Absolute incretin effect reduced in type 2 diabetes

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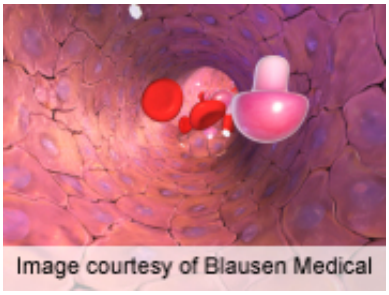

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(HealthDay) -- For patients with type 2 diabetes mellitus (T2DM) the absolute incretin effect is reduced compared with healthy individuals, but its relative importance is increased, particularly in first-phase insulin secretion, according to a study published online June 20 in *Diabetes*.

Hans Juergen Woerle, M.D., from Ludwig-Maximilians-University in Munich, Germany, and colleagues examined the role of incretins on insulin secretion in 12 healthy individuals and 12 patients with T2DM, using the hyperglycemic clamp technique.

The researchers found that, compared with patients with T2DM, intravenous glucose alone was associated with a significantly greater

first- and second-phase insulin secretion in healthy individuals. In both groups, duodenal nutrition perfusion increased both phases of insulin secretion, with first-phase insulin secretion enhanced more in patients with T2DM (approximately eight- versus two-fold). Approximately 20 percent of the overall insulin secretion was attributable to glucose-related stimulation of insulin secretion. Infusion with the glucagon-like peptide 1 receptor antagonist exendin(9-39) reduced both phases of insulin secretion in both groups.

"In conclusion, both phases of insulin secretion are impaired in T2DM. In particular, the responsiveness to glucose in first-phase insulin secretion is blunted," the authors write. "The absolute incretin effect is reduced in T2DM; its relative importance, however, appears to be increased, highlighting its role as an important amplifier of first-phase insulin secretion in T2DM."

Abstract

Full Text (subscription or payment may be required)