

'Empty Calories' Increase Risk for Heart Disease

BY DOUG BRUNK
San Diego Bureau

Women with a so-called empty calorie diet—high in sweetened beverages, red meat, and desserts—had significantly elevated intima-media thickness, compared with women who followed other dietary patterns, including diets high in fat.

The finding comes from an analysis of the Framingham Heart Offspring/Spouse Study that was presented during a poster session at the annual scientific sessions of the American Heart Association.

"Any diet that consists of regular intake of a lot of fatty food, a lot of sugary food including sugary drinks, and not a lot of low-fat dairy, fruits, or vegetables is probably setting a woman up for cardiovascular problems," lead study author Lisa S. Brown said in an interview.

Ms. Brown and her associates analyzed data from 1,278 women with a mean age of 58 years who participated in the Fram-

ingham Offspring/Spouse Study and who completed the Framingham food frequency questionnaire during 1984-1988, underwent intima-media thickness measurement via ultrasound at exam 6 (1996-1998), and were free of cardiovascular disease at exam 6.

"A lot of intima-media thickness and diet work has looked at specific nutrients—especially antioxidants and different types of fats," noted Ms. Brown, a registered dietitian who is a doctoral candidate in medical nutrition sciences at Boston University. "None have looked at diet in such a comprehensive manner."

Based on how the women responded to a validated Framingham food frequency questionnaire, the researchers placed them into one of five dietary patterns:

► **Heart healthy.** The 250 women in this group eat more fruits and vegetables than women in the other groups. "We think this is a group that changed their diet some time in their adult life and that they make an effort to be health conscious," she said.

► **Light eating.** The 612 women in this group are chronic dieters who consume the least amount of sweets and take in the least amount of calories. "But they tend to be a little heavier than we would expect them to be based on their dietary intake," she said.

► **Wine and moderate eating.** The 45 women in this group consume about two alcoholic drinks per day. Their diet also is highest in cholesterol and lowest in calcium consumption.

► **High fat.** The 266 women in this group "get a lot of their calories from refined grains and vegetable fats both hard and soft, so they get a lot of margarine and oils," Ms. Brown said. "Their saturated fat is the highest [among] all the groups but for some reason they are also the least likely to be overweight or obese. We don't know why, and we are still trying to figure out what makes this group different from what we expect."

► **Empty calorie.** The 105 women in this group consume seven to eight times more soda and other sweetened beverages, compared with their counterparts. They also

consume more red meat and desserts and eat fewer fruits, vegetables, and micronutrients than women in the other groups. In addition, empty calorie dieters are likely to smoke and have a higher body mass index than women in the other groups.

Women in the empty calorie group had maximum carotid intima-media thickness of 1.46 mm, which was significantly higher than that of women in the heart healthy group (1.18 mm), light eating group (1.22 mm), wine and moderate eating group (1.27 mm), and high fat group (1.17 mm). This relationship remained significant even after controlling for smoking, systolic blood pressure, cholesterol, body mass index, and other risk factors.

"We suspect that the intima-media thickness of the empty calorie group is so high because intima-media thickness is a really good indicator of lifetime exposure to all the things that cause heart disease risk including poor diet, high blood pressure, high cholesterol, smoking, and physical inactivity," Ms. Brown said. ■

Epicardial Fat May Signal Increased Cardiovascular Risk

BY FRAN LOWRY
Orlando Bureau

NEW ORLEANS — The fat that surrounds the heart is associated with cardiac abnormalities, including low stroke volume and cardiac output, that are independent of body mass index, a study has found.

The finding casts doubt on the widespread practice of using body mass index (BMI) as an indicator of cardiovascular disease risk, Dr. Zhongjing Chen, of Boston University, said at the annual meeting of NAASO, the Obesity Society.

Dr. Chen and colleagues assessed 13 obese women (average age 47 years) with metabolic syndrome—but no recognized atherosclerosis—using MRI.

The women had a BMI of 30 kg/m² or greater and also had at least three features of metabolic syndrome. These included hypertension, dyslipidemia, central obesity, and insulin resistance.

"The limit for weight was 275 pounds, and for waist circumference 50 inches, because of the table weight and size limits of our scanner," Dr. Chen said.

The researchers used special software developed by Boston University's Center for Biomedical Imaging to calculate epicardial and periaortic fat and then ana-

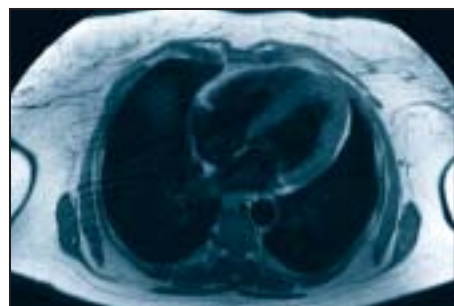
lyzed stroke volume, end diastolic wall mass, and ejection fraction, as well as flow volume and peak blood velocity.

