Bail-Out of Drug-Refractory VF Electrical Storm in a Patient Who Underwent Percutaneous Coronary Intervention for Three Vessel Disease

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Although the prolonged QT interval in a patient with acute coronary syndrome is a predicting factor of lethal ventricular tachyarrhythmia, the relation between revascularization of coronary artery and QT interval is not clear. A 64-year-old man was admitted to the hospital because of congestive heart failure and drug-refractory ventricular fibrillation electrical storm (VF-ES). Emergency coronary angiography showed three vessel disease of coronary artery. Percutaneous coronary intervention (PCI) was performed for the culprit lesion of left anterior descending (LAD) artery and revascularized LAD region successfully. However VF-ES recurred 12 hours after LAD intervention. Therefore, the second PCI was performed for the narrowing of RCA and total occlusion of LCX. Then complete revascularization was obtained. No ventricular tachyarrhythmia was observed after the second procedure. In this patient, QT interval, QT dispersion and Tpeak-end changed dramatically before and after revascularization. The QT interval, QT dispersion, Tpeak-end were 620msec, 70msec, 178msec before PCI, 621msec, 98msec, 156msec after first procedure, and 400msec, 100msec 116msec after 2nd procedure. The shortening of QT interval and Tpeak-end may be related to complete revascularization and suppression of VF-ES.

Keywords: QT prolongation, VF, revascularization