Adipose tissue insulin resistance up in obese-NGT, IGT, T2DM

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(HealthDay)—Resistance to the antilipolytic effect of insulin (Adipo-IR)

is increased in obese individuals with normal glucose tolerance (NGT), and in those with impaired glucose tolerance (IGT) and type 2 diabetes (T2DM), according to a study published online Jan. 4 in *Diabetes*.

Amalia Gastaldelli, Ph.D., from the University of Texas Health Science Center at San Antonio, and colleagues examined the role of Adipo-IR in a large group of NGT, IGT, and T2DM subjects. The authors evaluated Adipo-IR, peripheral IR, and β-cell function in 302 subjects with varying glucose tolerance.

The researchers found that, compared with lean-NGT, fasting Adipo-IR was increased two-fold in obese-NGT and IGT and three-fold in T2DM (4.1 ± 0.3 versus 8.0 ± 1.1, 9.2 ± 0.7, and 11.9 ± 0.6, respectively). Progressive decline in β-cell function correlated with a progressive impairment in free fatty acid (FFA) suppression during the oral glucose tolerance test; when subjects became overtly diabetic the increase in mean plasma glucose concentration became manifest.

"In conclusion, the progressive decline in β-cell function that begins in 'normal' glucose tolerant individuals is associated with a progressive increase in FFA and fasting Adipo-IR," the authors write.

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