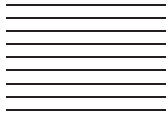




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Letters to the Editor

TAKOTSUBO RATHER THAN KOUNIS SYNDROME COMPLICATING SARS-COV-2 VACCINATION

To the Editor:

We eagerly read the article by Özdemir et al. about a 41-year-old woman who developed Kounis syndrome after the first standard dose of the inactivated SARS-CoV-2 vaccine produced by Sinovac Life Sciences (1). The previously asymptomatic patient experienced flushing, palpitations, dyspnea, and angina chest pain 15 min after receiving the vaccine (1). Clinical examination revealed facial erythema, edema of the lips and uvula, and bronchospasm (1). Workup revealed T-wave inversion V4–6 on electrocardiogram (ECG), apico-lateral and posterior hypokinesia on transthoracic echocardiography, apical and apico-lateral hypokinesia on ventriculography, reduced ejection fraction, elevated troponin, pro-brain natriuretic peptide (pro-BNP), elevated creatine-kinase-MB (CK-MB), and eosinophilia (1). These abnormalities resolved within 2 days of treatment with pheniramine, dexamethasone, salbutamol, and epinephrine (1). The study is appealing but raises concerns that require discussion.

We disagree strongly with the diagnosis of Kounis syndrome in the patient presented. It is more likely that the patient had Takotsubo syndrome (TTS), also known as stress cardiomyopathy or broken heart syndrome, than Kounis syndrome. TTS is diagnosed according to the Mayo Clinic criteria (2). Following these criteria, TTS is diagnosed if there is transient hypokinesia, akinesia, or dyskinesia of the left ventricular mid-ventricular segments with or without apical involvement, and extension of these regional wall motion abnormalities beyond the boundaries of a particular epicardial vascular distribution; absence of obstructive coronary artery disease or angiographic evi-

dence of acute plaque rupture; new ST-segment elevation or T-wave inversion or modest elevation of cardiac troponin; and absence of pheochromocytoma or myocarditis (1). TTS mimics myocardial infarction clinically, electrocardiographically, echocardiographically, and on blood chemical investigations. TTS is triggered by emotional, physical, or unknown elicitors. However, according to a recent review, physical triggers prevail in male and female patients (3). Arguments for TTS in the index patient are the clinical presentation (anginal chest pain), the ECG (T-wave inversions), echocardiography (apical and apico-lateral hypokinesia), and elevated troponin, CK-MB, and pro-BNP. A further argument for TTS is provided in Figure 2, which showed apical ballooning of the left ventricle in the upper panels of the echocardiogram images (1). Other arguments in favor of TTS are that the condition had resolved completely within 2–7 days and that TTS has been reported in the past as an adverse effect after SARS-CoV-2 vaccinations (1,4). It remains speculative whether recovery of TTS was attributable to the applied treatment or occurred spontaneously.

Concerning the trigger of TTS in the index patient, there are several possibilities. First, it is conceivable that the patient indeed experienced an allergic reaction to one of the components of the vaccine. Arguments for an allergic reaction are the erythema, edema of the lips and uvula, bronchospasm, eosinophilia, and resolution of these manifestations after treatment with steroids, antihistamines, and epinephrine. In addition, TTS triggered by allergic reactions to certain compounds has been reported previously (5). Second, the patient was anxious about the vaccination, possible adverse effects, or its questionable beneficial effect. Concerning this issue, we should be notified whether the patient's history was positive in this regard. Third, the patient was anxious about getting infected or under stress because of her psychosocial or socioeconomic conditions. These issues should be addressed when obtaining the patient's history.

The study was approved by the Institutional Review Board.

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