New shock reduction programming strategies: Where do we stand?

Dear Editor,

We read the article "Delayed therapy and syncope due to excessive charging time in a patient with implantable defibrillator during a fast ventricular tachycardia episode" written by Canpolat et al.[1] with great interest. When they reported this case of device malfunction, they illustrated one of the most important drawbacks of the delayed therapy strategy, arrhythmic syncope. They demonstrated the consistency of the 6 to 12-second tachyarrhythmia detection recommendation in the expert consensus statement on implantable cardioverter-defibrillator (ICD) programming,[2] and showed that exceeding this duration can be risky. We sincerely thank them for sharing their case and stunning images.

On the other hand, we would like to make several comments about the programmed device parameters, which appeared to be inconsistent with the current recommendations.[2] Using antitachycardia pacing (ATP) during ICD capacitor charging is effective at terminating slow and fast ventricular tachycardia (VT) with a very low rate of arrhythmic syncope,[3] and it is recommended that ATP should be active for all VT zones up to 230 bpm in all patients with structural heart disease, except when ATP is documented to be ineffective or proarrhythmic. In the described case, if the device was programmed to deliver a single ATP during charging, syncope could possibly have been prevented. Also, the number of intervals to detect (NID) tachycardia was far below the recommendations based on several large studies.[3–5] New, long detection interval programming strategies (NID=30/40) have been shown to reduce the number of both appropriate and inappropriate ICD therapies. Since shock therapies adversely affect patient survival, irrespective of appropriateness, cause anxiety, and impair quality of life with responses such as avoidance behaviors and a sedentary lifestyle, we should consider the new shock reduction programming strategies. Lastly, for primary prevention ICD patients, it is recommended that the slowest tachycardia therapy zone limit should be programmed at 185 to 200 bpm to reduce the total number of therapies.[2]

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