

When the Visible Thrombus Does Not Explain the Stroke

ABSURD HEALTH INSTITUTE · 01 · Cerebrovascular systems and sterol transport · 15 OCTOBER 2026

Abstract

Imaging can uncover more than one vascular abnormality. The presence of a thrombus, plaque or stenosis does not prove that it caused a particular infarct. This paper proposes an anatomical-concordance method for interpreting complicated vascular studies, especially when an obvious neck-vessel lesion and a brain infarct occupy different circulation territories.

The Clinical Question and Its Context

Arterial supply is a constrained network. The internal carotid artery generally supplies anterior circulation territories, whereas the vertebral and basilar system supports much of the posterior circulation. Variations such as a fetal-origin posterior cerebral artery complicate simplistic rules, but they do not erase the need to trace a plausible embolic route. A left common carotid lesion and bilateral paramedian thalamic infarcts, for example, should prompt investigation of posterior circulation mechanisms rather than an automatic causal label.

Proposed Biological or Explanatory Model

The interpretive sequence begins with lesion location and MRI diffusion pattern, then CTA or MRA vessel findings, vascular variants and cardiac sources. Artery of Percheron anatomy, when relevant, may explain bilateral paramedian thalamic injury despite the absence of a large visible occlusion. A separate carotid thrombus can remain clinically important even if it does not explain the observed infarcts. Two problems may coexist without one being the cause of the other.

Mechanism-Specific Interpretation

Vascular territory reasoning has an especially important limitation: unusual arterial variants can permit routes that standard diagrams overlook. Thus a mismatch is a reason to revisit imaging, not an automatic proof of incidental disease. The artery of Percheron and fetal-origin posterior cerebral arteries provide contrasting examples of variant anatomy: one changes perforator supply, while the other can alter whether a posterior cerebral territory receives blood predominantly from the internal carotid. Accurate interpretation requires knowing which variant is actually present, not speculating that one might exist simply to rescue a preferred causal story.

Competing Explanations and Limits of Inference

Temporal and anatomical correlation are necessary but not always sufficient. A vascular abnormality seen after the event might represent an embolic source, incidental disease or a consequence of altered flow; detailed neuroradiology and stroke-neurology assessment are crucial. Overcalling causality can lead to wrong secondary prevention, while dismissing an incidental but dangerous thrombus can also be harmful.

Discriminating Observations and Evidence Thresholds

The strongest discriminating workup asks whether the infarct configuration, vessel imaging and cardiac findings fit one route. If the pattern remains posterior-circulation specific with no supporting carotid-to-posterior pathway, a common carotid thrombus does not become the proven culprit merely because it looks alarming. It may still be an independent serious problem requiring management. Separating causal attribution from clinical importance is the paper's central discipline.

Implications for Interpretation and Future Inquiry

The practical lesson is to write two sentences: what the imaging definitely shows, and which mechanism most plausibly explains the affected tissue. If those statements do not align, the case remains mechanistically unresolved. That is not diagnostic failure; it is diagnostic discipline. The paper is an educational framework and does not interpret any identifiable patient's records.

Selected Evidence and Further Reading

1. [Artery of Percheron Infarction: Imaging Patterns and Clinical Spectrum](#)
2. [Navigating the clinical landscape of artery of Percheron infarction: A systematic review](#)

Source lineage: Stroke case analysis including discordant carotid and thalamic imaging

Editorial note: Conceptual scientific commentary; not an original clinical trial, systematic review, peer-reviewed publication, or medical advice. Hypotheses are not established treatment effects.