

(Tako-Tsubo morphology like) which could be characteristic of this kind of Myocarditis. Third, the good progress of the inflammation and quick recovery. Surely is a serious side effect but it's still less frequent and with better prognosis than COVID-19 Myocarditis. European Medicines Agency (EMA) and Centers for Disease Control and Prevention (CDC) recently stated authorized COVID-19 vaccines advantages are still above risks in all age groups beyond 12 y/o. Why is myocarditis a side effect, Why are adolescent males affected the most and Why is the onset after second dose of m-RNA vaccine are questions still unanswered.

646 Acute peri-myocarditis following COVID-19 Pfizer-Biontech vaccine second dose delivery in a male teenager: the good prognosis and unusual ECG

Luca Fazzini, Ludovica Caggiari, Sara Santus, Maria Francesca Marchetti, Martina Mandas, Ferdinando Perra, Elena Utzeri, Alessandro Raffo, Luigi Meloni, and Roberta Montisci
Clinical Cardiology Unit, Department of Medical Sciences and Public Health, AOU of Cagliari, University of Cagliari, Italy

Aims: Myocarditis due to COVID-19 mRNA vaccine is an uncommon side effect and the cases seem to have occurred predominantly in young adults under 30 years old. The estimated incidence is 12.6 cases per one million second dose m-RNA vaccine delivery.

Methods and results: A 17-years-old male was admitted at our department after 18 days COVID-19 Pfizer-BioNtech vaccine second dose delivery with persistent chest pain without respiratory symptoms and, ST-elevation and PR-depression in V3-V6 at the ECG on 3 August 2021. He had no history of heart disease. Physical examination didn't show anything relevant except for mildly tachycardic heart sounds. In addition blood test showed increase in C-reactive protein, cardiac troponin and N-terminal-pro-B-type natriuretic peptide. An echocardiography showed widespread hypokinesia with reduced left ventricular ejection fraction and highly echogenic pericardium. During the first day cardiac magnetic resonance (CMR) was performed, which showed mild diffuse myocardial oedema on T2-weighted images and T2 mapping and two thin areas of delayed enhancement with non-ischaemic pattern in the lateral wall with involvement of the pericardial sheets confirming peri-myocarditis diagnosis. After 24 h, the ECG showed spread and deep T-waves with QTc prolongation. We performed multiple ECG during the days after to assess morphology changes and QTc. The patient has been asymptomatic for all the hospitalization and on day 7 was performed an echocardiography which describe a full recovery in terms of kinesia and left ventricular ejection fraction. He was discharged asymptomatic with 'better' but still negative T-waves and QTc normalization. Two months after discharge CMR was repeated and showed normal left ventricular function without myocardial oedema and pericardial involvement, but with persistent the areas of delayed enhancement with non-ischaemic pattern in the lateral wall.

Conclusions: In this case report we describe an uncommon COVID-19 m-RNA Vaccine side effect. The first issue is the timing of presentation. On 19 July 2021, ALFA stated that myocarditis is a very uncommon side effect and it usually presents within 14 days after 2nd dose delivery. Our patient was admitted at our department after that time period, probably because we reported the ending part of the myocarditis presented with symptoms of pericarditis; indeed we didn't report the cardiac troponin plateau but only the descending cardiac troponin wave and we attend a very quick recovery. The second issue is the unique ECG with a very quick evolution