



Media Contact: Sandra Van
Telephone: 1-800-880-2397
E-mail: sandy@prpacific.com

Citation: Special supplement to the *Journal of the American College of Cardiology* on the NHLBI-sponsored Women's Ischemia Syndrome Evaluation (WISE) Study, Feb. 7, 2006.

HIGHLIGHTS:

The Feb. 7, 2006 issue of the *Journal of the American College of Cardiology* includes a special supplement on the Women's Ischemia Syndrome Evaluation (WISE) Study, a multi-center, long-term investigation sponsored by the National Heart, Lung and Blood Institute. Cardiologist and women's health specialist C. Noel Bairey Merz, M.D., who chairs the WISE study, is available to provide additional information.

UNIQUE VASCULAR DYSFUNCTION IN WOMEN'S HEART DISEASE DESCRIBED IN MAJOR JOURNAL SUPPLEMENT

LOS ANGELES (Feb. 1, 2006) – Although ischemic heart disease – the reduction of blood flow that can lead to heart attacks – is often considered a “man's disease,” it takes the lives of more women than men each year. In fact, in 2000, about 60,000 more women than men died from cardiovascular disease.

Now research finds that women's disease is actually very different from that typically found in men, with a variety of complex underlying factors. Further, because women's ischemic disease often evades detection through traditional diagnostic techniques that are based on men's disease, it may continue to cause symptoms but remain undiagnosed until progressing to a critical stage.

An update on findings from The Women's Ischemia Syndrome Evaluation (WISE) Study, a multi-center, long-term investigation sponsored by the National Heart, Lung and Blood Institute, is presented in a supplement to the Feb. 7, 2006 issue of the *Journal of the American College of Cardiology*. Cardiologist C. Noel Bairey Merz, M.D., chairs the WISE study, which was launched in 1996. Bairey Merz serves as medical director of the Preventive and Rehabilitative Cardiac Center and medical director of Women's Health at Cedars-Sinai Medical Center. She also holds the Women's Guild Chair in Women's Health.

When patients seek medical care for chest pain, diagnosticians typically look for a “culprit” obstructive lesion – plaque that is blocking an artery. But in many women, two areas of dysfunction – one in the cells lining coronary arteries and another in the tiny vessels branching within the heart itself – combine to deprive the heart muscle of oxygen. “Functional rather than structural abnormalities of the coronary circulation may be the hallmark of the disease in women,” according to one of the journal articles.

The WISE researchers offer the first description of this female-specific vascular disorder, “a global pattern of dysfunction in the macro- and microcirculation.” Although the “diffuse atherosclerosis” that many women experience is not seen on coronary angiography, it results in abnormal resistance that limits blood flow to the heart tissue. But without angiographic evidence of a blocked artery, a woman's symptoms are likely to be discounted.

Women's symptoms often are different than men's, too, contributing to under-diagnosis. As the disease is

(more)

progressing, women may describe non-specific symptoms such as fatigue, sleep disturbance and shortness of breath. The WISE researchers recommend that clinicians become more aware and aggressive in investigating these early complaints.

The journal articles on WISE studies, accompanied by discussions provided by several experts in the field, provide insight on a wide variety of subjects, including the array of gender-specific factors contributing to women's manifestation of heart disease and implications for innovative diagnostic and evaluation procedures. Among topics and findings:

- The major roles of sex hormones. "High estrogen levels before menopause and decreasing estrogen and progesterone levels after menopause are believed to influence IHD in women."
- Premenopausal estrogen deficiency due to ovarian dysfunction may be a significant risk factor for IHD for younger women. Women with disruption of ovulation and decreased estrogen production had a greatly increased risk of coronary artery disease.
- The use of nuclear-based heart studies is recommended. Nuclear SPECT (single-photon emission computed tomography) imaging, for example, has resulted in dramatic improvement in diagnostic accuracy for women.
- Functional capacity is one of the strongest and most consistent estimators of cardiac prognosis, but treadmill stress testing is not suitable or effective for many women. Tests that induce stress chemically should be considered. Also, a 12-item questionnaire, the Duke Activity Status Index (DASI), provides a valuable risk assessment using self-reported activities of daily living. These are translated into METs (metabolic equivalents), which are used to approximate physical work capacity. Two-thirds of the cardiac events in the WISE women occurred in those with an estimated capacity of less than 4.7 DASI METs. Women with evidence of lower scores were also significantly more likely to have risk factors and obstructive coronary artery disease.
- Overweight women are more likely than normal weight women to have coronary artery disease risk factors. But the WISE researchers found that the issue is not obesity alone. Instead, it appears that the metabolic alterations associated with obesity are key factors in placing a woman at risk for CAD and cardiac events. Women with the "metabolic syndrome" are at much higher risk of cardiac events than those with a normal metabolic status. The metabolic syndrome includes insulin resistance, unhealthy cholesterol and/or triglyceride levels, hypertension, and abdominal obesity.
- The recognition of different, unique risk factors for IHD in women – such as inflammatory processes in the arteries, anemia and microvascular dysfunction – leads to the possibility that different diagnostic and prognostic tools may be employed. Among options currently being evaluated are high-sensitivity C-reactive protein (a laboratory test that can detect inflammatory processes), hemoglobin monitoring, and retinal artery narrowing examinations and coronary calcification tests (for detection of atherosclerosis).

WISE was designed to study diagnostic testing and pathophysiology of IHD in women and how sex hormones and other gender-specific findings influence the clinical aspects of the disease. From 1996 to 2000, 936 women referred for angiograms because of chest pain and suspected ischemia were enrolled. Several other studies have also grown out of this major project.

The WISE study is supported by NHLBI contracts NO1-HV-68161, NO1-HV-68162, NO1-HV-68163, and NO1-HV-68164, and grants UO1-HL64829-01, UO1-HL64914-01, and UO1-HL65924-01. GCRC grant MO1-RR00425 from the National Center for Research Resources, and grants from the Gustavus and Louis

Pfeiffer Research Foundation, Denville, N.J., and the Ladies Hospital Aid Society of Western Pennsylvania, Pittsburgh.

###

One of only eight hospitals in California whose nurses have been honored with the prestigious Magnet designation, Cedars-Sinai Medical Center is one of the largest nonprofit academic medical centers in the Western United States. For 18 consecutive years, it has been named Los Angeles' most preferred hospital for all health needs in an independent survey of area residents. Cedars-Sinai is internationally renowned for its diagnostic and treatment capabilities and its broad spectrum of programs and services, as well as breakthroughs in biomedical research and superlative medical education. It ranks among the top 10 non-university hospitals in the nation for its research activities and was recently fully accredited by the Association for the Accreditation of Human Research Protection Programs, Inc. (AAHRPP). Additional information is available at www.cedars-sinai.edu.

If you have received this news release in error and do not wish to receive future advisories, or if they should be directed to someone else in your organization, please call 1-800-396-1002, so we can update our records. Alternatively, you may fax your updated information or your request for removal from our list to 808-697-1249 or e-mail it to sandy@prpacific.com.