

## Case Presentation:

An 86-year-old man with no history of atrial fibrillation was admitted with an acute ischemic stroke. Transesophageal echocardiogram (TEE) was performed to evaluate for a potential cardioembolic source. TEE revealed a thrombus within the left atrial appendage (LAA) only. The left atrium exhibited normal contractility while fibrillatory activity was confined to the LAA. This finding had not been appreciated on prior transthoracic echocardiography (TTE) or electrocardiography (ECG).

## Learning Objective:

The role of transesophageal echocardiography in detecting left atrial appendage thrombus and appendage fibrillation as potential embolic sources in patients without documented atrial fibrillation.

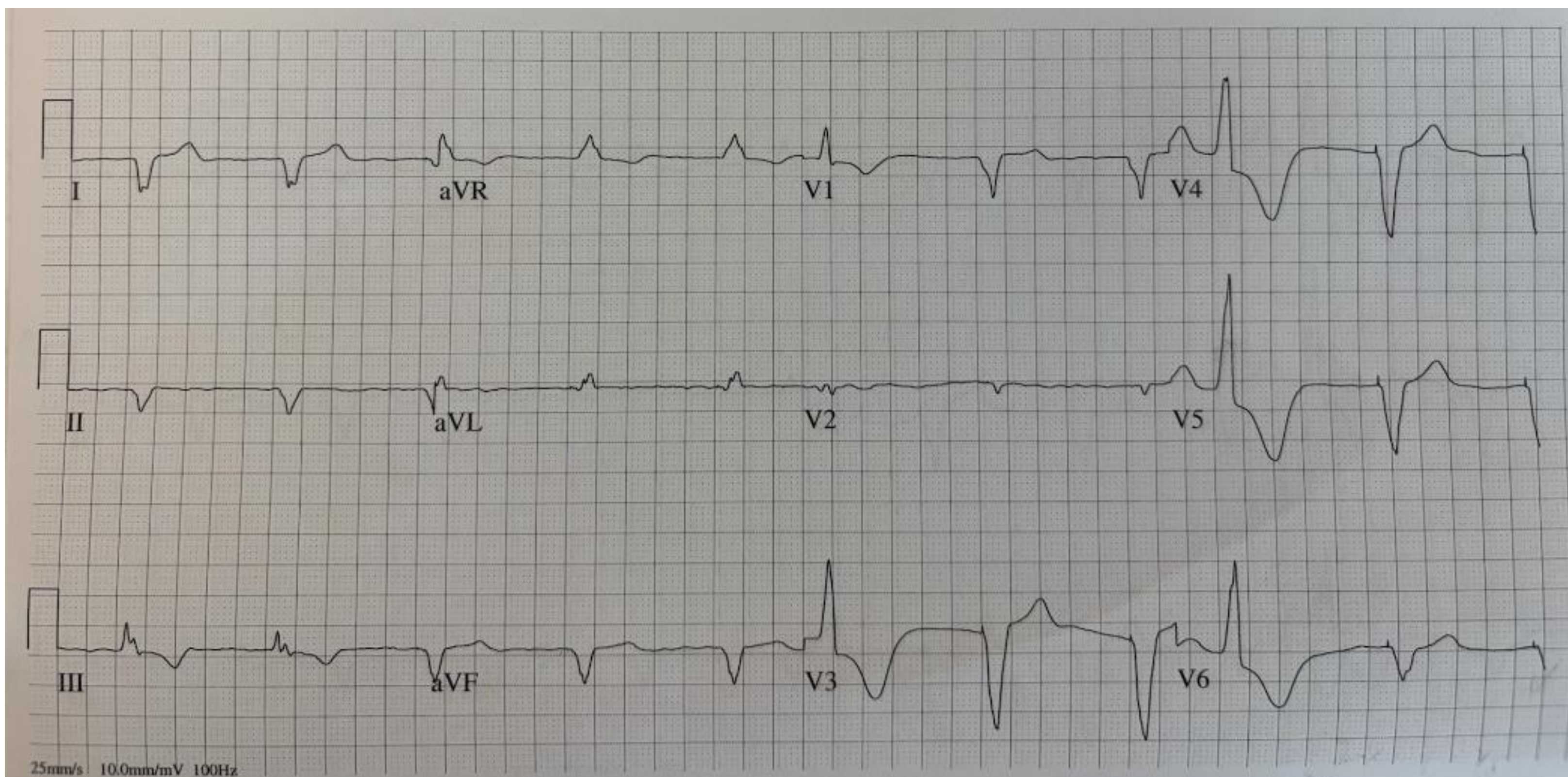


**Figure 1.** Initial EKG shows normal sinus rhythm. No indication of atrial fibrillation to suggest a cardiac source of embolic disease.

## Anesthetic Management:

The procedure was conducted under monitored anesthesia care (MAC) with a total of 100mg propofol and 100mcg of fentanyl for the TEE. Standard ASA monitors were placed. The patient remained supine and hemodynamically stable throughout the procedure. EKG read sinus rhythm. There were no complications. Patient was treated medically only with anticoagulation. Patient unable to undergo ablation, watchman procedure, or LAA clipping because of clot present.



