Ventricular tachycardia and chest pain due to foreign body in the pericardium caused by self-injurious behavior

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Title page

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Running head

Ventricular tachycardia by self-injurious behavior

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Abstract

A 14-year-old girl suddenly developed ventricular tachycardia and severe chest pain during hospitalization for surgery for trauma. Computed tomography revealed a needle in the pericardium. Careful interview elicited that she had inserted the needle herself, and Munchausen syndrome was diagnosed. This is the first report of ventricular tachycardia caused by a foreign body in a patient with Munchausen syndrome.

Main text

Introduction

Most cases of ventricular tachycardia in children are associated with structural abnormalities of the heart, cardiomyopathies, or channelopathies such as prolonged QT syndrome or catecholaminergic polymorphic ventricular tachycardia. On the other hand, idiopathic ventricular tachycardia is very rare.[1]

Munchausen syndrome is a relatively rare psychosis in which the patient presents with signs and symptoms mimicking real diseases to attract medical attention.[2] Cases of ventricular tachycardia resulting from behaviors caused by this psychosis are extremely rare. This report represents the first description of a patient with new-onset ventricular tachycardia at rest caused by self-injurious behavior due to Munchausen syndrome.

Case

A 14-year-old girl with no history of cardiovascular disease or thoracic surgery was referred to our hospital for surgery for an intractable lower limb injury for which frequent debridements had been performed because of repeated exacerbations and infections over the course of more than a year. Four weeks after surgical treatment under general anesthesia in our hospital, she complained of chest pain at rest. Her general condition was good, and all vital signs were within normal ranges. No

abnormal findings were found on chest auscultation. Chest X-ray, 12-lead electrocardiography, echocardiography and blood biochemical examination showed no abnormalities, and symptoms improved within a short time. However, the following week, she again complained of severe chest pain at rest, and non-sustained ventricular tachycardia was detected on the electrocardiogram monitor for the first time (Fig. l). On re-examination, creatine kinase and troponin T levels increased to 188 U/L and 0.18 ng/mL, respectively. Contrast-enhanced computed tomography performed as screening for coronary artery disease revealed an acicular foreign body close to the heart (Fig. 2a, b). In addition, a scar suggestive of a needle hole was confirmed in the left anterior chest. Considering the possibility of the foreign body being in the heart, we set up the cardiopulmonary bypass and underwent emergency surgery. By surgery, an 8-cm needle, with the tip inside the pericardium, was removed without using cardiopulmonary bypass. Postoperatively, sinus rhythm resumed and blood test data also normalized. Notably, although the postoperative course was good, the patient appeared disappointed as the level of medical urgency improved. Careful interview elicited that she had inserted the needle herself. Furthermore, the cause of the initial intractable injury was suspected to be due to self-injurious behavior. Based on the above findings, Munchausen syndrome was diagnosed.

Discussion

Munchausen syndrome is a relatively rare mental disorder characterized by disguising

diseases. Patients with this condition want to attract medical attention, and conversely become disappointed as the medical attention decreases with improvements in signs and symptoms. Cardiovascular complications associated with Munchausen syndrome were first reported as "cardiopathia fantastica", typically involving complaints of acute coronary syndrome such as chest pain, but sometimes displaying arrhythmias and abnormalities in blood biochemistry as in the present case.[2] Among the cases of ventricular tachycardia due to Munchausen syndrome reported in recent years, one involved caffeine overdose and one resulted from self-injection of epinephrine[3,4], but no reports have described self-inserted foreign bodies in the pericardium.

The most important clue to the diagnosis in this case was the existence of objective abnormalities like ventricular tachycardia and increased serum levels of creatine kinase and troponin T in the second episode of chest pain. In children, most cases with chest pain are benign, but chest pain accompanied by objective abnormal findings should be explored for rare underlying etiologies. The diagnosis of Munchausen syndrome is greatly facilitated by a carefully elicited history. This patient showed a clinical course of intractable injury requiring frequent debridement because of repeated exacerbations and infections of unknown cause. Such a clinical course is also suggestive of Munchausen syndrome. In conclusion, in cases presenting with a rare cardiac event, psychiatric disease should be considered among the differential diagnoses.

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Conflicts of Interest

None.

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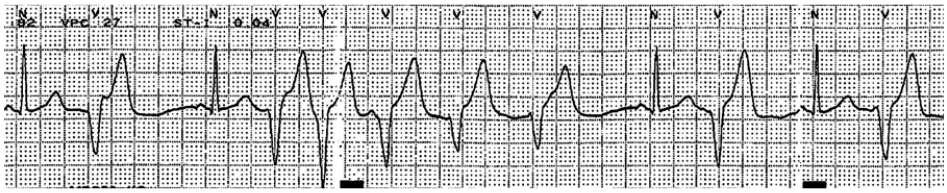
Figure legends

Fig. 1

Electrocardiogram for the second episode of chest pain shows non-sustained ventricular tachycardia.

Fig. 2

Computed tomography at the time of the second episode of chest pain reveals an acicular foreign body on the heart (arrow). A) Two-dimensional image. B) Three-dimensional image.



Electrocardiogram for the second episode of chest pain shows non-sustained ventricular tachycardia.

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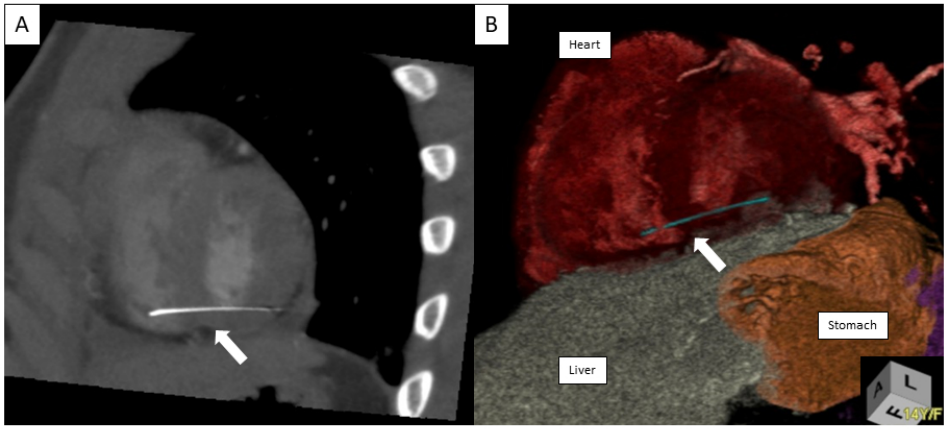

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