Impact and management of ventricular tachycardia on patients.

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Abstract

Ventricular tachycardia is an important cause of sudden death. Risks and treatment approaches are determined by the underlying heart disease. Ventricular tachycardia is most commonly associated with ischemic heart disease or other forms of structural heart disease that are associated with the risk of sudden cardiac death. Several patient groups at high risk of sudden death from VT have been identified and benefit from ICD. It is important to distinguish between high-risk groups and idiopathic VT patients without structural heart disease who have a better prognosis.

Keywords: Ventricular tachycardia, Sudden cardiac death, Myocardial infarction, Hypertension, ST-segment.

Introduction

Ventricular tachycardia is frequently observed in medical practice. It may be completely benign, or it may be an increased risk of sudden cardiac death. Therefore, it is important that clinicians are familiar with ventricular tachycardia and able to recognize and treat it immediately when it is clinically presented. In many cases, definitive therapy for specific ventricular arrhythmias can be offered after a thorough understanding of the underlying substrates and mechanisms [1].

Ventricular tachycardia and ventricular fibrillation cause most cases of sudden cardiac death and are estimated to kill people annually in the United States. It accounts for about half of all deaths related to cardiac causes. Risk factors for ventricular tachycardia include hypertension, previous myocardial infarction, Chronic Obstructive Pulmonary Disease (COPD), and ST-segment changes at presentation. Patients with acute myocardial infarction have ventricular fibrillation or ventricular tachycardia at a frequency of 5% to 10%. Ventricular tachycardia occurring within the first 48 hours after admission is associated with an increased risk of death compared with ventricular tachycardia occurring within the first 48 hours after admission [2].

Ventricular arrhythmias are a major cause of morbidity and mortality in patients with coronary artery disease. Ventricular fibrillation is the major cause of death during the acute phase of ischemia, and sustained monomorphic ventricular tachycardia due to scar tissue-generated re-entry is particularly associated with poor left ventricular ejection. It most commonly occurs in patients in the setting of cured myocardial infarction. Fraction. Despite significant progress in population education and management of myocardial infarction, the risk of ventricular tachycardia in the general population with coronary artery disease remains a major concern in clinical practice. Initial evaluation of patients with ventricular tachycardia requires a 12-lead ECG [3]. This helps confirm the diagnosis, suggest the presence of underlying heart disease, and locate the ventricular tachycardia circuit. Invasive electrophysiological studies are usually important for determining the mechanisms of induced arrhythmias and providing guidance for ablation. Approaches to ventricular tachycardia ablation depend on several factors, including ventricular tachycardia inducibility, persistence, and clinical tolerability. This paper also reviews other treatment options for patients with ventricular tachycardia associated with coronary artery disease, including antiarrhythmic drug therapy, surgical ablation, and current indications for implantable cardioverter-defibrillators [4].

Ventricular tachycardia is a significant cause of Sudden Cardiac Death (SCD) and a leading cause of mortality and morbidity in patients with structural heart disease. VT includes clinical manifestations ranging from benign to life-threatening. Although most life-threatening episodes are correlated with coronary artery disease, the risk of SCD varies in specific populations with different underlying cardiac conditions, specific family histories, and genetic variants. The goals of VT management are to relieve symptoms, improve quality of life, reduce shock from implantable cardioverter-defibrillators, prevent left ventricular dysfunction, reduce the risk of SCD, and improve overall survival. Antiarrhythmic drug therapy and endocardial catheter ablation remain the cornerstones of guideline-compliant VT treatment strategies for patients with structural cardiac abnormalities. Emerging strategies such as epicardial ablation, surgical cryoablation, transcoronary alcohol ablation, preoperative imaging, and stereotactic ablative radiotherapy are attractive research areas. In this review, we have collected all recent advances

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in innovative therapeutics and experimental evidence focused on different aspects of VT treatment that may be important for future beneficial clinical applications [5].

Conclusion

Management of ventricular tachycardia patients can be challenging. Although ICD implantation has resulted in significant differences in survival in patients with VT, estimating patients with recurrent ICD shock remains a major problem. Drug treatment with antiarrhythmic drugs is associated with reduced efficacy and serious side effects. Catheter ablation remains the cornerstone of VT management and is effective in reducing recurrent episodes of VT, but carries procedural risks. New methods may improve efficacy in the future. The final treatment strategy should be individualized considering clinical and imaging assessments, patient views and intentions, concerns about futility, and the operator's experience with catheter her ablation.

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