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Acute Myocardial Infarction Caused by Suicidal Hanging Attempt

CASE REPORT

INTRODUCTION

Suicide is an important cause of mortality among adults. Hanging attempts are one of the common methods of suicides.[1] Suicidal attempts are 30 times more common than successful suicides, and they are associated with significant morbidity, especially neurological deficits, cardiac arrest, and cardiovascular complications.[2] We herein present a case of acute myocardial infarction (MI) due to attempted hanging suicide.

CASE REPORT

A 51-year-old male patient was found unconscious at home following an attempted suicidal hanging and was brought to the emergency room by emergency medical services. He regained his consciousness upon his arrival (Figure 1).

Figure 1. Picture of the patient taken after the hanging attempt in the emergency room (obtained with written permission).

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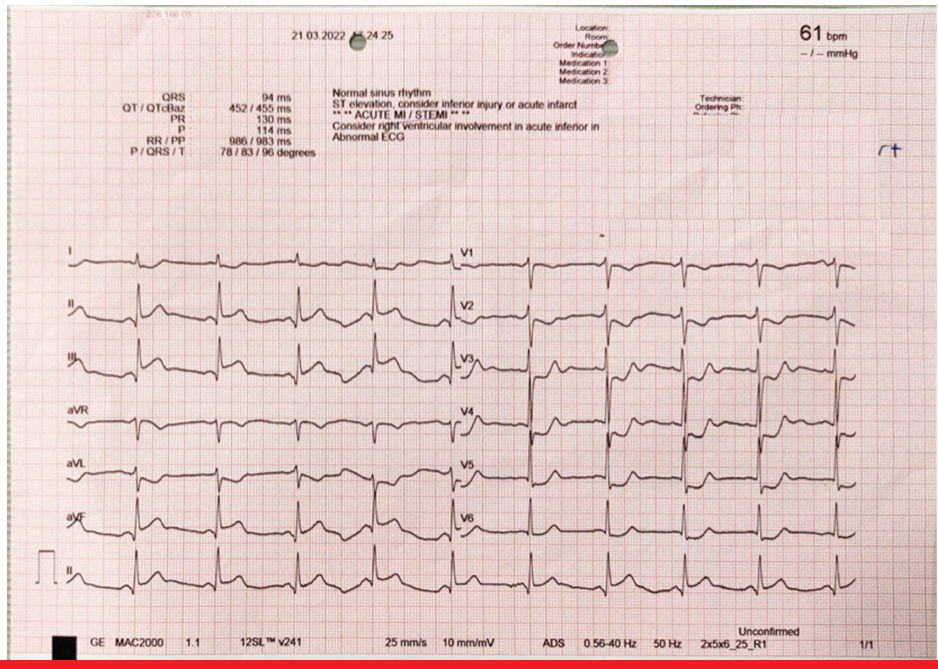

Figure 2. Admission electrocardiogram demonstrating inferior myocardial infarction.

His arterial blood pressure was 148/82, and heart rate was 61 bpm with an arterial oxygen saturation of 99%. His neurological examination was completely normal. Brain computerized tomography and diffusion magnetic resonance imaging also didn't demonstrate any defects. He had a typical chest pain suggestive of coronary ischemia. The medical history was unremarkable except for 10 pack-years of smoking. Electrocardiogram demonstrated acute inferior wall MI (Figure 2). Acetylsalicylic acid 300 mg, clopidogrel 600 mg, and enoxaparin 70 mg SC were administered. Coronary angiogram demonstrated a total occlusion of the right coronary artery, which was successfully reperfused with percutaneous coronary intervention (Figure 3). The remaining coronary arteries demonstrated plaques associated with mild-degree stenosis.

DISCUSSION

Suicidal hanging attempts are associated with various adverse cardiovascular outcomes, such as carotid artery dissection and/or occlusion,[3,4] heart block,[5] ventricular tachycardia/fibrillation,[2] and stress cardiomyopathy (i.e. Takotsubo syndrome).[6] Acute MI following suicidal hanging hasn't been reported before. In suicidal hanging, the pathophysiology of death is usually cerebral hypoperfusion, in contrast to judicial drop-hanging, where the major pathophysiology is axis pedicle fractures.[7] Transient hypoxemia caused by cessation of the ventilation may cause concurrent type 2 MI via hypoxemia, without significant atherosclerotic cardiovascular disease. Alternatively, oxidative stress caused by hypoxemia–reperfusion might

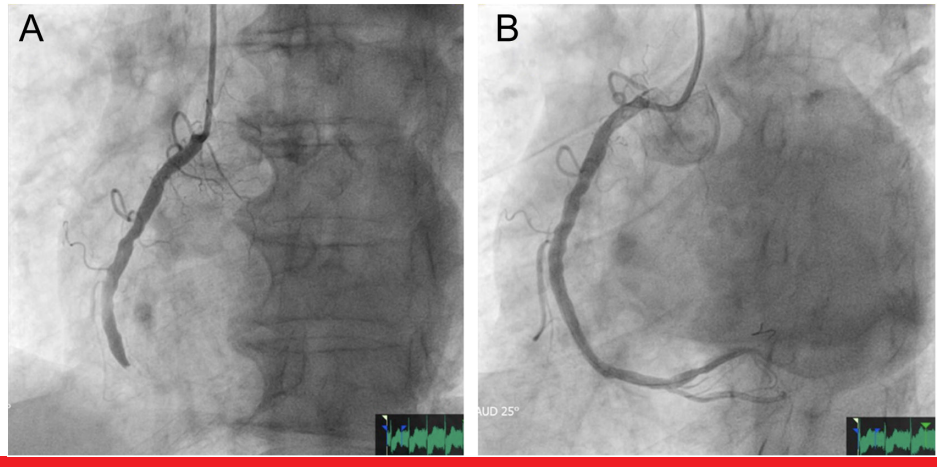

Figure 3. A. Right coronary artery before percutaneous coronary intervention (PCI). B. After PCI.

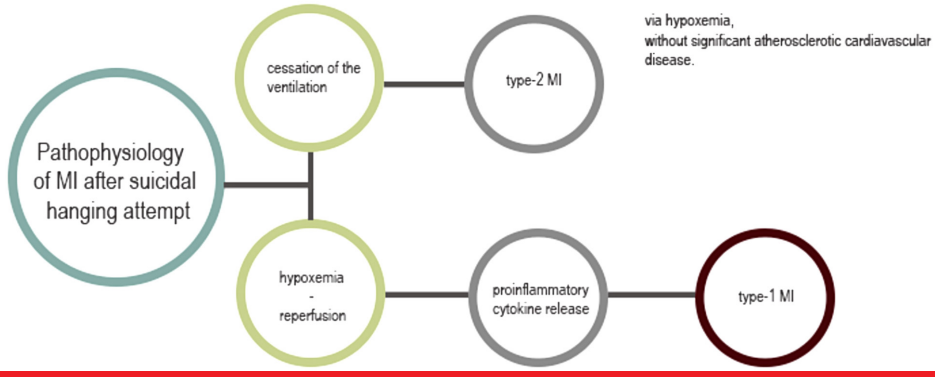

Figure 4. Mechanism of myocardial infarction following suicidal hanging attemts.

result in proinflammatory cytokine release and type-1 MI (Figure 4).[8]

CONCLUSION

Electrocardiogram and cardiac imaging should be utilized liberally in patients with suicidal hanging attempts. The patients should be carefully investigated for cardiovascular complications.

Informed Consent: Written informed consent was obtained from the subject prior to participation in the study.

Declaration of Interests: The authors have no conflict of interest to declare.

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