Normal weight obesity: An emerging risk factor for heart and metabolic problems

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More than half of American adults considered to have normal body weight in America have high body fat percentages -- greater than 20 percent for men and 30 percent for women -- as well as heart and metabolic disturbances, new Mayo Clinic research shows. The finding conflicts with the widely held belief that maintaining a normal weight automatically guards against disorders such as high levels of circulating blood fats and a tendency to develop metabolic syndrome, which often leads to type 2 diabetes.

The researchers defined “normal weight” by body mass index (BMI). They found that people with normal BMI who had the highest percentage of body fat were also those who had metabolic disturbances linked to heart disease. The researchers use the phrase “normal weight obesity” to describe this new type of patient at risk for metabolism problems and risk factors for heart disease, but who rates as “normal” on standard weight charts. They defined normal weight obesity as a condition of having a normal BMI with high body fat percentage. The Mayo team will present its study results at the American College of Cardiology’s Annual Scientific Session next week in Chicago.

“Using the term ‘normal weight obesity’ is really a way of being more precise about the changing conceptualization of obesity, because the real definition of obesity is excess body fat,” says Francisco Lopez-Jimenez, M.D., a cardiologist on the Mayo research team. “Our study demonstrates that even people with normal weight may have excessive body fat, and that these people are at risk for metabolic abnormalities

that lead to diabetes and, eventually, to heart disease."

Heart disease remains the major cause of death and disability in westernized countries. Researchers around the world are striving to refine the relationship of body composition to heart health as a means of:

-- Designing more effective risk assessment tools

-- Improving public health programs for reducing risk

-- Designing new and better clinical rehabilitation programs for heart patients

While a focus on maintaining "a healthy weight" has long been a centerpiece of these efforts, Mayo's new study suggests the focus may need to shift. Instead of tracking weight and BMI only, public health measures to prevent heart disease might benefit more from measuring the belly or by assessing percentage of body fat as more reliable risk factors of heart disease. Mayo studies in 2006 and 2007 suggested this criterion by demonstrating the inability of BMI to discriminate between body fat and lean muscle. "Combined, the data from our earlier work and the current study suggest it's time for a new measure of body fat as a risk factor of heart disease," says Dr. Lopez-Jimenez.

The researchers studied 2,127 adults, equally divided between men and women, who had normal weight (BMI between 18.5 and 24.9 units). The participants' body composition was assessed, and their risk factors for metabolic and heart disease were collected by the U.S. government in its Third National Health and Nutrition Examination Survey http://www.cdc.gov/nchs/products/elec_prods/subject/nhanes3.htm.

From this data, researchers found that normal weight obesity appears to

be highly prevalent, affecting more than half of patients with a normal weight as defined by the BMI. After controlling for age, sex and race, normal weight obesity subjects had significantly higher rates of several alterations in blood chemistry that can negatively affect heart and metabolism health. These markers of disregulation include:

-- Altered blood lipid profile, such as cholesterol

-- High leptin, a hormone found in fat and other tissues and is involved in appetite regulation

-- Higher rates of metabolic syndrome

Source: Mayo Clinic