Both stroke volume and cardiac output were negatively correlated with epicardial and periaortic fat, and this negative correlation was statistically significant. Ascending aorta compliance also worsened in the presence of epicardial and periaortic fat.

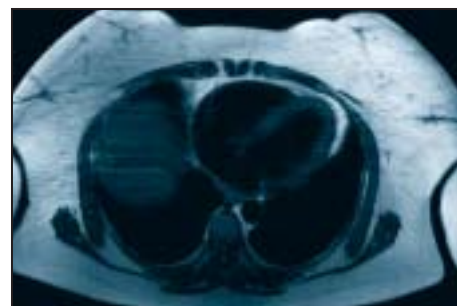
However, there were no correlations between stroke volume, cardiac output, or ascending aorta compliance and the subjects' BMI, Dr. Chen said.

"The major morbidities associated with metabolic syndrome are myocardial infarction and stroke. People have been correlating body mass index with these risks, but our results indicate that it's the fat stores around the heart that are important risk factors," she said in an interview.

Dr. Chen added that MRI is noninvasive and therefore provides an excellent way of measuring epicardial fat and cardiovascular disease risk. "Epicardial and periaortic fat can be directly detected and quantified with MRI to give us a good reading of cardiac function and vessel wall properties. We would like to see whether reducing those fat depots is associated with improvements in cardiac or vascular function. More studies are needed," she said. ■



Epicardial fat tissues appear bright on MRI of woman with a BMI of 44 kg/m².



Despite her lower BMI of 34 kg/m², this woman has more fat around her heart.

NCQA β -Blocker Measure to Focus on Outpatient Use

BY ALICIA AULT
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WASHINGTON — The National Committee for Quality Assurance in 2008 will begin reporting in earnest on how many myocardial infarction patients are receiving β -blockers 6 months after hospital discharge, as recommended by the American Heart Association and the American College of Cardiology.

The organization announced last September that it would no longer collect data on how many acute MI patients receive β -blockers within a week of hospital discharge.

First collected in 1996, that measure—an element of the Healthcare Effectiveness Data and Information Set (HEDIS)—was "retired" because so many patients are now meeting the benchmark, said NCQA president Margaret O'Kane at a briefing.

Of privately insured patients older than 35 years who had survived a heart attack, 98% were prescribed a β -blocker upon discharge in 2006, according to the most recent NCQA State of Health Care Quality report.

Postdischarge β -blockers were prescribed to 94% of Medicare managed care patients and 88% of Medicaid managed care patients in 2006.

When the measure was first reported, only "two-thirds of U.S. patients who survived acute myocardial infarction received β -blockers; today, nearly all do," according to Dr. Thomas H. Lee, cochair of the NCQA Committee on Performance Measurement. "At least when it comes to this intervention, the U.S. health care system has become reliable" he said (N. Engl. J. Med. 2007;357:1175-7).

Thus, NCQA decided it would no

longer collect this information. The organization decided to "evolve" the β -blocker measure by setting the bar higher, and began asking for the data in 2005, Ms. O'Kane said in an interview.

In the latest report, only 68% of Medicaid patients, 70% of Medicare patients, and 72% of privately insured patients were still taking β -blockers 6 months after an MI. There's a huge amount of variability among plans. Ms. O'Kane said she believes that putting more scrutiny on the 6-month measure is appropriate and will improve results.

Dr. James Dove, president of the American College of Cardiology, agreed that the 6-month measure was important—probably more important than whether patients were receiving β -blockers immediately after discharge.

Most post-MI care is done on an outpatient basis, Dr. Dove said in an interview. Plus, "the data suggest that most people who are on a β -blocker at 6 months got it at discharge," he said, adding that the new measure will capture both the immediate postdischarge data and the picture at 6 months. Dr. Dove practices at Prairie Cardiovascular Consultants in Springfield, Ill.

It will be a challenge to both health plans and physicians to improve compliance rates, he said. Electronic health records could help; health plans could use the systems to send reminders, for instance, Dr. Dove said.

Patient compliance, however, is one of the biggest hurdles. Patients might not take medications for a variety of reasons—cost, forgetfulness, fears about side effects, or because they feel better, he said.

"It's our obligation as we see the patient to reinforce why they need to take the medication," Dr. Dove said. ■