Aortic Dissection Secondary to Maguo Ingestion

Wang JY1, Chen H2 and Su X1*

1Department of Cardiology, Wuhan Asia Heart Hospital, Wuhan, PR China
2Department of Cardiac Surgery, Wuhan Asia Heart Hospital, Wuhan, PR China

Abstract

Aortic dissection is a rare known complication of taking Maguo (main ingredient is methamphetamine). To date there have been 0 case report of its occurrence. The suspected pathophysiology is transient severe elevation in blood pressure, causing a shear force on the thoracic aorta. For the first time, we report a case of aortic dissection secondary to Maguo ingestion with an unusual presentation.

Keywords: Aortic dissection; Maguo; Methamphetamine

Case Presentment

A 24-year-old female without significant medical history presented to the emergency department complaining of persistent upper back and chest pain within 8 hours. The patient had not experienced this type of pain before. The patient denied previous cardiac history, intravenous drug use, human immunodeficiency HIV infection, history of pregnancy, or other recent illness. She admitted that long-term use of drug use, human immunodeficiency HIV infection, history of cocaine use, and coarctation [6]. Physical trauma can increase wall

Maguo is Thai transliteration, which main composition is methamphetamine, is a kind of methamphetamine tablets after processing, appearance similar to ecstasy and amphetamines doping, the experimental ingredients containing methyl amphetamine and caffeine (Figure 3). After treatment can make the person extremely excited central nervous system, blood system, to a large number of exhausted strength and immune function [1]. In toxic doses, methamphetamine induces unpleasant CNS symptoms such as agitation, anxiety, hallucinations, delirium, and seizures; death can occur [2]. Cardiovascular symptoms such as chest pain, palpitations, or dyspnea can also develop [3]. Many antihypertensive agents and β-blockers are effective in reversing methamphetamine-induced cardiovascular symptoms. For treating an amphetamine-induced hypertensive crisis, agents such as phenolamine or nitroprusside provide efficacy. Blood pressures may also respond indirectly to the sedating effects of haloperidol. Calcium channel blockers have been used successfully in some emergency departments [4].

The conditions of aortic dissection includes that contribute to medial degeneration and those that increase aortic wall stress. Conditions associated with medial degeneration include Marfan syndrome, Loeys-Dietz syndrome, the vascular form of Ehlers-Danlos syndrome, inflammatory diseases of the aorta, Turner syndrome, bicuspid aortic valve, and familial thoracic aortic aneurysm and dissection syndrome [5]. The most common condition that increases wall stress is hypertension, present in more than two-thirds of patients with aortic dissection. Other conditions implicated in dissection are likely mediated by hypertension, including pheochromocytoma, cocaine use, and coarctation [6]. Physical trauma can increase wall

Figure 1: Electrocardiography performed on arrival revealed sinus tachycardia without acute ischemia.

*Corresponding author: Su X, Department of Cardiology, Wuhan Asia Heart Hospital, Wuhan 430022, PR China, Tel: +8615172496706; Fax: 86-027-65796888; E-mail: Yaxin_suxi@163.com

Received February 04, 2016; Accepted February 27, 2016; Published March 04, 2016


Copyright: © 2016 Wang JY, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.
induced elevation of arterial blood pressure and the increased afterload secondary to peripheral vasoconstriction combine to cause a sharp increase in the wall stress at the aortic intimal level, thus predisposing a patient to aortic dissection. Furthermore, the increase of the pulse wave (or \( dP/dT \)) will facilitate progression of the dissection once it is started [10].

Our patient was 24 years old and without a history of hypertension or other predisposing factors to aortic dissection. To date there have been 0 case report of Methamphetamine-induced aortic dissection. Emergency physicians should remain vigilant for its presence as the abuse of Maguo ingestion in our society continues.

References


Methamphetamine-induced cardiovascular pathology is the result of its sympathomimetic effect on the heart and peripheral vasculature, causing both increased inotropic and chronotropic activity and an increase in peripheral vascular resistance [9]. Methamphetamine-induced elevation of arterial blood pressure and the increased afterload secondary to peripheral vasoconstriction combine to cause a sharp increase in the wall stress at the aortic intimal level, thus predisposing a patient to aortic dissection. Furthermore, the increase of the pulse wave (or \( dP/dT \)) will facilitate progression of the dissection once it is started [10].

Our patient was 24 years old and without a history of hypertension or other predisposing factors to aortic dissection. To date there have been 0 case report of Methamphetamine-induced aortic dissection. Emergency physicians should remain vigilant for its presence as the abuse of Maguo ingestion in our society continues.

References