



CARDIAC FAILURE

What is Cardiac Failure?

Cardiac failure, also called Congestive heart failure, is a condition in which the heart's ability to pump blood is weakened, so the heart can't circulate enough blood to meet the body's needs.

What causes it?

Cardiac failure usually develops over time as the heart's pumping action grows weaker. Cardiac failure can sometimes however develop suddenly. Heart failure can occur on the right hand side of the heart only, or it can affect both sides of the heart. Right-side heart failure occurs if the heart can't pump enough blood to the lungs to pick up oxygen. Left-side heart failure occurs if the heart can't pump enough oxygen-rich blood to the rest of the body.

Heart problems that may cause cardiac failure are:

- Coronary artery disease: blocked blood vessels restrict oxygen supply to the heart
- Cardiomyopathy: the heart muscle itself is diseased and damaged
- Congenital heart disease
- Heart attack: previous heart attack where part of the heart has been damaged.
- Heart valve disease
- Some types of abnormal heart rhythms.
- Infection of the heart muscle: myocarditis
- High blood pressure: where the heart has to work hard against the high blood pressure against the walls of the arteries. If this pressure stays high over time, it weakens the heart and can lead to plaque buildup.

Diseases such as emphysema, severe anaemia, hyperthyroidism or hypothyroidism may also cause or contribute to cardiac failure. In Diabetes high blood sugar levels can damage and weaken the heart muscle the blood vessels around the heart, leading to heart failure.

Aging can weaken the heart muscle. Older people may have other conditions for many years that lead to heart failure.

How is it diagnosed?

Cardiac failure is diagnosed by your doctor by performing a physical examination and taking your medical history and through signs and symptoms. The physical examination may reveal the following:

- Fluid around the lungs
- Irregular heart beat
- Leg swelling
- Neck veins that stick out
- Swelling of the liver
- Listening to the chest may reveal lung crackles or abnormal heart sounds

The following tests may be used to diagnose or monitor heart failure:

- Chest X ray: shows fluid in the lungs and an enlarged heart
- ECG: detects any irregular heart rhythms
- Echocardiogram: used to assess how well the heart is pumping
- Heart CT scan
- Heart catheterization
- MRI of the heart

How can Cardiomyopathy affect my health?

In cardiac failure your heart pumps with less force. To compensate, your heart may undergo several changes, including enlargement.

- An enlarged heart can stretch and contract with more strength, allowing it to pump more blood.
- The heart muscle may thicken, building muscle to help increase pumping strength.
- Your heart may also beat faster in an attempt to pump more often.
- Heart stimulating enzymes levels also increase.

What are the symptoms?

Symptoms of cardiac failure may develop slowly at first and they may occur only when you are more active. Over time breathing problems and other symptoms may be noticed even when you are resting. Common symptoms are:

- Shortness of breath with activity or after lying down for a while
- Cough
- Swelling of feet and ankles
- Swelling of the abdomen
- Weight gain
- Irregular or rapid pulse
- Sensation of feeling the heart beat
- Difficulty sleeping
- Fatigue, weakness or fainting
- Loss of appetite, indigestion.
- Decreased concentration or alertness
- Decreased urine output
- Need to urinate at night

Right-sided heart failure may cause fluid to build up in the feet, ankles, legs, liver, abdomen and the veins in the neck. Right and left-sided heart failure can cause shortness of breath and tiredness.

Some people with cardiac failure have no symptoms. In these people, the symptoms only develop with these conditions:

- Abnormal heart rhythm
- Anaemia
- Hyperthyroidism
- Infections with high fever
- Kidney disease.

Other tests that may be performed include:

- Full blood test
- Creatinine
- Creatinine clearance
- Liver function tests
- Uric acid blood test
- Sodium blood test
- Sodium urine test
- Urinalysis
- BUN
- BNP blood test
- Thyroid function test

At first all these means of compensation help a weakened heart pump harder, but eventually these changes make matters worse by further weakening the heart muscle.

Fluid build-up from heart failure also causes weight gain, frequent urination and a cough that's worse at night and when you are lying down. This cough may be a sign of acute pulmonary oedema. This is a condition in which too much fluid builds up in your lungs. The condition requires emergency treatment. Heart failure is a serious condition and in its severe form it reduces life expectancy.

Treatment

Your doctor may be able to treat your heart failure by treating the underlying cause. For example controlling a fast heart rhythm may reverse heart failure. However in most cases, once you have heart failure it is there to stay. With early diagnosis and treatment the heart can become stronger and signs and symptoms of heart failure can improve. The goals of treatment for all stages of heart failure include:

- Treating the condition's underlying cause e.g. high blood pressure
- Reducing symptoms
- Stop the heart failure from getting worse
- Increasing your lifespan and improving your quality of life.
- Treatment usually includes life style changes, medicines and ongoing care.

Medicine treatments include:

- Angiotensin converting enzymes (ACE) inhibitors like Captopril, Perindopril, and Lisinopril. ACE inhibitors expand blood vessels and decrease resistance, allowing blood to flow more easily.

- Aldosterone antagonists trigger the body to remove excess sodium through urine. This lowers the volume of blood that the heart must pump.
- Beta-blockers such as Carvedilol slow the heart rate and lower blood pressure to decrease your heart's workload.
- Digoxin increases the pumping action of the heart.
- Diuretics such as Furosemide help to eliminate excess fluid from the lungs, feet and ankles.
- Nitrates to help for chest pain.
- Calcium channel blockers to lower blood pressure and improve circulation.
- Blood thinning medicines such as Warfarin to help prevent blood clots.

Surgery:

In some cases doctors may recommend surgery to treat an underlying problem that leads to heart failure. A damaged heart valve may be repaired or replaced with an artificial one, or heart bypass surgery may be done if disease is related to severely narrowed coronary arteries.

Your role in managing this condition

Making some lifestyle changes can help relieve signs and symptoms of heart failure and prevent the condition from worsening. You should watch for signs that heart failure is getting worse. For example, weigh gain may mean fluids are building up in your body. Check your weight regularly and report these changes to your doctor. If you have diabetes or high blood pressure, work with your doctor to control these conditions. Check your blood sugar and blood pressure regularly. Try to avoid respiratory infections like bronchitis and pneumonia. Get your flu and pneumonia vaccines. Some recommended changes that you can make include:

- Restrict your sodium consumption.
- Limits your consumption of fats and cholesterol
- Limit the amount of alcohol and fluids you consume
- Exercise moderately. Discuss with your doctor the type, frequency and intensity of exercise that are suitable for your condition.
- Stop smoking.
- Lose weight if you are overweight. Keep regular records of your weight and check if you are gaining weight- you may be retaining fluid.
- Reduce stress. Learn ways to help you cope with stress in your life.
- Get enough rest. Keep your feet elevated periodically to reduce swelling.
- To improve your sleep at night prop your head up with extra pillows.
- Take your medication as prescribed by your doctor.
- Visit your doctor regularly for a check-up.
- Vaccination-flu and pneumonia.

Disclaimer

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