

Elasomeran

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Myopericarditis: case report

A 24-year-old man developed myopericarditis after receiving the first dose of elasomeran vaccine for Coronavirus disease-2019 (COVID-19).

The man, who was a tobacco user, had asthma and history of severe acute respiratory syndrome Corona virus-2 (SARS-CoV-2) infection. After three months of COVID-19 infection, he received the first dose of elasomeran [mRNA-1273; Moderna; *dosage and route not stated*] vaccine for COVID-19. At 24 hours after receiving the vaccine, he presented with acute-onset substernal chest pain. He was hospitalised and an ECG examination demonstrated dynamic inferolateral ST elevations and anterior ST depression. On admission, his body temperature was 36.1°C, BP 125/94mm Hg, HR of 126 beats/min, oxygen saturation 98%. Laboratory investigations showed WBC count of 14.3 K/mm³, absolute lymphocyte count of 0.8 K/mm³, haemoglobin 13.8 g/dL, platelet 178 K/mm³, sodium 139 mmol/L, potassium 4.3 mmol/L, creatinine 0.8 mg/dL, urea nitrogen 13 mg/dL, AST 116 U/L, ALT 35 U/L, ALP 35 U/L, total bilirubin 0.3 mg/dL, troponin I 0.47 ng/mL, Pro-B-type natriuretic peptide 390 pg/mL, erythrocyte sedimentation rate 21 mm/h, CRP 8.4 mg/dL, lactate 2.3 mmol/L. On the second day after vaccination, his serum cardiac troponin-I level was 0.47 ng/mL and the same on the third day after vaccination was 46.0 ng/mL. His nasopharyngeal SARS-CoV-2 nucleic acid amplification technique (NAT) polymerase chain reaction (PCR) test was negative. The tests for HIV and other respiratory viruses like adenovirus, chlamydia pneumoniae, influenza A/B, metapneumovirus, mycoplasma pneumoniae, parainfluenzae 1-4, rhino/enterovirus, and respiratory syncytial virus were negative. A coronary angiography showed no evidence of coronary artery disease or vasospasm. Chest CT angiography was negative for pulmonary embolism. Transthoracic ECG demonstrated decrease in left ventricular systolic function with ejection fraction of 45-50%, mild to moderate mitral regurgitation and moderate tricuspid regurgitation. An endomyocardial biopsy revealed mild diffuse infiltration of CD68+ without infiltration of inflammatory cells or acute cardiomyocyte necrosis. Cardiovascular MRI revealed mild reduction of the left ventricular systolic function. The screening for nuclear antibody turned negative. Based on the clinical presentation, he was diagnosed with myopericarditis associated with the elasomeran COVID-19 vaccination.

The man was treated with colchicine and following 2 days showed resolution of his chest pain symptoms. He was discharged on metoprolol succinate and losartan and was advised to exercise. During follow-up examination at three months, complete recovery of the left ventricular systolic function was noted on ECG.

Won T, et al. Increased Interleukin 18-Dependent Immune Responses Are Associated With Myopericarditis After COVID-19 mRNA Vaccination. *Frontiers in Immunology* 13: 2022. Available from: URL: <http://doi.org/10.3389/fimmu.2022.851620> 803651102