Sugar and artificial sweeteners can cause bone and muscle damage in humans

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Scientists at Rockefeller University, Japan, have found that as a result of consuming plain sugar or synthetic sweeteners, humans can suffer from bone and muscle damage. These results were based on comprehensive analysis of 30 years of Japanese medical data on the health of humans.

Disturbing long-term effects on bone health

Cerebral kidney disease is one of the commonest kidney diseases in humans. Such diseases consist of destruction of the blood-filtering system in the kidney tissue, whereby cells in the kidneys die and free water is released. A kidney is a small hollow cylinder at the end of the body whose function is to filter water, salt and toxins from the blood. If the filter system is destroyed, the user needs dialysis, or even kidney transplant. The kidney also functions to remove waste in the body.

In the large Japanese population, more than 70% of which is aged over 50, 60% of cases of neuropathy (nerve damage that leaves the user suffering weakness or double vision) have been found. This condition is usually caused by a rare genetic trait. In the vast majority of the cases, it goes unnoticed until the deficiency worsens over time. In many cases, the disease eventually renders the sufferer unable to work, and not just physically.

What the researchers also observed is that only a quarter of the people aged over 50 who have cerebrovascular diseases and are not using these special blood filters undergo dialysis. Among those patients who were undergoing dialysis, fewer than one third are still alive at the end of the year. The serious reasons for renal failure are obesity and diabetes. During the 50 years of data analysis, almost 60% of the Japanese population have developed one or more chronic conditions that are common during old age.

Beta blockers, Î²-carotene

In what is termed â€œan experimental and systematic exploration of the limitations of standard pharmaceutical treatment for kidney disease in light of preclinical animal studiesâ€, a group of authors including Professor Taku Inokuchi, Dr. Daisuke Tamada and Dr. Sumio Takahashi came to the conclusion that high blood sugar in humans is indeed a major cause of kidney diseases.

They compared this with potential drugs for the same medical condition that were prescribed by surgeons, who called these drugs beta blockers. Over 25% of the patients who died during the follow-up period had high blood sugar. Moreover, beta blockers are known to increase blood pressure and, as a result, increased risk of death. This was found among the people in Japan who die from kidney diseases.

Danish-made Carbidopa monohydrate, which does not prevent blood sugar from rising in the kidneys, led to only some reduction in kidney diseases.

Since the current medicines do not overcome the problem, there is a high need for non-prescription controlled medicine for treating kidney disease, they wrote.

Improvements possible

Mr. Yuki Matsumoto, an 80-year-old man with kidney diseases, said, â€œI have not seen any major improvement in my own health since I stopped taking beta blockers, and I still have kidney failures. Until now, I have not been able to use dialysis, and I have not been able to work for many years. It does not look like I can stop my renal disease, but I cannot think of taking up another job.â€

The results of this study were published in the December 2011 issue of the Journal of the American Society of Nephrology.

A Black And White Photo Of A Bird In A Field