CONDITION

Idiopathic dilated cardiomyopathy

Idiopathic dilated cardiomyopathy is an enlarged, weakened heart muscle with no identified cause.

WHAT IT IS
Enlarged, weakened left ventricle without an identified cause

BODY SYSTEM
Heart and circulation

MAIN SYMPTOMS
Breathlessness, tiredness, ankle swelling, palpitations

WHAT CAUSES IT
Unknown after evaluation; some cases later prove genetic

HOW IT IS DIAGNOSED
Echocardiogram and tests excluding coronary, valve, and pressure causes

MAIN TREATMENT
Heart failure medicines, lifestyle support, and sometimes implanted devices

CAN IT BE CURED?
No - heart function may improve or normalize

IS IT AN EMERGENCY?
Sometimes - severe breathlessness, chest pain, or fainting

LONG-TERM OUTLOOK
Many remain stable; severe heart failure can shorten life

Overview

Idiopathic dilated cardiomyopathy is a condition in which the heart's main pumping chamber, the left ventricle, becomes enlarged and weak. "Idiopathic" means that no specific cause has been found after appropriate testing.

A weaker left ventricle may not pump enough blood with each heartbeat. This is called reduced systolic function. It can lead to heart failure, meaning the heart cannot meet the body's needs without developing symptoms or raised pressure inside the heart.

Some people have few symptoms when the condition is discovered. Others develop breathlessness, tiredness or fluid buildup. The condition can also affect the heart's electrical system, causing an irregular rhythm.

The word idiopathic does not mean that there is definitely no cause. It means the cause is not currently known. Genetic testing, changes in family history or future medical knowledge may later provide an explanation.

Symptoms

Symptoms may develop gradually over weeks or months. Sometimes the condition is found during testing for another problem.

Possible symptoms include:

Symptoms do not always match the degree of heart weakness. Someone with a low ejection fraction may feel fairly well, while another person may have significant limitations. Ejection fraction is the percentage of blood the left ventricle pumps out with each contraction.

Chest pain, severe breathlessness and fainting need prompt assessment because they may have causes other than cardiomyopathy.

- Breathlessness during activity, when lying flat or during sleep
- Unusual tiredness or reduced ability to exercise
- Swelling of the feet, ankles, legs or abdomen
- Rapid, pounding or irregular heartbeats, called palpitations
- Dizziness or fainting
- Persistent coughing, especially at night
- Rapid weight gain caused by retained fluid
- Chest discomfort

Causes and risk factors

In idiopathic dilated cardiomyopathy, testing has not identified another condition that adequately explains the weakened, enlarged heart.

Before using this term, clinicians consider possible causes such as coronary artery disease, long-term uncontrolled high blood pressure, significant heart valve problems, congenital heart conditions, alcohol or drug toxicity, certain medicines, pregnancy-related cardiomyopathy and inflammation of the heart muscle.

Some cases originally described as idiopathic are later found to be inherited. Changes in

several different genes can affect the structure or function of heart muscle. A genetic cause is more likely when close relatives have cardiomyopathy, heart failure, unexplained sudden death or serious heart rhythm problems. However, the absence of a family history does not rule it out.

A previous viral-like illness may raise the possibility of myocarditis, which is inflammation of the heart muscle. It is often impossible to prove that a past infection caused the current condition.

Age, other health conditions and lifestyle may influence how the heart copes, but they do not necessarily explain why idiopathic cardiomyopathy developed.

Diagnosis

Diagnosis usually begins with your symptoms, medical history, family history and a physical examination. The examination may identify fluid retention, abnormal heart sounds or signs that the heart is working harder than usual.

An echocardiogram is central to diagnosis. This ultrasound scan shows the heart's size, movement, valves and pumping function. Dilated cardiomyopathy usually causes enlargement of the left ventricle and reduced contraction.

Other tests help assess the heart and exclude known causes:

Genetic counselling and testing may be offered, particularly if cardiomyopathy or sudden death has occurred in the family. A genetic result can affect screening advice for relatives, but testing does not find an explanation in every person.

A heart muscle biopsy is only needed in selected situations. It involves removing a very small sample through a blood vessel and is not a routine test for everyone.

- An electrocardiogram, or ECG, records the heart's electrical activity
- Blood tests check kidney and liver function, thyroid function, blood counts and markers of heart strain
- Coronary testing checks for narrowed heart arteries, using a coronary CT scan, angiography or another suitable test
- Cardiac MRI provides detailed images and can show scarring, inflammation or unusual patterns in heart muscle
- A heart rhythm monitor records intermittent rhythm disturbances
- Exercise testing may measure functional capacity and help guide treatment

Treatment and management

Treatment aims to reduce symptoms, help the heart work more efficiently, limit further enlargement and lower the risk of hospital admission or early death. The plan is based on heart function, symptoms, blood pressure, kidney function and heart rhythm.

For people with reduced left ventricular function, treatment commonly includes several types of heart failure medicine. These may include a beta blocker like metoprolol or propranolol , a medicine acting on the renin-angiotensin system, a mineralocorticoid receptor antagonist and an SGLT2 inhibitor. These groups work in different ways, so more than one is often used.

Diuretics like furosemide or hydrochlorothiazide , sometimes called water tablets, help the kidneys remove excess salt and water. They can reduce swelling and breathlessness, although they do not directly repair the heart muscle.

Medicines are usually introduced or adjusted over time. Blood pressure, kidney function and potassium levels may need monitoring. Do not stop heart medicines because you feel better unless the clinician responsible for your care advises a change. Heart function can worsen again after apparently successful recovery.

