

CONTEMPORARY APPROACHES IN PREVENTION OF SUDDEN CARDIAC DEATH

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Sudden cardiac arrest and sudden cardiac death (SCD) are terms that are often used in medicine as synonyms. Sudden cardiac death is defined as "natural, unexpected cardiac death that occurs within one hour of the onset of acute symptoms and is accompanied by a sudden loss of consciousness." The presence of heart disease may be known from before, but the timing and manner of death are unexpected. Coronary artery disease (CAD) is responsible for 75-80% of all SCD. While atherosclerosis is a primary disease in middle-aged and elderly people, in children and young adults (< 35 years), malignant arrhythmias that occur in the cardiac ventricles - monomorphic or polymorphic ventricular tachycardia, and ventricular fibrillation are the most common cause of SCD. The etiology of heart rhythm disorders may be associated with underlying heart disease, but it is most commonly idiopathic in young people. A number of studies have confirmed that malignant arrhythmias are the immediate cause of death. The etiology of cardiac arrhythmias may be related to underlying heart disease, but it may also be idiopathic. Secondary prevention of sudden cardiac death involves the treatment of those who have been fortunate to survive sudden cardiac arrest or have documented hemodynamically unstable ventricular arrhythmias, and the primary prevention is the treatment of those who are at increased risk of sudden cardiac death but without documented prior cardiac arrest or malignant ventricular arrhythmias. Given that the most common arrhythmia preceding cardiac arrest is ventricular tachycardia (VT) that degenerates into ventricular fibrillation (VF), prevention of sudden cardiac death involves effective interruption of ventricular tachycardia (VT). Based on the results of studies and clinical data, it can be concluded that implantation of ICD significantly reduces mortality in both primary and secondary prevention compared to patients who received medication alone. Also, patients who have a pacemaker system in addition to defibrillator therapy and resynchronization therapy have significantly better quality of life, increased left ventricle ejection fraction, and better echocardiographic parameters. Also, the administration of drug therapy in patients with implanted pacemakers reduces the frequency of DC shock delivery, thereby preserving myocardial function and reducing the damage that occurs when current passes through the heart muscle. Implantable cardioverter defibrillators have brought a new chapter in the treatment of the very high risk cardiovascular patients.

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