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Takotsubo Cardiomyopathy in a Patient With Emotional Stress

TO THE EDITOR: Takotsubo cardiomyopathy is a condition that manifests as a segmental wall motion abnormality that typically undergoes spontaneous reversal. This condition has also been referred to as the “broken heart syndrome” because of its appearance following acute emotional stress (1). We report the case of a patient who experienced Takotsubo cardiomyopathy that was relieved after sedative medication was prescribed.

“Ms. A” was a 35-year-old woman who was admitted to our hospital with typical anginal pain that began following the unexpected death of her brother. She had experienced chest pain for a duration of 3 hours and had no prior history of cardiovascular disease.

On physical examination, the patient was awake and alert. Her blood pressure was 120/90 mmHg; her respiratory rate was 28 breaths per minute; and her heart rate was normal, with no arrhythmia. An electrocardiogram (ECG) showed ST segment elevation in the anterior leads. The patient was initially diagnosed with acute myocardial infarction, and her laboratory evaluation showed a small increase in cardiac enzymes and troponin (in serial mea-

surements). However, a coronary angiogram revealed normal coronary arteries.

Because of her persistent chest pain, a transthoracic echocardiography was performed, which revealed left ventricular akinesia of the apical segment and hyperkinesis of the basal segment. Consequently, a left ventriculography was also performed because Takotsubo cardiomyopathy was suspected.

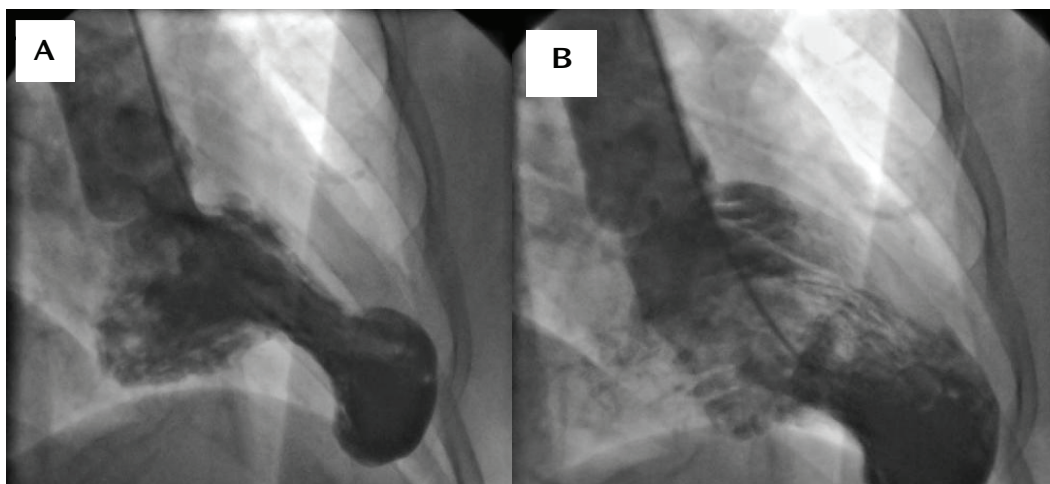
After she received a sedative medication, Ms. A experienced relief from the chest pain, and she experienced no further angina symptoms during the remainder of her hospital stay. After her discharge, a repeat echocardiography performed on day 10 revealed no wall motion abnormalities.

Although there is no specific treatment for Takotsubo cardiomyopathy, the prognosis for individuals who are diagnosed with the condition is usually good, and recurrence is rare.

The most likely underlying mechanism in the pathogenesis of Takotsubo cardiomyopathy is a sudden excessive catecholamine surge and increased sympathetic activity (2). Symptoms include a sudden onset of chest pain, ECG abnormalities (similar to those of acute myocardial infarction), normal coronary arteries (revealed on cardiac catheterization), and a signature appearance (revealed on ventriculography and transthoracic echocardiography) (3).

Psychological distress has been shown to result in increased risk of myocardial infarction (4). This association appears to occur primarily in patients with known atherosclerotic heart disease, in whom stress may contribute to the pathogenesis of atherosclerotic plaques. In contrast, the role of emotional stress in the pathogenesis of Takotsubo cardiomyopathy and myocardial infarction in individuals with normal coronary arteries is less understood (4, 5).

FIGURE 1. Left Ventriculography^a



^a Illustration of the ballooning shape of the left ventricle in systole (A) compared with diastole (B).

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