Effects of Alkaline Ionized Water on Spontaneously diabetic GK-rats fed Sucrose

Diabetes
TWO ABSTRACTS and ONE REPORT ON DIABETES / ALKALINE WATER RESEARCH Jin Man Kim Division of Life Science, R&D center, Sunkyong Industries, Kazuhito Yokoyama Department of Public Health, Faculty of Medicine, The University of Tokyo

This study was carried out to evaluate the effects of alkaline ionized water (AIW) on spontaneously diabetic GK-rats fed sucrose for aggravation of diabetes mellitus. One half of the 32 GK rats was given AIW and the other was given tap water (TW). These two groups were further divided into two subgroups by fed with or without 30% sucrose solution (8 in each group). In blood glucose level, sucrose fed TW group was significantly higher than the other groups. Sucrose fed both AIW and TW groups were significantly increased in body weight as compared to TW group. In serum malondialdehyde (MDA), a marker of lipid peroxide, sucrose fed TW group was significantly higher than AIW and TW groups.
It is suggested that AIW (Alkaline Ionized Water) supplementation may inhibit the increase of blood glucose and lipid peroxide levels in diabetes mellitus.

Protective mechanism of reduced water against alloxan-induced pancreatic 1-cell damage: Scavenging effect against reactive oxygen species Cytotechnology 40: 139–149, 2002. Netherlands.139
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Abstract
Reactive oxygen species (ROS) cause irreversible damage to biological macromolecules, resulting in many diseases.Reduced water (RW) such as hydrogen-rich electrolyzed reduced water and natural reduced waters like Hita Tenryosui water in Japan and Nordenau water in Germany that are known to improve various diseases, could protect a hamster pancreatic R cell line, HIT-T15 from alloxan-induced cell damage. Alloxan, a diabetogenic compound, is used to induce type 1 diabetes mellitus in animals. Its diabetogenic effect is exerted via the production of ROS. Alloxan-treated HIT-T15 cells exhibited lowered viability, increased intracellular ROS levels, elevated cytosolic free Ca2+ concentration, DNA fragmentation, decreased intracellular ATP levels and lowering of glucosestimulated release of insulin. RWcompletely prevented the generation of alloxan-inducedROS, increase of cytosolic Ca2+ concentration, decrease of intracellular ATP level, and lowering of glucose-stimulated insulin release, and strongly blocked DNA fragmentation, partially suppressing the lowering of viability of alloxan-treated cells.

Intracellular ATP levels and glucose-stimulated insulin secretion were increased by RW to 2–3.5 times and 2–4 times, respectively, suggesting that RW enhances the glucose-sensitivity and glucose response of R-cells. The protective activity of RWwas stable at 4 SC for over a month, but was lost by autoclaving. These results suggest that RW protects pancreatic R-cells from alloxan-induced cell damage by preventing alloxan-derived ROS generation. RW may be useful in preventing alloxan-induced type 1-diabetes mellitus.

Diabetes
Prof. Kuwata Keijiroo, Doctor of Medicine "When I was serving in the Fire Insurance Association, I used to examine many diabetic patients. Besides treating them with drugs, I provided them with antioxidant water. After drinking antioxidant water for one month, 15 diabetic patients were selected and sent to Tokyo University for further test and observations. Initially, the more serious patients were a bit apprehensive about the treatment. When the antioxidant water was consumed for some time, the sugar in the blood and urine ranged from a ratio of 300 mg/l to 2 mg / dc. There was a time where the patient had undergone 5 to 6 blood tests a day and detected to be within normal range. Results also showed that even 1 ½ hour

after meals, the blood sugar and urine ratio was 100 mg/dc: 0 mg/dc . The sugar in the urine has completely disappeared."

NOTE: More Americans than ever before are suffering from diabetes, with the number of new cases averaging almost 800,000 each year. The disease has steadily increased in the United States since 1980, and in 1998, 16 million Americans were diagnosed with diabetes (10.3 million diagnosed; 5.4 million undiagnosed).

Diabetes is the seventh leading cause of death in the United States, and more than 193,000 died from the disease and its related complications in 1996. From: U. S. Department of Health and Human Services, October 13, 2000 Fact Sheet.