Polymorphic Ventricular Tachycardia and Repolarization Abnormalities Accompanying Intracerebral Hemorrhage

Haim D. Danenberg, MD; Yonathan Hasin, MD

A 70-year-old patient with no apparent heart disease was admitted after a motor-vehicle accident and had right hemispheric intracerebral hemorrhage with compression over the lateral ventricle (Figure 1). The patient was admitted to an intensive care unit, where an ECG was taken. ECG repolarization abnormalities were followed by repeated runs of nonsustained polymorphic ventricular tachycardia (torsade de pointes) (Figure 2), which caused hemodynamic instability. Intravenous magnesium sulfate was administered, and the ECG changes subsided promptly (Figure 3). An exercise test performed a few weeks later was negative for ischemia.

Life-threatening arrhythmias, including atrioventricular blocks, ventricular tachycardia, and fibrillation, may accompany acute cerebral accidents in patients without cardiac disease. Therefore, after acute cerebrovascular events, patients should be constantly monitored, and the treating team should be familiar with and well-trained in the diagnosis and treatment of cardiac arrhythmias.

Figure 1. CT scan demonstrating right hemispheric intracerebral hemorrhage.

Figure 2. ECG performed 12 hours after trauma. Deep, symmetrical T-wave inversion in precordial leads, followed by nonsustained polymorphic ventricular tachycardia.

Figure 3. An ECG performed 10 minutes after administration of intravenous magnesium sulfate, showing no repolarization abnormalities.

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