

COVID MRNA VACCINE ASSOCIATED MYOCARDITIS IN AN 18-YEAR-OLD FEMALE WITH JUVENILE IDIOPATHIC ARTHRITIS: A CASE REPORT

Carlos A Lodeiro Jordan¹, Leigh Anna Stubbs², Marietta M De Guzman³, Sara K Sexson Tejtel⁴

¹ Baylor College of Medicine, Department of Pediatrics, Academic General Pediatrics

² Baylor College of Medicine, Pediatric Rheumatology, Rheumatology

³ Texas Children's Hospital, Baylor College of Medicine, Pediatric Rheumatology, Rheumatology

⁴ Baylor College of Medicine, Pediatric Cardiology, Cardiology

Keywords: SARS-CoV-2, immunization, pericarditis, adolescents, rheumatology, inflammation, heart

Background: As of November 24, 2021, the CDC and the FDA have confirmed 1,071 cases of COVID-vaccination associated myocarditis (CVAM). Limited data is available regarding COVID vaccine recommendations and CVAM in patients with rheumatologic disease. Here, we discuss a case of CVAM in a patient with systemic onset juvenile idiopathic arthritis (so-JIA).

Materials/Methods: Completed review of the literature and collected clinical information from electronic medical record.

Results: Case Presentation: 18-year-old female with so-JIA presented with 2-days of acute left-sided chest pain following 1-day after the second dose of the Pfizer COVID vaccine. Admission vitals were significant for temperature 98.5 F, heart rate 115 bpm, blood pressure 126/92, respiratory rate 26, oxygen saturation 98%. Physical examination was notable for left episcleritis, arthritis of bilateral hips and left ankle, and erythema nodosum of bilateral shins.. Labs were significant for leukocytosis, elevated troponin (Figure 1), and normal inflammatory markers (CRP, ESR, ferritin). Full infectious myocarditis work-up was negative. Initial electrocardiogram and serial echocardiogram were normal. Cardiac MRI showed regional edema in the mid-ventricular antero-and inferolateral left ventricle meeting criteria for myocarditis. Patient diagnosed with CVAM and started on scheduled ibuprofen. Due to increasing troponin and underlying so-JIA, she was treated with intravenous immunoglobulin (IVIG). Given her episcleritis and arthritis flare, she also required a change in her JIA therapy. Most recent cardiac MR showed evidence of fibrosis with improved regional edema. Her so-JIA is now in remission with tofacitinib and canakinumab.

Conclusions: To our knowledge, this is the first case report of CVAM in a patient with so-JIA. Patient improved after treatment with ibuprofen and IVIG. However, patient's recovery was complicated by prolonged JIA flare requiring adjustment in her immunomodulatory medication. Previous studies have indicated that stable JIA patients tolerate mRNA COVID-19 vaccines well, but further studies will need to assess the risk for patients with active JIA disease.

Images / Graph / Table

Figure 1. Troponin I trend vs time

