

IMAGES IN INTERVENTION

Life-Threatening Acute Occlusion of the Left Main Coronary Artery With Massive Thrombi Originating in the Left Atrial Appendage

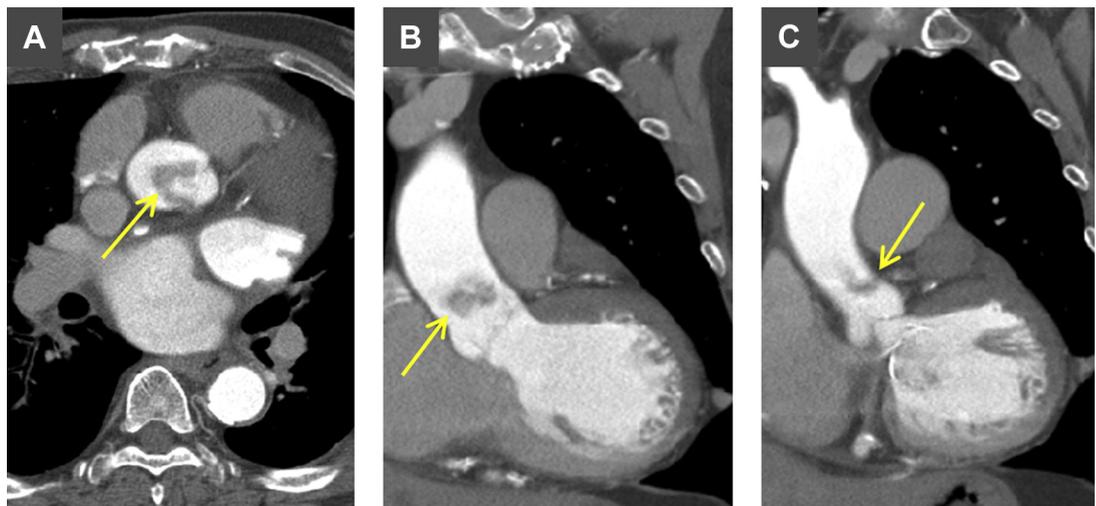


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A 71-year-old man underwent mitral valve plasty for mitral regurgitation 2 years previously. He had a history of paroxysmal atrial fibrillation but did not undergo left atrial appendage closure simultaneously. He presented with acute

ST-segment elevation myocardial infarction complicated by cardiogenic shock. Emergent contrast-enhanced computed tomography, performed to exclude aortic dissection, revealed total occlusion of the left main coronary artery with a massive thrombus

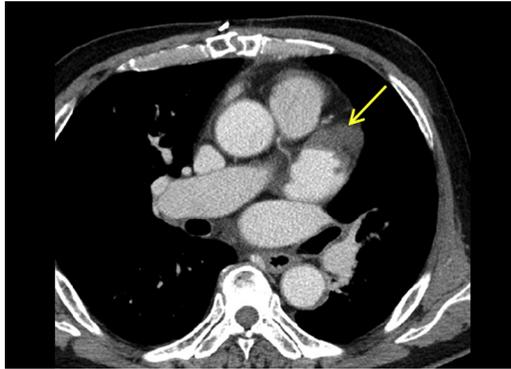
FIGURE 1 Total Occlusion of the Left Main Coronary Artery and Massive Thrombus



(A to C) Emergent contrast-enhanced computed tomography revealed total occlusion of the left main coronary artery with a massive thrombus floating in the ascending aorta (yellow arrows) (Online Video 1).

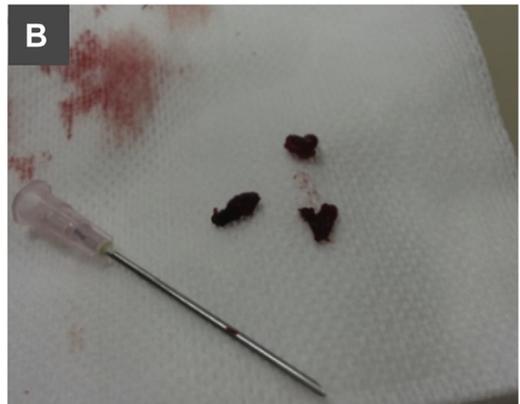
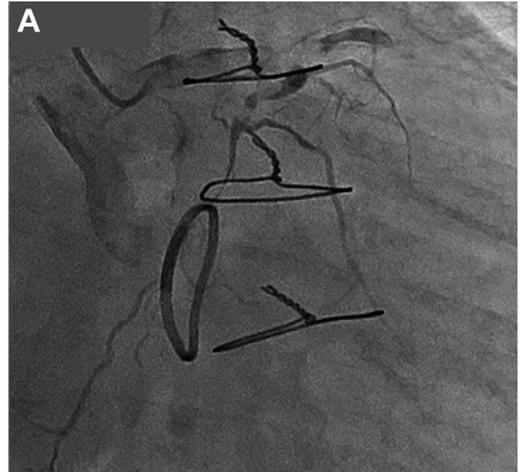
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FIGURE 2 Residual Thrombus in the Left Atrial Appendage

