Importance of diabetes genetic variants unclear

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(HealthDay) -- Genetic variants associated with type 2 diabetes that affect glucagon-like peptide 1 (GLP-1) are not associated with GLP-1 levels or GLP-1-induced insulin secretion in healthy individuals, according to a study published online March 28 in *Diabetes*.

To validate the observed effects of disease-associated variants in the *TCF7L2*, *WFS1*, and *KCNQ1* genes on GLP-1, Galina Smushkin, M.D., from the Mayo Clinic in Rochester, Minn., and colleagues examined GLP-1 levels and responses in healthy subjects.

The researchers found no association between the presence of the variants and GLP-1 concentrations in response to an oral glucose challenge. There was also no apparent effect on β-cell responsiveness to

hyperglycemia and GLP-1 infusion. A diabetes-associated variant in *TCF7L2* did significantly affect the ability of hyperglycemia to suppress glucagon.

"The results of these experiments contrast with prior (similarly powered) reports that *TCF7L2* and *WFS1* alter β-cell responsiveness to infused GLP-1 and that variants in *KCNQ1* alter GLP-1 concentrations after an oral challenge in nondiabetic humans," Smushkin and colleagues conclude. "While far from conclusive, these results highlight the importance of independent replication prior to concluding that a given genotype has a particular effect on a complex phenotype."

One author disclosed financial relationships with Merck, Sanofi-Aventis, and Bristol-Myers Squibb.

More information: Abstract
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