Journal of Clinical & Experimental Cardiology
ISSN: 2155-9880
OPEN ACCESS Freely available online
Commentary

The Effects of Excessive Alcohol Consumption on Cardiomyopathy

Zakwani Rajiah*

Department of Cardiology, Cyril and Methodius University, Skopje, Bulgaria

DESCRIPTION

Cardiomyopathy, as a diverse group of heart muscle diseases, is characterized by the structural and functional abnormalities of the heart muscle. Understanding the causes of cardiomyopathy is essential not only for diagnosing and treating the condition but also for preventive measures that can reduce the risk of its development. While cardiomyopathy can be influenced by various factors, ranging from genetics to lifestyle choices, delving into the causes offers valuable insights into this complex and often enigmatic condition. Genetics plays a significant role in the development of cardiomyopathy, and for some individuals, it is the primary cause. Familial or inherited cardiomyopathies are known to be passed down through families due to specific genetic mutations. These mutations can affect the structure and function of proteins within heart muscle cells, leading to abnormal heart muscle growth or contractility.

Two primary genetic causes of cardiomyopathy are Hypertrophic Cardiomyopathy (HCM) and Dilated Cardiomyopathy (DCM). HCM is often associated with mutations in genes that encode proteins within the sarcomere, the contractile unit of muscle cells. These mutations lead to thickening of the heart muscle, impairing its ability to relax and fill with blood properly. DCM can also have a genetic component, with mutations affecting proteins involved in maintaining the structural integrity of the heart muscle. This can result in the heart becoming dilated and weakened, leading to decreased pumping efficiency. Genetic testing and family history assessment are crucial in identifying individuals at risk of inherited cardiomyopathies. Early detection can enable proactive management and lifestyle modifications to mitigate the condition's impact. Infectious agents, particularly viral infections, can contribute to the development of cardiomyopathy. Myocarditis, an inflammatory condition of the heart muscle often caused by viral infections, is a common precursor to cardiomyopathy. The viral invasion can lead to inflammation and damage to heart muscle cells, which may result in the weakening of the heart and the development of cardiomyopathy. Excessive alcohol consumption and drug abuse can have detrimental effects on the heart and are significant risk factors for cardiomyopathy. Ethanol, the active ingredient in the alcoholic beverages, is toxic to heart muscle cells and can lead to cell damage and inflammation. Prolonged alcohol abuse can result in nutrient deficiencies, such as thiamine (vitamin B1), which are essential for proper heart function. Alcohol can disrupt the heart's electrical signals, potentially leading to arrhythmias. In addition to alcohol, illicit drugs like cocaine and amphetamines can also have cardiotoxic effects, increasing the risk of cardiomyopathy development. The mechanisms of damage can vary but often involve increased heart rate, blood pressure, and the constriction of blood vessels, leading to reduced oxygen supply to the heart muscle. Uncontrolled high blood pressure (hypertension) places chronic strain on the heart, forcing it to pump blood against elevated resistance. Over time, this can lead to the heart muscle thickening and becoming less efficient at pumping blood, contributing to hypertrophic cardiomyopathy or dilated cardiomyopathy. Hypertension can also result in other cardiovascular complications, such as coronary artery disease and heart failure, which further increase the risk of cardiomyopathy development. While life-saving in the context of cancer treatment, certain chemotherapy drugs and radiation therapy can have adverse effects on the heart and are known to cause a specific type of cardiomyopathy, known as chemotherapy-induced cardiomyopathy. Chemotherapy agents, such as anthracyclines (e.g., doxorubicin), can damage heart muscle cells, leading to weakened heart function. Radiation therapy, when directed at the chest area, can also harm the heart and its surrounding structures.

Certain vitamin and mineral deficiencies can compromise heart health and contribute to cardiomyopathy development. Notably, deficiencies in thiamine (vitamin B1), selenium, and magnesium can negatively impact heart function. Thiamine deficiency, in particular, is associated with a condition known as beriberi cardiomyopathy, characterized by heart muscle weakness and dilation. There are several additional, less common causes of cardiomyopathy. Conditions like Systemic Lupus Erythematosus (SLE) and rheumatoid arthritis can affect the heart muscle and lead to cardiomyopathy. This rare condition involves the accumulation of abnormal proteins (amyloids) in the heart, leading to restrictive cardiomyopathy. An inflammatory disease that can affect multiple organs, including the heart, leading to

Correspondence to: Zakwani Rajiah, Department of Cardiology, Cyril and Methodius University, Skopje, Bulgaria, E-mail: rajiah37@yahoo.com

Received: 31-Jul-2023, Manuscript No. JCEC-23-26683; **Editor assigned:** 02-Aug-2023, Pre QC No. JCEC-23-26683 (PQ); **Reviewed:** 16-Aug-2023, QC No. JCEC-22-26683; **Revised:** 23-Aug-2023, Manuscript No. JCEC-23-26683 (R); **Published:** 30-Aug-2023, DOI: 10.35248/2155-9880.23.14.832

Citation: Rajiah Z (2023) The Effects of Excessive Alcohol Consumption on Cardiomyopathy. J Clin Exp Cardiolog. 14:832.

cardiomyopathy in some cases. Excessive iron accumulation in the body can damage the heart and lead to cardiomyopathy. Some medications, such as certain antipsychotics and antiarrhythmics, have been associated with an increased risk of cardiomyopathy. Early identification of risk factors and preventive measures, such as lifestyle modifications and genetic screening for at-risk individuals, can play a pivotal role in averting or managing this complex and potentially life-threatening heart condition. Furthermore, research into the underlying causes of cardiomyopathy continues to focus on novel treatment strategies, offering hope to those affected by this challenging condition.