

Spontaneous Aortic Thrombosis Causing Left Main Coronary Occlusion in a Man With Secondary Polycythemia

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A 25-year-old man presented with anterolateral ST-segment elevation myocardial infarction and cardiogenic shock. He was brought immediately to the cardiac catheter laboratory. The angiogram showed a large filling defect in the left coronary sinus that extended into the left main coronary artery (Fig. 1, Online Video 1). The coronary arteries were otherwise angiographically normal. The patient deteriorated with cardiac arrest requiring emergency intubation and ventilation, followed by multiple external cardioversions for recurrent episodes of ventricular tachycardia and ventricular fibrillation. After aspiration of thrombus, the left main coronary artery was directly stented with a 4.0×15 mm bare-metal stent, leading to improvement in the hemodynamic status and cardiac rhythm of the patient. Subsequent transesophageal echocardiography with bubble contrast firmly excluded a patent foramen ovale.

The patient was known to have secondary polycythemia owing to excess alcohol consumption and heavy smoking. He denied the use of any recreational drugs, such as cocaine, and a drug screen was not performed. After his deep vein thrombosis in 2007, he was investigated for clotting abnormalities and was found to be polycythemic with initial hemoglobin of 21.1 g/dl and hematocrit of 0.57. Genetic testing for the Janus kinase 2 mutation was negative, and a diagnosis of secondary polycythemia was made. The hemoglobin of the patient during this admission was 18.7 g/dl, hematocrit of 0.51, with normal platelet and white cell count. The patient was discharged after 2 weeks, with a normal computed tomography scan of his brain, no

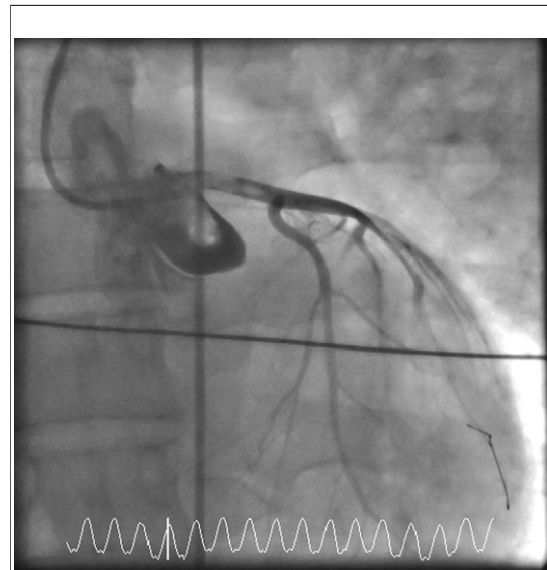


Figure 1. Image Acquisition of the Left Coronary Artery Injection Showed a Large Filling Defect in the Left Coronary Sinus of the Aortic Root Extending Into the Left Main Stem

The guidewire can be seen in the left anterior descending artery, and the accompanying electrocardiogram trace revealed broad complex tachycardia. See Online Video 1.

neurological deficit, and only minor impairment of left ventricular function.

Acute thrombosis of major arterial vessels can be life-threatening (1). Myocardial infarction and sudden death are more common in older patients with polycythemia and underlying coronary artery disease (2). Cases have been reported with thrombus involving the descending aorta (1). We now describe a case of spontaneous thrombus formation in the aortic root occluding the left main coronary artery in a young patient with otherwise normal coronaries. Immediate percutaneous coronary intervention is an accepted treatment for acute ST-segment elevation myocardial infarction with hemodynamic compromise (3) and in this case led to a satisfactory outcome.

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APPENDIX

For a supplementary video, please see the online version of this article.