

# Waist Circumference Foretells CV Risk

BY BRUCE JANCIN  
Denver Bureau

NEW ORLEANS — Waist circumference is increasingly supplanting body mass index as the preferred indicator of obesity-related cardiovascular risk, both in research studies and clinical practice, Robert H. Eckel, M.D., said at the annual scientific sessions of the American Heart Association.

"Many people believe we have been overfocusing on body mass index. ... I think the database worldwide is suggesting waist circumference is a better measure of risk than weight itself or BMI," said Dr. Eckel, who is AHA president-elect as well as professor of medicine at the University of Colorado, Denver.

"Waist circumference is a vital sign in my clinic, like blood pressure and pulse," Dr. Eckel added.

Several studies presented at the AHA meeting underscored the point that for assessing cardiovascular risk, where a person's excess body fat is located is more important than how overweight or obese the person is.

For example, Xavier Jouven, M.D., presented an update on the landmark Paris Prospective Study I, which enrolled more than 7,000 healthy middle-aged French policemen and followed them for more than 20 years, during which there were 118 sudden deaths and 182 nonsudden cardiac deaths.

After adjustment for all the standard cardiovascular risk factors, sagittal abdominal diameter—a measure of abdominal fat—was significantly associated with increased risk of sudden death. BMI was not.

Normal-weight men have traditional-

ly been viewed as being at low risk for sudden death.

So it was unexpected and particularly impressive to find in the Paris study that normal-weight policemen who had a BMI of less than 25 kg/m<sup>2</sup> but were in the third tertile for sagittal abdominal diameter had a threefold greater risk of sudden death than did normal-weight men in the first tertile, said Dr. Jouven of the cardiovascular, metabolic, and sudden death epidemiology unit of INSERM, the French national medical research organization, in Villejuif, France.

More than half of the roughly 300,000 sudden deaths occurring each year in the United States constitute the first manifestation of heart disease in previously asymptomatic individuals.

This underscores the importance of trying to pinpoint the risk factors for sudden death as accurately as possible to enhance efforts at prevention, Dr. Jouven stressed.

Abdominal obesity is an established independent risk factor for coronary heart disease, but prior to the Paris study little was known about the relationship between abdominal obesity and sudden death.

The usual measure of obesity is BMI, but this has the disadvantage of combining fat-free mass and fat mass, while providing no information about fat localization, he noted.

In a separate presentation, Khawaja Afza Ammar, M.D., reported on 2,042 randomly selected Minnesotans aged 45

and older who underwent echocardiographic evaluation of left ventricular function along with measures of central, peripheral, and overall obesity.

He found that any of the measures of central obesity—waist circumference, waist-hip ratio, and neck circumference—were more strongly correlated with diastolic dysfunction than were peripheral obesity as measured by skinfold thickness or than overall obesity as

reflected in BMI.

In fact, after adjustment for the standard coronary risk factors, BMI and skinfold thickness had little or no relationship with left ventricular dysfunction.

However, waist-hip ratio and the other measures of central obesity did, Dr. Ammar said.

"We think that we have identified central obesity as a more important mediator of congestive heart failure and left ventricular dysfunction," said Dr. Ammar, director of the treadmill laboratory at Olmsted Medical Center, Rochester, Minn.

"The clinical importance of this study is that instead of measuring weight, height, and BMI, if a doctor is more concerned about a patient developing congestive heart failure it might be more prudent to measure waist circumference or even neck circumference, which is a very easy-to-measure marker of obesity," he said.

"You do not need to disrobe the patient to measure neck circumference; you can measure it in the corridor. And in our study, neck circumference was almost as strongly correlated with left ventricular dysfunction as were waist circumference and waist-hip ratio," Dr. Ammar added. ■



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DR. AMMAR



**'Waist circumference is a vital sign in my clinic, like blood pressure and pulse.'**

DR. ECKEL

## Cardiovascular Risk Predicted by Left Atrial Size

MUNICH — Echocardiographically measured left atrial diameter is an independent predictor of long-term cardiovascular mortality risk in a general population of middle-aged men, Jauri A. Laukkanen, M.D., reported at the annual congress of the European Society of Cardiology.

