

Causes and Preventive Measures for Myocarditis

Munehiro Yoshi*

Department of Cardiovascular Systems, University of Groningen, Groningen, The Netherlands

DESCRIPTION

Myocarditis is inflammation of the heart muscle (myocardium). Inflammation can reduce the heart's ability from pumping blood. Infections included with viruses are one of the main causes of myocarditis. Sometimes a drug reaction or systemic inflammation causes myocarditis. Severe myocarditis weakens the heart and prevents it from supplying enough blood to the rest of the body. Blood clots can form in the heart which causes strokes and heart attacks. Treatment for myocarditis includes medication and surgeries. Viral infections are the most common cause of myocarditis. If the person has myocarditis, the body forms cells that fight against the viruses. When disease-fighting cells enter the heart, the chemicals they release can cause the heart muscle to become inflamed. Coxsackie B Virus, Epstein-Barr Virus (EBV), Cytomegalovirus (CMV), Hepatitis C, Herpes, HIV, Parvovirus, Chlamydia (a common sexually transmitted disease), *Mycoplasma* (a bacterium that causes lung infections), *Streptococcus* bacteria, *Staphylococcus* bacteria are some of the organisms that can cause myocarditis. Myocarditis can be caused by infections, some drugs or chemicals, or conditions that can cause inflammation throughout the body. In many cases, no cause is found for myocarditis, fungal and parasitic infections can also cause it. Other causes include allergic reactions to certain chemicals, medications and toxins such as alcohol, drugs, lead, spider and bee stings, snake bites, chemotherapy, and radiation therapy. Myocarditis is often asymptomatic. In fact, most of the people recover and don't even realize they've been infected.

If the person shows some symptoms, they may include:

- Difficulty in breathing
- Abnormal heartbeat, rarely leading to fainting
- Light-headedness
- A sharp or stabbing pain or pressure in the chest that passes to the neck as well as to shoulders.
- Fatigue
- Chest pain, swelling of legs, ankles and feet
- Fast or irregular heartbeat (arrhythmia)

Some of the flu-like symptoms such as fever, muscle and joint pain, sore throat, headache, and diarrhea may also occur.

Children with myocarditis may have difficulty in breathing, chest pain, fainting, fever, rapid breathing, and a rapid or irregular heartbeat (arrhythmia).

The doctor may ask to do some of the tests like, a blood test to check for infection, antibodies, or blood cells count, a chest x-ray that can show the heart, lungs, and other chest structures, and an Electrocardiogram (ECG) to record the heart's electrical activity, a heart ultrasound (echocardiogram) for taking image of the heart and its structures. In some cases, a doctor will do an MRI scan of the heart or a biopsy of the heart muscle to confirm the infection. If the person is infected with myocarditis, the doctor will treat the cause if possible. They will also try to take steps to prevent or control complications if necessary. Usually, the person is given some medicines to help the heart work better for example, ACE inhibitors, beta-blockers, diuretics. If it is left untreated, myocarditis can lead to symptoms like heart failure. In heart failure, the heart cannot pump blood normally. In rare cases, this causes other problems like, cardiomyopathy in which the heart muscle weakens or its structure changes, and pericarditis in which inflammation of the sac around the heart (called the pericardium).

CONCLUSION

Myocarditis and cardiomyopathy are the leading causes of heart transplantation. In some rare cases, myocarditis can lead to sudden death. Myocarditis can also be caused by certain drugs and illicit drugs (drug-induced myocarditis). These include the drugs which are used to treat cancer, antibiotics such as penicillin and sulfonamides, some anti-seizure drugs, and cocaine. Exposure to carbon monoxide and radiation can cause inflammation in the heart muscle. Other inflammatory diseases such as conditions which can cause myocarditis includes lupus, Wegener's granulomatosis, giant cell arteritis, and Takayasu's arteritis. There is no specific prevention for myocarditis. However, it may be helpful to take some precautions to prevent infection. Avoid close contact with sick people, wash hands regularly, avoid risky behaviours such as reducing the chances of contracting HIV-related myocardial infections, and get some recommended vaccinations including those which can protect against COVID-19, influenza and rubella, diseases that can cause myocarditis.

Correspondence to: Munehiro Yoshi, Department of Cardiovascular Systems, University of Groningen, Groningen, The Netherlands E-mail: munihero@45gmail.com

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