



Automated implantable cardioverter defibrillator

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Abstract:

Sudden cardiac death (SCD) is defined as death from an abrupt pulseless condition due to a cardiac cause in a previously apparently healthy individual. More than 300,000 patients die suddenly each year in the US. Less than 20% of them meet the clinical criteria for the implantation of an automatic implantable cardioverter defibrillator (AICD) and, among these patients, only 20% will be saved by a shock from the AICD. Statistically speaking, we need to implant 20 patients with an AICD in order to save one's life. It is therefore clear that the major unsolved question in cardiology and electrophysiology in particular, is why ventricular tachycardia (VT) or ventricular fibrillation (VF) occur in the first place. There is more to it than just a reduced ejection fraction or a well-timed ventricular extrasystole. The origin of fatal arrhythmias could be explained by a ventricular extrasystole which encounters a peculiar dynamic substrate. It is shown that the basis for the onset of VT or VF lies in the action potential duration dispersion which constitutes an arrhythmogenic spatially discordant repolarization ground regardless of the presence of ascar.

This presentation aims to offer an overview on the correlation between arterial blood pressure and sudden cardiac death through 40 years of clinical trials on thousands of patients. It provides clinicians and others in the audience a clear understanding of how left ventricular hypertrophy must not be considered a compensatory beneficial physiologic process serving to counteract the increased afterload but a critical substrate for sudden cardiac death. All in all, hypertension could be the cause of millions of previously unexplained SCD patients by creating the combination of circumstances for the perfect arrhythmic storm to take place.



Biography:

Dr. Luca Arioli is currently working as arrhythmologist and interventional cardiac electrophysiologist at OspedalePederzoli in Peschiera del Garda, Italy. He graduated in University of Verona cum laude, attended the Fellowship Research Programme at Centro CardiologicoMonzino in Milan where he published a paper on cryoablation of atrial fibrillation and left atrial appendage closure as co-author. He achieved many certifications in management and implantation of cardiac electronic devices and has rich experience in catheterablation.

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