



## Acute Myocardial Infarction after MaxMan Consumption with Normal Angiography: A Case Report

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### ABSTRACT

Acute myocardial infarction (MI) with a normal coronary angiogram is a well-established abnormality, although it is usually related with stenosis in coronary arteries. We reported here a case of a 24-year-old man referring with acute inferior MI after MaxMan capsule consumption. The patient had not any related risk factors of coronary artery disease and a history of prior MI. The acute inferior infarction in this patient was detected in the electrocardiogram in the absence of any stenosis or obstruction in the angiogram. We do not recommend MaxMan intake as a usual drug before intercourse.

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### Introduction

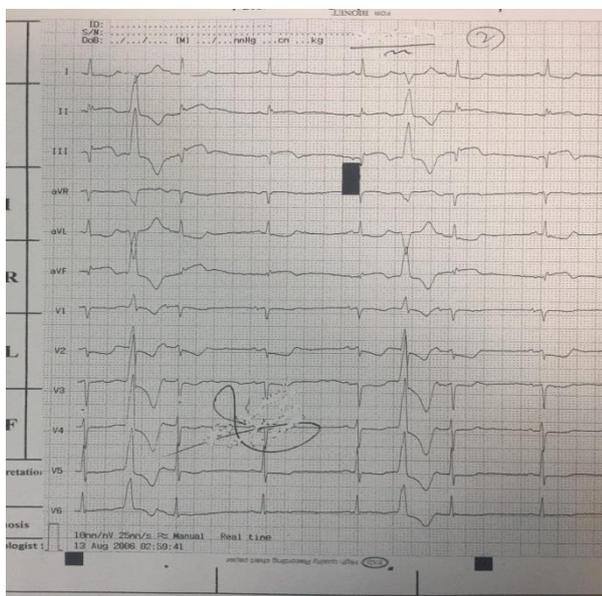
Acute inferior myocardial infarction (MI) with normal angiography is explained in previous reports, however, the etiology and treatment of this medical condition is conflicting (1). In normal coronary angiography its prevalence range from 1% to 12% (2, 3). MaxMan is one such male enhancement product that increases blood flow and penis size. It contains a mixture of ginseng, Maca Powder, Guarana, Avena Sativa and Rowdy Weed (4). It was not approved by the Food and Drug

Administration (FDA) and in 03-02-2015 the FDA declared that the consumption of MM2 MaxMan is dangerous and must be avoided (5). We present a 24-year-old male patient with a diagnosed electrocardiographic MI without any previous cardiovascular risk factors with normal angiography.

### Case Report

A 24-year-old man with chest pain and dyspnea referred to cardiology emergency department of Bushehr heart center hospital, Iran. The patient had no medical history of

hypertension, previous MI, diabetes mellitus, smoking, hypercholesterolemia or premature coronary artery disease (CAD), and family history of cardiovascular diseases. He has consumed MaxMan capsules as an erection enhancer agent before intercourse. The patient was admitted in the emergency ward because of severe chest pain, sweating, nausea, vomiting, and tachycardia 1 hour after MaxMan intake. On physical examination, blood pressure was within the normal range. The resting electrocardiogram (ECG) was performed for him, and the typical acute inferior MI was diagnosed in 12-lead ECG (Figure 1).



**Figure 1.** Electrocardiogram at admission. Normal sinus rhythm, 2 mm ST depression II, III avf lead, 1 mm ST depression I, II, avf lead, premature ventricular contraction multiple wave, II, III lead, axis normal, heart rate 60/min, acute infarction elevation myocardial infarction

Laboratory tests including total serum cholesterol, high-density lipoprotein cholesterol, triglycerides, low-density lipoprotein cholesterol, fasting plasma glucose, and plasma homocysteine were in normal range. Then, the patient was treated using streptokinase 1.5 million IU during 1-hour. 3 days after admission, coronary angiography was performed for the patient

that was normal without any narrowing and culprit lesions (Figures 2 and 3).



**Figure 2.** Normal angiography

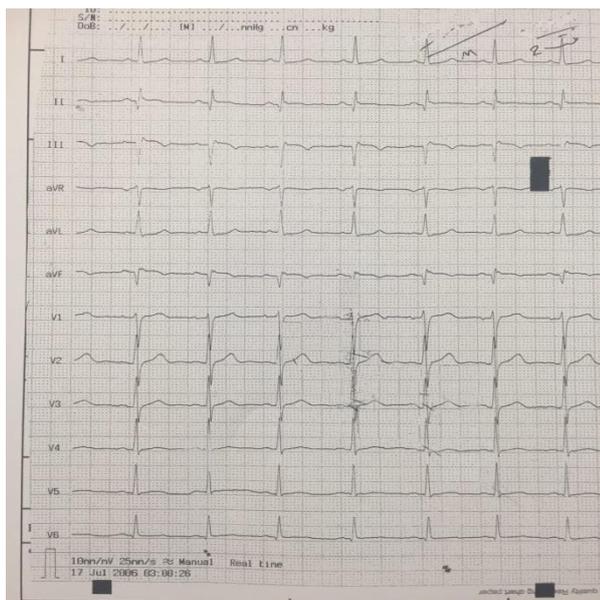
4 days after admission, the ECG was taken and the patient was discharged (Figure 4).



**Figure 3.** Normal coronary artery

### Discussion

As stated in this report, normal coronary angiography was reported in 1-12% of patients. The incidence of this condition is related to the definition of normality, sex, age, etc. (1-4). MaxMan is a penis enlargement agent, but the ingredients of this drug are unknown so, FDA has not improved it (5, 6).



**Figure 4.** Electrocardiogram at discharge. Heart rate 75/min, Q wave, II, III avf lead, 1 mm ST depression I, II, avf lead, 1 avl normal segment

Based on the Australian Department of Health Therapeutic Goods Administration it is a fake drug containing undeclared ingredients, but the most important agent of MaxMan is sildenafil (5). We reported a 24-year-old man with chest pain and dyspnea due to MaxMan capsule intake before intercourse. He showed the typical acute inferior MI in 12-lead ECG, but the angiography was normal. Patients with inferior MI without any stenosis in coronary angiography have a 3-7-year survival rate about 90%; moreover, the rate of reinfarction in these patients is lower than other CADs (7). In a case report in 2009 Iuliano et al. (8) reported a 49-year-old woman with a history of MI with a normal angiography. Moreover, another case report by Kim et al. (9) in 2009 reported a 61-year-old man with ST-segment elevation in inferior leads, but normal angiogram in the right and left coronary arteries. As stated in this paper some of the patients affected by CAD have a normal angiogram and in a study in 2007 in the United States, 20% of 865 000 patients with coronary heart disease (CHD) symptoms have a normal angiogram (10). Therefore, the treatment and management of these patients

are a matter of concern. In line with our findings, in this report, Iuliano et al. (8) indicated that the patients with CHD symptoms and normal angiogram are young and had good prognoses. Therefore, appropriate treatment of these patients can decrease adverse events and increase survival. In this report, the patient was evaluated based on diagnostic algorithm according to the AHA/ACC guidelines. Therefore, the diagnosis of MI based on ECG with normal coronary angiography raises an important question, concerning the application of AHA/ACC secondary prevention guidelines for MI. MaxMan is not approved by the US FDA with unknown ingredients so; it should be consumed more cautiously.

### Conflict of Interests

Authors have no conflict of interests.

### Acknowledgments

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