New data from the ongoing Kuopio Ischemic Heart Disease Risk Factor Study indicate that men in the top quartile in terms of left atrial diameter—that is, greater than 43 mm—had a 2.8-fold greater risk of cardiovascular death during 13 years of prospective follow-up than did men with a left atrial diameter less than 39 mm, said Dr. Laukkanen of the University of Kuopio, Finland.

The study involved a representative population-based sample of 863 middle-aged Finnish men who underwent baseline assessment of left atrial diameter and left ventricular mass via M-mode echocardiography. During an average 13-year follow-up, 69 deaths due to cardiovascular disease occurred.

The strongest risk factors for cardiovascular death proved to be left atrial diameter, smoking, family history of coronary heart disease, systolic hypertension, history of MI, and low exercise capacity.

Left atrial diameter remained an independent predictor after adjusting for the other risk factors in a multivariate analysis.

The increased risk associated with left atrial enlargement was largely confined to men in the top quartile in terms of chamber diameter, Dr. Laukkanen said.

The Kuopio experience confirms what echocardiographers at the Mayo Clinic have been saying about the predictive value of left atrial size as a subclinical risk marker, based upon their studies in the Olmsted County, Minn., population.

—Bruce Jancin

# Folate Intake Reduces Risk of Hypertension in Young Women

BY PATRICE WENDLING  
Chicago Bureau

CHICAGO — High folate intake may lower the risk of hypertension, particularly in young women, according to data presented at a conference of the Council for High Blood Pressure Research.

Young women who consumed at least 800 mcg/day of folate reduced their risk of developing high blood pressure by almost a third, compared with those who consumed less than 200 mcg/day. Folate also reduced the risk in older women to a lesser degree, reported John P. Forman, M.D., a research and clinical fellow at Brigham and Women's Hospital in Boston.

The most striking effects of folate intake were seen among women aged 35 years or younger, he said. Supplemental folic acid also contributed to this decrease in risk, as

most of the women in the higher range of folate intake obtained much of their intake from supplements.

Dr. Forman and colleagues based their findings on data from the Nurses' Health Study I (NHS I), comprising 62,260 women aged 43-70 years, and the Nurses' Health Study II (NHS II), comprising 93,034 women aged 26-46 years. None of the women had high blood pressure at baseline.

Semiquantitative food-frequency questionnaires were used to gather information about dietary and supplemental folate intake at baseline, and were followed up with additional questionnaires every 4 years. Information about physician-diagnosed high blood pressure was self-reported every 2 years.

Cox regression analysis was used to estimate relative risk after the investigators controlled for age, body mass index,

smoking, exercise, family history of hypertension, and intake of alcohol, caffeine, salt, calcium, magnesium, potassium, fiber, methionine, and vitamins B<sub>6</sub>, B<sub>12</sub>, and D.

Over 8 years of follow-up, there were 12,347 incident cases of hypertension in NHS I and 7,373 incident cases in NHS II.

Young women who consumed at least 800 mcg/day of folate had a 29% lower risk of high blood pressure, compared with those who consumed less than 200 mcg/day. Older women who consumed at least 800 mcg/day had a 13% lower risk than did those who consumed less than 200 mcg/day.

Although the most striking effects of folate were seen in women younger than 35, there was no significant interaction between age and reduced risk among women in the older cohort when divided into three additional subgroups. ■

One hypothesis as for why the effect of folate varies by age is that the pathogenesis of hypertension may be different in older versus younger women, Dr. Forman said at the meeting, sponsored by the American Heart Association.

The Food and Drug Administration began requiring folate supplementation of several foods including bread and cereals in 1998. But fortification had begun in 1996, spanning the last 2 years of the NHS I and the last 3 years of the NHS II.

The researchers did not directly measure serum folate, which was a limitation of the study, Dr. Forman said. However, the food-frequency questionnaires used in the cohort have been previously validated and are highly correlated with both dietary records and serum folate levels. In addition, all of the study participants were registered nurses, and self-reported hypertension was thought to be reliable. ■