LETTER TO THE EDITOR

Breaking down embolic strokes of undetermined source for extra cardiac shunts

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Dear Editor, Acute ischaemic stroke remains the leading cause of mortality and disability worldwide requiring clinicians to investigate its aetiologies to guide appropriate secondary prevention. The diagnostic challenge revolves around the 30% to 40% of cases that remain cryptogenic despite comprehensive evaluation.[1] The article aims to highlight some cryptogenic aetiologies', particularly extracardiac shunts, for which clinicians should consider additional investigation.

The less commonly considered aetiology, which can similarly allow venous thromboemboli to bypass the pulmonary circulation and enter the systemic circulation, is the extracardiac right to left shunts (ECRLS).[2] These are abnormal vascular connections, including pulmonary arteriovenous malformations (PAVMs), pulmonary fistulas and porto pulmonary anastomoses.[3]

Extracardiac shunts are rare but important considerations in patients with embolic strokes of undetermined source (ESUS), particularly in the absence of atrial fibrillation or significant atherosclerosis. Due to their variable presentation and lack of standardised screening protocols, the clinical detection of ECRLS is often challenging. Contrast-enhanced transcranial Doppler (cTCD) and transthoracic or transoesophageal echocardiography, especially when performed with agitated saline and manoeuvres such as the Valsalva, are critical for diagnosis. A delayed appearance of microbubbles in the left heart or cerebral circulation can help unmask these shunts when initial investigations are inconclusive.[4]

Furthermore, the pathophysiology of ECRLS is distinct from that of intracardiac shunts, a nuance that demands further research attention.[5]

A discussion of the current evidence on extracardiac shunts causes of cryptogenic stroke. Through increased awareness and methodical evaluation, clinicians can broaden the differential diagnosis of cryptogenic stroke and improve patient outcomes by addressing these underappreciated aetiologies.

Disclaimer: None.

Conflict of interest: None.

Funding disclosure: None.

DOI: https://doi.org/10.47391/JPMA.31747

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Submission completed: 14-07-2025 **1st Revision received:** 02-08-2025
Acceptance: 29-10-2025 **Last Revision received:** 28-10-2025

Author Contribution:
NA: Literature search and drafting.
NS: Literature search and editing.
MS: Title, literature search and drafting.