

Pericarditis

Pericarditis is inflammation of the pericardium - the sac which surrounds the heart. It causes chest pains. Most cases are due to a viral infection which usually goes away within a few weeks. The only treatment usually needed is painkillers. There are some less common causes which may need other treatments.

What is the pericardium and pericarditis?

The pericardium is a thin sac-like tissue that covers the outer surface of the heart. It helps to anchor the heart in place, and prevents the heart from moving in the chest when you move. The pericardium has an inner and outer layer. There is a thin layer of 'lubricating' fluid between the two layers. Pericarditis means inflammation of the pericardium.

What are the causes of pericarditis?

Viral infection

Infection with a virus is the most common cause. Several different viruses can cause pericarditis including: coxsackie viruses, echo viruses, adeno viruses, the mumps virus, and viruses that cause hepatitis.

Other causes

Other causes are uncommon and include:

- Infection with a bacterium. This often causes pus to form between the inner and outer layers of the pericardium. The infection has usually spread from nearby tissues such as an infection of the heart itself, or from a wound infection following heart surgery. Rarely, syphilis or fungi can infect the pericardium.
- Tuberculosis (TB) infection. Usually as part of a more widespread infection in the lungs and other parts of the body.
- Uraemic pericarditis. This is inflammation caused by waste products building up in the bloodstream in people with untreated kidney failure.
- Heart attack (myocardial infarction). Inflammation of the pericardium may occur if there is damage to nearby heart tissue caused by a heart attack.
- Following injury. For example, following a stab wound, or a severe blow to the chest.
- Inflammatory diseases which can affect various parts of the body may include inflammation of the pericardium. For example: rheumatoid arthritis, scleroderma, polyarteritis nodosa, and systemic lupus erythematosus (SLE or lupus).
- Radiotherapy to treat cancers in the chest.
- Cancer which has spread to the pericardium from another part of the body.

Sometimes no cause can be found. Many of these cases are probably caused by a viral infection.

What are the symptoms of pericarditis?

Symptoms of viral pericarditis

The typical symptoms are chest pain and fever (high temperature). The pain is usually in the middle of the chest or slightly left of centre. It may feel sharp and stabbing. Sometimes it is a persistent steady pain. The pain may spread to the neck and/or shoulders. Typically, the pain gets worse if you take a deep breath, swallow, cough, or lie down. The pain may ease if you sit up or lean forward.

Symptoms of other causes of pericarditis

These may be similar to viral pericarditis. But, depending on the cause, there may in addition be various other symptoms.

What are the possible complications of pericarditis?

Complications are uncommon and include:

Build up of fluid

In many cases of pericarditis a small amount of fluid builds up between the two layers of the pericardium. This is called pericardial effusion. A small amount of fluid is no problem and usually goes when the inflammation settles. However, sometimes a lot of fluid builds up and can press on the heart. This can prevent the heart chambers from filling normally, and prevents the heart from pumping blood properly. This is called cardiac tamponade and is a life-threatening problem unless the fluid is quickly drained.

Constrictive pericarditis

This is an uncommon condition that may develop if the pericardium has been inflamed for a long time. The pericardium thickens and contracts around the heart. This is serious as it can interfere with the function of the heart.

With both complications symptoms include shortness of breath which gradually gets worse. If this happens, see a doctor urgently.

How is pericarditis diagnosed?

When a doctor listens to your chest with a stethoscope, they may hear a typical sound which occurs with pericarditis. It is called a 'pericardial friction rub'. It sounds like a grating noise.

Other conditions can cause similar symptoms. So, tests may be needed to clarify the diagnosis, and to rule out other causes of chest pain.

- An electrocardiogram (ECG). This is a tracing of the electrical activity of the heart. It sometimes shows typical patterns if you have pericarditis.
- An echocardiogram is an ultrasound scan of the heart. This shows the structure of the heart and surrounding tissues. It can detect if any fluid has built up between the layers of pericardium which is typical of pericarditis.
- Other tests such as a magnetic resonance imaging (MRI) or computed tomography (CT) scan may be needed to look for changes in the pericardium. These tests tend to be done if causes other than a viral infection are suspected.
- If a large pericardial effusion develops, a sample of the fluid may be taken with a needle and syringe to be analysed for infections such as TB.

What is the treatment for pericarditis

Treatment for viral pericarditis

Painkillers will ease the pain. If the pain is severe, steroid medicines may be used to reduce the inflammation. The pain and inflammation usually settle within a few weeks.

Treatment for other causes

The treatment depends on the cause. For example, anti-tuberculosis medication for TB, antibiotics for bacterial infections, intensive dialysis for uraemic pericarditis, etc. If a lot of fluid builds up and causes cardiac tamponade, the fluid needs to be drained with a needle and syringe. If constrictive pericarditis develops and interferes with heart's function, the thickened pericardium may need to be removed by an operation.

What is the outlook (prognosis) if you have pericarditis?

Most people with viral pericarditis recover within a few weeks without any complications. However, in some cases the symptoms return 'on and off' for several months.

Pericarditis caused by heart attack or injury usually settles over one to two weeks. The outlook for other forms of pericarditis (uraemic, bacterial, TB etc) can vary depending on the severity of the underlying cause.