What is diastolic heart failure?

Diastolic heart failure is a form of heart failure in which the heart's lower chambers (ventricles) have become too stiff to relax and expand to fill with enough blood (blood-filling problems). This causes the heart to pump less blood, resulting in the backup of fluid in the lungs and symptoms of heart failure.

Diastolic heart failure is twice as common in women as in men.[1-8] The risk of developing diastolic heart failure increases with age.[4, 7, 9]

Nearly half of all heart failure patients over the age of 70 have diastolic heart failure, compared with 33% between the ages of 50 and 70 years and 15% at younger than 50 years; women-specific information is not available.[9]

The symptoms of heart failure are generally the same for both diastolic heart failure and systolic heart failure: shortness of breath, fatigue, and fluid buildup. In diastolic heart failure, the most common symptoms are fatigue and shortness of breath during mild physical activity or when lying down.[10]

Click here for an illustration of the difference between systolic and diastolic heart failure.

What causes diastolic heart failure?

Diastolic heart failure becomes more common as we get older.[11] As people age, the heart and blood vessels lose elasticity, eventually leading to stiffness and limiting the heart's ability to fill with blood.[10, 12] Women with diastolic heart failure tend to be older and are more likely than men to have severe thickening of the heart muscle wall in response to conditions such as high blood pressure and diabetes. This response seems to make women more susceptible to the cumulative effect of aging on the heart's blood-filling (diastolic) function.

[13]

Other than the natural effects of aging on the heart, most cases of diastolic heart failure are caused by high blood pressure or diabetes or both; coronary artery disease and obesity are also common causes.

High blood pressure causes your heart to work harder to pump blood, eventually resulting in the heart muscle becoming thicker or larger to help the heart pump against the increased pressure. Over time, the thickened heart muscle becomes stiff and the heart is unable to relax and expand to fill with enough blood, leading to diastolic heart failure. High blood pressure is the most widespread cause of diastolic heart failure in women. [14] Women with high blood pressure are more likely than men to have a thickened heart. [8, 14-16]

Diabetes can cause increased wall thickness of the heart's main pumping chamber in women but not in men, leading to more frequent cases of blood-filling problems in women and perhaps explaining why women more often than men have diastolic heart failure. [17, 18] Diabetes has been shown to damage the heart muscle in women as young as 15 years of age. [18]

Coronary artery disease (CAD) reduces or blocks blood flow to the heart muscle, which can eventually damage the heart's ability to relax and fill with enough blood. CAD is an important cause of heart failure in women independent of other risk factors, although women are less likely than men to have CAD as the main underlying cause of diastolic heart failure. [19, 20]

Women with heart failure are less likely than men to have had a heart attack, but they have a higher chance of developing heart failure after a heart attack.

Obesity can cause your heart to work harder to pump blood to the added fatty tissue, causing the heart's main pumping chamber to become thicker. [21-25] Over time, this limits your heart's ability to fill with blood, setting the stage for diastolic heart failure.

Who is at risk for diastolic heart failure?

Women tend to have more of the risk factors associated with blood-filling problems and diastolic heart failure, such as high blood pressure, diabetes, and older age.[13] Diastolic heart failure is more common in older women with high blood pressure.
[26]

The risk of developing diastolic heart failure increases with age, mostly because of the increased risk of high blood pressure, diabetes, and CAD that comes with age.

Next: Diagnosis & Treament of Diastolic Heart Failure

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