

Evaluation of celiac disease antibodies and 25-OH vitamin D in type 1 diabetic patients

Lusine Navasardyan¹, Anna Ghubatyan², Angelina Arzumanyan¹, Nune Gevorgyan¹, Elena Aghajanova¹

¹Yerevan State Medical University, Yerevan, Armenia. ²"Histogen" Medical Centre, Yerevan, Armenia

Objectives:

In diabetic patients vitamin D seems to play a role not only on bone metabolism, but also on many other organs and/or systems, such as lipid profile, cardiovascular system, etc. We decided to evaluate whether the celiac disease antibodies in type 1 diabetic patients have a connection with 25-OH vitamin D status.

Materials and methods:

78 young patients with type 1 diabetes were evaluated with mean age of 14 ± 1.18 , and diabetes duration of 7 ± 0.95 years, male/female ratio was as 1/1.11. In all investigated patients HbA1c, 25-OH vitamin D, anti-tTG (tissue transglutaminase) autoantibodies were measured, as well as anamnestic data was collected. Hypo- and hyperthyroid patients were excluded. Statistical analyses were performed to determine the significance of findings. In all cases null hypothesis was rejected if $p < 0.05$.

Results:

From 78 investigated patients 45 (57.7%) showed to have vitamin D deficiency $< 20 \text{ ng/ml}$. In the rest 42.3%, who had sufficient vitamin D level, it was $> 20\text{-}30 \text{ ng/ml}$, which indicates that they have so called "low-sufficient" vitamin D status. No connection between vitamin D status and sex, as well as the diabetes duration was found ($p > 0.05$). HbA1c was significantly high in vitamin D insufficient group ($p < 0.05$). Interestingly no significant difference is found in anti-tTG titers between vitamin D sufficient and insufficient groups ($p > 0.05$), indicating no connection between 25-OH vitamin D and anti-tTG levels. High titers of celiac antibodies also were not associated with poor glucose control ($p > 0.05$). But HbA1c revealed to correlate with age ($p < 0.05$).

Conclusions:

Glucose control in type 1 diabetic patients correlates with age, as well as is associated with vitamin D status in the organism. No connection between celiac disease antibodies and vitamin D status was found in type 1 diabetic young patients. Further studies are required more profoundly to investigate other parameters' and complications' connection with celiac disease and vitamin D status in type 1 diabetes.

