C-peptide responses reliable surrogates of insulin secretion

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(HealthDay)—C-peptide responses to mixed-meal tolerance tests are

reliable surrogates of insulin secretion, according to a study published online July 15 in *Diabetes Care*.

Wei Hao, M.D., Ph.D., from the Benaroya Research Institute at Virginia Mason in Seattle, and colleagues sought to describe the natural history of residual insulin secretion in type 1 diabetes TrialNet participants over four years from diagnosis. Data were analyzed for 407 subjects.

The researchers found that over four years, the percentage of individuals with stimulated C-peptide of ≥0.2 nmol/L or detectable C-peptide of ≥0.017 nmol/L continued to decline; this was influenced by age. Only 5 percent maintained their baseline C-peptide secretion at four years. Over time and with age there was variation in the expected inverse relationships between C-peptide and glycated hemoglobin (HbA1c) or insulin doses. Age and time from diagnosis also influenced combined clinical variables, such as insulin dose-adjusted HbA1c (IDAA1C) and the relationship between IDAA1C and C-peptide. Models incorporating these clinical measures were not able to fully predict C-peptide responses.

"Current trials of disease-modifying therapy for type 1 diabetes should continue to use C-peptide as a primary end point of β-cell secretory function," the authors write. "Longer duration of follow-up is likely to provide stronger evidence of the effect of disease-modifying therapy on preservation of β-cell function."

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

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