

Youth with type 2 diabetes at much higher risk for heart, kidney disease

May 24 2013

The news about youth and diabetes keeps getting worse. The latest data from the national TODAY diabetes study shows that children who develop Type 2 diabetes are at high risk to develop heart, kidney and eye problems faster and at a higher rate than people who acquire Type 2 diabetes as adults.

"Once these kids have [Type 2 diabetes](#), they seem to be at very high risk for early complications when compared to adults," said Jane Lynch, M.D., professor of pediatric endocrinology in the School of Medicine at The University of Texas Health Science Center at San Antonio.

The study, led in San Antonio by UT Medicine pediatricians, includes 699 children and young people, with 44 San Antonio participants.

The rise in youth [obesity rates](#) has been accompanied by increasing Type 2 [diabetes](#) rates in young people. "It's really a public health issue," said Dr. Lynch, who is principal investigator in the San Antonio arm of the study.

There are many unanswered questions and few guidelines for treatment of youth with early onset Type 2 diabetes, she said. Type 2 diabetes should not be confused with [Type 1 diabetes](#), formerly called [juvenile diabetes](#).

Of the TODAY participants, more than a third required medication for hypertension or kidney disease 3.9 years after they had joined the study.

In the study, published online Thursday afternoon in *Diabetes Care*, 699 adolescents were randomized into three groups that received metformin, metformin plus rosiglitazone, or metformin plus intensive [lifestyle intervention](#).

While the children on the combined drugs did the best of the three groups, Dr. Lynch said, all did poorly. The researchers were particularly disappointed that the intensive lifestyle intervention group did not do better.

The rate of deterioration of beta cell function in youth was almost four times higher than in adults, researchers found, noting a 20-35 percent decline in beta cell function per year on average, compared to 7-11 percent for adults. [Beta cells](#) store and release insulin.

It does not make things easier that these adolescents with early onset T2 diabetes have a tough time managing complex health problems.

"In puberty, everyone becomes somewhat insulin-resistant ... and when you're insulin-resistant you're hungry, plus when you have diabetes you're thirsty. This becomes a huge issue when there's the tendency to make poor choices."

One sobering aspect of the study results is that the young patients all had to fit certain health parameters, such as not having high blood pressure or having a treatable level of high blood pressure, and they all received the best possible care, education and medical support.

They had to have a parent or guardian who would also participate in the clinic visits and lifestyle education. Their medicine was paid for and they were brought to the clinic by taxi if that's what it took to get them there.

"That's Cadillac treatment for any kids with diabetes—and we still had

these outcomes," Dr. Lynch said.

Despite the interventions in all three treatment arms, the kids kept getting sicker. Boys and girls both developed [kidney disease](#) at about the same rates, but obese teenage boys were 81 percent more likely to develop hypertension, Dr. Lynch said. "What's especially challenging for these children is that many also develop fatty liver, which limits our use of the drugs that control hypertension."

The study will continue as researchers monitor the participants' overall outcomes, including cardiac health. "Our goal is to follow them for 10 or 15 years as we figure out better ways to prevent this disease and how to predict complications," Dr. Lynch said.

Provided by University of Texas Health Science Center at San Antonio

Citation: Youth with type 2 diabetes at much higher risk for heart, kidney disease (2013, May 24) retrieved 19 April 2024 from <https://medicalxpress.com/news/2013-05-youth-diabetes-higher-heart-kidney.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--