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Dilated cardiomyopathy causes: what are the risk factors?

Having dilated cardiomyopathy means that your heart muscle is weakened, which affects how your heart pumps blood around your body. There are a wide range of dilated cardiomyopathy causes, including genetics, other health conditions, alcohol consumption and a poor diet. While we can't control some of these risk factors, we can make positive lifestyle changes to reduce our risk of developing dilated cardiomyopathy.

"Around 1 in 2,500 of us will suffer from dilated cardiomyopathy," says Professor Nik Patel, cardiologist and chairman of the academic board, Royal Society of Medicine.

While dilated cardiomyopathy (DCM) is relatively uncommon, it is the most common type of cardiomyopathy. Significantly, it is also poorly understood and for most people the cause is unknown, making it harder for healthcare professionals to diagnose and treat.

However, we do know that lifestyle factors are a significant risk factor for developing DCM. Positive lifestyle changes that support a healthy heart can be used - both to prevent and to treat the condition.

What is dilated cardiomyopathy?

"Dilated cardiomyopathy refers to various diseases that cause the main heart pump to fail," Patel explains.

Put simply, having DCM means your heart muscle has been weakened. The muscular walls of your heart ventricles become floppy, which prevents your heart from pumping blood as strongly as it should.

Dilated cardiomyopathy can affect children and adults alike, although it is most common in middle-aged men. According to the British Heart Foundation, it is estimated to affect up to 260,000 people in the UK, and is the leading cause of a heart transplant.

The symptoms of dilated cardiomyopathy are similar to all types of cardiomyopathy, as in all cases the heart cannot adequately pump blood through the body. Symptoms can include:

- Weakness and fatigue.
- Shortness of breath, particularly during exercise.
- Swelling, of your feet, ankles, and legs caused by increased fluid in your legs, known as **oedema**.
- Light-headedness and dizziness.
- Chest pain.
- Heart palpitations.

What are the risks of dilated cardiomyopathy?

Unfortunately, developing dilated cardiomyopathy can be life-threatening. It increases the risk of sudden death (although this is rare) and can also lead to other potentially life-threatening diseases of the heart, including:

- **Heart failure** where the heart fails to pump enough blood around the body at the right pressure.
- Heart valve problems.
- An irregular heartbeat (arrhythmia).
- Blood clots.

What is the life expectancy of someone with dilated cardiomyopathy?

Dilated cardiomyopathy life expectancy varies greatly from person to person, depending on how severe it is.

Sadly, research suggests that dilated cardiomyopathy life expectancy is shorter than five years from diagnosis for 15% of people, and up to half of deaths happen within the first two years.

This said, over the last ten years advances in medical and surgical treatments have improved the outlook for many people. In some cases, treatment has resulted in people's hearts pumping more efficiently.

What is dilated cardiomyopathy caused by?

Currently, dilated cardiomyopathy is poorly understood and for most people the cause is unknown. However, we do know that the main dilated cardiomyopathy causes include your family history, having other health complications that can affect your heart, and certain unhealthy lifestyle habits.

"The main dilated cardiomyopathy causes are gene mutations, toxins, infections, arrhythmias, hypertension, post-chemotherapy, or rare diseases of the heart muscle," explains Patel.

"The main factors that put you at high risk for dilated cardiomyopathy are family history of the disease, heart failure or sudden cardiac arrest, inflammation of the heart muscle from viral infections or autoimmune diseases, neuromuscular disorders, and long-term excessive alcohol or illegal drug use." Pregnancy and childbirth can very rarely lead to dilated cardiomyopathy.

Family history

For about 1 in 4 people, dilated cardiomyopathy causes are genetic. This means that if you have immediate family members (parents, children, and siblings) who have been diagnosed with dilated cardiomyopathy, your risk of developing the condition is higher.

Although on a basic level it is understood that a genetic change can be passed down within families, experts are not clear on exactly how hereditary factors work in DCM. This said, they have identified several genes that are associated with the development of DCM when they mutate. However, what is clear is that it's important to ask your doctor to test for DCM if you're experiencing the symptoms and know you have a family history of the condition.

Health complications affecting the heart muscle

There is a wide range of diseases, infections, and disorders that can affect the heart muscle and cause someone to develop DCM. These include:

- Inflammation of the heart muscle (myocarditis) a rare condition which can be caused by various infections and sometimes in pregnancy and childbirth (peripartum cardiomyopathy).
- **Sarcoidosis** an autoimmune condition where tiny lumps develop at various sites within your body, due to inflammation.
- Heart failure.
- Amyloidosis the build-up of amyloid proteins (deposits) can make it difficult for the organs and tissues to work properly.
- Haemochromatosis an inherited disorder causing the body to absorb too much iron from the diet, leading to organ damage.
- Some forms of muscular dystrophy a group of disorders which cause muscle weakness.
- Vasculitis inflammation of the blood vessels.
- **Systemic lupus erythematosus** (SLE) also known as lupus, a disease that causes inflammation in various parts of the body.
- Polyarteritis nodosa a rare multi-system disorder characterised by widespread inflammation, weakening, and damage to small and medium-sized arteries.
- **Granulomatosis with polyangiitis** causes inflammation of the blood vessels of the body.

Lifestyle choices affecting heart health

The substances you consume have a significant impact on your heart health, either reducing or increasing your risk of developing dilated cardiomyopathy.

Long-term excessive alcohol consumption that frequently exceeds the government's low-risk guidance of 14 units per week can damage your heart muscle cells. In fact, up to 3 in 10 cases of dilated cardiomyopathy are linked to alcohol. Most often, alcoholic cardiomyopathy occurs in men aged 30–55 who have consumed dangerous levels of alcohol for more than 10 years. Illegal drugs like cocaine, as well as some chemicals and pesticides, can also weaken the heart muscle.

Likewise, following a poor diet with inadequate vitamin and mineral content is a risk factor. Vitamin B1 is particularly important for keeping your heart muscle strong and healthy. A link has also been made between poor diets and those who have an alcohol dependence, increasing their chances of dilated cardiomyopathy even further.

Chemotherapy

Studies suggest that another risk factor is cancer chemotherapy treatment. Doxorubicin is an agent that's widely used in chemotherapy treatment - both for adults and for children. However, research suggests that it can cause damage to the heart which in turn can be a cause of dilated cardiomyopathy, as well as congestive heart failure.

How to reduce your risk of developing dilated cardiomyopathy

While many dilated cardiomyopathy causes are out of our control, we can all implement positive heart-healthy lifestyle changes to reduce our risk of both DCM and many other conditions of the heart.

The following can be used as preventative measures and may also be advised by doctors as a treatment option. While you can't reverse cardiomyopathy, you can sometimes manage it with the following habits recommended by Heart UK:

- Following a **healthy diet** (includes a variety of fruits, vegetables and grains).
- Choosing foods that are low in saturated and trans fats.
- Choosing and preparing foods with little salt (sodium).
- Choosing foods and drinks that are **low in added sugar**.
- Avoiding drinking alcohol, or **drink in moderation**.
- Aiming for a healthy weight by staying within your daily calorie needs.
- Being as physically active as you can (but talk to your doctor before increasing your physical activity if you are taking medications, you have health problems, or you have symptoms such as chest pain, shortness of breath, or dizziness).

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