

Proinsulin-to-C-peptide ratio linked to progression to T1DM

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(HealthDay)—Elevation in the serum proinsulin-to-C-peptide (PI:C)

ratio is associated with progression to type 1 diabetes, according to a study published online July 6 in *Diabetes Care*.

Emily K. Sims, M.D., from the Indiana University School of Medicine in Indianapolis, and colleagues examined whether elevation in the PI:C ratio correlated with type 1 diabetes. Samples were obtained about 12 months before onset of diabetes from 60 TrialNet Pathway to Prevention progressors in whom diabetes developed and 58 age-, sex-, and [body mass index](#) (BMI)-matched nonprogressors who remained normoglycemic.

The researchers found that, compared with nonprogressors, there was a significant increase in PI:C ratios in antibody-positive subjects in whom there was progression to diabetes (median, 1.81 versus 1.17 percent; $P = 0.03$). Subjects who were ≤ 10 years old had the most pronounced difference between groups; 90 percent of subjects in this age group within the upper PI:C ratio quartile progressed to diabetes development. The odds of progression were increased for higher natural log PI:C ratio values after adjustment for [age](#) and BMI (odds ratio, 1.44).

"These data suggest that β -cell endoplasmic reticulum dysfunction precedes type 1 diabetes onset, especially in younger children," the authors write. "Elevations in the serum PI:C ratio may have utility in predicting the onset of type 1 [diabetes](#) in the presymptomatic phase."

More information: [Full Text \(subscription or payment may be required\)](#)

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