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IMAGES IN INTERVENTION

Left Main Coronary Artery Occlusion Due to Thrombus Embolization From a Prosthetic Mitral Valve

Ronen Jaffe, MD, Avinoam Shiran, MD, Ronen Rubinshtein, MD

Haifa, Israel

A 46-year-old woman with a history of rheumatic heart disease and mitral and aortic valve replacement with mechanical bileaflet prosthesis was admitted with acute anterior wall ST-segment elevation myocardial infarction and cardiogenic shock after discontinuation of anticoagulant therapy. She underwent emergency coronary catheterization. Fluoroscopy confirmed normal motion of the prosthetic valve leaflets. Coronary angiography revealed a large filling defect within the left main coronary artery (Fig. 1) with TIMI (Thrombolysis In Myocardial Infarction) flow grade 1 in the left anterior descending artery (Online Video 1). Intravenous heparin and intracoronary eptifibatide were administered. Multiple aspirations via a 7-F guide catheter and 2 aspiration thrombectomy catheters (Pronto V3 and Pronto LP, Vascular Solutions, Inc., Minneapolis, Minnesota), which were advanced over a distal embolic protection device (FilterWire EZ, Boston Scientific, Inc., Natick, Massachusetts) retrieved a large thrombus load (Fig. 2). At the end of the procedure, normal coronary flow was achieved (Online Video 2).

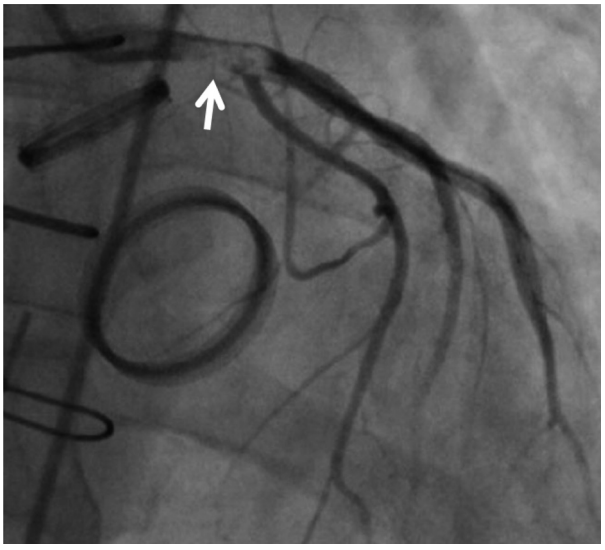

Figure 1. Initial Coronary Angiogram

Coronary angiography revealed a large filling defect within the left main coronary artery **(arrow)**.

From the Department of Cardiovascular Medicine, Lady Davis Carmel Medical Center, Haifa, Israel. Dr. Jaffe is the founder and medical director of CardioFlow; and has received consulting fees from CardioFlow. All other authors have reported that they do not have any relationships relevant to the contents of this paper to disclose.
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Figure 2. Aspirated Thrombus

Multiple aspirations retrieved a large thrombus load.

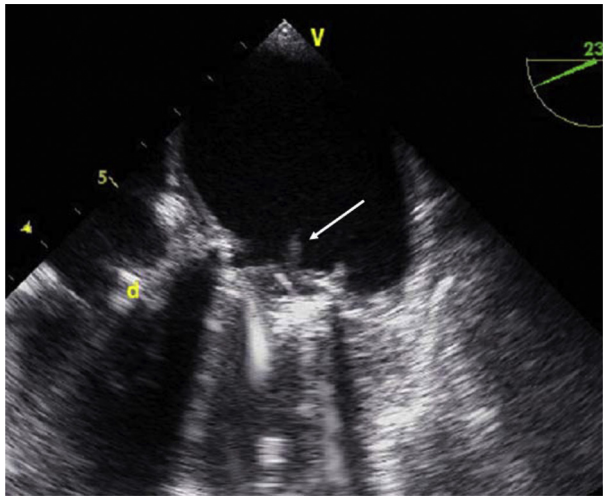

Figure 3. Transesophageal Echocardiogram

Post-procedural transesophageal echocardiography revealed a 5 × 15 mm mobile object on the atrial aspect of the prosthetic mitral valve **(arrow)** compatible with thrombus.

Post-procedural transesophageal echocardiography revealed a 5 × 15 mm mobile thrombus attached to the atrial aspect of the prosthetic mitral valve (Fig. 3, arrow; Online Video 3). The patient made a full hemodynamic recovery, and warfarin therapy was reinstated. Pre-discharge transesophageal echocardiography revealed normal left ventricular function and resolution of the thrombus on the prosthetic mitral valve.

This case highlights the risk of thrombus formation on prosthetic heart valves in the absence of adequate anticoagulation and the potential for severe ischemic complications in the event of thrombus embolization to the coronaries.

Reprint requests and correspondence: Dr. Ronen Jaffe, Department of Cardiovascular Medicine, Lady Davis Carmel Medical Center, 7 Michal St, Haifa, Israel 34362. E-mail: jaffe@clalit.org.il.

Key Words: cardiogenic shock ■ embolism ■ left main coronary ■ primary angioplasty ■ thrombotic lesion.