Can Vitamin D Affect Type 2 Diabetes?

Like obesity, type 2 diabetes is becoming an epidemic!
Of course, that is no surprised since obesity and type diabetes are closely associated.

Here are just a few fast facts to ponder:

1) Type 2 diabetes used to be called "adult-onset diabetes" because it was almost never seen in children. But thanks to the obesity epidemic that is no longer true. Type 2 diabetes in children has increased by 33% in the last decade alone.

2) Every day in the US 66 people lose their eyesight and 112 people begin treatment for end stage renal disease because of diabetes.

3) Cardiovascular events occur 15 years earlier for someone with diabetes.

4) A 50-year old person with diabetes dies 6 years earlier than their counterpart without diabetes.

5) Yet if current trends are not reversed, type 2 diabetes in adults is expected to double by 2050!

So everything that we can do to slow or reverse the incidence of type 2 diabetes should be of interest to us. With that in mind I thought that you would be interested in a paper published July 6, 2011 by Mitri et al, in the European Journal of Clinical Nutrition (doi:10.1038/ejcn.2011.118) looking at the relationship between vitamin D intake and prevalence of type 2 diabetes.

There have been a number of clinical studies over the past few years that suggested adequate vitamin D intake may lower the risk of developing type 2 diabetes – but each of the studies have had limitations. This study was what is called a meta-analysis. Basically, it combined the results of 8 different clinical studies to generate more statistical power than any individual study could achieve alone. These 8 studies included 238,423 participants, some of whomwere followed for up to 22 years to see if they developed type 2 diabetes.

Four of the studies measured only vitamin D intake. From these studies the authors concluded that vitamin D intakes of >500 IU/day decreased the risk of type 2 diabetes by 13% compared to vitamin D intakes of <200 IU/day.

Four of the studies employed direct or indirect measures of 25-hydroxy vitamin D blood levels. From these studies the authors concluded that serum 25- hydroxy vitamin D levels >25 ng/ml decreased the

risk of type 2 diabetes by 43% compared to serum 25-hydroxy vitamin D levels of <14 ng/ml.

So what is the bottom line for you?

These studies support the conclusion that adequate vitamin D intake does decrease the risk of type 2 diabetes. However, vitamin D is just one component of a holistic approach to reducing the risk of developing type 2 diabetes. Weight control and exercise remain the most important interventions for preventing and reversing type 2 diabetes.

A healthy diet - one that emphasizes fresh fruits & vegetables, whole grains and healthy protein and fat sources is also important. And, it you are going to emphasize any one component of the diet it should be protein - not carbohydrate or fat.

When considering supplementation you want to make sure that you include B vitamins, antioxidants, and a complete complement of trace minerals – including chromium, magnesium & vanadium. And, of course, we now know that you should include vitamin D in that list.

Among botanicals I recommend alpha-lipoic acid, taurine, resveratrol and polyphenols from muscadine grapes. There are other botanicals that show some promise, but there is no single botanical or nutrient that is a magic bullet. A holistic approach to supplementation is just as important as a holistic approach overall.

The only question remaining is how much vitamin D should you shoot for.

500 IU/day is consistent with the newly revised Daily Value recommendation of 600 IU/day, so virtually every nutrient expert will agree that we should be aiming for at least that amount. So, as a minimum, I would recommend starting with a multivitamin that supplies at least the Daily Value recommendation of 600 IU vitamin D.

The question of whether to have your physician measure your 25-hyydroxy-viatim D levels and to try to optimize those levels by adding extra supplemental vitamin D to your diet has proven to be more controversial among health professionals. However, there appear to be so many potential benefits to optimizing serum 25-hydroxy-vitamin D levels that I personally recommend it.

If you are working with your physician they will be able to monitor your blood levels and make sure that you never get into the toxic range - so I see only potential benefits with little or no risk.

To Your Health!
Dr. Stephen G Chaney