Research Article
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The use of apple cider vinegar as a secondary treatment line with conventional diabetic treatment as a new medical hypothesis linking type 1 diabetes and type 2 diabetes

Abstract

The diabetes as a disease has been reported for 3500 years. Although diagnostic and therapeutic approaches have continuously developed, no definitive therapeutic approaches have so far been reached. Diabetes is not a single disease; it interferes with various systems in the body including nervous system and cardiovascular system. The therapeutic lines for type 1 diabetes start with insulin and will need another treatment such as metformin. On the other hand, type 2 diabetes treatment strategies start with metformin and there will be a need for another treatment, insulin according to the disease progression. At certain point, both types of diabetes are treated applying the same strategies. In this study, we followed another strategy by applying the use of apple cider vinegar in patient with type 1 diabetes, and patient with type 2 diabetes following getting each meal. The results showed that glucose levels were within reference range after five days. Taken together, the use of apple cider vinegar as a secondary treatment line with conventional diabetic treatment is promising and needs to be further investigated.

Keywords: diabetes type 1, diabetes type 2, glucose, apple cider vinegar

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Introduction

Diabetes mellitus (DM) is a significant public health issue that has been attributed to a change in lifestyle, decreased physical activity, and obesity.[1] Endocrine disorders cause impaired insulin secretion, hepatic glucose overproduction, and insulin resistance, which leads to the development of diabetes mellitus.[2] Co-morbidities such as dyslipidemia, atherosclerosis, and hypertension can all lead to complications.[3] By 2030, the World Health Organization (WHO) estimates that diabetes will be the seventh leading cause of death.[4] According to the International Diabetes Federation (IDF), there are approximately 382 million diabetics worldwide, with that figure projected to grow to 592 million by 2035.[2] Around 80% of people with diabetes live in low-income countries, and 60% of them are from Asia, with China accounting for one-third of the total. Type 2 diabetes is on the rise in developing countries.[5]

Apple cider vinegar (ACV) could be able to help with the day-to-day treatment of type 2 diabetes, as new research shows that some elements of the vinegar may help. Hyperglycemia can be managed with the help of beverages. lowering the risk of cardiovascular disease by losing weight lowering blood pressure and lipid levels in the blood.[6,7]

Study cases

Type 1 diabetes case

A male aging 23 years had type 1 diabetes since he was 14 years old. He was treated by insulin, but his HA1C was elevated (21%) and his fast blood sugar was 300 mg/dl. Due to uncontrolled glycemic status, he asked for other therapeutic approached. He was recommended to use the apple cider vinegar as one spoon of concentrated apple cider vinegar in a cup of water (200ml) following each meal. His fasting blood sugar declined from 300mg/dl to 100 mg/dl. The patient expressed his good feelings of having good quality of life.

Type 2 diabetes case

A female aging 52 years with type 2 diabetes, treated by metformin 850 mg and insulin injection. Her glucose levels were not stable and great variations were recorded from 180-462mg/dl. She was recommended to use the apple cider vinegar as described above. Her fasting blood glucose levels started to decline and reached 12 mg/dl.

Discussion

The results of the present study showed that the use of the apple cider vinegar was effective in controlling glycemic status. Apple cider vinegar can help in treating type 2 diabetes with the help of beverages, lowering the risk of cardiovascular disease by losing weight lowering blood pressure and lipid levels in the blood.[6,7] According to the results of this study, it seems that there is a potential to add new therapeutic lines to overcome problems. The use of apple cider vinegar is characterized by being effective, available and cheap. There is a need to conduct more clinical studies to confirm these findings.

Conclusion

The use of apple cider vinegar can be recommended to control hyperglycemia.

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Conflicts of interest

Author declare that there is no conflict of interest.

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