

Tozinameran

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Myocarditis: 2 case reports

In a case series from Japan, a 27-year-old man and a 38-year-old man were described, who developed myocarditis following vaccination with tozinameran against COVID-19 [*routes and dosages not stated; not all times to reactions onsets stated*].

The 27-year-old man (case 1) had initially developed generalised chest pain 3 days following the second dose of tozinameran [COVID-19 BNT162b2 mRNA vaccine], and the chest pain vanished within a couple of hours. Four days after receiving vaccine, he again developed chest pain again that continued to worsen, and he was therefore moved to hospital. Multiple investigations were performed. He had a fever, with continued chest pain. He had abnormal (high) levels of high-sensitive troponin-I, B-type natriuretic peptide (BNP) and CRP. A transthoracic echocardiogram (TTE) showed a left ventricular ejection fraction (LVEF) of 55%, with left ventricular (LV) septal wall thickness of 9mm. A cardiac MRI findings suggested myocardial oedema. Therefore, he was hospitalised with a diagnosis of myocarditis. He started receiving colchicine and then transitioned to ibuprofen. Subsequently, the symptoms improved. ECG showed inverted T-waves in the inferior limb leads on day 3. On day 9, he was discharged after an uneventful hospitalisation. At 1-month follow-up, ECG and laboratory abnormal findings had returned to normal and baseline values. It was noted that he developed tozinameran vaccine-related myocarditis.

The 38-year-old man (case 2) presented to hospital due to sudden chest pain that developed 9 days after receiving the first dose of tozinameran. On arrival, multiple investigations were performed. ECG showed ST elevation in V2–V6 leads and the inferior limb leads, and a TTE demonstrated regional mild wall hypokinesis in the LV apex and an LV septal wall thickness of 9mm. He had elevated levels of high-sensitive troponin-I, BNP and CRP. The chest pain improved by day 3 on treatment with colchicine and ibuprofen. The peak value of the troponin-I level was noted to be 8.6 ng/mL (on admission), and ST elevation still persisted on ECG. He did not experience any further episodes of chest pain and arrhythmias during the hospital stay, and he was discharged home on day 9. A CMRI (15 days after the onset) with late gadolinium enhancement revealed a sub-epicardial lesion in the antero-lateral segments at the LV mid-apical level, and the finding was consistent with myocarditis. The abnormal laboratory findings and ECG findings showed an improving trend at a 2-week follow-up. It was noted that he developed tozinameran vaccine-related myocarditis.

Murakami Y, et al. Myocarditis Following a COVID-19 Messenger RNA Vaccination: A Japanese Case Series. *Internal Medicine* 61: 501-505, No. 4, 2022. Available from: <http://doi.org/10.2169/internalmedicine.8731-21> 80364668