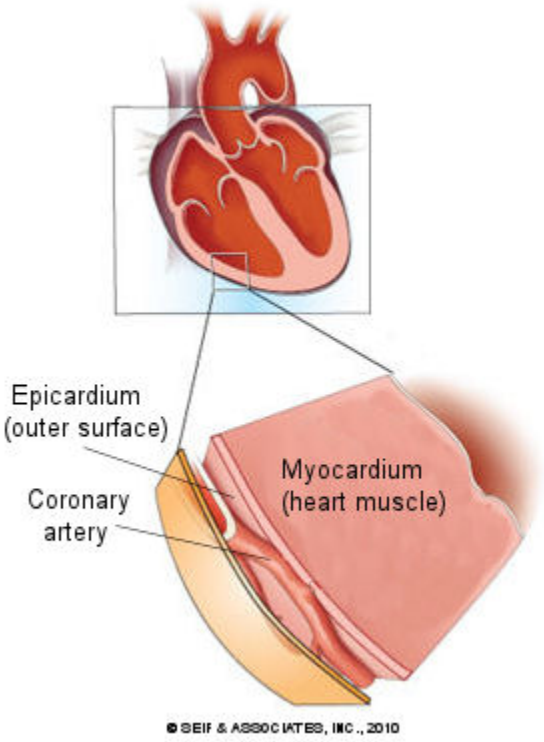
Myocarditis
(Inflammation of the Heart Muscle, Child)

Myocarditis is a swelling (inflammation) of the heart muscle (myocardium). There sometimes is also an inflammation of the sac which surrounds the heart (pericarditis).

- Common causes of myocarditis is an infection due to either:
  - A viral infection.
  - A bacterial infection.



The damage to the heart is mostly from your child's immune reaction to the infection. The heart muscle swells and does not pump well. This can cause the heart to enlarge. When the heart stops working well, other organs, such as the liver and kidneys, can be affected too. This is called heart failure.

There are no known risk factors for myocarditis, but the child's age at the time of illness can affect the severity and outcome of the illness.

SYMPTOMS

The symptoms of myocarditis can very. Children sometimes have a cold or flu-like symptoms 1 to 2 weeks before they develop myocarditis. Babies can have different symptoms

COMMON SYMPTOMS IN BABIES:

- High Fever associated with:
  - Irritability.
  - Poor appetite, sweating while eating.
  - Fewer wet diapers.
  - Difficulty breathing
  - Bluish or grayish skin color.
  - Cold hands and feet.

COMMON SYMPTOMS IN OLDER CHILDREN:

- Increased sleepiness (*lethargy*) associated with:
  - Fever.
  - Difficulty breathing.
  - Chest pain.
  - Passing out.
  - Abdominal pain, nausea and or vomiting.
  - Decreased exercise tolerance.

DIAGNOSIS

Your caregiver may suspect myocarditis if your child had a recent viral or other type of infection and develops some of the above symptoms. A physical exam and other tests will be done.

Some of these tests are:

- Blood tests.
  - To look for signs of infection.
  - Heart enzymes may show damage to your child's heart.
  - To measure electrolytes such as potassium and magnesium.
- An electrocardiogram (ECG) to check your child's electrical patterns and rhythms of their heart.

- A chest X-ray to look at the heart and lungs.
- An echocardiogram, which shows moving images of the heart and helps show how well the heart is working.
- *Cardiac* (heart) *catheterization*. In this test, a small thin tube (*catheter*) is inserted into a vein in your child's leg and is then threaded into the heart. A special instrument can then remove a tiny sample of heart muscle tissue (*biopsy*). This is sent to a laboratory for analysis to see if there are signs of inflammation or infection.

TREATMENT.

- Mild cases of myocarditis may only need "supportive" treatment such as:
  - Antibiotics. These may be given if a bacteria is the cause of the inflammation.
  - Bed rest and a balanced diet. Normal activity (or active lifestyle) can worsen the inflammation and therefore worsen the heart problems. Once the heart is better, children can gradually return to their normal lifestyle as directed by a heart doctor (*cardiologist*).
- More severe cases of myocarditis may require your child to be admitted to the hospital. Severe myocarditis may require medications. These medications may be given to help keep the heart regular, give the heart more strength, or make it more effective. These can include:
  - Blood pressure medicines to lessen the strain on the heart.
  - Water pill (*diuretics*) help the body get rid of excess fluid.
  - One drug frequently used is called intravenous immunoglobulin (IVIG). It consists of purified antibodies which the body's immune cells produce to fight infection. How it works is not clear. It does slow down the inflammatory process. There appear to be fewer long-term heart complications in children treated with IVIG.
  - Medications may be used to prevent blood clots in the heart.

PROGNOSIS

- In many children, myocarditis often gets better. However, sometimes irreversible damage occurs to the heart muscle and lifelong medications may be needed or your child may even need a heart transplant.

MAKE SURE YOU:

- Understand these instructions.
- Will watch your condition.
- Will get help right away if you are not doing well or get worse.

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