Inappropriate shocks by subcutaneous defibrillator in a patient with arrhythmogenic right ventricular cardiomyopathy: problem fixed

Giuseppe Allocca*, Nadir Sitta, and Giovanni Turiano

Cardiology, General Hospital of Conegliano, Conegliano Treviso, Italy

* Corresponding author. Tel: +39 0438663613; fax: +39 0438663613, E-mail: alloccag75@libero.it

A totally subcutaneous implantable cardioverter-defibrillator (S-ICD) was implanted in a 78-year-old man with arrhythmogenic right ventricular cardiomyopathy, after multiple episodes of syncope and documented ventricular tachycardias. The S-ICD was preferred to a standard transvenous ICD because of the widespread areas of low voltage identified at electroanatomic mapping of the right ventricle, and the risk of possible inadequate sensing of endocardial R wave. In the following 3 months, the patient experienced a total of 23 inappropriate shocks for T-wave oversensing, and device reprogramming was not effective in preventing their recurrence. The decision was made to replace the device with a transvenous ICD. However, just at the time of the procedure, a software update was made available to improve the sensing of the device. Before upgrading the implanted device, the sensing performance of the new software was tested by the Technical Support at Boston Scientific, using the ECGs recorded by the S-ICD at the time of shock delivery. Most of the oversensed T waves were appropriately discarded, the detected rate remained below the threshold of the tachycardia zone and inappropriate device charge and shock were avoided (Figure). Therefore, the software was upgraded and the patient was discharged home. No further episodes occurred during a 3-month follow-up.

The full-length version of this report can be viewed at: http://www.escardio.org/communities/EHRA/publications/ep-case-reports/Documents/inappropriate-shocks-by.pdf.