

ADA RESEARCHER INTERVIEW

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While at ADA, I had the chance to catch up with Vijaya Juturu, Ph.D., Nutrition Scientist with Nutrition 21, Inc. Nutrition 21 is a leading therapeutic supplement company and the researcher and developer of a new nutritional product for people with diabetes called Diachrome™. Dr. Juturu and I discussed this interesting new product.

DJ: How was the Diachrome composition of chromium picolinate plus biotin discovered?

VJ: Chromium, an essential trace mineral, has long been known to have beneficial effects on glucose control. Chromium picolinate is the most bioavailable form of chromium, supported by the most research in diabetes. Nutrition 21 has been involved in chromium research for over 10 years. In developing Diachrome, we screened different nutrients using a human skeletal muscle cell model to study the effect of different nutrients, alone or in combination with chromium picolinate, on glucose uptake and glycogen production. Trace elements are known to have interaction with other nutrients. We were hoping to find a complementary interaction between the nutrients. Over 15 bioactive nutrients were screened including biotin, also known as vitamin H, which is one of the B-vitamins. The chromium picolinate/biotin combination showed significant results by enhancing glucose uptake and glycogen production. As a matter of fact, this combination exhibited more than additive effects. A patent was issued based on this synergistic action.

DJ: Why did you think that Diachrome would be effective in diabetes management?

VJ: Two of the most important treatment goals for people with diabetes today are controlling blood sugar levels through normalizing insulin function and maintaining healthy lipid profiles. Pre-clinical and clinical studies suggest that Diachrome not only improves blood glucose control but also increases HDL levels and reduces total and LDL cholesterol levels. Clinical data additionally show significant improvements in HbA1c profiles. Diachrome has been tested in research studies in combination with other treatment modalities, such as oral hypoglycemic medications and insulin. No adverse events have been reported in the clinical studies. This nutrient combination is delivered at safe, yet effective, dose levels and can be used alone or in combination with other treatment regimens.

DJ: What is the potential for Diachrome's application in clinical practice?

VJ: Diachrome's once-a-day dosing schedule and lack of unwanted side effects makes it a convenient adjunct to existing treatment protocols. As a non-prescription nutrient formulation, it is extremely affordable. All of these factors should help to improve compliance and, as we all know, improved compliance usually leads to improved outcomes.

DJ: Are there any on-going clinical studies of Diachrome?

VJ: Yes. Nutrition 21 currently has a 600-patient double-blind, placebo-controlled study with a leading diabetes disease management organization. In addition to clinical endpoints, pharmacoeconomic outcomes will be measured. Interim results from this study are expected by the end of this year. Another study is being conducted at Oakland Children's Hospital where Diachrome is being tested in type 2 adult and pediatric patients. These results are expected early next year. Finally, a new study is about to initiate evaluating Diachrome's impact on glycemic response.

DJ: Are there any cautions or contraindications for Diachrome?

VJ: Because Diachrome helps improve insulin sensitivity and glucose utilization, patients are advised to monitor their blood sugars regularly. In two clinical studies, some people with diabetes

were able to reduce their levels of hypoglycemic medication or exogenous insulin. Since Diachrome is a nutrient combination, this beneficial effect probably will not occur overnight. Most patients begin to see a positive response within the first month although others may need to consistently take Diachrome for a longer period of time before they begin to see any benefit. Post-prandial blood glucose levels seem to be reduced first, followed by fasting levels. In terms of HbA1c levels, the higher the baseline value (i.e. the more out-of-control) the greater the impact seen in clinical studies. Diachrome is a safe product and a new nutritional addition to existing diabetes treatment options. As with all interventions, we recommend that people with diabetes work with their healthcare professional when using Diachrome to safely achieve their health goals.

DJ: Is Diachrome commercially available?

VJ: Diachrome is not yet available in stores. The only way that Diachrome currently can be purchased is through a toll-free number or Web site. Nutrition 21 wants to communicate first with the health professional community prior to launching the product to consumers in the retail channel. We are exhibiting here at ADA and will be exhibiting at AADE and other health professional conferences throughout the year.

For More Information on Diachrome call 1-866-DIACHROME (1-866-342-2476) or going on-line to: www.diachrome.com.