Genetic risk score IDs insulin resistance, change in IR

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(HealthDay)—A genetic risk score based on 17 established insulin resistance (IR) variants and their effect sizes (weighted IR-GRS) is associated with IR at baseline and change in IR, but does not impact the effect of lifestyle intervention and metformin on IR, according to a study published online Nov. 2 in *Diabetes*.

Marie-France Hivert, M.D., from Harvard Medical School in Boston, and colleagues built a weighted IR-GRS in 2,713 participants from the Diabetes Prevention Program (DPP). Associations were tested between the weighted IR-GRS and insulin sensitivity index (ISI) at baseline. Change in ISI was assessed over one year of follow-up in the DPP intervention (metformin and lifestyle) and control arms.

The researchers found that a higher IR-GRS correlated with lower

baseline ISI (P = 0.001 after full adjustment for age, sex, ethnicity, and waist circumference at baseline). No differential effect of treatment was seen for the correlation between IR-GRS on change in ISI; higher IR-GRS correlated with attenuation of the improvement in ISI over one year (P = 0.03 in fully-adjusted models; all treatment arms). Regardless of the genetic burden of IR-variants, lifestyle intervention and metformin improved ISI.

"Of high clinical importance, we showed that metformin and lifestyle improve insulin sensitivity independent of the IR genetic burden estimated based on current knowledge," the authors write.

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