive, block of information can be discovered.

The internet has a great deal of alternative information, of which doctors are mostly ignorant. If the patient were to present this information, the doctor would likely comfort the patient while telling him that they are getting the cutting edge treatment and all the patient has to do is keep a close watch on their HgA1c value. As long as that number is idolized, everything will be okay. Even after three years of looking at the results of the ACCORD trials, there has been no major correction of treatment protocols for type II diabetes that addresses the unexpected mortality issue.

If this argument is even partially correct, the implications for mainstream medicine are staggering. These ideas need discussion in front of the right people. People with diabetes need some new ideas.

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## References

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