

## **MEDLINEplus: Insulin Resistance UPS Risk of Early Heart Disease**

### **Reuters**

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NEW YORK, Aug 09 (Reuters Health) - A cluster of disorders that has been linked to type 2 diabetes may also contribute to early-onset heart disease in certain families, Finnish researchers report.

Their study found that insulin resistance syndrome, or "syndrome X," clusters in families with a history of early heart disease--a heart attack or blood vessel blockage before age 55 in men and before age 65 in women.

Insulin resistance syndrome refers to a combination of risk factors for type 2 diabetes, including chronically elevated insulin levels, low HDL ("good") cholesterol, abdominal obesity and high blood pressure. Type 2 diabetes occurs when the body no longer responds to insulin, the body's key blood sugar-regulating hormone. As a result, levels of insulin in the blood become elevated and over time, can raise the risk for kidney failure and blindness, as well as heart disease.

"The present study shows that the clustering of cardiovascular risk factors related to the insulin resistance syndrome...is likely to explain at least a part of the clustering of premature (heart disease) in these families," Dr. Anu Kareinen from North Karelia Central Hospital in Joensuu, Finland, and co-authors write in the August issue of *Arteriosclerosis, Thrombosis, and Vascular Biology: Journal of the American Heart Association*.

To investigate, they measured blood glucose (sugar), insulin and fatty acids in 101 families, including 54 unaffected siblings. They also gave individuals an oral glucose tolerance test, which measures the amount of time it takes the body to remove glucose from the blood. The test is used to diagnose insulin resistance and diabetes.

Individuals with heart disease were found to have higher insulin levels after the test, lower HDL levels, higher triglycerides and higher fibrinogen compared with their healthy siblings. Fibrinogen is a protein associated with clotting and is an independent risk factor for heart attack and stroke.

Insulin resistance syndrome occurred in individuals with and without type 2 diabetes, the report indicates.

Rates of obesity, smoking, alcohol intake and exercise were similar among those with and without heart disease, suggesting that environmental factors may not play a major role in the development of early heart disease in susceptible families.

SOURCE: Arteriosclerosis, Thrombosis, and Vascular Biology 2001;21.

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