

Recurrent Torsades de Pointes Due to Amiodarone Toxicity Treated Successfully with Lidocaine

The Editor,

Sir,

Amiodarone is a potent antiarrhythmic agent that is used to treat ventricular arrhythmias and atrial fibrillation. Proarrhythmias due to amiodarone therapy is rare. We discuss a case who had amiodarone-induced incessant Torsades de pointes (TdP) that could only be suppressed by lidocaine.

The patient was a 56-year old woman who had Benthall operation for aortic aneurysm. She was prescribed amiodarone for rhythm control because of paroxysmal atrial fibrillation. After many years without any problem, one day she was brought to a private hospital's emergency department with syncope. Electrocardiogram revealed polymorphic tachycardia and long QT. Physicians did not recognize that these arrhythmias were due to amiodarone but paradoxically increased amiodarone dose to control these arrhythmias. Then she was referred to our hospital. Here, she continued to experience frequent new episodes of TdP and multifocal ventricular extrasystoles. These arrhythmias were responsive to direct current cardioversion and transvenous overdrive pacing but although potassium and magnesium supplements were given, the arrhythmia was not controlled and she continued to have recurrent episodes of TdP. Her ECG showed very long QTc interval about 600 ms (Fig. 1), very frequent long QT-related multifocal ventricular ectopic beats (Fig. 2) and recurrent attacks of TdP.

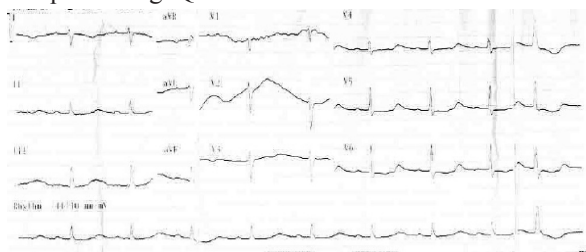


Fig. 1: Long QT due to amiodarone use (QTc interval was about 600 ms).

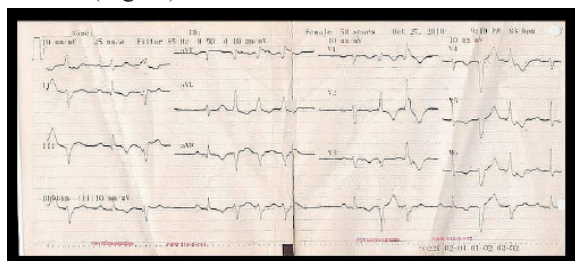


Fig. 2: Frequent multifocal ventricular premature secondary to amiodarone toxicity.

We decided to try lidocaine to control this ventricular tachycardia storm since lidocaine has no pro-arrhythmic potential and shortens QT interval in contrast to other class I and class III antiarrhythmic drugs. Fortunately, three hours after we started the standard dose of lidocaine, her QT shortened dramatically, and her polymorphic ventricular tachycardia was controlled and suppressed successfully. Her rhythm was stabilized.

First-line treatment for acquired long QT syndrome is intravenous magnesium sulphate that is highly effective for both the treatment and prevention of recurrence of long QT-related ventricular ectopic beats or TdP. Temporary transvenous over-drive pacing (atrial or ventricular) or isoproterenol generally is reserved for patients with long QT-related TdP who do not respond to intravenous magnesium. We do not administer the usual antiarrhythmic agents for ventricular tachycardia to a patient whose rhythm has deteriorated into TdP, because other drugs used for conventional ventricular tachycardia treatment will prolong the QT interval further.

Exception might be Class IB drugs. Class IB antiarrhythmic drugs, such as lidocaine, phenytoin and mexiletine may be helpful for suppressing torsades; they shorten action potential duration and, based upon small case series, may be effective in the acute management of TdP and ventricular fibrillation (1). But Class IB antiarrhythmic drugs appear to be less predictably effective than pacing or isoproterenol (2). This case demonstrates that Class IB antiarrhythmic agents have an important place for the treatment of acquired long QT-induced resistant arrhythmias and should be considered as a valuable option when standard therapy fails to control long QT-induced recurrent TdP.

Letters

Keywords: Amiodarone, lidocaine, Torsades de pointes

NS Yelgeç, AT Alper, AI Tekkeşin, C Türkkın, K Gürkan

From: Department of Cardiology, Siyami Ersek Cardiovascular and Thoracic Surgery Center, Istanbul 34668, Turkey.

Correspondence: Dr NS Yelgeç, Department of Cardiology, Siyami Ersek Cardiovascular and Thoracic Surgery Center, Istanbul 34668, Turkey; e-mail: yelgec@gmail.com

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