

Ascending aorta thrombosis in a patient with COVID-19 who was already receiving anticoagulation therapy

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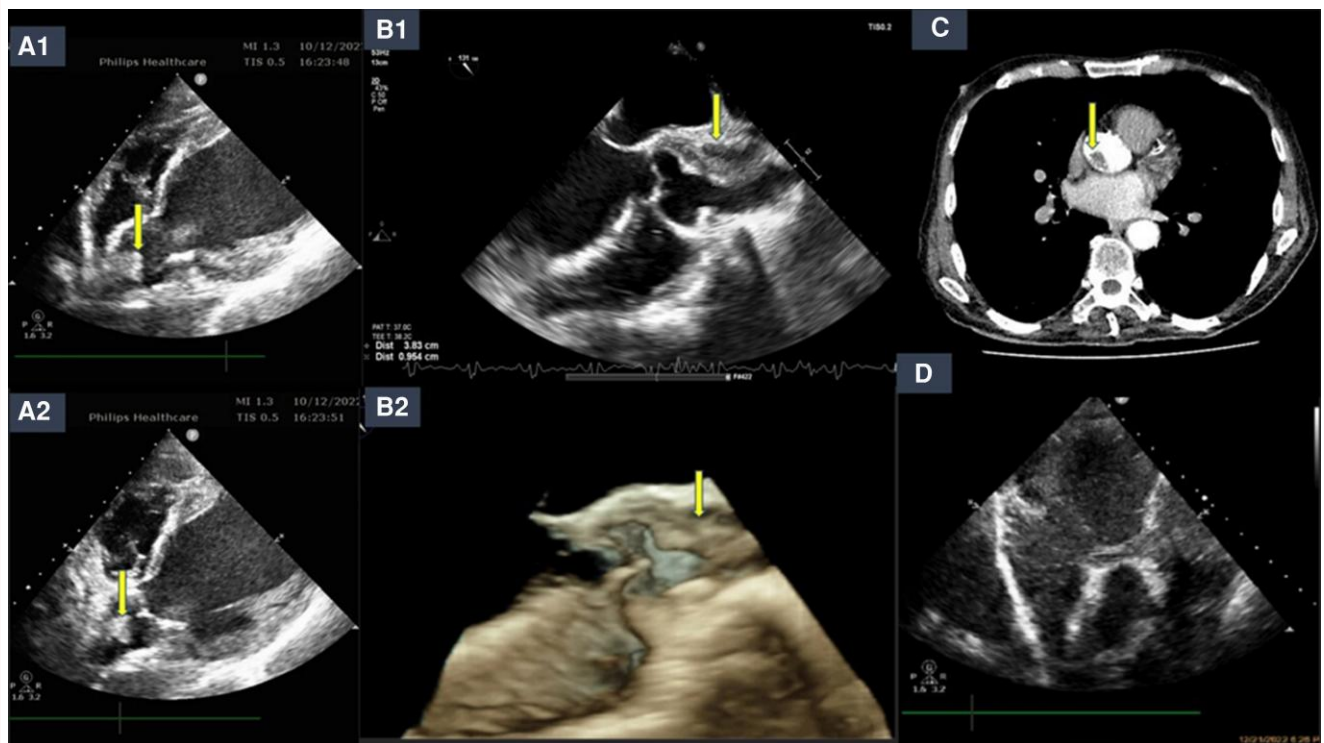


Figure 1 Panel A1–A2: transthoracic echo (subcostal view) showing the aortic thrombus in the aortic root first diagnosis, Panel B1: transoesophageal echo (mesoesophageal long axis view) showing 3,83 cm length thrombus rising from the left sinus of Valsava, Panel B2: transoesophageal 3D echo (mesoesophageal long axis view) Panel C: computed tomographic angiography confirming the presents of thrombus in Aorta, Panel D: emergent transthoracic echo (subcostal view) during cardiopulmonary resuscitation reveals that the thrombus had been detached.

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Case description

A 67-year-old man presented with a fever (39°C) and orthopnea. He had a history of ischaemic heart failure, paroxysmal atrial fibrillation, and stroke. He was on acenocoumarol. Transthoracic echocardiogram (TTE) demonstrated severe left ventricular systolic dysfunction (ejection fraction <20%) with an extended scar in the interventricular septum and an apical aneurysm. A molecular test for coronavirus was positive. Next day a transradial coronary angiogram was achievable and showed coronary arteries without significant stenosis and a patent stent in the left anterior descending artery (without restenosis). Ten days later, after gradual clinical improvement, a new TTE revealed a moving formation in the aortic root near the cusps, extending to the ascending aorta (*Figure 1: Panels A1–A2*). An emergent transoesophageal echocardiogram confirmed the presence of this formation coming from the left sinus of Valsalva (3.83 cm in length), having echocardiographic characteristics of thrombus (*Figure 1: Panels B1–B2, Supplementary material online, Video S1*). A computed tomographic angiography also confirmed these findings (*Figure 1: Panel C*). He did not undergo surgery due to the very high perioperative risk. Aspirin (100 mg/d) was added to acenocoumarol (international normalized ratio tests above 2.5 during hospitalization). A few days later, the patient suddenly became unconscious and was found to be pulseless. The first electrocardiogram revealed asystole (sinus rhythm was noted one day before the event, *Supplementary material, Supplementary Figure 1*). Cardiopulmonary resuscitation (CPR) was performed immediately but the patient was never revived. An emergent TTE during CPR

revealed that the thrombus had been detached from the aortic root (*Figure 1: Panel D, Supplementary material online, Video S2*).

Aortic thrombosis in COVID-19 patients is a rare entity with a high mortality rate. The only radical treatment is surgical thrombectomy. Anticoagulation or thrombolysis has been also used as treatment modalities due to the multiple comorbidities of these patients. This was a rare case of aortic thrombosis developed in a patient with COVID-19 already on adequate anticoagulation.

Supplementary material

[Supplementary material](#) is available at *European Heart Journal – Case Reports*.

Consent: The authors confirm that written consent for submission and publication of this case report including images and associated text has been obtained from the patient's family in line with Committee on Publication Ethics guidance.

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Data availability

The data underlying this article are available in the article and in its online supplementary material.