

The Continuing Myth of the 'Metabolically Healthy'?

Obesity sans metabolic issues still tied to cardiovascular disease

- by Nicole Lou, Contributing Writer, MedPage Today September 11, 2017

Action Points

- Metabolically healthy (absence of diabetes, hypertension or hyperlipidemia) obese individuals had higher risk of coronary heart disease, cerebrovascular disease, and heart failure than normal weight, metabolically healthy individuals, in a large U.K. database.
- Note that the data robustly challenge the assertion that metabolically healthy obesity is a benign condition, and indicate that metabolically healthy obesity is a high-risk state for future cardiovascular disease events.

Obese individuals free of diabetes, hypertension, and hyperlipidemia may not be so healthy after all, according to a large registry study, as they are still more likely to suffer from cardiovascular disease than normal-weight peers in the long term.

From The Health Improvement Network database of electronic health records spanning the 1995-2015 period, it appears that metabolically healthy obese people were more likely than normal-weight people to develop, over an average of 5.4 years of data:

- Coronary heart disease: adjusted hazard ratio 1.49 (95% CI 1.45-1.54)
- Cerebrovascular disease: adjusted HR 1.07 (95% CI 1.04-1.11)
- Heart failure: adjusted HR 1.96 (95% CI 1.86-2.06)

"Some researchers have called for a shift in the public health focus away from markers of adiposity, such as BMI, and have suggested that health providers prescribing weight loss interventions may be misusing time and resources. Our study robustly challenges the assertion that metabolically healthy obesity is a benign condition and adds to the evidence base that metabolically healthy obesity is a high-risk state for future cardiovascular disease events," concluded G. Neil Thomas, PhD, of University of Birmingham in England, and colleagues in the [*Journal of the American College of Cardiology*](#).

Their registry study included 3.5 million adults in Britain who had no cardiovascular disease at the time of enrollment.

Another major finding: across body types, the more metabolic abnormalities a person had, the higher his or her cardiovascular risk. One in 10 normal-weight individuals had at least one metabolic issue, Thomas' group observed, and their disease rates did exceed those of their peers free of diabetes, hypertension, and hyperlipidemia.

"Clinicians need to be aware that individuals who would otherwise be considered non-obese, based on a normal BMI, can have metabolic abnormalities, and therefore also be at high risk for cardiovascular disease events," the investigators emphasized.

In an accompanying editorial, Jennifer Bea, PhD, and Nancy Sweitzer, MD, PhD, both of the University of Arizona in Tucson, suggested more screening in the normal-weight population.

"Hypertension and weight screening are routinely performed in adults in the United States, and health providers are urged to treat abnormalities. The results of this large analysis suggested that screening for abnormalities in lipids and glucose handling should be more systematically monitored as well, regardless of body weight, but particularly in the obese," they said.

By BMI, the U.K. registry categorized body size as underweight (2.7%), normal (37.7%), overweight (25.7%), or obese (14.8%).

Metabolically healthy overweight individuals acquired diabetes, hyperlipidemia, and hypertension over follow-up at rates of 1.9%, 9.4%, and 7.2%, respectively. Meanwhile, these conditions developed in 5.6%, 11.5%, and 10.5% of the obese.

The obese had a lower risk of peripheral vascular disease at first glance. The authors called this finding "surprising" and suggested it may be due to residual confounding by cigarette smoking. "Cigarette smoking is strongly associated with both [peripheral vascular disease] and lower BMI," they noted.

Indeed, sensitivity analyses restricted to non-smokers who were obese with no metabolic abnormalities found their risk for peripheral vascular disease was high compared with normal-weight individuals with no metabolic abnormalities.

"In our study, we had unprecedented statistical power to examine obese individuals classified by the number of metabolic abnormalities, potentially reflecting several definitions of the ['metabolically healthy'](#) phenotype in relation to a range of cardiovascular disease events," the authors wrote.

Thomas' group acknowledged that they had to rely on BMI as a surrogate of body fat, however. Moreover, their dataset included no data on diet or physical activity, and left room for potential patient misclassification due to weight change over time.

"With an impending obesity epidemic, examination of specific cardiovascular disease outcomes in this way is timely and highly significant," Bea and Sweitzer maintained, calling the study "pivotal."

"It is the largest and most conclusive examination of the association between metabolic and body habitus phenotypes and cardiovascular disease outcomes to date," they noted.

Thomas, Bea, and Sweitzer disclosed no relevant relationships with industry.