American Medical Women's Association
Position Paper on Principals of Women & Coronary Heart Disease

AMWA is a leader in its dedication to educating all physicians and their patients about heart disease, the number one cause of death in American women (1). The risk factors, presentation, diagnostic testing, and treatment of women with coronary heart disease (CHD) must take into account the unique aspects that are gender specific. Most decisions regarding CHD in women prior to the 1990's were based on data obtained from trials done predominately on male patients. Since 1993, studies are being designed to evaluate gender specific issues and more women have been included in these clinical studies (2). Care for women with CHD has improved since the inception of programs highlighting these gender differences.

A Gallup survey done in March 1995 showed that 80% of American women aged 45 to 75 years did not know that heart disease is the number one cause of death in American women. Of 300 primary care physicians surveyed, 32% did not know this statistic either. Approximately 2.5 million U.S. women are hospitalized annually secondary to cardiovascular disease (CVD) and CVD claims the lives of 479,000 women annually (235,000 lives due to CHD alone)(1). Further education is needed as women with CHD are more likely to have concomitant risk factors, including diabetes mellitus (DM), hypertension (HBP), and tobacco use. AMWA's Education Project on Coronary Heart Disease in Women was implemented to train 6,000 physicians in their communities about CHD so these statistics could be improved.

Background

A. Prevention--cardiac risk factor modification

1. Tobacco use---Tobacco use is the leading preventable cause of death among women. A large body of data indicates that CHD is 2 to 4 times higher among women who are heavy smokers (usually defined as those who smoke 20 or more cigarettes per day) than among women who do not smoke(3). Women who smoke sustain their first MI 19 years earlier than nonsmokers (4), and smoking cessation reduces risk to baseline within 3 years (5).

2. Cholesterol/lipid profiles--The data on the primary prevention of CHD in women by modification of the lipid profile is limited. Secondary prevention trials have not included adequate numbers of women to obtain statistical power on overall mortality reduction. However, recent studies demonstrate that interventions that lower LDL cholesterol levels and raise HDL levels reduce cardiac mortality in women to the same degree as in men (6). Angiographic studies have demonstrated the slowing of progression of coronary atherosclerosis and prevention of development of new coronary lesions with lipid modification (7).

3. Hypertension--Hypertension has been shown by a number of prospective trials to be a risk for CHD in women, both combined systolic and diastolic hypertension

and isolated systolic hypertension (8). However, while reduction in blood pressure in short-term trials reduced the incidence of cerebrovascular accidents in women, treatment of hypertension confers substantially less benefit against cardiac events in women than in men (9). It may be necessary to maintain reduced blood pressure for many years to achieve the 20 to 25% reduction in CHD hypothesized on the basis of observation studies (10). As more elderly women than men develop hypertension, accurate treatment for hypertension in women is needed. In African-American women, who are at higher risk for HBP and CHD, the incidence of cardiac events and mortality is double that of other ethnic groups.

4. Diabetes mellitus--Diabetes is a stronger risk factor for CHD in women than in men. DM negates the 10-year age advantage in the development of CHD between men and women, exacerbates the effects of known coronary risk factors, and may impair estrogen binding. Women with DM have twice the risk for fatal MI than diabetic men (11).

5. Age/postmenopausal status--The risk of CHD increases with age, with clinical disease present in 1 out of 3 women over 65 years of age. This risk is reduced dramatically with postmenopausal hormone replacement therapy (HRT). A review of 31 observational studies estimated a statistically significant 44% reduction in the risk of CHD among postmenopausal women receiving estrogen replacement therapy (12). In women with established CHD, this benefit is even greater, with up to 75% reduction in mortality from CHD in users of postmenopausal estrogen (13). Concerns have been raised regarding the associated risk of HRT in women with breast cancer or at high risk for breast cancer. As there has been limited widespread use of HRT in this population, the lack of long-term data has hindered the resolution of this issue. Therefore, individual treatment decisions must be made.

6. Obesity/sedentary lifestyle--There is an 80% increased risk of CHD in overweight women compared to lean women. Obesity is associated with an increased incidence of HBP, DM, and lipid abnormalities. The incidence of obesity is highest among African-American and Pacific Islanders (50%) compared to other women (20 to 30%). Sedentary lifestyle begins at a preadolescent age in women, but regular aerobic exercise may reduce the relative risk of CHD by 20 to 40% (14).

B. Diagnosis and Treatment

1. In acute MI and hospital settings--The National Registry of Myocardial Infarction (NRMI) Investigators data from 1990-1993 demonstrates that thrombolytic therapy was used more frequently in men than in women of all ages (15). The discrepancy was highest in the younger age groups, and persisted during the years of the study (16). The international GUSTO-I trial demonstrated that women were older than men when presenting with acute MI. Women took longer to present to the hospital and experienced longer delays than men to diagnosis and treatment with thrombolytic therapy. Women had higher mortality than men in every age category, with a 15% greater risk of dying than men and higher rates of

post-MI complications including CHF, reinfarction, shock, and serious bleeding (17). However, the use of invasive diagnostic procedures in the GUSTO-I trial in patients with acute MI was similar in women and men and a small but significant difference was seen in the rates of revascularization (17).

2. In chronic CHD and outpatient settings--Diagnosis and treatment recommendations for women with CHD has been hampered by the lack of adequate numbers of women in clinical trials. Well described differences in cardiac ischemic symptoms may result in lower referral rates for invasive testing in women with CHD. Substantial differences in medication treatment for chronic angina exist between women and men (18). Even therapies with demonstrated benefit, such as aspirin (19), are not routinely given to women with CHD. Because of high false-positive or non-diagnostic results with routine stress testing, maximal or pharmacologic stress testing with imaging (either echocardiography or nuclear perfusion imaging) is necessary to improve diagnostic results. Even when confidence in test results is high, women are still referred for less invasive studies and definitive treatment than men and sustain more cardiac events and higher cardiac mortality (20).

3. Subgroups of women-- Due to the higher mortality rate from CHD in African-American women and their greater comorbidity, this population deserves more aggressive screening, risk factor reduction, and diagnostic testing for CHD. Elderly women comprise the largest sub-population at risk for CVD. Documented age-related differences in acute and chronic treatment for CVD persist (17).

Recommendations

1. Continue to support educational efforts among physicians and patients identifying CHD as the major cause of death in American women.

2. Support continuing funded research in the primary and secondary prevention of CHD in women.

3. Encourage ongoing funded research of acute and chronic treatments for CHD, including adequate numbers of women in clinical trials.

4. Support tobacco cessation and progressive tobacco-control policies.

5. Encourage hormone replacement therapy for women who are appropriate candidates.

6. Support funding for education of physicians and the public on CVD in women, with special outreach to sub-populations at risk.

7. Support research on HRT and its effect on development and/or progression of breast cancer, as well as reduction in risk for conditions such as colon cancer, Alzheimers, and osteoporosis.

In dealing with coronary heart disease in women, we recognize that physicians must have the information they need to make appropriate diagnostic and treatment recommendations and that patients must understand their risks, symptoms, and the need to seek appropriate medical attention. It is hoped that the continued efforts of AMWA, through its educational and advocacy programs, will help to reduce the impact of CHD, the number one cause of death in American women.

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