

Peer Review –

Konar, et.al. Cardiovascular Manifestations in COVID-19: Analysis of a Case Series of Hospital Admissions with Laboratory Confirmed SARS-CoV-2 PCR tests. *The Physician* vol 6: issue 3: epub 22.10.2020 <https://doi.org/10.38192/1.6.3.3>

Stuart Hood, Consultant Cardiologist, Glasgow, UK
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This is a large single centre observational study of COVID patients detailing the pre-existing CVS comorbidity. It is well conducted and written and the comorbidity is well documented

My main concern is the implied assumption that COVID has caused cardiac abnormalities. This is not randomised data and therefore it cannot be assumed that any association between covid and cardiac abnormality is causal. For example, the abstract states "Following recovery, over 50% had abnormal findings on echocardiography." If i read correctly 58% had pre-existing cardiac abnormalities so it is not surprising that echo abnormalities were identified. What cannot be assumed is that these abnormalities were CAUSED by COVID.

For example patients with pre-existing HTN, IHD or AF are likely to have had pre-existing diastolic or systolic LV function so it is not possible to conclude that COVID caused these abnormalities. Do we know what their ventricles were like pre-COVID?

Equally - were the patients with elevated BNP in a worse NHYA HF state pre-covid -it is possible that their BNP was significantly elevated pre COVID.

AF, chest pains and palpitations are frequently seen in patients with severe systemic infection, especially so in patients with IHD, PAF and HTN - can we really say that COVID is different to other severe viral / bacterial illnesses? Is it specifically COVID causing cardiac issues?

In those with elevated troponins there could be numerous causes- type 2 MI, Type 1 ACS, Pulmonary embolism, Tn release secondary to tachycardia, myocarditis. These could be specifically related to SARS-Cov-2 effects on the heart but they may just be a reflection of a severe systemic reaction.

I think the article is worthy of publication but I would make clear the distinction between an association and a causal relationship. As it reads at present in the conclusion section, I think it implies that the cardiac abnormalities were caused by COVID - This data cannot support that assumption in my opinion

Conflict of Interest None declared

