Sudden cardiac death in genetic diseases

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Sudden cardiac death (SCD) is defined by death without a conclusive diagnosis after autopsy and it is responsible for a large percentage of sudden deaths. The progressive interaction between genetics and forensics in post-mortem studies has identified inheritable alterations responsible for pathologies associated with arrhythmic sudden death. The genetic diagnosis of the deceased enables the undertaking of preventive measures in family members, many of them asymptomatic but at risk. In the presentation, several local endemic genetic diseases in Taiwan with potential fatal arrhythmias including arrhythmogenic cardioyopathy (ARVC), Brugada syndrome, and early repolarization syndrome, and others would be reviewed. In between, ARVC was the most common type of structural heart ventricular tachycardia (19%) in whom underwent clinical therapy for ventricular arrhythmia. In ARVC survivors who fulfilled the Task Force criteria, a positive EP inducibility study could predict appropriate ICD therapy and was associated with high VT burden. The mortality rate was low in SCD survivors who received both ICD implantation and catheter ablation for VT. In conclusion, the implications of this multidisciplinary translational medical approach are complex, requiring the dedication of a specialized team to treat sudden cardiac death in genetic disease.