An unexpected finding in Covid-19 patient with high troponin level

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Abstract

There is increasing evidence that COVID-19 infection predisposes to thromboembolism. A 71 years-old male patient was admitted to ICU for COVID-19 related pneumonia. He developed a high troponin rise up to 6715 ng/L. By transthoracic echocardiography, we found akinesia of the full right ventricular apex with a mobile hyperechogenic mass, highly suggestive of thrombus. Unfractionated Heparin was started immediately. A subsequent echocardiogram showed no mass. To our knowledge, this is the first case showing a thrombus formation in the context of right ventricular apical akinesia in COVID-19 patients. There is upcoming evidence that the clinical relevance of thromboembolic complications may be a serious issue in COVID-19 patients even in the absence of any obvious risk factor. Our case clearly demonstrate that, in patients with COVID-19 infection and troponin rise, echocardiography should be performed to rule out possible thrombotic complications

There is increasing evidence that COVID-19 infection predisposes to thromboembolism due to multiple factors such as inflammation, hypoxia, immobilisation and diffuse intravascular coagulation[1,2,3]. There is a reported incidence of 31% in ICU patients with COVID-19 infection[4].

A 71 years-old male patient was admitted to ICU for COVID-19 related pneumonia. He had no history of coronary artery disease and no known cardiovascular risk factors. He developed a high troponin rise up to 6715 ng/L. By transthoracic echocardiography we found akinesia of the full right ventricular apex (Figure 1, Panel A, supplementary material) with a mobile hyperechogenic mass, highly suggestive of thrombus (Panel B, C). Unfractioned Heparin was started immediately. A subsequent echocardiogram, done 72 hours later, showed no mass (Panel D), confirming the thrombotic nature of the mass.

Reports of thromboembolic complications are scarce. To our knowledge, this is the first case showing a thrombus formation in the context of right ventricular apical akinesia in COVID-19 patient. Coronary angiography or other imaging modalities were not performed due to unstable conditions, so we could not make differential diagnosis (myocardial infarction vs Takotsubo syndrome vs myocarditis). Nevertheless, this confirms that there is upcoming evidence that clinical relevance of thromboembolic complications may be a serious issue in COVID-19 patients even in the absence of any obvious risk factor. Further studies are needed to assess the best prophylaxis and treatment of this condition. Our case clearly demonstrate that, in patients with COVID-19 infection and troponin rise, echocardiography should be performed to rule out possible thrombotic complications.

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