

New type of adult diabetes is on the rise

by Victoria Colliver, SFGate.com

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Cathy Purpur used every excuse she could think of to explain away her symptoms.

Busy at work and training for a half marathon in 2004, the 38-year-old San Jose woman started feeling exceptionally tired, craving orange juice and going to the bathroom a lot.

"I just figured I'm up in the middle of the night because I'm drinking a lot more, and I'm exhausted because I'm up in the middle of the night," said Purpur, now 46. "I rationalized everything."

It wasn't until she noticed her vision getting worse - soon after she had been to the eye doctor for a new refraction - that she started to panic. She returned to the eye doctor, who immediately suspected the cause and told her to get a blood test.

Her blood sugar was sky high. The cause: diabetes.

Physicians are seeing an increase in diabetes, a disease that makes it difficult for patients to control their blood sugar levels. But it's not the type of diabetes - known as Type 2 - that has gotten the most attention in recent years and is linked to the growing obesity epidemic.

Rather, it's the less common Type 1 form that historically has been found in children and young adults.

"Overall, Type 1 diabetes is increasing and we're seeing it in all age groups," said Dr. Tandy Aye, who specializes in pediatric endocrinology and diabetes at Lucile Packard Children's Hospital at Stanford.

Studies show trends

Comprehensive numbers for this trend are hard to come by, especially for adults, but some studies are starting to show what doctors are seeing. For example, a large registry of diabetes data collected in Europe showed a 4 percent annual increase in the rate of Type 1 diabetes diagnoses among children from 1989 to 2008.

In Purpur's case, it was clear she had diabetes, but determining the type proved to be difficult.

Initially, her doctor told her she had Type 2 diabetes, which is sometimes referred to as "adult onset" but is being increasingly diagnosed in children because of the growing problem of pediatric obesity.

Type 1, once commonly referred to as "juvenile" diabetes, is an autoimmune disease in which the body attacks its own ability to produce insulin. Patients need frequent insulin injections to survive.

The Type 2 form, which accounts for more than 90 percent of all diabetes cases worldwide, is not an autoimmune condition. In this type, the pancreas quits producing insulin or stops using the insulin efficiently to control blood sugar levels. While Type 2 diabetes may require insulin injections, it can often be controlled with oral medications or even weight loss, exercise and healthy eating.

Purpur didn't fit the profile of either a Type 1 or Type 2 diabetic. She is physically fit and had no family history of diabetes of any type. After consulting with an endocrinologist, she learned she had traits of both Type 2 and Type 1 - in essence, Type 1.5.

Often misdiagnosed as Type 2, this murky Type 1 form is called "latent autoimmune diabetes in adults" and may account for some of the increase in insulin-dependent diabetes. Patients with this form, including Purpur, generally develop the disease more slowly but eventually become dependent on insulin.

Researchers don't know exactly why the increasing prevalence of Type 1 disease is occurring, but some attribute it to better classification and understanding of the disease.

"We're more aware of different types of diabetes and that's why we're seeing an increased incidence," said Dr. Marina Basina, a Stanford endocrinologist and assistant clinical professor. "We have better assays for the antibodies and are coding the diagnosis more as Type 1."

Latent autoimmune diabetes in adults, or Type 1.5, has only in recent years been reclassified as Type 1 diabetes, instead of Type 2, as doctors have been able to detect the presence of the antibodies that attack the pancreatic cells, she said.

Previously, adult patients would have been called "Type 2 insulin-dependent" if and when the disease progressed. Not everyone who tests positive for the antibodies will develop Type 1 diabetes.

Tracing the disease

Stanford is one of more than 200 international medical centers participating in Type 1 Diabetes TrialNet, a network of researchers who are exploring ways to prevent, delay and reverse the progression of the disease.

TrialNet, which began in 2000, collects data on the close family members of patients with Type 1 diabetes, with the hope of learning more about the antibody profiles that progress to become the disease, perhaps leading to the creation of new treatments.

"The delay of the onset is something we're trying for at this point and, hopefully, eventually prevention," Aye said. "But that's not there yet."

Mike Turnlund, 51, of Morgan Hill, the eldest of three brothers, started participating in TrialNet around 2004 after his youngest brother, then 38, developed Type 1 diabetes. Within months, the 4-year-old daughter of Turnlund's middle brother developed Type 1 diabetes as well.

Through TrialNet, the brothers and their children - they collectively have nine - were all tested for the antibodies that can cause Type 1. Mike Turnlund was the only family member without the disease who tested positive for antibodies.

As part of the project, Turnlund gets regular blood and glucose tolerance tests. Over time, he said, his results have degraded and he has failed the tests in recent months.

This does not yet mean he is a Type 1 diabetic. But it does mean Turnlund won't be caught off guard if he's eventually diagnosed.

"I won't have that huge shock that turns your life on end," he said. "I'm sort of gliding into this. There's a way to manage it. You can function perfectly normally with the state

of today's art." While he can't fully prevent it, he hopes that through diet and exercise, he may somehow stave off the onset of the disease.

"I know I'm susceptible, so it makes sense to do as much as you can to make your baseline health as good as possible," he said. "Am I diabetic? Well, no, but I'm sure headed there. The wonderful thing about this TrialNet is if we weren't in it, I wouldn't have a clue."

For more information about Type 1 Diabetes TrialNet, an international network of researchers exploring ways to prevent, delay and reverse the progression of the disease, go to DiabetesTrialNet.org.

About diabetes

Diabetes affects 25.8 million people of all ages, or about 8.3 percent of the U.S. population.

Diabetes diagnoses are not always clear cut. The two major types of diabetes - Type 1 and Type 2 - both involve the body's inability to make efficient use of insulin and control blood sugar levels. Type 2 typically occurs in adults and is often related to obesity. Type 1 diabetes, which used to be known as juvenile diabetes, is an autoimmune disorder in which the body destroys its ability to make insulin.

But there are other types, including gestational diabetes in pregnant women, as well as a slow-progressing form of Type 1 diabetes, sometimes referred to as Type 1.5, which typically occurs in adults.

Here are some of the warning signs or symptoms most typical of Type 1 diabetes:

- Extreme thirst
- Frequent urination
- Sudden change in vision
- Sugar in urine
- Fruity, sweet or wine-like breath odor
- Increased appetite
- Sudden weight loss
- Drowsiness, exhaustion
- Heavy, labored breathing
- Stupor, unconsciousness

Source: Juvenile Diabetes Research Foundation, National Diabetes Information Clearinghouse

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