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A Short Synaptic Note on Cardiomyopathy and its Type

Grazyna Lietzau*

Department of Pharmacology, University of Lund, Lund, Sweden

***Corresponding author:** Grazyna Lietzau, Department of Pharmacology, University of Lund, Lund, Sweden, E-mail: grazynalietzau@gmail.com*

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ABOUT THE STUDY

Cardiomyopathy is a term used to describe a range of disorders that damage the heart muscle. There may be little or no symptoms at first. As the condition progresses, shortness of breath, fatigue, and limb edema may occur as a result of the start of heart failure. An abnormal heartbeat and fainting sound are possible. Those who are impacted are at a higher risk of sudden cardiac death. Cardiomyopathies can cause edema in the lower limbs and shortness of breath following physical effort. Arrhythmia, fainting and dizziness are some of the additional symptoms of the illness.

Cardiomyopathies are either heart-confined or part of a broader systemic condition both of which can result in cardiovascular mortality or progressive heart failure-related disability. Other disorders that cause cardiac muscle dysfunction, such as coronary artery disease, hypertension, or heart valve anomalies, are ruled out. The underlying reason is frequently unclear although in many situations the cause may be identified. Alcoholism, medication toxicity, and certain infections have all been linked to dilated cardiomyopathy.

Cardiomyopathies can be caused by untreated celiac disease however they can be totally reversed with early detection. Molecular biology and genetics have led to the identification of many hereditary reasons in addition to acquired factors. Cardiomyopathy has become difficult to categorise clinically as hypertrophied, dilated or restrictive because certain illnesses can fit into more than one of those three categories at any one point of their development.

Cardiomyopathy can be classified by healthcare experts based on the general aetiology. Ischemic cardiomyopathy which is caused by heart attacks or coronary artery disease and non-ischemic cardiomyopathy, which is not associated to CAD, are the two classifications. Experts aren't always sure what causes cardiomyopathy (idiopathic). Autoimmune illnesses, such as connective tissue diseases, and heart-related

diseases, such as excessive cholesterol, hemochromatosis, or sarcoidosis, are some of the variables that might raise the risk of cardiomyopathy.

Types

There are four kinds of cardiomyopathy.

Dilated cardiomyopathy: It is a condition where the heart muscle dilated cardiomyopathy is the most prevalent kind, which happens when the heart muscle becomes too weak to effectively pump blood. Muscles thin out as they stretch. The heart chambers can grow as a result of this. Coronary artery disease can cause this which is also known as enlarged heart.

Hypertrophic cardiomyopathy: Genetics is strongly implicated in hypertrophic cardiomyopathy. It happens when the heart's walls harden and block blood flow. This form of cardiomyopathy is quite prevalent. Long-term high blood pressure or ageing might also contribute to it. Hypertrophic cardiomyopathy can be brought on by diabetes or thyroid disorders. Other times, the cause isn't clear.

Arrhythmogenic right ventricular dysplasia: It is an uncommon type of cardiomyopathy that is the greatest cause of sudden mortality in young athletes. Fat and additional fibrous tissue replaces the muscle of the right ventricle in this kind of hereditary cardiomyopathy. This results in irregular cardiac beats.

Restrictive cardiomyopathy: It is the least prevalent kind of cardiomyopathy. It occurs when the ventricles become hard and unable to relax sufficiently to fill with blood. Scarring of the heart, which is common following a heart transplant might be one of the causes. It can also happen as a result of a cardiac condition.

Classification of cardiomyopathy

Different criteria can be used to classify cardiomyopathies.

Intrinsic cardiomyopathies

Congenital: Hypertrophic cardiomyopathy, Arrhythmogenic Right Ventricular Cardiomyopathy (ARVC), left ventricular noncompaction, ion channelopathies such as long QT syndrome and the extremely uncommon short QT syndrome and catecholaminergic polymorphic ventricular tachycardia.

Mixed: Brugada syndrome, dilated cardiomyopathy and restrictive cardiomyopathy.

Acquired: Cardiomyopathy caused by stress myocarditis is an inflammation of the heart tissue caused by lymphocytes and monocytes infiltration. Eosinophilic myocarditis is an inflammation of cardiac tissue caused in part by eosinophil infiltration. Ischemic cardiomyopathy is a kind of ischemic cardiomyopathy (not formally included in the classification due to ischemic cardiomyopathy being a direct result of another cardiac problem).

Extrinsic cardiomyopathies

Metabolic: Hemochromatosis, Fabry's disease.

Endomyocardial: Endomyocardial fibrosis, Hypereosinophilic syndrome.

Endocrine: Diabetes, hyperthyroidism, and Acromegaly are some of the conditions that can affect a person's health.

Cardio facial: Syndrome of Noonan.

Neuromuscular: Fried Reich's ataxia with muscular dystrophy.

Treatment

Treatment may involve lifestyle adjustments to help control the disease. Treatment varies depending on the type of cardiomyopathy and the stage of the disease but may include medication (conservative treatment) or iatrogenic/implanted pacemakers for slow heart rates, defibrillators for those at risk of fatal heart rhythms, Ventricular Assist Devices (VADs) for severe heart failure, or ablation for recurring dysrhythmias that cannot be eliminated by medication or mechanical cardio version. The objective of treatment is frequently symptom alleviation and some patients may require a heart transplant in the future.