Some people need an implanted device. An implantable cardioverter-defibrillator, or ICD, can treat dangerous heart rhythms. Cardiac resynchronisation therapy, or CRT, coordinates the pumping chambers when electrical delay makes the heart contract unevenly. Eligibility depends on factors such as ejection fraction, ECG findings, symptoms and response to medicines.

Treatment may also include:

Severe heart failure that does not improve may require assessment by a specialist advanced heart failure service. Options for a small number of people include a mechanical heart pump or heart transplantation.

- An individual plan for physical activity or cardiac rehabilitation
- Advice about salt, fluid and alcohol based on your symptoms
- Treatment for atrial fibrillation or other rhythm problems
- Anticoagulant medicine when there is a specific risk of blood clots
- Support with stopping smoking
- Planning before pregnancy, because pregnancy places extra strain on the heart

Complications

Possible complications include worsening heart failure, fluid in the lungs, kidney or liver problems and reduced ability to exercise.

Electrical changes in weakened or scarred heart muscle may cause atrial fibrillation, ventricular tachycardia or other abnormal rhythms. Some rhythms cause palpitations or fainting; others can be life-threatening.

Slow or poorly coordinated blood flow can allow a clot to form inside the heart. If a clot travels to the brain, it can cause a stroke. Blood-thinning medicine is used when the risk justifies it, not automatically for everyone with dilated cardiomyopathy.

The valve between the left atrium and ventricle may leak as the heart enlarges. This is called mitral regurgitation and can add to breathlessness.

Prevention

Idiopathic dilated cardiomyopathy cannot reliably be prevented because its cause is unknown. A healthy lifestyle supports the heart but does not guarantee that the condition will not develop.

If an inherited cause is suspected or confirmed, screening relatives cannot prevent a genetic change. However, it may identify heart changes before symptoms appear. Screening can involve an ECG, echocardiogram and, in some families, genetic testing.

Once diagnosed, taking treatment as agreed, attending follow-up and avoiding heavy alcohol use or recreational stimulants may reduce avoidable strain on the heart.

Living with it and what to expect

The course is different for each person. Over the first months of treatment, symptoms may ease and the left ventricle may become smaller or stronger. This improvement is sometimes called reverse remodelling.

Some people regain a normal or near-normal ejection fraction. This is usually considered remission rather than proof that the condition has permanently gone. Heart weakness can return, particularly if treatment is stopped or another strain affects the heart.

Other people have stable but reduced heart function for years. They may need to pace activities, monitor symptoms and continue long-term medicine. A smaller group develops progressive heart failure or serious rhythm problems despite treatment.

Follow-up commonly includes symptom reviews, blood tests, ECGs and repeat heart imaging. The timing is based on changes in treatment, symptoms and heart function. Keeping a current medicine list and knowing your usual weight can help you notice meaningful changes.

Many people continue working, travelling and taking part in suitable exercise. Your safe activity level may change as treatment begins or heart function improves. Pregnancy, major surgery and strenuous competitive sport require individual assessment because they can place extra demand on the heart.

When to get medical help

Call emergency services if you have:

These symptoms do not prove that cardiomyopathy is the cause, but they need urgent assessment.

Contact your usual heart failure or medical team promptly if breathlessness or swelling is getting worse, you are waking short of breath, your weight rises quickly from fluid, or normal activities become noticeably harder. Also report new palpitations or medication side effects.

Routine follow-up remains important when you feel well. It allows treatment and implanted devices to be checked and gives an opportunity to monitor heart function.

- Severe breathlessness at rest or sudden difficulty breathing
- Chest pain that is new, severe or does not settle
- Fainting, especially during activity or with palpitations
- A sustained rapid heartbeat with weakness, chest pain or breathlessness
- Coughing up pink, frothy fluid
- Signs of stroke, such as facial drooping, arm weakness or speech difficulty

Common questions

Is idiopathic dilated cardiomyopathy the same as heart failure?

No. Dilated cardiomyopathy describes the structure and weakness of the heart muscle. Heart failure describes the symptoms and effects that occur when the heart cannot pump or fill effectively. Dilated cardiomyopathy can cause heart failure, but someone may have heart muscle changes before developing clear symptoms.

Can my heart return to normal?

Heart size and pumping function can improve significantly with treatment, and some people reach a normal ejection fraction. Improvement cannot be promised. Even after recovery, ongoing monitoring and treatment are often needed because the condition may return.

Is it hereditary if the cause is unknown?

It can be. "Idiopathic" means no cause has yet been identified; it does not rule out a genetic cause. Your family history and test results help determine whether genetic counselling or heart screening for close relatives is appropriate.

Can I exercise with dilated cardiomyopathy?

Regular moderate activity is often helpful when the condition is stable. The safest type and intensity depend on symptoms, rhythm problems and heart function. Sudden intense exercise or competitive sport may not be appropriate for some people, particularly when certain genetic changes or dangerous rhythms are present.

Can I drink alcohol?

Alcohol can weaken heart muscle in large amounts and may interact with symptoms or medicines. Some people are advised to avoid it, while others may be given a strict limit. Advice should reflect your heart function, rhythm and whether alcohol could have contributed to the problem.

Will I need an ICD?

Not everyone does. An ICD may be considered when the risk of a dangerous rhythm remains high despite suitable medical treatment. The decision uses factors such as ejection fraction, genetic findings, heart scarring, previous rhythm events and overall health.

Sources

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