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Heart failure

Overview

Heart failure is a condition where your heart is no longer able to pump the required amount of blood around the body.

Heart attack, high blood pressure (hypertension), viral illnesses and hardening of the artery walls are contributing factors. Common signs of heart failure are shortness of breath and feeling tired or fatigued. The lack of blood feeding the heart muscle makes it weak and unable to push normal amount of blood around the body. To compensate for this the ventricles (lower chambers of the heart) stretch to try and hold more blood to pump around. Eventually though they become so weak that they stop working properly and heart failure is the end result.

Heart failure can be treated and managed well with medications and changes in lifestyle such as exercise and dietary changes including eating less salt and saturated fats that are high in cholesterol.

Causes

There are a number of causes of heart failure including:

- **Coronary heart disease.** This is the most frequent cause of heart failure. It occurs when the blood flow to the cardiac muscle is reduced resulting in weakened heart muscle which is no longer strong enough to pump the amount of blood needed around the body. This reduced blood flow to the heart muscle results in the death of heart muscle in that region. If a large enough area is involved, cardiac failure results.
- **Hypertension.** The next most common cause is long standing high blood pressure (hypertension). This leads to thickening and stiffening of the heart wall and makes it difficult for the heart to fill to the correct capacity.
- **Myocarditis.** In rare circumstances some viruses may cause inflammation and weakening of the heart muscle.
- **Abnormal heart rhythms** (heart arrhythmias). Sometimes your heart may beat too fast which may over a long period of time lead to a weakening of the heart muscle. On other occasions it may beat too slowly leading to a reduced amount of blood being circulated.
- **Congenital heart problems**. These are heart conditions that you are born with that affect either the heart walls or valves which may affect its ability to pump blood.
- **Faulty heart valves.** Sometimes heart valves may have problems that mean the heart doesn't pump properly. Often this can be fixed with surgery.
- **Others:** thyroid disease, drug and alcohol abuse and Rheumatic Fever may also cause heart failure.

Symptoms

The three most common symptoms are:

- Breathlessness on exertion.
- Swelling in the legs.
- Fatigue.

Other symptoms include:

- Low blood pressure.
- Weakness.
- A tendency to faint.
- Problems concentrating.
- Altered kidney function.
- Chest pain on exertion (angina).

A diet high in salt and fluid retention make breathlessness and swelling of the legs worse. The symptom which is probably the most distressing is the acute or sudden onset of shortness of breath due to the sudden inflow of fluid into the lungs. This is called 'acute pulmonary (lung) oedema (swelling)'. This can occur very rapidly, makes breathing very difficult and is extremely unpleasant for the person concerned. Without treatment it can be fatal.

Treatment options

Cardiac or heart failure usually can't be cured, but it can be controlled.

In most situations the treatment for cardiac failure is with drugs that reduce the load on the heart by dilating (widening) the blood vessels so the blood can flow more easily, and by reducing fluid retention. (see medicines)

In crisis situations, heart lung machines, which take over the function of the heart and lungs, can be used. These devices are only available in major city hospitals.

Medicines

- Angiotensin-converting enzyme (ACE) inhibitors – are a family of drugs which help to maintain a stable blood pressure by reducing resistance to blood flow and decreasing fluid retention. Perindopril and lisinopril are two examples of ACE inhibitors.
- If you cannot take ACE inhibitors then a similar drug group - Angiotensin Receptor Blockers (ARBs), such as candesartan and irbesartan, are used instead.
- Diuretics are drugs that prompt the kidney to get rid of salt which increases urine output and decreases fluid retention and reduces the load on the heart.
- Beta-blockers. In people who are in a stable condition on an ACE inhibitor and diuretic, beta-blockers will reduce the rate of progress of heart failure.
- Aldosterone is a naturally occurring hormone that causes the salt retention and therefore fluid retention. Anti-aldosterone drugs suppress this hormone's effect, reducing fluid retention and the load on the heart. The best known member of this group is spironolactone.

Lifestyle and diet

The common rules for good nutrition should be followed and the Heart Foundation of Australia suggests:

- Eat a variety of foods.
- Include vegetables, wholegrains, fruit, nuts and seeds every day.
- Choose healthier fats and oils as opposed to saturated fats from meat and dairy products.
- Try to limit sugary, fatty and salty take-away meals and snacks.
- Drink mainly water (but this may need to be restricted depending on the severity of your condition).
- Reduce Salt intake. Most people will benefit from a 'no added salt' diet. Some people with heart failure can become very sick from just one very heavily salted meal because of the retention of excessive fluid overloading the heart.
- Giving up smoking is important for a healthy heart.
- Aiming for an ideal body weight will assist in reducing the load on a sick heart. Thirty minutes of moderate exercise a day contributes to the prevention of heart failure.

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