**Figure 2.** A clot in the left atrial appendage was revealed on transesophageal echocardiography.

## The Utility of Transesophageal Echocardiography:

Few studies have reported this phenomenon presenting after extensive ablation procedures for atrial fibrillation in which the LAA has become electrically isolated from the left atrium and continues to have sustained fibrillation or other tachyarrhythmias (1,2). Similarly, these cases were undetectable by ECG. Undetected fibrillation increases the risk of thrombus formation due to blood stasis in the appendage, even in the absence of left atrial fibrillation. TEE is the most accurate imaging modality in the detection of LAA thrombi (3).

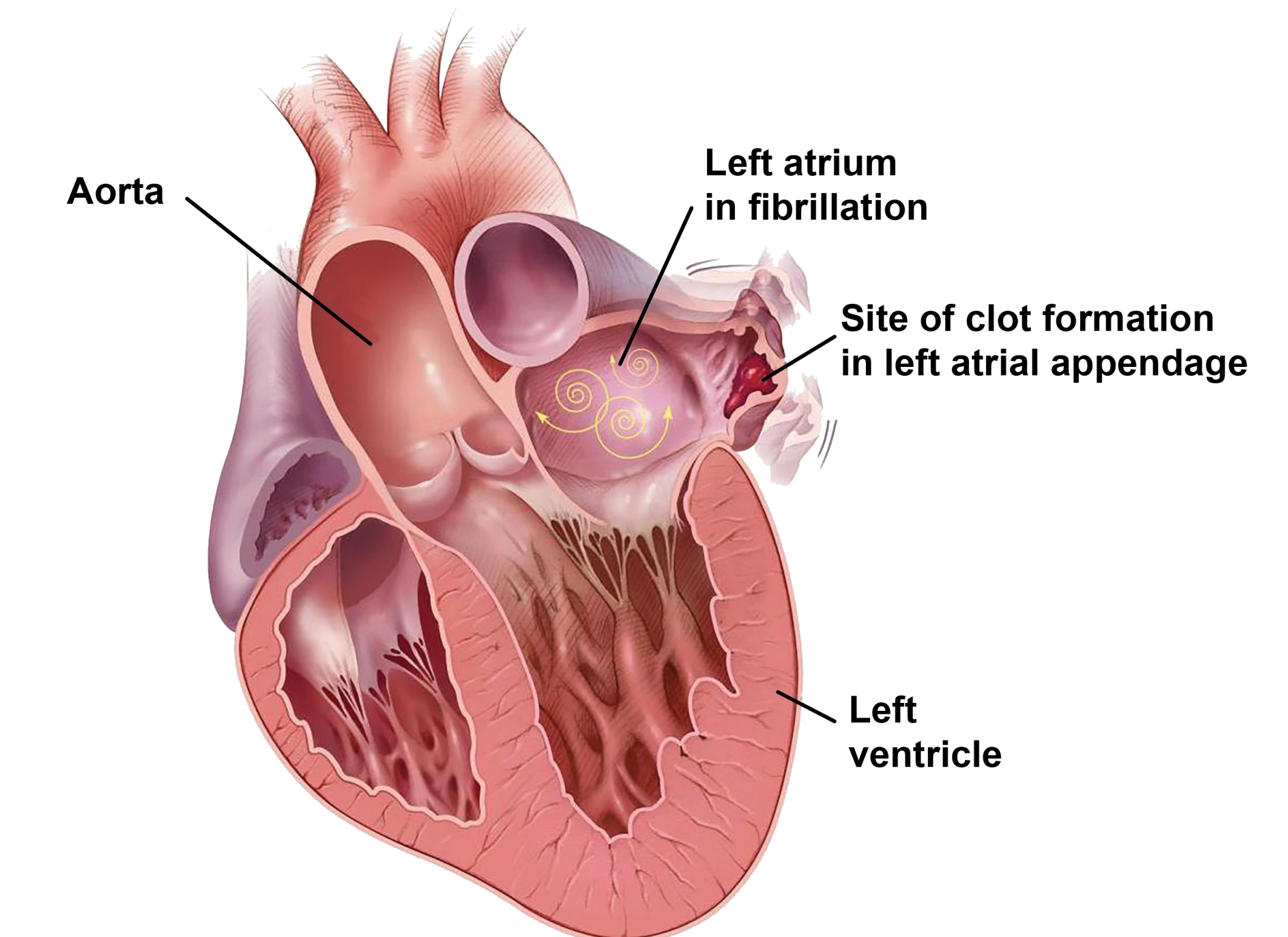


**Figure 3:** Clot formation is likely to occur in LAA when atria is fibrillating.

## References:

1. Miyazaki S, Nault I, Jaïs P, Haïssaguerre M. Atrial tachycardia confined within the left atrial appendage. *Journal of Cardiovascular Electrophysiology*. 2010 Aug;21(8):933-5.
2. Vazquez J, Biviano AB, Garan H, Whang W. Sustained fibrillation within the left atrial appendage during catheter ablation for recurrent atrial tachyarrhythmia. *Journal of Atrial Fibrillation*. 2012 Oct 6;5(3):581.
3. Donal E, Yamada H, Leclercq C, Herpin D. The left atrial appendage, a small, blind-ended structure: a review of its echocardiographic evaluation and its clinical role. *Chest*. 2005 Sep 1;128(3):1853-62.