

An Overview on Inherited Cardiac Conditions

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DESCRIPTION

Hereditary health conditions are those that are passed down from parent to child as a result of a gene mutation, and researchers have identified several heart disorders caused by genetics. Inherited Cardiac Conditions (ICC) is a term for a wide range of relatively uncommon heart diseases. They're also known as genetic cardiac conditions. Mutations in one or more of our genes cause ICCs. If the person has a defective gene, then they have a 50 percent chance of passing it on to the children. These conditions can have devastating consequences for the person and their family. In some cases, these conditions can be life-threatening. Every year, approximately 500 young people in the United Kingdom die as a result of a genetic heart disorder. These conditions are not always accompanied by symptoms. This can sometimes mean that a family becomes aware of being affected only after a Sudden Cardiac Death (SCD). However, significant progress is being made in the detection of ICCs as well as in how the person can live with their condition. There are effective treatments available that will allow the person to live a normal life.

Inherited heart diseases include a wide range of conditions, from Hypertrophic Cardiomyopathy (HCM) and Familial Hypercholesterolaemia (FH) to inherited arrhythmia syndromes like Long QT Syndrome (LQTS), Catecholaminergic Polymorphic Ventricular Tachycardia (CPVT), and Brugada Syndrome (BrS). Over the last decade, genetic testing has advanced rapidly and is now considered a standard component of clinical management of inherited heart diseases. Cardiac manifestations can also be part of larger syndromes, and genetic testing can help clarify the underlying etiology of disease in some cases.

Categories

Inherited heart rhythm disorders: These conditions have an impact on how the heart beats. A genetic variance can cause the heart to beat too slowly or too quickly. Long QT Syndrome (LQTS), Brugada Syndrome (BrS), Catecholaminergic Polymorphic Ventricular Tachycardia (CPVT), and Progressive Cardiac Conduction Defect (PCCD) are examples of these conditions.

Cardiomyopathies that are inherited: A gene mutation can cause the heart muscle to weaken or thicken. These muscle tissue changes cause problems with heart contraction and result in inherited cardiac disorders such as dilated cardiomyopathy, hypertrophic cardiomyopathy, and arrhythmogenic right ventricular cardiomyopathy.

Genetic cholesterol issues: The majority of cases of high cholesterol are caused by high cholesterol that runs in families rather than faulty genes. These are caused by a specific gene mutation known as familial hypercholesterolemia.

Diagnosis

Because certain heart disorders are inherited, the person may believe that the genetic testing can help with diagnosis and treatment. In most cases, however, this is not the case. The family history may be the most important piece of the diagnostic challenge. To determine the presence of an inherited cardiac disorder, one's doctor will look at their family medical history as well as modern diagnostic tools. An Electrocardiogram (ECG or EKG) test is used to diagnose genetic heart rhythm disorders, and inherited cardiomyopathies may be diagnosed using minimally invasive methods such as echocardiogram or cardiac catheterization to view the organ structure. High cholesterol levels that run in the family and are resistant to lifestyle interventions such as a change in diet and increased exercise will most likely be classified as hereditary, with no further testing required.

Treatment

ICC treatments may include lifestyle changes like, weight loss or exercise to help prevent or reduce the effects of heart disease, healthy living like, avoiding smoking, alcohol, caffeine, and high-fat foods to improve the health, medications that help to regulate the way the heart works or reduce the risk of blood clots, cardiovascular surgery to repair or replace damaged valves, vessels, or other parts of the heart, and an Implantable Cardioverter Defibrillator (ICD), a device that detects and treats irregular heartbeats.

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