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Niacin is the Safest and Most Effective Way to Control Cholesterol (But You'd Never Know it from the Media)

(OMNS Mar 21, 2013) The health benefits of niacin are again being challenged. Why? The simple answer is to follow the money. Cholesterol-controlling drugs are cash cows for the trillion-dollar-per-year pharmaceutical industry. Niacin is cheap, non-prescription and safe. Drugs are much more dangerous and considerably less effective. Niacin is not being attacked because it doesn't work. Niacin is being attacked because it ***does*** work.

What You Are Hearing

"HPS2-THRIVE: No Benefit, Signal of Harm for Niacin Therapy" - *Forbes* [1]

"ACC: HPS2-THRIVE May Signal the End for Niacin" - *Medpage*

"Niacin Causes Serious Unexpected Side-effects, but no Worthwhile Benefits, for Patients who are at Increased Risk of Heart Attacks and Strokes' - *Sacramento Bee*

"Niacin Therapy Unhelpful, Occasionally Harmful" - *Naharnet*

"Niacin doesn't help heart may cause harm, study says" - *USA Today*

Sadly, these headlines ignore the full story, and are incorrect because they place the blame on niacin while ignoring the adverse effects of laropiprant and statins. Although statins are widely used, they have serious side effects in some people, and will not help most who take them.[2]

"Niacin is really it. Nothing else available is that effective."

(Steven E. Nissen, M.D., Chairman of the Department of Cardiovascular Medicine at the Cleveland Clinic and past president of the American College of Cardiology, quoted in the *NY Times*, Jan 23, 2007)

The Real Story

A recent widely publicized interventional study on the benefit of tredaptive, a compound drug containing an extended release form of niacin and a drug called laropiprant, has been interpreted in the media as showing that niacin may have dangerous side effects. The study was designed to determine the advantage of tredaptive to participants who were already taking a dose of statins to reduce symptoms of high cholesterol and heart disease.[3] However, the study was focused on the benefit of a specific combination of drugs, and therefore cannot determine the efficacy of niacin. This essential vitamin is already known to be very safe and effective for lowering cholesterol. Rather, the

study confounds the well-known benefits of niacin with the unknown dangers of incompletely tested drugs.

The HPS2-THRIVE Study

The study on tredaptive was performed on two groups totaling 25,673 participants, in which one group took a dose of statin along with extended-release niacin plus laropiprant, and the other group took the same dose of statin along with a placebo.[3] The groups were followed for about 4 years, and the medical outcomes were tabulated. The group that received the niacin and laropiprant had a slightly increased amount of myopathy (muscle weakness), especially in a subgroup that tended to have increased rates of myopathy compared to the general population. This group did not show any advantage from niacin. In addition, those receiving niacin had a higher rate of stopping their medication, mainly because of its well-known effect of causing skin flushes.

The study of tredaptive was stopped prematurely, and it has been removed from the market. But this should not be taken as an argument against using niacin. Rather, it should be a notice for caution about the use of extended release niacin in combination with these two other drugs that are known to have side effects. This is consistent with previous knowledge that extended or slow release forms of niacin are less safe than plain standard niacin. Further, there may also be a special problem in the combination with the statin and laropiprant drugs utilized in the study. This emphasizes that knowledge about laropiprant and its effects in combination with other drugs such as statins is insufficient. Although tredaptive is now unavailable for ordinary patients, and was never approved for sale in the USA, doctors continue to advise the use of niacin for its beneficial effects.

"Niacin is the best substance currently available for the control of cholesterol. It decreases the incidence of coronary disease and strokes and raises life expectancy."

(William B. Parsons Jr., M.D., Mayo Clinic researcher [4])

Which is the Culprit: The Drug or the Vitamin?

