Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Discussion/Conclusion: The mechanism behind mCV-related pericarditis/myocarditis is unknown, with suggestion there is an immune-mediated trigger, molecular mimicry or anti-idiotype antibodies. An immunogenetic risk is supported by this report in monozygotic DCDA twins. Knowledge of the underlying aetiology may allow predicting who is at risk of developing pericarditis/myocarditis following mCV, and to offer alternative vaccine platforms and anti-inflammatory treatments.

https://doi.org/10.1016/j.hlc.2022.06.354

353

mRNA COVID-19 Vaccine Related Myocarditis and Pericarditis in the Australian Capital Territory

R. O'Driscoll *, J. Fang, J. Raman Srinivasan, S. Wilson

Canberra Hospital, Garran, ACT, Australia

Background: COVID-19 vaccines have been crucial to control the COVID-19 pandemic. The Australian Capital Territory (ACT) has one of the highest vaccination rates internationally. Adverse events including myocarditis and pericarditis have been associated with mRNA COVID-19 vaccines [1,2]. We describe incidence and patient characteristics of mRNA vaccine related myocarditis and pericarditis referred to the only ACT tertiary hospital.

Method: We retrospectively reviewed medical records of patients admitted to Canberra Hospital from February 2021 to January 2022, with a discharge diagnosis of myocarditis or pericarditis. Inclusion criteria included CCU admitted patients, vaccination with at least one dose of mRNA vaccine, and definite or probable myocarditis or pericarditis as defined by the Brighton Collaboration [3].

Results: 93 patients were screened, of which 23 met inclusion criteria. Median age was 26 years (IQR 20–42), and 7 (30%) of the included patients were female. 10 patients (44%) had myocarditis, 10 patients (44%) had pericarditis, while 3 (13%) patients met criteria for both myocarditis and pericarditis. 21 (91%) received BNT162b2 (Pfizer-BioNTech) vaccine and 2 (9%) received mRNA-1273 (Moderna) vaccine. 18 (82%) cases occurred after the 2nd dose, 1 (5%) occurred after the 1st dose, 3 (17%) occurred after booster vaccination. Median peak troponin I in those with suspected myocarditis was 2,250 (IQR 731–10,144). Median peak CRP was 9 (IQR 3–38). Average length of stay was 1.2 days (SD 0.5).

Conclusion: Patients identified with mRNA vaccine related myocarditis and pericarditis were more commonly younger men who received the 2nd dose of a vaccine and had a short length of hospital stay.

References

[1] Witberg G, Barda N, Hoss S, Richter I, Wiessman M, Aviv Y, et al. Myocarditis after covid-19 vaccination in a large Health Care Organization. N Engl J Med. 2021. https://doi.org/10.1056/NEJMoa2110737.

[2] Gargano JW, Wallace M, Hadler SC, Langley G, Su JR, Oster ME, et al. Use of mRNA COVID-19 vaccine after reports of myocarditis among vaccine recipients: update from the Advisory Committee on Immunization Practices—United States, June 2021. MMWR Morb Mortal Wkly Rep. 2021;70(27):977–982. https://doi.org/10.15585/mmwr.mm7027e2.

[3] Myocarditis/pericarditis case definition. 2021; Decatur, GA, USA: Brighton Collaboration of the Task Force for Global Health. Available online: https://brightoncollaboration.us/myocarditis-case-definition-update/. Accessed 10 March 2022.

https://doi.org/10.1016/j.hlc.2022.06.355

354

Multidisciplinary Breathlessness Service: Early Experience and Proposed Model of Care

D. Playford *, S. Claxton, S. Behncken, L. Kearney

GenesisCare, Perth, Australia

Background: Breathlessness is common in primary care and is the commonest symptom of pulmonary hypertension (PH). Multiple diagnostic tests and visits to primary care may delay diagnosis and initiation of disease-specific treatment. We designed a new multidisciplinary breathlessness referral pathway to enhance both diagnosis and treatment.

Methods and Results: The pilot phase (n=60, 65% female, mean age 65±13 years) comprised three components: clinical review, breathlessness investigation and case conferences (respiratory and cardiac, see Figure 1). Cardiac risk factors were common: hypertension, hypercholesterolaemia, diabetes, prior smoking and family history in 46%, 75%, 11%, 40% and 13%, respectively. Computed tomography coronary angiography effectively reclassified many patients to higher (CAC>100, 22% patients) or lower CV risk (CAC=0, 40% patients), although a small minority (7% patients) showed obstructive CAD. PH (eRVSP>30 mmHg) was common (37%) whereas moderate and severe PH was less common (8%). Three patients received a final diagnosis of pulmonary arterial hypertension (PAH), with two prescribed PAH-specific therapy. Many additional diseases were identified: arrhythmias and ≥moderate valvular disease in 16% and 14%, respectively; lung disease (obstructive in 23%, restrictive in 21%); and iron deficiency, thyroid disorders, cancer and/or prior chemotherapy (28%, 13%, 28% and 25%, respectively). After investigation, there were no patients with unexplained breathlessness.

Conclusions: A multidisciplinary breathlessness service is feasible and streamlines diagnosis. PH is common, including PAH requiring disease-specific therapy. These insights will assist in future models of care focussed on timely and efficient cardiorespiratory diagnosis and treatment decisions.