

Heart Disease in Women

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Cardiovascular disease is the leading cause of death of women in the United States, taking almost half a million lives each year. It exceeds the next 7 causes of death combined. Yet until recently, most women and a surprising number of health care providers ranked cancer as a more serious concern in women, considering heart disease a problem of mainly men. Since 1984 however, more women than men have died each year of cardiovascular disease, and currently about 32 million women live with cardiovascular disease.

Compared to men, women tend to develop cardiovascular disease, specifically coronary artery disease (CAD) later in life. Menopause heralds a rise in the manifestation of atherosclerosis in women. Women therefore lag behind men in presentation by almost two decades. Being generally older when they have their first manifestations of coronary disease, they present with more associated comorbidities such as obesity, hypertension and diabetes. Studies indicate that they also receive less preventive care than their male counterparts and receive less timely and aggressive treatment once diagnosed with CAD. These factors no doubt all contribute to their increased mortality.

Risk factors for both men and women include cigarette smoking, hypertension, high cholesterol, diabetes, increased

age, family history of premature CAD, obesity and physical inactivity. These factors are rampant in our society. Nearly half of women over 55 years of age have high blood pressure and approximately 40% of women over 55 years of age have high total cholesterol. Over a quarter percent of women are obese with a body mass index of over 30. Smoking continues to be a major health problem in over 22 million American women, and approximately 25% report no regular physical activity.

There is a great need for education and active participation on the part of women in reducing their risk factors for CAD. They are, however, more likely to underestimate the impact of primary and secondary prevention on their health. This is unfortunate, as it can be dramatic. In the Cholesterol and Recurrence Events (CARE) study for example, cholesterol lowering for secondary prevention with pravachol in women was even more effective than in men in preventing recurrent events. The overall risk reduction for women was 46% compared to 20% for men. The benefit also occurred earlier in women, with the benefit between 1 and 2 years in women comparing to that of men at 3 and 4 years of treatment.

A significant issue has been timely recognition of warning symptoms of heart disease and heart attack in women. Older individuals, both men and women, are more likely to have atypical symptoms — indigestion, heartburn, unexplained weakness, fatigue, shortness of breath or sense of doom —

instead of the classic crushing chest pain radiating to the jaw or shoulder often described in younger patients. Because women are older when they present, their symptoms are more often atypical, and they seek attention later than men. In addition, physicians may have a lower level of suspicion for coronary disease in women, especially those who develop symptoms before their mid-fifties, and are more likely to miss the diagnosis of acute myocardial infarction.

Once the diagnosis of CAD is secure and women access treatment for their disease, gender is seen to variably impact on outcome. Previous studies suggested that after angioplasty, women had increased procedural morbidity and mortality compared to men. A more recent report in 2002 from the National Heart, Lung, and Blood Institute indicated that women were older with a higher incidence of diabetes, hypertension and congestive heart failure at the time of procedure. Their one-year mortality and combined end point of death/MI/coronary artery bypass grafting (CABG) were higher than in men. However, once other factors were controlled, gender did not emerge as a significant predictor of mortality. A 1998 review of the Society of Thoracic Surgeons National Cardiac Surgery Database analyzed the outcome of over 300,000 patients undergoing CABG since 1994. Despite risk adjustment to equalize contributing factors, female gender remained an independent predictor of mortality; it

was almost twice as high in women compared to men. Vaccarino et al, who conducted a retrospective review of 51,187 patients (30% women) undergoing CABG between the years 1993 and 1999, noted that women less than 50 years of age were 3 times as likely to die as their age-matched male counterparts. In the older age groups, the gender difference for in-hospital mortality was reduced. Reasons for this increased risk in younger females are unknown.

The role of estrogen in gender-based differences in outcome remain unclear. With the results from the HERS trial and the more recent Women's Health Initiative, hormone replacement therapy (HRT) is not currently recommended for secondary or primary prevention of CAD. However, a recent retrospective review of 4,259 patients undergoing CABG showed female sex with HRT to be a predictor of decreased hospital mortality, regardless of age. Mortality in this group of women was 2.3%, compared to 2.7% for men, and 6.7% for women not receiving HRT. Further prospective randomized trials are needed to determine the role of HRT in the treatment of women with CAD.

Despite overall improved trends in survival over the past decade, women tend to have worse outcome after myocardial infarction and CABG compared to men. Nevertheless, studies show that women have more cardiovascular risk and are less compliant with a healthy lifestyle compared to their male counterparts both before and after revascularization. It remains critical for women and their physicians to focus on the underlying pathophysiology of CAD, the strong impact of risk reduction with primary and secondary prevention and the need for prompt recognition and treatment of ischemic syndromes.

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Council on Cardiovascular Disease in the Young and Council on Cardiovascular Surgery and Anesthesia Joint Reception and Dinner

Tuesday, November 11

The Peabody Hotel • Orlando, Florida

Reception (Cash Bar)	6:30 PM
Dinner	7:45 PM
Tickets	\$60

The banquet will feature the William J. Rashkind Lecture, entitled "Visual Art (Photography) Following Retina," to be given by esteemed New York photographer Howard Schatz. Dr. Schatz practiced ophthalmology for 20 years in San Francisco before developing his photography hobby into a full-time job. The CVDY Council will present the Outstanding Research Award in Pediatric Cardiology and honor the Helen B. Taussig Memorial Lecturer, D. Woodrow Benson, MD, PhD. The CVSA Council will present the Vivien Thomas Young Investigator Awards and will honor the William W. L. Glenn Lecturer and Surgery Mentoring award recipient.