

Multifocal Atrial Tachycardia Secondary to Infusion of Dimenhydrinate

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Dimenhydrinate (NN-dimethyl-2-diphenylmethoxyethylamine; 8-Chloro theophyllinate) is a salt of two drugs: diphenhydramine and 8-chlorotheophylline, a chlorinated derivative of the theophylline [1]. It is used therapeutically as an antiemetic, antinauseant and to prevent motion sickness [2]. Diphenhydramine overdose causing hyperpyrexia, status epilepticus, coma, and cardiac arrhythmias has been reported [3,4]. Additionally, life-threatening ventricular dysrhythmias were reported in a 4 month-old infant intentionally administered an overdose of dimenhydrinate [5].

We presented an interesting case with chaotic atrial arrhythmia after intravenous infusion of dimenhydrinate. To our knowledge this is the first reported case of an atrial arrhythmia caused by the ingestion of dimenhydrinate.

A 48-year-old female presented with stable angina pectoris. She had no complaints of palpitations or documented arrhythmia. Physical examination and laboratory measurements were all normal. The ECG showed T wave inversion in leads DII, DIII and aVF (Figure 1). Coronary angiography revealed a 90% stenosis of the mid portion of the left coronary artery and a 90% stenosis of the ostium of second large diagonal branch. After the angiographic evaluation, coronary artery bypass graft surgery was planned. The patient developed dizziness and nausea followed after coronary angiography. We suggested that, these symptoms may be associated with radio-opaque substance related vertigo. After than hydration and 50 mg of dimenhydrinate infusion started. Multifocal atrial tachycardia (chaotic atrial tachycardia) developed one hour after the start of infusion (Figure 2). There were no

significant differences in systemic hemodynamic parameters (her blood pressure was 130/80 mmHg) although no antiarrhythmic treatment was given. Spontaneous conversion to sinus rhythm occurred after two hours. Prior to infusion of dimenhydrinate she had no symptoms related to arrhythmia. Dimenhydrinate has a faster onset of action and elimination half life (2.5- 4 h) [6]. We did not observe any arrhythmias after we had stopped the dimenhydrinate infusion and no chest pain or ST-T changes have occurred. Therefore, we thought that multifocal atrial tachycardia was caused by dimenhydrinate not ischemia or contrast adverse reaction.

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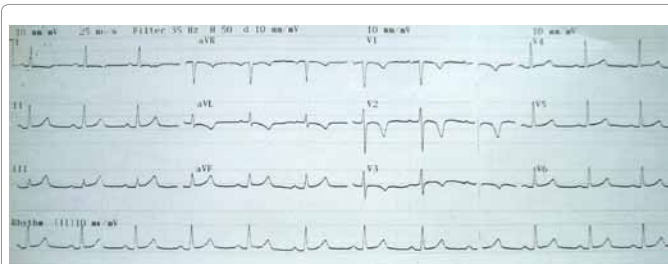


Figure 1: The initial electrocardiogram shows sinus rhythm with T wave inversion in leads DII, DIII and aVF.

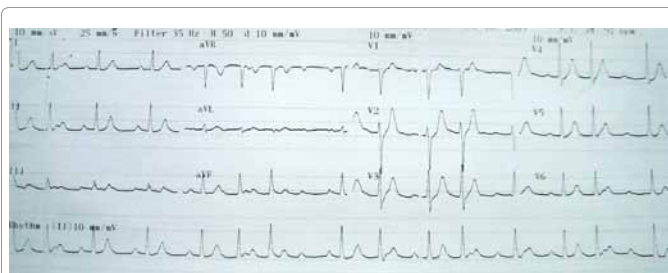


Figure 2: Electrocardiogram demonstrates multifocal atrial tachycardia after dimenhydrinate infusion.

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