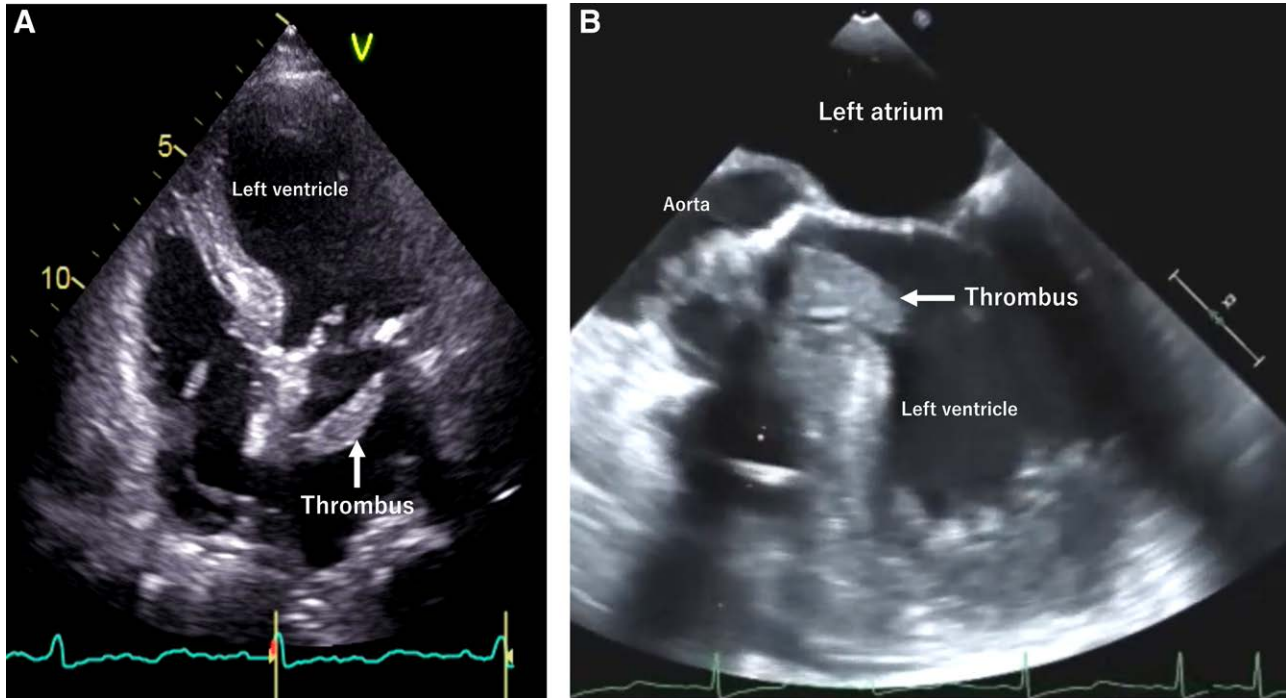


# Thrombus Migration Just before Surgery

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An 84-year-old woman was diagnosed with cardiogenic shock requiring emergent percutaneous coronary intervention. After emergency percutaneous coronary intervention, transthoracic echocardiography indicated a 30-mm mobile thrombus with the largest diameter of 35 mm in the left atrium (panel A). She was induced for urgent left atrial thrombectomy. Transesophageal echocardiography revealed that the left intra-atrial thrombus had migrated into the left ventricle passing through the aortic valve (panel B and Supplemental Digital Content video 1, <https://links.lww.com/ALN/D62>). Considering the size of the thrombus and the likelihood of entering carotid arteries, vascular echography was immediately performed and revealed a thrombus in the right common carotid artery. However, cerebral oximetry indicated that oxygen saturation

decreased gradually from 77 to 62% in 30 min on the right side *versus* a constant reading of 40% on the left side. The atrial thrombectomy was abandoned, and an endovascular thrombectomy was performed instead, which confirmed the diagnosis. We believe that continuously monitoring the presence and/or migration of a large intracardiac thrombus is critical because the management of such a patient may be changed promptly. In addition, the reduction in cerebral oximetry reading was important for determining the laterality of the carotid-cerebral vasculature, but not reliable because it is dependent on the insufficiency of collateral flow.<sup>1</sup> Therefore, the observed disappearance of an intracardiac large thrombus should be investigated in a timely matter to guide the management of the patient. Ultrasound can be used to quickly identify the possible location of the

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thrombus. This leads to reduction of time to intervention, which is significantly associated with improved outcomes.<sup>2</sup>

### Competing Interests

The authors declare no competing interests.

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### Supplemental Digital Content

Video 1. Thrombus passing through the aortic valve, <https://links.lww.com/ALN/D62>

### References

1. Takeda N, Fujita K, Katayama S, Tamaki N: Cerebral oximetry for the detection of cerebral ischemia during temporary carotid artery occlusion. *Neurol Med Chir (Tokyo)* 2000; 40:557–62; discussion 562–3
2. Jahan R, Saver JL, Schwamm LH, Fonarow GC, Liang L, Matsouaka RA, Xian Y, Holmes DN, Peterson ED, Yavagal D, Smith EE: Association between time to treatment with endovascular reperfusion therapy and outcomes in patients with acute ischemic stroke treated in clinical practice. *JAMA* 2019; 322:252–63