

Hydrogen Water – Reduce Risk of Type 2 Diabetes with Simple Change

Description

One contributory factor in the development of type 2 diabetes is oxidative stress. Antioxidant vitamins such as vitamin C and vitamin E can be beneficial in helping control blood sugar level in those diagnosed with type 2 diabetes. Numerous scientific studies have demonstrated that hydrogen can have a powerful antioxidant effect, helping to reduce oxidative stress. Therefore, it would be reasonable to surmise that hydrogen could be a useful tool in the prevention of diabetes. To help ascertain whether or not this would be the case, a study was carried out to investigate how drinking hydrogen-rich water would affect the [metabolism of glucose and lipids](#).

Participants in the study included 30 people with type 2 diabetes mellitus (T2DM) and 6 people with impaired glucose tolerance (IGT), which can be a precursor to T2DM. The 36 individuals (18 male and 18 female) were between the ages of 53 and 63. The subjects consumed 900ml of hydrogen-rich water or placebo water daily for 8 weeks, had a 12-week washout period and then had a further 8 weeks drinking the other water type. Blood tests were used at the start and end of each 8-week period in order to measure the levels of indicators of oxidative stress and insulin resistance. Oral glucose tolerance tests were used to assess the efficiency of glucose metabolism.

Levels of indicators of oxidative stress were shown to have decreased significantly after hydrogen water consumption, while no significant change had occurred in the case of placebo water consumption, suggesting that hydrogen water had had a greater antioxidant effect. LDL (low density lipoprotein) levels had also been significantly reduced, indicating that hydrogen water had been beneficial in the effective metabolism of lipids. Similar results were found in a previous study on human hepatoma cells where hydrogen water was found to [reduce serum LDL](#) levels by suppressing the expression of the protein CD36.

4 out of the 6 participants with IGT had normal levels of glucose tolerance after 8 weeks of drinking hydrogen water. This suggests that taking in hydrogen water helped to slow or prevent the progress of diabetes. Adiponectin is a hormone which helps regulate glucose levels and the breakdown of lipids; those drinking the hydrogen-rich water were found to have higher levels of serum adiponectin than those drinking placebo water. An antioxidant enzyme, extracellular superoxide dismutase (EC-SOD), was also found in greater volumes after hydrogen water consumption. Increased adiponectin and EC-SOD levels both help contribute towards an improvement in insulin resistance.

In this study, hydrogen water was shown to help promote improved insulin resistance. This was demonstrated through a beneficial antioxidant effect, more effective lipid metabolism and the regulation of glucose levels. It was also found that hydrogen water can help to reduce the risk of a person developing T2DM. This was shown through the 4 out of 6 participants with IGT who had normal levels of glucose tolerance after hydrogen treatment. These results suggest that the consumption of hydrogen-rich water could be an effective preventative measure in the development of T2DM, more so than simply drinking regular water.

Category

1. Articles

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