

Acute ST-segment elevation myocardial infarction and ischemic stroke in a 45-year-old female patient

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Introduction: The most important imaging modality in diseases of the aorta is multi-slice computed tomography (MSCT) angiography. However, echocardiography can often help distinguish acute aortic syndrome from other causes of chest pain^{1,2}. Here, we present a case of a 45-year-old female patient who was admitted to the emergency department (ED) with acute ST-segment elevation myocardial infarction and neurological deficit in form of left-sided hemiparesis.

Case report: 45-year-old female patient with no previous medical history presented to the ED with chest pain that lasted for 2-3 hours before the ED visit. 12-lead electrocardiogram revealed ST-segment elevation in inferior and lateral leads. During the physical examination, it was also noted that she had left-sided hemiparesis and facial paresis. Point-of-care echocardiography was performed where the wall of the available descending part of the aorta could not be clearly visualized. This directed further diagnostic process to MSCT of the brain which showed no ischemic zones and MSCT aortography where multiple thrombi were visualized at the brachiocephalic trunk origin, aortic arch, and the descending aorta (**Figure 1A**). Furthermore, perfusion defects were verified in the right kidney. Due to the high risk of thrombotic masses dissemination, invasive coronary angiography was not performed. Instead, alteplase was administered (0.9 mg/kg). Complete neurological recovery and ST-segment elevation resolution were achieved. Her blood workup showed mildly elevated levels of high sensitive troponin T (61.8 ng/L), N-terminal pro-BNP (335 pg/mL), and very high levels of D-dimer (>35.2 mg/L). Echocardiography revealed hypokinesis of the inferior and posterior wall with preserved systolic

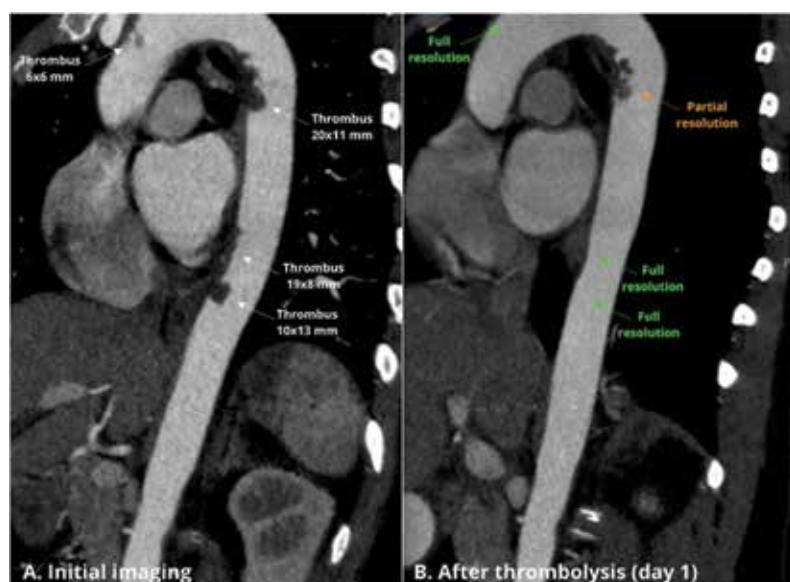


FIGURE 1. A. Initial MSCT of the aorta showing multiple thrombi. B. Control MSCT of the aorta 1 day after thrombolysis showing significant regression in sizes of thrombi.

and diastolic function of the left ventricle. Control aortography showed regression in the size of aortic thrombi (**Figure 1B**) and kidney perfusion defects. Extended laboratory work-up revealed mildly elevated levels of anticardiolipin antibodies and β_2 -glycoprotein (both class IgM). Since the patient was a foreign citizen, she was transported to her country to continue further medical evaluation.

Conclusion: Echocardiography can be a valuable tool in directing the diagnostic process for diseases of the aorta. This points to the importance of point-of-care ultrasonography availability in the ED, as it speeds up the process of establishing the final diagnosis.

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