Myocarditis should be considered in those with a troponin rise and unobstructed coronary arteries following Pfizer–BioNTech COVID-19 vaccination

Article *in* QJM: monthly journal of the Association of Physicians · August 2021

DOI: 10.1093/qjmed/hcab231

CITATIONS
3

READS
112

1 author:

Adam Ioannou
Royal Free London NHS Foundation Trust
80 PUBLICATIONS **258** CITATIONS

SEE PROFILE

QJM: An International Journal of Medicine, 2021, 1–1

doi: 10.1093/qjmed/hcab231
Letter to Editor

LETTER TO EDITOR

Myocarditis should be considered in those with a troponin rise and unobstructed coronary arteries following Pfizer-BioNTech COVID-19 vaccination

A. Ioannou

From the Department of Cardiology, Royal Free Hospital, Royal Free NHS Foundation Trust, Pond Street, London NW3 2QG, UK. email: adam.ioannou@nhs.net

Dear Editor, I read with interest the case series by Lee *et al.*[1] in which the authors describe three cases of cardiac complications following Pfizer-BioNTech COVID-19 vaccination. In Case 3, they describe a 73-year-old woman who presented with shortness of breath and palpitations 2 h after receiving her first dose of the vaccine. Her electrocardiogram did not demonstrate any signs of ischaemia but troponin I peaked at 180 ng/l 6 h after presenting to the Emergency Department. Transthoracic echocardiogram showed a normal left ventricular ejection fraction of 60% with no regional wall motion abnormalities.

She underwent an invasive coronary angiogram that demonstrated a moderate lesion in the left anterior descending artery. This was confirmed to be non-flow limiting with a fractional flow reserve of 0.83. The remaining coronary arteries were also unobstructed. The authors concluded that this patient had a myocardial infarction with non-obstructive coronary artery disease.

Vaccine-induced myocarditis has been well described in the literature and although uncommon is an established side effect of the Pfizer-BioNTech COVID-19 vaccine.[2–5] Therefore, in a patient with a troponin rise and unobstructed coronary arteries, a diagnosis of myocarditis should be considered as a possible diagnosis. I would suggest in such cases cardiac magnetic resonance imaging should be utilized to assess for myocardial inflammation, oedema and fibrosis; and also confirm the underlying aetiology of the troponin rise.

Conflict of interest. None declared.

References

1. Lee E, Chew NW, Ng P, Yeo TJ. A spectrum of cardiac manifestations post Pfizer-BioNTech COVID-19 vaccination. *QJM* 2021; doi:10.1093/qjmed/hcab177.
2. Montgomery J, Ryan M, Engler R, Hoffman D, McClenathan B, Collins L, *et al.* Myocarditis following immunization with mRNA COVID-19 vaccines in members of the US military. *JAMA Cardiol* 2021; e212833.
3. Abu Mouch S, Roguin A, Hellou E, Ishai A, Shoshan U, Mahamid L, *et al.* Myocarditis following COVID-19 mRNA vaccination. *Vaccine* 2021; **39**:3790–3.
4. Lazaros G, Klein AL, Hatziantoniou S, Tsioufis C, Tsakris A, Anastassopoulou C. The novel platform of mRNA COVID-19 vaccines and myocarditis: clues into the potential underlying mechanism. *Vaccine* 2021; **39**:4925–7.
5. Nassar M, Nso N, Gonzalez C, Lakhdar S, Alshamam M, Elshafey M, *et al.* COVID-19 vaccine-induced myocarditis: case report with literature review. *Diabetes Metab Syndr* 2021; **15**: 102205.

Submitted: 8 August 2021