Which component of the tredaptive drug trial should be blamed for causing problems? Apparently the headlines have implicated niacin by default. After all, it can cause flushes! Well, niacin, an essential nutrient, has been used very safely at very high doses (1000-2000 mg or higher) for over 60 years. It has been shown to reduce mortalities due to cardiovascular disease, even 10 years after patients stop taking it.[5-7] The effect of niacin in preventing dyslipidemia (to correct an unfavorable blood lipid profile) is known to occur through PGD1 (prostaglandin) pathways. In contrast, laropiprant is a relatively new drug that blocks PDG1 pathways. It was included in the compound drug tredaptive to prevent the niacin flush side effect that sometimes occurs in some patients. However, it was not included for any clinically beneficial effect on cardiovascular disease, and it may have have even blocked the desired effects of niacin. The prostaglandin pathways inside cells are complex, and they are a current topic of intense research. In some studies, laropiprant showed a side effect on platelet DP1 receptors, which suggests that it may have adverse side effects on other receptors than on blood vessels within the skin, for example, in lung tissue and in the brain.[8.9]

The safety of laropiprant when taken along with statins has not been carefully studied. Pharmaceutical companies that design and manfacture these drugs, and the patients that use them need to be very cautious about side effects, for they can be serious and unpredictable. Compared to laropiprant, niacin has been widely studied and shown safe in thousands of studies. Its use and effects are described in more than 7000 publications in PubMed since 1943 (and in more 35,000 as its

alternate name "nicotinic acid"). Laropiprant is described in less than 100 studies dated only within the last seven years. Thus, overall, the study provides no evidence of harm by niacin, and in testing a new combination of drugs has apparently discovered they can cause an adverse reaction in some people. Therefore, in combination with statins and extended release niacin, laropiprant may be the culprit.

Forms and Benefits of Niacin

Niacin comes in several forms, including niacinamide and standard "fast-release" niacin. They both help to increase cellular NAD, an essential metabolic molecule for all life, but significantly, only niacin can raise HDL (good cholesterol) more than any statin while simultaneously lowering VLDL (very low-density lipoprotein), triglycerides (a risk factor for atherosclerosis), and total cholesterol. These outcomes are commonly desirable in most high risk cardiovascular disease patients. However, niacin has also been shown to elevate NAD more than niacinamide in many cell types, making niacin superior to niacinamide for helping to prevent disease.

The Niacin Flush

A problem for some people is that niacin can cause the well-known side-effect, the "niacin flush." This temporary (30-60 minutes) sometimes itchy redness of the skin occurs in some people after taking large therapeutic doses. Yet on the whole, the niacin flush is associated with beneficial health effects. Niacin specifically activates the high affinity G-protein coupled receptors, GPR109a and b, which then leads to release of a variety of prostaglandins that results in the flush response. This effect of niacin that causes vasodilation and the flush is widely understood to correct dyslipidemia. Although some people describe the niacin flush as a side effect, it means that the body is correcting its lipid metabolic lipid pathways which may be important in preventing atherosclerosis.[10] Other forms of niacin, such as slow or extended-release niacin, will not cause a flush but may also be less effective in prevention or treatment of atherosclerosis. Further, in some people slow release or non-flush niacin can result in an alarming increase in liver enzymes.[4] Although in most accounts the niacin flush is associated with beneficial effects, it is perceived as uncomfortable by some people. For those who want to use niacin but avoid a flush, it is straightforward to find the largest dose that provides a minimal flush response. Niacin hardly ever causes a serious adverse response, but rather the response is temporary and at worse mildly uncomfortable.

How to Obtain the Benefits of Niacin

Niacin is one of the B vitamins, and like other B vitamins is an essential nutrient required for cellular energy metabolism. It is available from a wide variety of foods, including whole grains, fresh fruits and vegetables, meat and fish, and beans and nuts. As an inexpensive and safe supplement, niacin is widely used for its effects on increasing HDL (good cholesterol) to lower cardiovascular risk, to prevent the pain and inflammation of arthritis, and to treat a variety of psychological disorders including anxiety and alcoholism. When used appropriately, niacin is very safe.[11]

To obtain the benefits of supplemental niacin without the niacin flush, you can start by taking niacin at a low dose once a day and slowly increase the dose day by day. This allows the body to adapt to the increasing doses, which largely prevents a flush. An appropriate starting dose is 25 mg taken once per day with food. To obtain 25 mg doses, a good form to purchase is tablets of 100 mg of pure niacin. Break the 100 mg tablets into four pieces and take one every day for several days. Then increase to two 25 mg doses per day, taken in divided doses in the morning and evening with food. Gradually

increase the dose over the next few weeks. Using this method, it is possible to achieve a dose of several hundred mg of niacin, taken as divided doses with meals, without noticeable flushing. If an occasional niacin flush occurs, reduce the dose by a small amount. You naturally should consult with your physician to discuss appropriate forms, cautions, doses, and benefits of niacin.

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