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Congestive Heart Failure in Women

By Jennifer Morrow, M.D., F.A.C.C.

The Stern Cardiovascular Center

Congestive heart failure in 2009 is one of the most common cardiac illnesses. There are approximately 5 million Americans currently living with heart failure; 500,000 additional patients are diagnosed each year. This has an enormous impact on health care spending, with 2008 health care costs for heart failure alone estimated around \$35 billion dollars.

Congestive heart failure refers to a failure of the heart to effectively pump blood forward to the rest of the body. This is due to either a weakness of the heart muscle (systolic heart failure) or a stiffness of the heart muscle (diastolic heart failure), or a combination of the two. Heart failure does not actually mean that the heart stops functioning completely, nor is it the same thing as a heart attack.

There are several causes of heart failure, including coronary disease or prior heart attacks, hypertension, and some types of valvular heart disease. Other causes include toxins (such as cocaine or alcohol), prolonged rapid heart rate, obesity and certain infections (including HIV, viral infections and Lyme disease). Some patients, however, do not have an identifiable cause of heart failure; the term for this is idiopathic cardiomyopathy.

Regardless of the type of heart failure, the pressures in the heart increase due to a lack of forward blood flow. The kidneys begin to respond by retaining sodium and water, and fluid begins building up throughout the body. This results in several of the symptoms of heart failure, including shortness of breath (particularly when lying flat), swelling in the arms, legs or abdomen, and weight gain. Some people also experience other symptoms such as fatigue, decrease in exercise

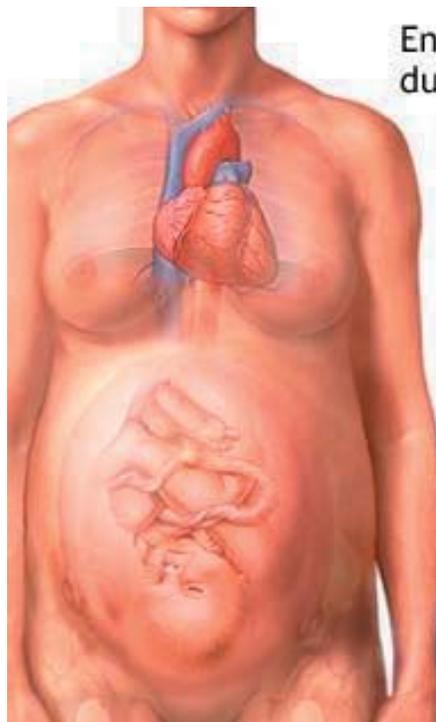
capability, dizziness or depression.

Congestive heart failure occurs almost as frequently in women as in men. 2.5 million American women are thought to suffer with congestive heart failure. In the majority of patients, symptoms and treatments are similar in women and men; there are, however, several important differences. Women tend to develop heart failure at a later age and are more likely to have diastolic heart failure (stiffness of the heart muscle). Women are more likely to develop leg and ankle swelling as their first symptom; other symptoms more often seen in women are fatigue, decreased exercise tolerance and depression.

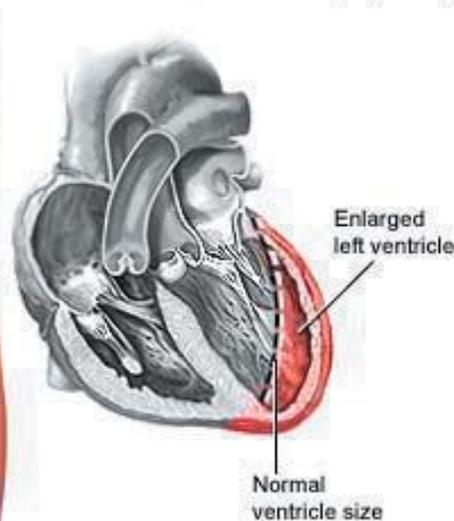
Furthermore, women are more often undertreated and under diagnosed. Even

in patients who are treated with some medications, the doses in women are often lower and there are fewer medications prescribed than in men with heart failure. And while women live longer than men with heart failure, women experience more symptoms and are hospitalized more often throughout the course of their illness. A recent German study of heart failure patient confirmed this—women received fewer medications, all at lower doses, and their symptoms were less often addressed than their male counterparts.

