

## Glucose intolerance linked to cancer risk in women

by Bend\_Weekly\_News\_Sources

High blood glucose levels -- even before they reach the level needed for a diagnosis of diabetes -- may signal an increased risk for cancer in women, according to a new study being published in the March issue of *Diabetes Care*.

The March journal also includes a study that found a link between high levels of persistent organic pollutants (POPs) in a person's bloodstream and insulin resistance, a precursor for type 2 diabetes. And a panel that has been studying pre-diabetes issued its long-awaited consensus statement on whom to test and how to treat this condition.

### Glucose Intolerance Linked to Greater Cancer Risk in Women

Women whose blood glucose levels are higher than normal, but not yet high enough for a diagnosis of diabetes, have an increased risk for several types of cancer, according to a study by researchers in Sweden. While previous studies have shown a link between type 2 diabetes and several cancers, this study finds the mechanisms that lead to cancer may be at work much earlier, as glucose levels begin to rise.

The study, funded by the World Cancer Research Fund, confirmed an association between high fasting glucose levels and pancreatic, breast, and endometrial cancers, and a two-fold increase in the risk of malignant melanoma. The study did not find an association between high glucose levels and total cancer risk in men.

Lead researcher Dr. Par Stattin, of the Department of Surgical and perioperative sciences at Umea University Hospital in Sweden, speculates that the lack of an association among men is due to the fact that prostate cancer, which is by far the most common cancer among men in this study, was inversely related to glucose levels. That is, high glucose levels were associated with a decreased risk of prostate cancer.

The researchers also found an increase in the prevalence of elevated blood glucose levels during the 13-year period in which participants were recruited, leading them to conclude that the cancer rate would likewise increase over time unless steps were taken to reduce rising glucose levels.

"A lifestyle that decreases plasma glucose levels may reduce overall cancer risk, not only among overweight or obese subjects, but most likely among subjects with normal body weight," the researchers concluded.

The American Diabetes Association advocates lifestyle changes that include moderate weight loss and increased physical activity of at least 150 minutes per week. Such changes have been shown to substantially reduce the risk of type 2 diabetes and are also beneficial in reducing the risk for heart disease.

#### Persistent Organic Pollutant Exposure Linked to Diabetes Risk

People with high levels of persistent organic pollutants (POPs) in their blood are more likely to develop insulin resistance, a precursor for type 2 diabetes, according to a study by researchers in Korea.

Previous research by the same group found a link between POPs and type 2 diabetes. This study confirms that background exposure to some POPs, chemicals such as organochlorine pesticides and polychlorinated biphenyls (PCBs), is also associated with insulin resistance among people who do not yet have diabetes.

The researchers also found that the association between organochlorine pesticides and insulin resistance became stronger as people got fatter. However, among people who had very low concentrations of pesticides in their blood, the researchers found little association between waist size and insulin resistance.

Some studies have suggested an association between background exposure to POPs and a variety of adverse

health effects in humans and wildlife. POPs can be particularly problematic because they persist for long periods of time in the environment, accumulate up the food chain, and can travel great distances through the air and water. Therefore, even people and animals that live nowhere near a place where POPs are being applied often show high levels of these chemicals in their bloodstream.

An international treaty banning a dozen of the world's most dangerous POPs has helped reduce exposures, but many harmful chemicals remain in use and even those that have been banned may linger in our environment for years to come. For example, chlordane was banned two decades ago in the United States but continues to be present at high levels in our food supply.

The researchers concluded that some POPs "may be involved in the pathogenesis of insulin resistance." They advise urgent prospective studies among those who have background exposure to POPs, which mostly comes from eating fatty animal foods. Since obesity may increase the toxicity of POPs, controlling weight could also help to reduce these impacts.

#### Panel Agrees on Whom to Test, How to Treat Pre-Diabetes

People who have pre-diabetes should undergo intensive lifestyle interventions, and possibly drug therapy, to reduce their risk of developing diabetes, as well as their long-term risk for developing diabetic complications, according to a consensus statement being published in the March issue of *Diabetes Care*.

A seven-member panel of experts convened by the American Diabetes Association last year developed these guidelines and others geared toward people who exhibit early metabolic abnormalities. The panel's report grew out of concerns arising from the growing epidemic of type 2 diabetes, which now affects more than 20 million Americans. The disease is expected to continue increasing dramatically worldwide over the next two decades.

Type 2 diabetes is frequently preceded by one of two conditions together thought of as "pre-diabetes." These conditions -- called impaired fasting glucose (IFG) and impaired glucose tolerance (IGT) -- are similar in that

they represent a state of abnormal glucose regulation that is not yet high enough for a diagnosis of diabetes but is too high to be considered normal. While these two states may affect different groups of people, both ultimately lead to type 2 diabetes in the majority of cases. However, previous studies, including the Diabetes Prevention Program, have demonstrated that lifestyle interventions aimed at weight reduction and increased physical activity, and medications, can substantially reduce the development of diabetes.

The panel convened over a three-day period in 2006 to answer questions such as how IFG and IGT differ; whether they should be treated (and how); and who should be screened for these conditions. The answers to these and other questions are included in the 7-page consensus statement.

The report's recommendations include:

-- Lifestyle interventions (losing 5-10 percent of body weight and

moderate intensity physical activity for at least 30 minutes per day)

for any person exhibiting IFG or IGT, to prevent/delay the onset of

diabetes and to help reduce the long-term risk of developing diabetic

complications.

-- Making weight loss and obesity prevention priorities in the United

States because of the strong association between obesity and type 2

diabetes. The panel advised intensive weight-loss counseling for those

who need it; changes in school-based meals and exercise programs;

community infrastructure changes that are conducive to frequent

exercise; and legislation that promotes a healthy lifestyle.

-- The use of metformin as optional drug therapy, limited to those with

both IFG and IGT who also have one or more additional high risk

factors, because it has been shown to be most effective for these

populations.

-- Screening for IFG/IGT for anyone who is at risk for diabetes.

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