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ACP Michigan Chapter Meeting 2022

Oral# 6

Category: Clinical Vignette

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Recurrent Myopericarditis Following mRNA-1273 SARS-CoV-2 Vaccination in a Patient with Previous SARS-CoV-2 Myopericarditis

Introduction:

Coronavirus disease (COVID-19) caused by SARS-CoV-2 infection has been associated with myocarditis. The novel mRNA vaccines, BNT162b2 and mRNA-1273, that encode the SARS-CoV-2 spike glycoprotein have shown to be a safe combatant to the pandemic. Myocarditis has become a rare, newly recognized complication of the SARS-CoV-2 mRNA vaccinations. The mechanism remains unknown, but multiple have been proposed.

Case description:

A 24-year-old healthy Caucasian female presented to the hospital with acute chest pain. The patient received her first dose of mRNA-1273 SARS-CoV-2 vaccine two days prior to onset of symptoms. She reported sharp mid-sternal chest pain worse with inspiration and associated mild dyspnea. She reported possible SARS-CoV-2 infection one year prior which was associated with identical symptoms, although she was also febrile at that time. Upon current presentation, she was afebrile with stable vital signs. Nasopharyngeal swab testing for SARS-CoV-2 was negative. She had positive IgG (Anti-Nucleocapsid), confirming prior SARS-CoV-2 infection, and positive SARS-CoV-2 IgG (Anti-Spike). Other work up was significant for an elevated troponin I of 4.5 ng/mL (normal ≤ 0.03 ng/mL), elevated CRP of 56, normal ESR, normal CBC, normal D-dimer, and normal BNP. ECG demonstrated normal sinus rhythm with slight ST-segment elevation and T-wave inversion in V2, but no PR-segment depression. A transthoracic echocardiogram demonstrated normal left ventricular systolic function with minimal pericardial effusion. Physical exam was unremarkable. She was diagnosed with acute myopericarditis and treated with colchicine 0.6 mg daily and ibuprofen 800mg every 8 hours. She was advised to not obtain the second vaccination dose of mRNA-1273 SARS-CoV-2. A follow up cardiac MRI one week later did not demonstrate evidence of myocardial scarring or residual inflammation, and troponin had normalized.

Discussion:

We believe this case of myopericarditis recurrence in a patient with prior SARS-CoV-2 myopericarditis suggests an immune reactivation through antigen re-exposure with the SARS-CoV-2 mRNA vaccine. This case highlights the importance of further monitoring of complications and need for continued research in the use of mRNA and their safety for vaccinations and therapies.