Acute myocardial infarction and cardiogenic shock caused by a mobile thrombus in the ascending aorta unassociated with atherosclerosis

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A 78-year-old woman with a history of heavy watery diarrhea 9 days prior, presented with chest pain, suggesting an ongoing myocardial infarction. Transthoracic echocardiography revealed inferior wall and right ventricular akinesia. In addition, it revealed an unidentified floating mass in the aortic valve above the aortic valve but no intracardiac thrombus or pathological findings. Contrast-enhanced computed tomography revealed the presence of a pedunculated floating mass in the right coronary sinus of Valsalva (Panels A and B). The coagulation examination findings were normal. Because these features were suggestive of an aortic thrombus obstructing the right coronary ostium, the mass was surgically resected. We did not perform angiography before the surgery because we feared that it might cause an occlusion of the distal right coronary artery (RCA) or cerebral artery embolization. Intraoperatively, a 4 × 3 cm diameter mobile thrombus was observed to be attached to the aortic wall above the right leaflet of the aortic valve and had lodged into the right coronary ostium (Panels C and D). Microscopically, the mass was determined to be a mixed thrombus consisting mostly of fibrin, erythrocytes, platelets, and neutrophils and indicated that the formation of the thrombus was 7–8 days old (Panel E). Although she had neither atrial fibrillation (AF) during hospitalization, a history of arrhythmias, nor episodes of palpitations, possible speculation was that the AF episodes during an electrolyte/fluid imbalance promoted the thrombus formation, which embolized into the sinus of Valsalva and drifted with the blood flow into the RCA ostium.

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