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CASE REPORT

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Rudimentary left atrial appendage in a patient with a history of CVA

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Key Clinical Message

Rudimentary left atrial appendage (LAA) is an extremely rare condition with an unclear association with cerebrovascular events. This case report discusses a patient with an unexplained cerebrovascular accident (CVA), where the diagnosis of rudimentary LAA was made using transesophageal echocardiography (TEE) and subsequently confirmed by computed tomography angiography (CTA).

Abstract

Rudimentary left atrial appendage (LAA) is extremely rare. This report presents the case of a 50-year-old woman who experienced a cerebrovascular accident (CVA) and was found to have a rudimentary LAA. The patient had a history of diabetes mellitus (DM), hypertension, and dyslipidemia. An electrocardiogram (ECG) showed sinus rhythm, and Holter monitoring did not detect any atrial fibrillation (AF). Transesophageal echocardiography (TEE) and computed tomography angiography (CTA) were performed to identify the source of cardiac emboli, revealing a rudimentary LAA with no thrombus present.

KEYWORDS

cerebral vascular accident, computed tomography angiography, rudimentary left atrial appendage, transesophageal echocardiography

1 | INTRODUCTION

Recent advances in imaging techniques have provided valuable insights into the anatomy and function of the left atrium (LA) and left atrial appendage (LAA), which are essential for comprehensive heart assessments.[1–3] The LAA is a common site for thrombus formation, particularly in patients with atrial fibrillation (AF).[4] Although traditionally considered an anatomical remnant, the LAA has mechanical and hormonal functions.[5] Rudimentary LAA is a rare condition, with limited data available. Congenital absence of the LAA is more frequently reported than rudimentary LAA.[6] This report aims to share the cardiac imaging features of this rare condition.

2 | CASE REPORT

2.1 | History and examination

A 50-year-old woman with a history of diabetes mellitus, hypertension, and dyslipidemia presented with weakness, lethargy, and right-sided hemiparesis. Her symptoms persisted for 2 weeks before resolving. She reported

no palpitations or irregular heartbeats. Her diabetes was managed with Lantus insulin and Zipmet tablets, and her hypertension and dyslipidemia were controlled with losartan and atorvastatin, respectively. The physical examination was unremarkable.

2.2 | Differential diagnosis, investigations, and treatment

An ECG showed sinus rhythm, and laboratory tests were within normal limits, including rheumatology, thyroid function, and hypercoagulopathy parameters. A 48-h Holter monitoring did not reveal AF, and carotid ultrasonography was unremarkable. To determine the cardiac source of emboli, the patient underwent transthoracic echocardiography (TTE), followed by TEE. A distinct LAA was not visible, and only a small abnormal flow was detected (Figure 1, Video 1). A saline contrast study with and without the Valsalva maneuver showed no bubble passage across the interatrial septum, and no patent foramen ovale (PFO) was detected. CTA confirmed a rudimentary LAA and the absence of intracardiac thrombosis (Figure 1).

2.3 | Outcome and follow-up

Regarding the normal laboratory and imaging data, with no evidence of a cardiac source of embolism or the presence of AF, an anticoagulant was not initiated, and the patient was treated with aspirin and atorvastatin. In the 6- and 12-month follow-up, the patient was doing well with no cerebrovascular accident.

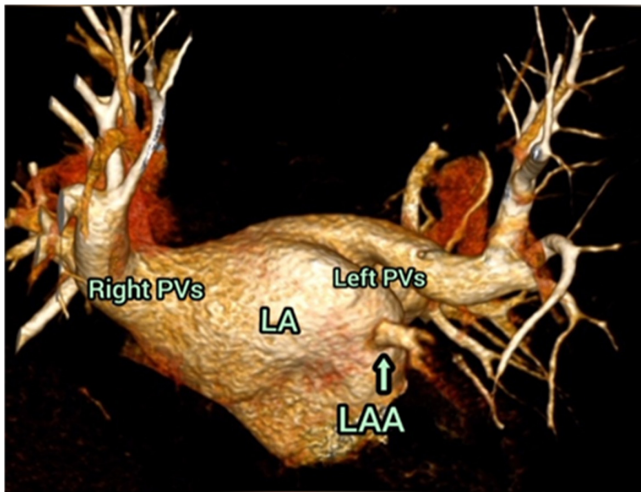
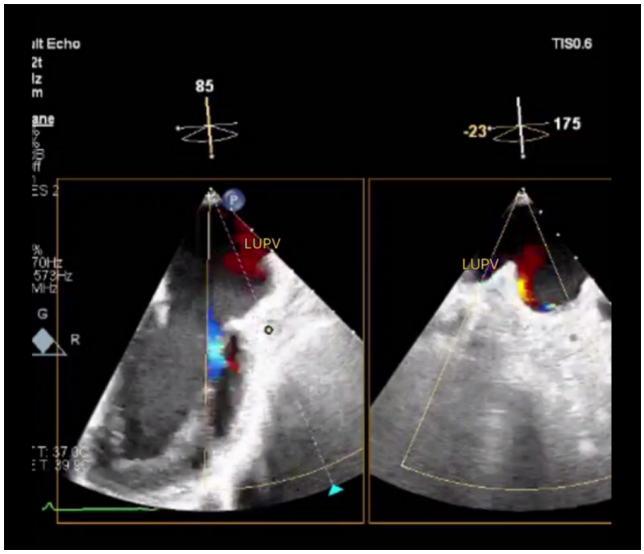


FIGURE 1 3D reconstruction of left atrium with visualization of two pulmonary veins and rudimentary left atrial appendage.



VIDEO 1 Transesophageal echocardiography at mid esophageal level, left atrial appendage was not seen clearly visible and abnormal small flow was seen.

3 | DISCUSSION

This report describes a 50-year-old woman with a history of CVA and a rudimentary LAA. The LAA, a muscular extension of the LA, can contribute to the LA's contractile function and is a common thrombus site in AF patients.[7] While congenital absence of the LAA is more frequently reported, rudimentary LAA is rare.[6] Cardiac imaging is crucial for evaluating the LA and confirming the diagnosis. The role of rudimentary LAA in thrombosis formation is not clear and management of patients with rudimentary LAA and cerebrovascular accident should be individualized. Techniques such as TEE, CTA, and cardiac MRI are valuable for diagnosing and managing LAA-related conditions.[8,9] In this case, CTA confirmed the rudimentary LAA. Since no embolic source or AF was detected, the patient was treated with aspirin and atorvastatin.

AUTHOR CONTRIBUTIONS

Akram Sardari: Investigation; writing – original draft. **Akram Nakhaee:** Investigation; writing – original draft. **Farnoosh Larti:** Investigation; writing – original draft. **Maryam Roozitalab:** Investigation; writing – original draft.

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CONFLICT OF INTEREST STATEMENT

None declared.

DATA AVAILABILITY STATEMENT

The imaging data are available for further assessment upon reasonable request of corresponding author.

CONSENT

The patient gave written informed consent to publish this report in accordance with the journal's patient consent policy.

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