Rheumatic heart disease

Rheumatic heart disease may develop after a single 'bout' of rheumatic fever or following repeated or prolonged illness with rheumatic fever. It usually occurs during childhood. Rheumatic heart disease causes damage to various structures of the heart including the valves, lining or muscle.

Rheumatic fever is caused by infection with the *group A Sstreptococcus* bacterium. A common example of this type of infection is 'strep throat'.

Common in remote Aboriginal communities

The prevalence of rheumatic heart disease is high in remote Aboriginal and Torres Strait Islander communities. The risk of death from rheumatic fever and rheumatic heart disease in these communities is 20 times that of Australians in the general population.

Risk factors of rheumatic heart disease

Risk factors include poverty, overcrowding and reduced access to medical care. Rheumatic heart disease is incurable but treatment can manage the symptoms and reduce the risk of complications.

Symptoms of rheumatic heart disease

Rheumatic heart disease does not always cause symptoms. When it does, symptoms may include:

- Chest pain
- Heart palpitations
- Breathlessness on exertion
- Breathing problems when lying down (orthopnoea)
- Waking from sleep with the need to sit or stand up (paroxysmal nocturnal dyspnoea)
- Swelling (oedema)
- Fainting (syncope).

Rheumatic fever explained

Without medical treatment, an infection with the *group A Streptococcus* bacterium can cause rheumatic fever. The untreated infection (such as 'strep throat') spreads throughout the body and causes inflammation. In addition to the heart, other vulnerable parts of the body include the brain, skin and joints.

Rheumatic fever is rare in Australia except among Aboriginal and Torres Strait Islander people, especially children, who live in remote areas. In many of these communities, group A streptococcal infections occur mostly in the skin. Research is ongoing to understand the role of skin infection in rheumatic fever in these children.

Access to medical treatment may be limited, which is why cases of rheumatic fever often go undiagnosed and untreated. Rheumatic heart disease affects 17 in every 1,000 people living in Aboriginal and Torres Strait Islander communities in the Northern Territory, compared with two in 1,000 among the general Australian population in the same area.

Rheumatic heart disease affects heart valves

The heart is a double pump with four chambers. Each chamber is sealed with a valve. The valves open and close in one direction only, so that the blood cannot flow backwards.

Rheumatic heart disease often involves damage to the heart valves. Typically, the damaged heart valve cannot open or shut properly. This interferes with the proper flow of blood through the heart. Without treatment, the damaged valve may continue to deteriorate. Complications include congestive heart failure, which means the heart is unable to pump blood effectively. The strain causes the heart to enlarge. This can result in some of the symptoms of rheumatic heart disease.

Diagnosis of rheumatic heart disease

Diagnosis may include:

- Physical examination
- Medical history – including evidence of past rheumatic fever or strep infection
- Blood tests – to check for the presence of inflammation and past exposure to the *Group A streptococcus* bacterium
- Chest x-ray – to check for enlargement of the heart or fluid on the lungs
- Electrocardiogram – to check if the chambers of the heart have enlarged or if there is an abnormal heart rhythm (arrhythmia)
- Echocardiogram – to check the heart valves for any damage or infection, and to check for evidence of muscle damage or cardiac (heart) failure.

Treatment of of rheumatic heart disease

Treatment depends on the severity of rheumatic heart disease but may include:

- Hospital admission
- Injections of antibiotics to treat any lingering infection
- Heart valve surgery to repair the damaged heart valves
- Surgical replacement with a mechanical valve, in cases where the valve is severely damaged – ongoing medications to prevent blood clotting may be needed.

Management of rheumatic heart disease complications

Medical treatment of rheumatic heart disease includes reducing the risk of complications. Options may include:

- Regular check-ups with a cardiologist (heart specialist) to monitor the heart
- Up-to-date influenza (flu) vaccinations
- Urgent medical treatment, such as antibiotics, for any strep infections
- Good dental hygiene, since oral bacteria entering the bloodstream can increase the risk of heart complications such as endocarditis (inflammation of the inner heart lining)
- Antibiotics – may be given to some people before some dental or surgical procedures to prevent bacterial infection of the damaged areas of the heart (endocarditis)
- Good prenatal care, since pregnancy can make rheumatic heart disease worse.

Prevention of rheumatic heart disease

Rheumatic heart disease is a complication of untreated rheumatic fever. People who have had rheumatic fever are at increased risk of developing rheumatic heart disease. Prompt diagnosis and treatment of rheumatic fever can prevent rheumatic heart disease. Medical treatment for a person who has had rheumatic fever may include low-dose antibiotics taken for a long time – perhaps for the rest of the person's life, if the risk of rheumatic heart disease is high.

Ideally, rheumatic fever should be prevented. Antibiotic therapy (such as penicillin) to treat group A streptococcal infections such as strep throat can dramatically reduce the risk of rheumatic fever and its complication, rheumatic heart disease.

Where to get help

- Your doctor
- Cardiologist
- Heart Foundation Tel. 1300 36 2787
- HeartKids Victoria, Royal Children's Hospital Melbourne Tel. (03) 9513 9030

Things to remember

- Rheumatic heart disease causes damage to various structures of the heart including the valves, lining or muscle.
- This condition may develop after repeated or prolonged illness with rheumatic fever.
- The prevalence of rheumatic heart disease is high in remote Aboriginal and Torres Strait Islander communities.

This page has been produced in consultation with, and approved by:

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