

A Case Study Demonstrating the Benefits of Low-Carb Eating in an Adult with Latent Autoimmune Diabetes Highlights the Necessity and Effectiveness of These Dietary Therapies

Authors : Jasmeet Kaur, Anup Singh, Shashikant Iyengar, Arun Kumar, Ira Sahay

Abstract : Latent autoimmune diabetes in adults (LADA) is an irreversible autoimmune disease that affects insulin production. LADA is characterized by the production of Glutamic acid decarboxylase (GAD) antibodies, which is similar to type 1 diabetes. Individuals with LADA may eventually develop overt diabetes and require insulin. In this condition, the pancreas produces little or no insulin, which is a hormone used by the body to allow glucose to enter cells and produce energy. While type 1 diabetes was traditionally associated with children and teenagers, its prevalence has increased in adults as well. LADA is frequently misdiagnosed as type 2 diabetes, especially in adulthood when type 2 diabetes is more common. LADA develops in adulthood, usually after age 30. Managing LADA involves metabolic control with exogenous insulin and prolonging the life of surviving beta cells, thereby slowing the disease's progression. This case study examines the impact of approximately 3 months of low-carbohydrate dietary intervention in a 42-year-old woman with LADA who was initially misdiagnosed as having type 2 diabetes. Her c-peptide was 0.13 and her HbA1c was 9.3% when this trial began. Low-carbohydrate interventions have been shown to improve blood sugar levels, including fasting, post-meal, and random blood sugar levels, as well as haemoglobin levels, blood pressure, energy levels, sleep quality, and satiety levels. The use of low-carbohydrate dietary intervention significantly reduces both hypo- and hyperglycaemia events. During the 3 months of the study, there were 2 to 3 hyperglycaemic events owing to physical stress and a single hypoglycaemic event. Low-carbohydrate dietary therapies lessen insulin dose inaccuracy, which explains why there were fewer hyperglycaemic and hypoglycaemic events. In three months, the glycated haemoglobin (HbA1c) level was reduced from 9.3% to 6.3%. These improvements occur without the need for caloric restriction or physical activity. Stress management was crucial aspect of the treatment plan as stress-induced neuroendocrine hormones can cause immunological dysregulation. Additionally, supplements that support immune system and reduce inflammation were used as part of the treatment during the trial. Long-term studies are needed to track disease development and corroborate the claim that such dietary treatments can prolong the honeymoon phase in LADA. Various factors can contribute to additional autoimmune attacks, so measuring c-peptide is crucial on a regular basis to determine whether insulin levels need to be adjusted.

Keywords : autoimmune, diabetes, LADA, low_carb, nutrition

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