

Cardiomyopathies: clinical features, diagnostic approaches, and therapeutic strategies.

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Abstract

Cardiomyopathies represent a diverse group of myocardial disorders characterized by structural and functional abnormalities of the heart muscle that cannot be explained solely by coronary artery disease, hypertension, valvular disease, or congenital heart defects. These conditions are associated with significant morbidity and mortality due to their potential to cause heart failure, arrhythmias, thromboembolic complications, and sudden cardiac death.

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The major types of cardiomyopathies include dilated cardiomyopathy, hypertrophic cardiomyopathy, restrictive cardiomyopathy, and arrhythmogenic cardiomyopathy. Clinical manifestations vary depending on the type and severity of the disease but commonly include dyspnea, fatigue, chest pain, palpitations, dizziness, and syncope. In some cases, the disease remains asymptomatic until serious complications occur.

Early and accurate diagnosis is essential for improving patient outcomes.

Diagnostic evaluation involves a comprehensive clinical assessment,

electrocardiography, echocardiography, cardiac magnetic resonance imaging, laboratory investigations, and genetic testing. Advances in imaging technologies and molecular diagnostics have significantly enhanced the detection and classification of cardiomyopathies. Cardiomyopathies are a group of diseases affecting the heart muscle and causing structural and functional abnormalities of the myocardium. These disorders may lead to heart failure, arrhythmias, thromboembolic events, and sudden cardiac death. Cardiomyopathies are classified into several major types, including dilated, hypertrophic, restrictive, and arrhythmogenic cardiomyopathies. The prevalence of these conditions has increased due to advances in diagnostic techniques and greater awareness among healthcare professionals. The clinical manifestations of cardiomyopathies vary depending on the type and stage of the disease. Common symptoms include shortness of breath, fatigue, chest pain, palpitations, dizziness, and episodes of syncope. Some patients may remain asymptomatic for many years, while others develop severe cardiac complications requiring urgent medical intervention. Early recognition of symptoms is essential for preventing disease progression and improving patient outcomes. Diagnosis is based on a combination of clinical evaluation and instrumental investigations. Electrocardiography, echocardiography, cardiac magnetic resonance imaging, and laboratory testing play important roles in identifying myocardial abnormalities. Genetic testing has become increasingly valuable, particularly in familial forms of cardiomyopathy, allowing for earlier detection and risk assessment among affected families. Management of cardiomyopathies aims to reduce symptoms, prevent complications, and improve quality of life. Pharmacological treatment commonly includes beta-blockers, angiotensin-converting enzyme inhibitors, angiotensin receptor blockers, diuretics, and antiarrhythmic medications. In high-risk patients, implantable cardioverter-defibrillators and cardiac resynchronization therapy may

be required. Advanced cases may necessitate heart transplantation. Recent developments in precision medicine and genetic research offer promising opportunities for personalized treatment strategies. Therapeutic strategies are aimed at reducing symptoms, preventing disease progression, and minimizing the risk of complications.

In conclusion, cardiomyopathies remain a major challenge in cardiovascular medicine. Timely diagnosis, risk stratification, and evidence-based therapeutic interventions are crucial for improving survival and quality of life among affected patients.

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