Does a Large Weight Gain REALLY Cause Type 2 Diabetes?

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WEDNESDAY, Feb. 12, 2014 (HealthDay News) — Although it's a common belief that a diagnosis of type 2 diabetes often follows a large weight gain, a new study challenges that notion.

Researchers found that the majority of people diagnosed with type 2 diabetes didn't get the disease until they'd been overweight or obese for a number of years.

What's more, participants who maintained stable levels of overweight and eventually developed type 2 diabetes didn't have a significant rise in their level of insulin resistance — a traditional risk factor — before getting the disease.

"In general, the majority of individuals developing type 2 diabetes were rather weight stable during follow-up with a slightly higher average BMI [body mass index] than the diabetes-free population," wrote study author Dorte Vistisen, at the Steno Diabetes Center in Denmark, and colleagues.

BMI is an estimate of a person's body fat levels, based on height and weight.

The new findings suggest that "strategies focusing on small weight reductions for the entire population may be more beneficial than predominantly focusing on weight loss for high-risk individuals," the researchers concluded.

Results of the study are published in the February issue of the journal *PLoS Medicine*.

Obesity is a known risk factor for type 2 diabetes. However, the degree of obesity varies greatly in people with type 2, according to background information in the study. Not everyone who has type 2 diabetes is overweight or obese, and not everyone who is overweight or obese will develop type 2 diabetes, which suggests that there are other mechanisms involved.

The researchers wanted to see if different patterns of obesity might contribute to a greater risk of type 2 diabetes, or if other metabolic risk factors played a more important role.

The international team of authors reviewed data from a study of almost 7,000 British civil servants from 1991 through 2009. The average follow-up time was about 15 years.

At the start of the study, no one had type 2 diabetes. During the study time period, 645 people developed the condition.

From this group, the researchers found three distinct patterns of overweight and obesity. The first, and by far the largest group, was dubbed the "stable overweight." Members were overweight throughout the study, but had a relatively stable BMI.

In addition to a stable weight in this group of 604 people, the researchers only saw a slight worsening of their insulin resistance in the five years before the type 2 diabetes diagnosis.

Another group — with just 15 people — was called the "progressive weight gainers." They gained weight throughout the study and saw a large increase in their insulin resistance in the years leading up to their diagnosis.

The third group was dubbed the “persistently obese” and 26 people fell into this category. These folks were severely obese throughout the study. They didn’t experience significant insulin resistance. However, some of their insulin-producing cells in the pancreas (beta cells) died off.

The researchers also looked at other health factors, such as blood pressure and cholesterol levels, and found differences between the groups, but none to clearly define who might develop type 2 diabetes and who might not.

“This study shows us again that diabetes and obesity are very complex, and the development of type 2 diabetes is not as simple as we think. Not all patients with diabetes are obese, and not all obese are diabetics,” said Dr. Joel Zonszein, director of the clinical diabetes center at Montefiore Medical Center in New York City.

Zonszein said that there are genetic factors involved in the development of type 2 diabetes, and the type of fat someone has matters, too. People who have less brown fat (considered a good type of fat) and carry more weight around the middle are generally more likely to get type 2 diabetes, according to Zonszein.

But, he added that the exact trigger for the development of type 2 is still “the six-million-dollar question. We can’t point to exactly what causes type 2, but we do know that it’s not good to become obese,” he said.

Dr. Spyros Mezitis, an endocrinologist at Lenox Hill Hospital in New York City, also pointed out that a combination of factors lead to the development of the condition. “But we do know that excess weight is related to an increased risk of type 2 diabetes,” he said.

Mezitis said the new findings need to be confirmed in other studies, and that additional studies need to look at a more diverse population.

In the meantime, he added, “We can tell the population to start making small changes in their diet. That may be easier to maintain. And, even a small amount of weight loss helps reduce your risk of type 2 diabetes. A weight loss of 10 percent of your body weight significantly reduces your risk of diabetes, high cholesterol and heart disease.”