Many people around the world suffer the consequences of Cardiomyopathy, which is a serious heart disease. The heart muscle becomes swollen or inflamed, and therefore can’t function as it should. There are several types of this disease including: Dilated, Hypertrophic, and Restrictive. Cardiomyopathy can be classified as either primary or secondary. Primary is harder to define because unlike Secondary, there isn’t a way to attribute a cause for it. Secondary Cardiomyopathy can be caused by high blood pressure, heart valve disease, diseases of the arteries, congenital heart defects, or a combination of these things. Many times Cardiomyopathy is associated with diseases of other body organs other than the heart. I have chosen to focus on Dilated Cardiomyopathy because it affects the most people. It is also known as Congestive Cardiomyopathy (Americanheart.Org).

In dilated or congestive cardiomyopathy, cardiac dilation occurs. This means the heart cavity becomes enlarged and stretched. This causes blood to flow slower through an enlarged heart, and the heart doesn’t pump normally because it has become weaker. The heart’s electrical conduction may experience disorder, and arrhythmias may occur (abnormal heart rhythms). Blood clots may form since the blood is pumping more slowly through the heart (Americanheart.org).

There are different types of blood clots that the patient could experience. A blood clot of an artery or of the heart is called a thrombus. If they stick to the inner lining of the
heart they are known as mural thrombi. If it is a small clot and breaks free, traveling through the blood and blocking small vessels, it is called an embolus. Clots breaking off the right ventricle of the heart, which is the pumping chamber of the organ, will move through the pulmonary circulation and form pulmonary emboli. Blood clots can also come from the left ventricle of the heart. These can cause several types of emboli in several organs such as the brain, kidney, and coronary arteries (Americanheart.org).

This picture is from uptodate.com/patients. I found it on Google images and the diagram compares a normal heart to one with Dilated Cardiomyopathy.

There can many causes to Dilated Cardiomyopathy: which may be: Coronary Artery Disease, high blood pressure, stress, viruses such as HIV or Lyme disease, infections of heart muscle, alcohol, cocaine or drug abuse, family history, medications,
pregnancy, the end stage of kidney disease, autoimmune illnesses such as Lupus, or other heart conditions such as atrial fibrillation and supraventricular tachycardia. The most common cause in children however, is Myocarditis. This is inflammation of the heart muscle (NIH.Gov).

In the early stages of Cardiomyopathy, there may not be any signs or symptoms. Breathlessness, swelling of the legs, ankles, and feet, fatigue, abdominal bloating from a build up of fluid, abnormal heartbeats (i.e. fluttering or rapidness), and dizziness or fainting can all be symptoms of the disease. The time span for increasing symptoms or more serious symptoms can vary. For some people, it can take a long time to get worse and for others, it can happen quickly if untreated. It is best to be safe and see a doctor if you have one or more of these symptoms, and to call 911 if the symptom seems drastic. For example, extreme difficulty breathing or chest pain lasting more than a few minutes may be good reasons to go to the hospital (Mayoclinic.com).

There are serious complications and consequences from this heart disease. If the left heart ventricle is enlarged and unable to pump blood, or pumps too slowly, this could result in heart failure. This could happen in several ways. The patient could also have heart valve regurgitation. This means the valves are unable to close due to the swollen heart, and a backflow of blood occurs, causing less effective pumping and possible heart failure. Sudden cardiac arrest can also take place- the heart can just stop beating.

Edema, Arrhythmias, and embolism are other possible complications of cardiomyopathy. Edema takes place when the cardiomyopathy causes fluid build up in the lungs, abdomen, legs and feet. This doesn’t occur when the heart is healthy. Abnormal heart rhythms are present because the size of the heart has changed the
structure and pressure in the heart’s chambers. Stasis causes Embolism. This is a pooling of the blood found in the left ventricle and creates the emboli I mentioned earlier. Embolic clots are serious because they can cut off blood flow to imperative organs, or even damage them (Mayoclinic.com).

This photo is from mescape.com and shows a dilated heart that has been cut open.

For people that have been having these symptoms and complications, there are several methods of diagnosis. The patient’s medical history, as well as their family’s medical history will be taken into consideration. A physical exam needs to be done, as
well as further testing. Blood tests, Electrocardiogram, chest x-rays, echocardiogram, exercise stress tests, cardiac catheterization, CT Scan and MRI are all possible tests that may be performed. It is rare, but sometimes a myocardial biopsy is taken, in which tissue from the heart is examined by microscope to determine the cause of the cardiomyopathy. If someone is found to have Dilated Cardiomyopathy, it is a good idea for relatives of this person to be tested as well. There may even be genetic testing which can find abnormal genes (Medicinenet.com). Below is an X-ray picture from health.gov showing a dilated heart:

![X-ray picture](health.gov)

Treatment of DCM (abbreviation of the disease), usually involves medications and lifestyle changes. If the cause of the condition is known, direct correction of the cause is preferred. Beta-blockers, ACE inhibitors, and/or diuretics are medications that may be taken to manage heart failure. For arrhythmias, medications are given to control heart rate, and blood thinners can be given to lessen clotting.
Lifestyle changes mainly consist of changes to diet and exercise. If the patient has had heart failure, sodium should be restricted to no more than 2-3 thousand milligrams per day. Even once the patient improves, they should stick to this diet to help with prevention. Heavy weight lifting is not recommended for people with cardiomyopathy. A doctor should discuss the appropriate exercise plan with the patient. Normally, they will suggest non-strenuous aerobic exercise. This keeps the heart healthy, but is not too competitive (medicinenet.com).

Unfortunately, Cardiomyopathy is a difficult thing to prevent. As soon as you notice symptoms, it is good to make a doctor’s appointment so that you can be properly diagnosed. Once you have done this, you can start treatment to prevent the condition from worsening. Obviously a healthy lifestyle can help prevent heart failure and high blood pressure. Typical examples include eating healthy and not using illegal drugs and/or drinking large amounts of alcohol. It is important to get enough vitamins and minerals in your diet, and to exercise appropriately (Mayoclinic.com).
References


