Efficacy of Intravenous Amiodarone Therapy and Responses of Electrocardiographic Parameters in Patients with Refractory Ventricular Tachyarrhythmias

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Backgrounds: Intravenous Amiodarone (AMD) therapy has been used for refractory ventricular tachyarrhythmias. However, efficacy of AMD and responses of electrocardiographic parameters have not yet been fully investigated. Methods: We reviewed 27 consecutive patients (64±16 y.o., 19 males, 10 ischemic heart diseases), in whom intravenous AMD was used for refractory ventricular tachyarrhythmias (8 VF, 18 sustained VT, and 1 non-sustained VT) from July 2007 to July 2010. Efficacy of AMD was defined as restoration of sinus rhythm or reduction of arrhythmic episodes within 48 hours. Responses of electrocardiographic parameters in relation to AMD efficacy were evaluated. Results: Intravenous AMD for average of 12.4±11.0 days was completely effective in 19 (70.4%) of 27 patients without any proarrhythmic events of Torsade de Pointes. Maximal serum concentration of amiodarone and desethylamiodarone was 1.51±0.87 and 0.36±0.33 mg/L, respectively. QTc was not different at baseline, however, the QTc was more significantly prolonged in 19 effective patients than in 8 ineffective patients (ΔQTc, 50±53 vs. 4±30 msec; p=0.03), whereas increase of Tpeak to Tend interval reflecting transmural dispersion of repolarization (TDR) was comparable between 2 groups (ΔTpeak-Tend, 20±35 vs. 19±39 msec). Conclusions: Intravenous AMD was effective in patients with refractory ventricular tachyarrhythmias with proper QT prolongation but without increasing TDR after AMD. Keywords: amiodarone, VT/VF, electrocardiogram