Women and Heart Disease

Cardiovascular disease (CVD) remains the #1 killer of women, surpassing all cancers combined. In many countries, including the United States, morewomen than men die every year of CVD, and overall outcomes for women with coronary disease are worse than for men. In particular, 38% of women (vs 24% of men) die within one year of their first coronary event, reminding us of the need for aggressive risk modification and early disease detection in women.

 The primary risk factors for women, as for men, include hypertension, diabetes mellitus, dyslipidemia, smoking and family history of early coronary artery disease. The NCEP has recognized the postmenopausal state as a risk factor for CVD in women, assigning it the same weight as male sex for men. The incidence of **hypertension** approaches 80% for women above age 70. **Diabetes** is a much more potent risk factor for women than men, increasing the risk of CVD 3 to 7 fold (vs 2 to 3 fold in men). It negates the protective effect of gender and doubles the risk of a second MI in women. **Dyslipidemia** is a significant risk factor for both men and women, but in women, a low HDL is more predictive than an elevated LDL for CVD and elevated triglycerides appear to be a more potent risk factor. **Smoking** has been associated with one-half of all coronary events in women and even minimal use increases coronary risk. Fortunately, risk returns to baseline after 2 to 3 years and thus smoking cessation remains critical in the management of cardiac risk in women. **Family history** remains a non-modifiable risk factor but increases the importance of aggressive management of other risk factors. More recently, chronic kidney disease and peripheral vascular disease have been cited as risk factors for CAD. Secondary risk factors include obesity, increasing weight within the “normal” range, as well as the metabolic syndrome (abdominal obesity, glucose intolerance, hypertension and elevated triglycerides with a low HDL). A sedentary lifestyle is also associated with increased cardiac risk.

 In 2004, the AHA published evidence based guidelines for CVD prevention in women and these guidelines were updated in 2007. Assessment of level of risk was fundamental to subsequent recommendations for intervention, and based on the 10 year absolute risk of CVD, patients were divided into high (>20%), intermediate (10 to 20%) and low (<10%) risk groups. A Framingham risk calculator has been published and can be found online at <http://hp2010.nhlbihin.net/atpiii/calculator.asp?usertype=prof>. The more updated guidelines assess risk more generally, based on clinical findings. The “high risk” group includes established CVD, known cerebrovascular disease, peripheral arterial disease, abdominal aortic aneurysm, end-stage or chronic renal disease, diabetes mellitus or a 10-year Framingham global risk of >20%. Patients considered “at risk” are those with one or more of the risk factors described above, evidence of subclinical vascular disease (eg coronary calcification), poor exercise capacity on treadmill testing and/or abnormal heart rate recovery after stress testing. The guidelines emphasize lifestyle interventions which include a low fat diet, addition of omega 3 fatty acids, particularly in women with high triglycerides, physical activity with a goal of 30 minutes a day, maintenance of appropriate weight, smoking cessation, cardiac rehabilitation following acute cardiac events and screening for depression. Additional recommendations include an ideal BP goal of < 120/80, treatment of dyslipidemia, preferably with statins, to achieve an optimal LDL determined by risk category and subsequent intervention as needed to achieve an HDL > 50 and triglyceride levels less than 150. Diabetes should be treated to attain a HBA1c level < 7%.

 The issue of when to use aspirin has sparked some interest in recent years. Clearly, aspirin at a dose of 75 to 325 mg/d is recommended in all high risk women, including every diabetic. Patients who are truly intolerant to aspirin should be considered for clopidogrel therapy. The use of aspirin in low risk women has been controversial. As recently as 2004, aspirin was not considered appropriate therapy in low risk women although a beneficial effect on the risk of ischemic stroke had been demonstrated. More recently, the recommendation has been to use low dose aspirin (81 mg daily or 100 mg every other day) in all women with a 10 year Framingham risk score of 6 to 10%. Additionally, in women 65 years of age or older, aspirin therapy should be considered if blood pressure is controlled and benefit for ischemic stroke and MI prevention is likely to outweigh risk of GI bleeding and hemorrhagic stroke. In women under 65, aspirin appears beneficial for ischemic stroke prevention but not for MI prevention.

 The consideration of hormone replacement therapy (HRT) has undergone much change. Although it known that LDL and triglyceride levels increase after menopause and HDL decreases concurrently, and we know that these changes correlate with increased CV risk, HRT has not been shown to offset this risk. Whereas multiple studies have failed to show a net benefit on CV outcomes with HRT, more recent analyses have suggested that early treatment, in the perimenopausal years, may have modest benefit. Recent recommendations support limited use of HRT as needed for perimenopausal relief for the shortest time period and at the lowest dose possible, beginning soon after onset of symptoms. There remains no role for HRT as preventive therapy for CVD.

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Evidence Based Guidelines for CVD Prevention in Women:

J Am Coll Cardiol. 2004 Mar 3;43(5):900-21;

Circulation. 2007 Mar 20;115(11):1481-501;