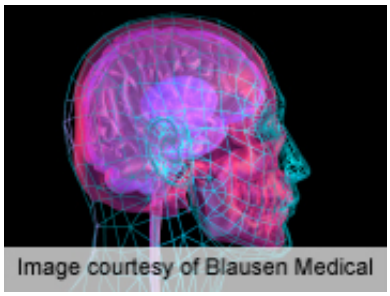
Intranasal insulin linked to reduced food intake

7 June 2012



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(HealthDay) -- Intranasally administered insulin is associated with higher brain energy levels and reduced calorie intake, according to a study published online May 14 in *Diabetes*.

To examine whether intranasal insulin reduced food consumption by increasing neuroenergetic levels, Kamila Jauch-Chara, M.D., from the University of Luebeck in Germany, and colleagues intranasally administered insulin (40 IU) or a placebo (within subject comparison) to 15 young (22 to 28 years of age), healthy, normal-weight men after an overnight fast and then measured cerebral energy metabolism by magnetic resonance spectroscopy. At 100 minutes after treatment, the men were allowed to eat freely from a test buffet.

The researchers found that intranasal insulin increased brain energy, as determined by increased adenosine triphosphate and phosphocreatine levels, which was associated with a reduction in subsequent free-choice calorie consumption. The authors note that, consistent with this, their previous study showed that higher cerebral energy content was associated with lower body mass index.

"Brain energy levels may therefore constitute a predictive value for food intake," Jauch-Chara and colleagues conclude. "Given that the brain synchronizes food intake behavior in dependence of its current energetic status, a future challenge in obesity treatment may be to therapeutically influence cerebral energy homeostasis."

More information: Abstract
Full Text (subscription or payment may be required)