Vitamin D shows promise for children newly diagnosed with type 1 diabetes

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Benjamin Nwosu, MD. Credit: University of Massachusetts Medical School

Adding a safe, inexpensive and easy to administer form of vitamin D to treatment for children newly diagnosed with type 1 diabetes shows promise to improve measures of disease progression. Results of a randomized clinical trial comparing ergocalciferol supplementation to placebo, conducted by Benjamin Udoka Nwosu, MD, is published in the January issue of the *Journal of the Endocrine Society*.

"There are new findings of clinical importance in this study," said Dr. Nwosu, professor of pediatrics. "Ergocalciferol protected beta-cell mass

and was useful for maintaining improved glycemic control during the honeymoon phase."

Type 1 diabetes occurs when insulin-producing beta cells cease to function over time. During partial clinical remission, known as the "honeymoon phase" that may follow initiation of insulin therapy, surviving beta cells continue to produce some insulin—the longer the better. Patients who do not experience partial clinical remission require higher doses of insulin and are more likely to suffer from serious diabetes-related complications later in life.

In the 12-month, randomized, double-blind, placebo-controlled trial, 18 patients aged 10 to 21, who were three months or less from diagnosis of type 1 diabetes, received 50,000 IU of ergocalciferol per week for two months, and then once every two weeks for 10 months, while the 18 members of the control group received a placebo. All participants were on a tightly controlled insulin treatment plan.

Trends for rising average blood glucose levels over several months (HbA1c) and insulin dose-adjusted blood glucose levels (IDAA1c), a measure of beta cell function, were significantly blunted in the ergocalciferol group. These results suggest that adding vitamin D to insulin therapy may further extend the length of partial clinical remission.

"Our study is the first to demonstrate significant functional and dynamic differences between ergocalciferol and placebo," said Nwosu. "It is also the longest of such studies in an exclusive pediatric type 1 diabetes population using a standardized insulin regimen and high dose ergocalciferol."

Next, Nwosu is launching a longer-term trial to clearly delineate the impact of vitamin D on partial clinical remission, which was not fully

shown in this short-term study.

More information: Benjamin Udoka Nwosu et al, Ergocalciferol in New-onset Type 1 Diabetes: A Randomized Controlled Trial, *Journal of the Endocrine Society* (2021). DOI: 10.1210/jendso/bvab179

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