Women carry this diagnosis due to the same causes seen in men—most common are coronary disease and hypertension—but also experience other types of heart failure exclusively seen in women. These include



Enlargement of left ventricle due to dilated cardiomyopathy



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chemotherapy-associated heart failure, broken heart syndrome and pregnancy-associated heart failure.

The first type of heart failure seen more commonly in women is that due to the type of chemotherapy often prescribed for breast cancer. Anthracyclines, including doxorubicin (Adriamycin), can result in heart failure; the risk of cardiac damage is dose-related and increases with increasing number of chemotherapy cycles. Another agent used in breast cancer, Herceptin, has also been shown to result in heart failure. Both medications can result in a weakening of the heart muscle (systolic heart failure). The current recommendations for treatment include standard medications for heart failure as well as limiting future doses of these chemotherapy agents; heart function is followed by either echocardiograms (ECHO) or MUGA scans to check muscle strength. Newer studies have suggested treating women preventively with standard cardiac medications to prevent heart failure; there are also newer medications which are actively being prescribed along with Adriamycin to prevent heart failure.

The next type of heart failure seen more commonly in women is the so-called “broken heart syndrome”. Other terms for this include stress-induced cardiomyopathy or takotsubo cardiomyopathy. This type of heart failure is actually thought to be temporary and actually results from severe stress; the stress can be either physical or emotional. This phenomenon is seen more often in women, and in particular, in post-menopausal women. The symptoms typically are similar to, and can often mimic, a heart attack. The cause is thought to be due to a large surge in adrenaline (catecholamines), which strains and stresses the heart. This type of heart failure usually recovers within several weeks but is nonetheless treated aggressively with standard medications.

Finally, there is a type of heart failure seen exclusively in women. This is congestive heart failure associated with pregnancy (peripartum cardiomyopathy). This occurs in women of childbearing age and can occur anytime during the last trimester and up to five months after delivery. This now occurs in 1 in 15,000 deliveries in this country and is more frequently seen in women who have experienced heart failure with previous pregnancies. First recognized in the 1930’s, this type of heart failure is still not completely understood. The cause is unknown; potential causes are hormonal fluctuations, physical stress associated with pregnancy, or an immune response that the body experiences in response to the fetus itself. Treatment is difficult during pregnancy, since several

medications can be harmful to the fetus. Treatment after delivery includes full treatment with medications and avoiding future pregnancies if heart function does not fully recover. Only 50% of women fully recover their heart muscle function, and 4-7 % of women ultimately go on to require cardiac transplantation.

As discussed previously, however, all types of heart failure in women (regardless of the cause) seem to be both under diagnosed and

undertreated once diagnosed. Women have definitely been under-represented in trials studying heart failure; only about 25% of most major trial participants have been women. Current medications are used in both men and women, though this may not

necessarily be the most accurate way to treat female patients. Additionally, many women are also taking hormone replacement therapy. The role of estrogen and progesterone in heart failure is not yet clear; one small study has suggested an improvement in patients taking hormonal therapy, but larger studies have suggested that estrogen may place patients at higher cardiac risk. No clear consensus has been reached about whether or not to continue hormone therapy in women with heart failure.

One key point to remember is that regardless of sex, heart failure can have many causes and can present with several commonly seen symptoms. Treatment for both men and women includes a full array of medications and possible implantation of a defibrillator when appropriate. The goals of treatment are also similar for men and women: relieving symptoms, stopping the progression of heart failure, improving quality of life and preventing sudden cardiac death. The treatment modalities and survival times for congestive heart failure are continually improving, and clinical trials continue to provide meaningful information about the best ways to attack this disease.

If you suspect you may have heart failure, or notice any new symptoms, the most important step is to discuss this with your doctor. Simple tests, such as an electrocardiogram (EKG) or an echocardiogram (ECHO) will provide information to your doctor about the status of your heart. Rapid diagnosis and treatment can improve both the quality and longevity of your life.



About The Author

Dr. Jennifer Morrow, FACC graduated from medical school at the University of Tennessee and went on to complete her training in Cardiovascular Diseases at the University of Maryland. She is currently in practice at the Stern Cardiovascular Center. Her areas of interest include heart disease in women, cardiac imaging and noninvasive/consultative cardiology. For a consultation or questions, please call Dr. Morrow at 901-271-1000.

