A Case of J-Wave Syndrome, That Was Suggested to Be Related to the Autonomic Tone

Tadashi Wada, Atsuyuki Watanabe, Yuji Koide, Yoichiro Naito, Kenzo Kagawa, Sho Tsushima, Hironobu Toda, Satoshi Kawada, Ritsuko Terasaka, Makoto Nakahama

Fukuyama City Hospital, Department of Cardiology, Japan

We describe a case of a ventricular fibrillation (VF) storm related to a prominent and widely distributed J-wave. A 34-year-old man, without any family history of sudden cardiac death or structural heart disease, suffered from a VF storm unresponsive to repeated defibrillation attempts and drugs including amiodarone. After the VF disappeared, his electrocardiogram (ECG) exhibited prominent J-waves and ST-segment elevation in almost all the leads. The J-point elevation slowly decreased without any recurrence of VF within a few days, and finally the J-waves remained only in the inferolateral leads. In the electrophysiological study, we tried to record an epicardial electrogram from the coronary sinus on the lateral wall, but no definite delayed potentials were observed. After implanting an implantable cardioverter-defibrillator, we performed pharmacologic stress tests (pilsicainide, propranol, mexan and atropine). The J-waves increased only during bradycardia after administering mexan. In the Holter ECG, transient ST-segment elevation was repetitively observed only while asleep. With the J-wave syndrome, it has been suggested that autonomic tone plays a major role in the J-wave variability. In this case, prominent J-waves and ST-segment elevation were observed during bradycardia and sleep. This is a very rare case of J-wave syndrome with transient J-wave changes suggesting some relationship to the autonomic tone.

Keywords: J-wave syndrome, electrical storm, autonomic tone