

# ADULT MYOCARDITIS



**MYOCARDITIS**  
FOUNDATION



## ADULT MYOCARDITIS

### DEFINITION:

#### (What is Myocarditis?)

Myocarditis is a rare, sometimes fatal disease characterized by inflammation of the heart muscle. Although it is an important cause of dilated cardiomyopathy (enlarged weakened heart muscle that can't pump well) which often can progress to heart failure and the need for transplantation. Most cases of myocarditis result from a prior viral infection, although many other causes have been identified. The true incidence of myocarditis is unknown due to the lack of a single diagnostic test for it and is frequently misdiagnosed or undiagnosed.

### ETIOLOGY:

#### (What Causes Myocarditis?)

Most cases of myocarditis result from viral infections, although many other infectious and non-infectious agents have been considered rare causes of the disease. About 20 viruses have been associated with myocarditis and dilated cardiomyopathy. A rare and particularly deadly form of myocarditis called, Giant Cell Myocarditis, is associated with pre-existing autoimmune disease and hypersensitivity reactions to drugs in a small group of patients.

### SIGNS AND SYMPTOMS:

#### (When to Suspect Myocarditis)

Signs and symptoms of myocarditis at initial presentation can be highly variable ranging from non-specific complaints to acute diffuse heart failure. Patients may recall a recent history of gastrointestinal illness or seek medical attention for mild, non-specific viral flu-like symptoms. Most commonly, the initial presentation is of sudden onset heart failure with severe chest pain, difficulty breathing, fatigue, palpitations, lethargy, decreased exercise tolerance and or syncope (dizziness).

### DIAGNOSIS:

#### (How is Myocarditis Detected?)

Accurate diagnosis of myocarditis is challenging due to the variability of presentation and the lack of highly specific diagnostic tools available specifically for myocarditis.

#### Blood tests for cardiac injury may include:

- Troponin
- BNP will be elevated in myocarditis but cannot distinguish myocarditis from other causes of heart failure.
- Myoglobin is released during cardiac injury and increases with the severity of myocarditis and is frequently misdiagnosed or undiagnosed.

## Other tests that can rule out suspected myocarditis:

Electrocardiograms (EKGs), Echocardiograms (ECHO's), Chest X-Rays, and more frequently Cardiac Magnetic Imaging (MRIs) have been used for assessing suspected myocarditis cases. Endomyocardial Biopsy (a biopsy of the heart muscle) remains the gold standard for a definite diagnosis of acute myocarditis in patients in whom the benefits outweigh the risks of such a procedure.

## Findings on physical exam may include:

- Hepatomegaly (enlarged liver)
- Jugular venous distention (vein in right neck is swollen which is usually a sign of heart failure, which often involves high blood pressure)
- Delayed capillary refill (a sign of poor tissue perfusion)
- Abnormal heart sounds (Gallop heart rhythm, murmur of mitral valve regurgitation)
- Crackles or rales on auscultation of lung fields
- Wheezing, grunting, tachypnea

## THERAPY:

### (What are the Treatment Options for Myocarditis?)

The primary treatment of myocarditis is supportive care based on guidelines and recommendations published by major cardiovascular organizations in North America and Europe. Administration of intravenous cardiac medications or the insertion of a temporary pacemaker may be necessary. In severe cases, extracorporeal membrane oxygenation (ECMO) or a ventricular assist device (VAD) may be necessary in the acute phase to allow the heart to recover or to serve as a bridge to transplantation. Immunoglobulin or corticosteroids have been used in some acute cases to inhibit the immune response. Following the acute phase, surviving patients may recover completely or have long-term deficits. In severe cases, cardiac transplantation may offer the best chance for long-term survival. Many cases of myocarditis can recover completely if correctly diagnosed early and the patient follows the regime of care. **Cardiac Rest** is the most important treatment, allowing the heart to heal without overworking the heart. **No exercise, lifting weights, or competitive sports for 3-6 months**, which is the usual amount of time that the heart needs to heal itself.

## CONCLUSION:

### (What is the Prognosis for Myocarditis Patients?)

Although myocarditis is a relatively rare disease that in many cases resolves without further problems, the importance of recognition, early diagnosis and prompt treatment in high-risk individuals cannot be overstressed. A substantial number of patients suffer significant cardiac damage leading to lifelong morbidity or death when an accurate early diagnosis eludes the doctor. The doctor should maintain a high degree of suspicion for the presence of an inflammatory process when examining patients whose presenting signs and symptoms warrant further cardiac evaluation.

## CONTACT INFORMATION:

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