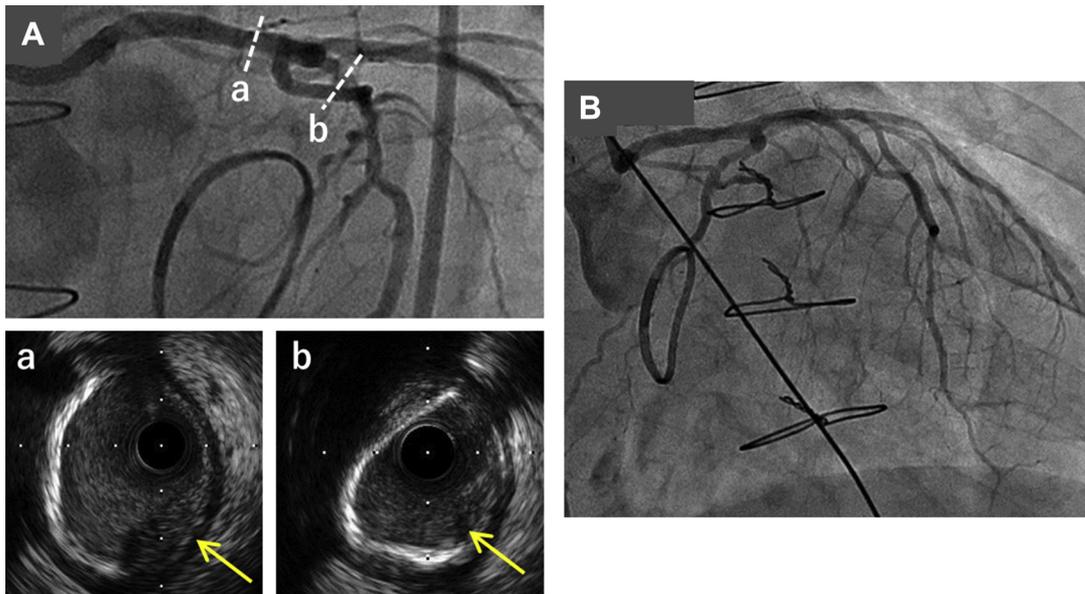
At the delayed phase of computed tomography, a residual thrombus in the left atrial appendage (**yellow arrow**) was seen.

floating in the ascending aorta (**Figures 1A to 1C, Online Video 1**). At the delayed phase of computed tomography, there was a residual thrombus in the left atrial appendage (**Figure 2**). The patient had taken aspirin and warfarin for his history of cerebral infarction and paroxysmal atrial fibrillation; his prothrombin time-international normalized ratio was 2.21. Therefore, use of a tissue plasminogen activator was contraindicated. Because he remained in cardiogenic shock, primary percutaneous coronary intervention was performed with the use of a percutaneous cardiopulmonary support system. Coronary angiography showed massive consecutive thrombi from the left main coronary artery (**Figure 3A, Online Video 2**). Once the guidewires passed through the left anterior descending coronary artery and the left circumflex coronary artery, several red thrombi were aspirated from the left anterior descending and left circumflex coronary arteries (**Figure 3B**). After thrombus

FIGURE 3 Thrombi From the Left Main Coronary Artery and Massive Red Thrombi From the Left Anterior Descending and Left Circumflex Coronary Arteries

(**A**) Coronary angiography showed several consecutive thrombi from the left main coronary artery (**Online Video 2**). (**B**) Massive red thrombi were aspirated from the left anterior descending artery and the left circumflex artery, respectively.

FIGURE 4 Mural Thrombi on Intravascular Ultrasound and Result of Aspiration



(A,a,b) Intravascular ultrasound showed a few mural thrombi (yellow arrow) (Online Video 3). **(B)** An optimal result was obtained with achievement of TIMI (Thrombolysis In Myocardial Infarction) flow grade 3 with only thrombus aspiration (Online Video 4).

aspiration, intravascular ultrasound showed a few mural thrombi (Figures 4A, 4a, and 4b, Online Video 3). An optimal result with achievement of TIMI (Thrombolysis In Myocardial Infarction) flow grade 3 with only thrombus aspiration occurred (Figure 4B, Online Video 4).

In patients with histories of paroxysmal atrial fibrillation, performing simultaneous left atrial appendage closure should be considered during cardiac surgery.

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APPENDIX For supplemental videos, please see the online version of this paper.