

# Sudden cardiac death: a case report of successful lay rescuer resuscitation

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**Introduction:** Sudden cardiac death (SCD) is a devastating and often unexpected event claiming the lives of hundreds of thousands worldwide annually. SCD is defined as an unforeseen demise stemming from a cardiac cause occurring within an hour of symptom onset in individuals, irrespective of their heart disease history. SCD can arise from diverse cardiac arrhythmias, with ventricular fibrillation (VF) being the most prevalent and lethal among them. Underlying heart diseases, including coronary artery disease, cardiomyopathies, and inherited channelopathies, frequently heighten the risk of SCD. Other contributing factors encompass age, gender, family medical history, and lifestyle choices. Despite remarkable advancements in medical technology and knowledge, challenges persist in accurately predicting and preventing SCD in certain cases. The identification of high-risk individuals who may benefit from implantable cardioverter-defibrillators (ICDs) and raising public awareness about cardiopulmonary resuscitation and automated external defibrillators demand sustained attention.<sup>1-3</sup>

**Case report:** We present a case of successful management involving a 35-year-old female patient who experienced cardiac arrest during sleep, with her husband initiating resuscitation until the arrival of emergency medical assistance. The patient underwent four defibrillation attempts due to VF before eventually achieving spontaneous breathing. Upon referral to hospital, a comprehensive evaluation involving non-invasive and invasive cardiology procedures was initiated. Echocardiography and coronary angiography revealed a structurally healthy heart. Ergometric testing and the ajmaline test ruled out prolonged QT interval syndrome and Brugada syndrome. Magnetic resonance imaging of the heart indicated slightly reduced ventricular function (left ventricular ejection fraction of 43%) with mild basal septal hypokinesia. On the 7<sup>th</sup> day of hospitalization, the patient underwent successful implantation of a subcutaneous cardioverter-defibrillator (S-ICD). Within two days, the patient achieved rhythm stability and was discharged home.

**Conclusion:** This case underscores the importance of prompt and comprehensive evaluation in instances of SCD, along with the potential life-saving role of S-ICDs in the management of high-risk individuals.

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## LITERATURE

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