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Clinical Communications: Adult

Type 1 Kounis Syndrome Induced by Inactivated SARS-COV-2 Vaccine

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□ **Abstract— *Background* Vaccination is the most important way out of the novel coronavirus disease 2019 (COVID-19) pandemic. Vaccination practices have started in different countries for community immunity. In this process, health authorities in different countries have preferred different type of COVID-19 vaccines. Inactivated COVID-19 vaccine is one of these options and has been administered to more than 7 million people in Turkey. Inactivated vaccines are generally considered safe. Kounis syndrome (KS) is a rare clinical condition defined as the co-existence of acute coronary syndromes and allergic reactions. *Case Report* We present the case of a 41-year-old woman with no cardiovascular risk factors who was admitted at our emergency department with flushing, palpitation, dyspnea, and chest pain 15 min after the first dose of inactivated CoronaVac (Sinovac Life Sciences, Beijing, China). Electrocardiogram (ECG) showed V4-6 T wave inversion, and echocardiography revealed left ventricular wall motion abnormalities. Troponin-I level on arrival was elevated. Coronary angiography showed no sign of coronary atherosclerosis. She was diagnosed with type 1 KS. The patient's symptoms resolved and she was discharged from hospital in a good condition. *Why Should an Emergency Physician Be Aware of This?* To the best of our knowledge, this is the first case of allergic myocardial infarction secondary to inactivated coronavirus vaccine. This case demonstrates that KS can occur after inactivated virus vaccine against COVID-19. Although the risk of severe allergic reaction after administration of CoronaVac seems to be very low, people who developed chest pain after vaccine administration should be followed by ECG and troponin measurements. © 2021 Elsevier Inc. All rights reserved.**

□ **Keywords—allergic reaction; COVID-19; Kounis syndrome; inactivated vaccine**

The patient has given informed consent to the publication of this case report.

Introduction

Vaccines seem to be the greatest hope to eradicate severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) infection, which causes novel coronavirus disease 2019 (COVID-19) pandemic. Different COVID-19 vaccines are being used for immunity around the world. These vaccines include inactive-attenuated virus vaccines, protein subunit-based vaccines, nonreplicating viral vector vaccines, and DNA-based or RNA-based vaccines (1). RNA-based COVID-19 vaccines (such as Pfizer-BioNTech, Moderna, and Oxford-AstraZeneca) are administered in European Union countries and the United States. So far, approximately 7.7 million people have been vaccinated with inactivated coronavirus vaccine in Turkey (2). Based on the available data, although there are important differences in effectiveness rates, no major safety concern was reported for these vaccines (3–6).

Kounis syndrome (KS) is defined as the coincidental occurrence of acute coronary events and hypersensitivity reactions caused by vasospastic mediators after an aller-

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