Reducing niacin intake can prevent obesity

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A research team from China explored the mechanism underlying niacin's action on glucose metabolism, and the association between the US per capita niacin consumption and the obesity prevalence in the US. They found there is a close correlation between the niacin consumption and the obesity prevalence in the US population. The increased obesity prevalence in the US children in the past three decades may be to a large extent of a niacin fortification-related event.

Dietary factors have long been known to play a major role in the development of obesity. The global increasing prevalence of obesity suggests that there should be some common changes in diet worldwide. In fact, a significant, yet, often neglected worldwide change in dietary factors in the past few decades is the food fortification-induced marked increase in the content of niacin. However, the effect of long-term exposure to excess niacin on human health remains to be unclear.

A research team from China examined the role of excess nicotinamide in glucose metabolism using co-loading of glucose and nicotinamide test. They proved that excess niacin intake-induced biphasic response, i.e., insulin resistance in the early phase and hypoglycemia in the late phase, may be a primary cause for the increased appetite in obesity. Their study will be published on May 21, 2010 in the World Journal of Gastroenterology.

The study also revealed for the first time that the obesity prevalence among US children and adolescents increased in parallel with the increase of the per capita niacin consumption with a 10-year lag, in

which niacin fortification-induced sharp increase in niacin contents in grain products may play a major role. Reducing niacin intake and facilitating niacin elimination through sweat-inducing physical activity may be a key factor in the prevention and treatment of obesity.

It seems that the long-term safety of niacin fortification needs to be carefully evaluated.

More information: Li D, Sun WP, Zhou YM, Liu QG, Zhou SS, Luo N, Bian FN, Zhao ZG, Guo M. Chronic niacin overload may be involved in the increased prevalence of obesity in US children. World J Gastroenterol 2010; 16(19): 2378-2387.
www.wjgnet.com/1007-9327/full/v16/i19/2378.htm

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