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Short Communication

Acute Myocardial Injury and Atherosclerotic Plaque Rupture

David G Gardner*

Department of Medicine, University of California at San Francisco, USA

ABSTRACT

Elevated cardiac biomarkers, especially high-sensitivity cardiac troponin (hstroponin) and/or creatinine kinase MB, are markers of myocardial injury. Elevated cardiac biomarkers are common in patients infected with COVID-19.

INTRODUCTION

Patients infected with COVID-19 may have an acute cardiac injury (ACI), which is defined as an increase in cTn>99%, although the value is mostly stable, or typical ACS (STEMI or STEMI or atherosclerotic plaque rupture) NSTEMI or unstable angina (rupture or erosion) cTn rises and falls in the case of STEMI/NSTEMI, whether in the case of obstructive or non-obstructive coronary artery disease (CAD); The latter group of patients may have Angiography shows normal coronary arteries or non-obstructive coronary artery disease (<50%), recently called ACS (ACSNNOCA) with normal or near normal coronary arteries. On the other hand, non-COVID-19 patients may also experience simulations of SCA or SCA related to the COVID-19 pandemic, either triggered by anxiety related to the coronavirus, or economic and emotional stress related to the pandemic. In addition, many patients with ACS symptoms may avoid or delay emergency room visits.

NON-OBSTRUCTIVE CORONARY ARTERY DISEASE MYOCARDIAL INFARCTION

Acute coronary syndrome (ACS) and acute cardiac injury (ICA) induced by COVID-19 The underlying mechanism, the relationship between them, and the relationship between typical types (related to atherosclerosis) and atypical ACS (ACSNNOCA) [1], and the observed late first medical contact (FMC) and accompanying dire consequences (higher rate complications) (see discussion text). ACE2 means angiotensin converting enzyme type 2; ICA, acute cardiac injury; ACSNNOCA [2], acute coronary syndrome with normal or near normal coronary arteries; INOCA, ischemia for non-obstructive coronary artery disease; MINCA, normal coronary arteries Myocardial infarction; MINOCA [3], non-obstructive coronary artery disease myocardial infarction; NSTEMI, non-ST segment elevation myocardial infarction; RAS, renin angiotensin system; SNS, sympathetic nervous system; STEMI, ST-segment elevation myocardial infarction; TTC, Takotsubo cardiomyopathy (syndrome); UA, unstable angina. 4,444 coronary artery diseases requiring revascularization were detected in 25 patients (67.5%). The remaining 12 patients had no evidence of coronary artery disease. Among the 25 patients with coronary artery disease, 9 had a history of coronary intervention (24.3%) [4]. The release level of myocardial enzymes increased in all patients. Percutaneous coronary intervention (PCI) was performed on patients with the culprit disease. The success rate of PCI was 87.5% (N=21). The median used stent was 2.9 ± 0.7 (range: 14). Due to PCI failure in 4 patients, we recommend coronary artery bypass grafting (CABG) as an option after medical treatment. Six patients required reoperation (30%) due to early stent thrombosis [5]. Seven patients died after PCI (33.3%). For patients whose RTPCR test results are negative or positive, we perform a chest computed tomography (CT) scan, which is a sensitive diagnostic method for COVID-19. Thickening of the interlobular and pleural septum, and bilateral or unilateral inferior and/or middle lobe patchy bronchiectasis were the main pathology in 24 patients. 11 PCI patients (52.3%) with COVID-19 involvement in both lungs had higher levels of dimer, fibrinogen, and CRP, but fibrin degradation products did not change significantly.

CONCLUSION

In three patients with normal coronary arteries, who had transient or decreased motor function due to myocarditis, we decided to have atypical Takotsubo cardiomyopathy. We were treated with a dilator (levosimendan), diuretics, angiotensin-converting enzyme inhibitors, and beta blockers. In order to prevent the risk of thromboembolism, we also performed heparin infusion. Except for one young patient, the apical myocardial contractility improved and the patient was

Correspondence to: David G Gardner, Department of Medicine, University of California at San Francisco, USA; Email: gardner25@itsa.ucsf.edu

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discharged. He is under observation in the ICU and has stable hemodynamics.

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interests.

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