

A Toxic Heart: Acute Coronary Syndrome Induced by Methamphetamine

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Introduction:

Amphetamine-type stimulants are sympathomimetics; they increase the neurotransmission of chemicals in the Autonomic Nervous System (ANS). The drug could induce arrhythmias, palpitations, chest pain and even cardiac arrest. We present a case where a patient presented with symptoms of a heart attack, which turned out to be induced by Methamphetamine.

Case Description:

A 42-year-old gentleman with an underlying of Hypertension has been having frequent visits to the emergency department for the same complaints of chest pain associated with palpitations and left upper limb numbness. Electrocardiograph (ECG) showed sinus rhythm with no acute ischemic changes, which was his baseline ECG. A provisional diagnosis of Acute Coronary Syndrome (ACS) was made, and the patient was given Tab. Aspirin 300mg and Tab. Plavix 300mg STAT, which temporarily relieved the symptoms. Upon further history taking, patient admitted to being a chronic Methamphetamine chaser. He claimed the symptoms usually occur after taking such stimulants. A urine toxicology test was done, and he was positive for Methamphetamine. He was given adequate hydration, and his symptoms were observed for 12 hours, aligned with the half-life of Methamphetamines. His Troponin-T results at 0 and 1-hour were 16 and 9 respectively, which were similar to his previous baseline Troponins. Upon completion of his 12-hours observation, patient was well and had no more chest pain. He was then allowed discharge with an outpatient referral for further cardiac workup.

Discussion:

Acute Coronary Syndrome in a patient consuming Methamphetamine poses a dilemma in terms of the actual cause of symptoms. Methamphetamine could lead to presentation of chest pain typical of ACS. This is likely due to the accentuation of the ANS. Patient may only have vasospasms, but coronary artery disease could not be ruled out unless an angiogram is performed. Such patients should be counselled to stop taking the drug and undergo a stress test.

Conclusion:

In patients presenting with ACS, Methamphetamine as the causal agent should be considered. When in doubt, patients should be treated as per ACS protocol. Subsequent investigations such as the stress test and angiogram could be arranged for appropriate management.

Keywords: Methamphetamine, chest pain