

Kawasaki Disease

The aim of this fact sheet is to explain what Kawasaki Disease is, how it can affect the heart and how it is treated.

What is Kawasaki Disease?

Kawasaki disease is named after Dr. Tomisaku Kawasaki, a Japanese doctor who identified the disease in 1967.

Kawasaki Disease causes a high fever, enlarged lymph glands and swollen blood vessels. It can also cause damage to the heart. Kawasaki Disease affects more boys than girls and is usually found in children under five years old.

How Kawasaki Disease affects the heart

Kawasaki disease can affect the heart in the following ways;

- ♥ Coronary artery aneurysms
- ♥ Leakage of valves
- ♥ Accumulation of fluid around the heart (called pericardial effusion)

The most serious of these complications are the coronary artery aneurysms. The coronary arteries are the blood vessels that take oxygen rich blood to the heart muscle. An aneurysm is an area of a blood vessel that has become dilated and swollen.

When an artery is dilated (wider than normal), the blood flows through it more slowly because it is at a lower pressure. This change in pressure and speed makes it easier for blood clots to form which can lead to heart attacks.

In time, the coronary artery aneurysms may heal. Problems can also happen at this stage because the healed sections may be narrower than the rest of the artery (stenosis).

Fig 1 – Surface of heart showing Kawasaki disease with coronary artery aneurysm

Kawasaki Disease with Coronary Artery Aneurysms
(Surface of heart - not a cross-section)

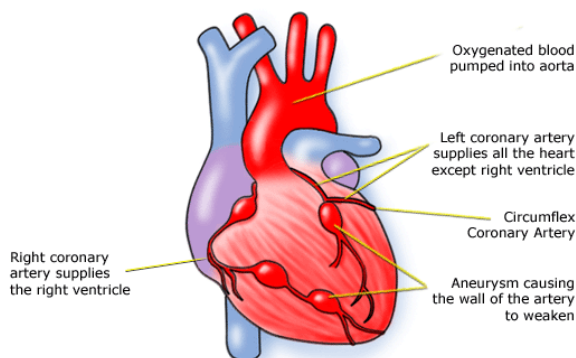
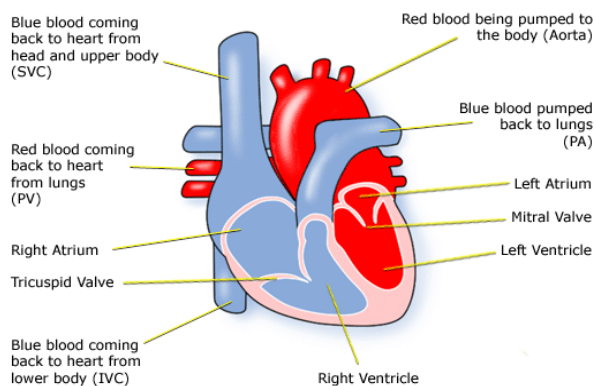


Fig 2 – Cross-section of normal heart

Normal Heart



Diagnosis

There is no definite test that can be done to find out if a child has Kawasaki Disease. However, there are a number of possible symptoms to help doctors to diagnose the disease. Symptoms may include:

- ♥ a fever that lasts more than 4/5 days;
- ♥ red eyes or conjunctivitis;
- ♥ a rash that may affect the stomach, chest or genitals;
- ♥ red, dry lips;
- ♥ a swollen tongue with white coating and red lumps (strawberry tongue);
- ♥ swollen neck (lymph) glands;
- ♥ a fast heartbeat;
- ♥ a heart murmur;
- ♥ painful joints; and
- ♥ puffy hands and feet (later on skin in these areas may peel).

Doctors may have to do tests to eliminate other diseases like Scarlet Fever that have similar symptoms to Kawasaki disease. Other tests that may help them to diagnose Kawasaki Disease include:

- measuring the pulse, blood pressure, temperature, and number of breaths a patient takes a minute;
- checks for chemical balance in blood and urine;
- checks for the blood markers of inflammation;
- an ECG (electrocardiogram) to check the electrical activity of the heart; and
- an ultrasound scan (echocardiogram) to see how the blood moves through the heart and to see the coronary arteries.

The enlargement of the coronary arteries and any aneurysm that may have formed can be diagnosed using echocardiography. If the aneurysms heal later on and bits of the artery become too narrow, this can be diagnosed by using stress tests or a catheter.

Treatment

Children with Kawasaki disease are normally given an infusion of antibody (immunoglobulin) and high doses of aspirin.

When the temperature and acute illness have settled, the child will be sent home on a low dose of aspirin. This will continue for about six weeks or until the cardiologist is happy that the heart has not been damaged by the disease.

Most children recover from Kawasaki Disease without any long term effects or damage to their heart.

Children who develop coronary artery aneurysms are treated with anticoagulant (anti-clotting) medicines such as aspirin or warfarin. Some children need other medicines, such as Nifedipine or propranolol to reduce the work that the heart has to do. Children on these medicines may only be allowed to do a limited amount of exercise.

If a coronary artery aneurysm has healed and the artery has become too narrow, then it may need to be stretched again using a balloon catheter. If this will not work, then it might be necessary for a stent – a rigid framework – to be inserted by catheter to hold the artery open. Another option is open heart surgery but usually a balloon catheter will work and the other methods of treatment are much less common.

How the child is affected

Most children will make a full recovery from Kawasaki Disease and will not need any special treatment. Children with heart complications should also make a good recovery once they have received treatment although they may need to be monitored for some time to check there have been no further complications.