NEUROEVIDENCE
A Journal of Medicine

Journal homepage: www.neuroevidencejournal.com

## Letter to the editor

# Parenchymogram for Acute Ischemic Stroke: The collateral circulation

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ARTICLE INFO

*Article history:* Received 01 December 2022
Accepted 25 December 2022

Keywords:
Parenchymogram
Stroke
Neurointervention

ABSTRACT

Parenchymogram is an important tool to assess collateral circulation during treatment for acute ischemic stroke. We present an illustrative case in the context of stroke management.

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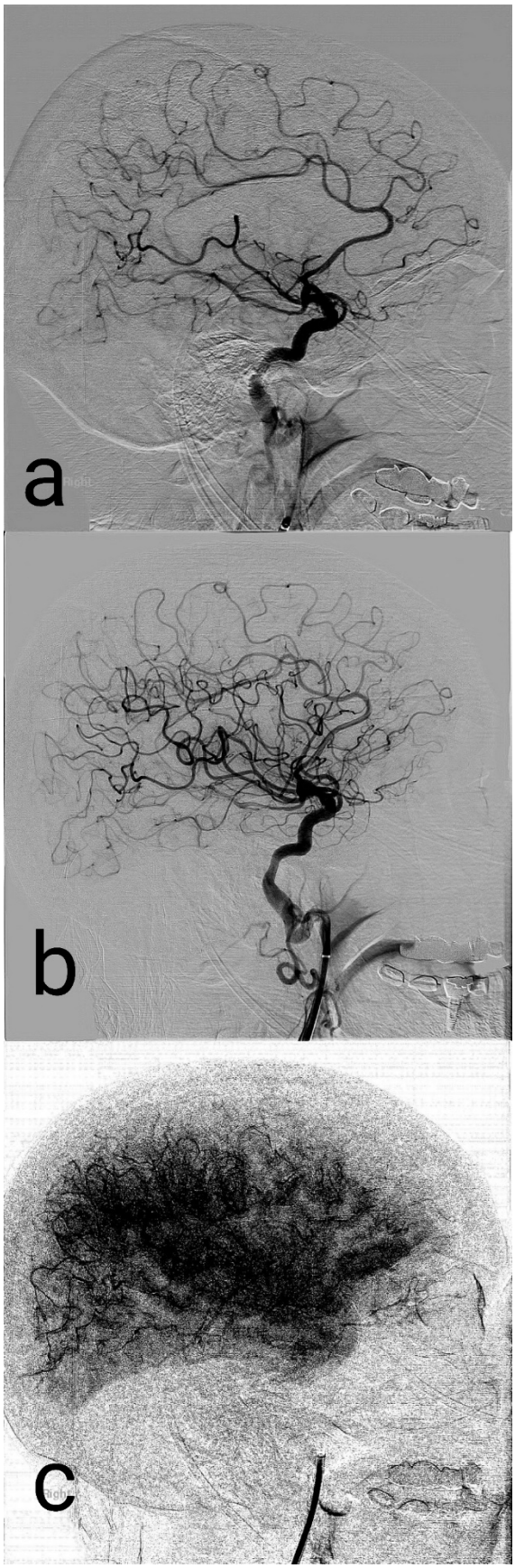
A 84 year-old female with a past medical history of coronary artery disease with cardiac revascularization, complete heart block, and a pacemaker placement developed left-sided weakness, facial droop, and slurred speech (NIHSS 14). She was emergently brought to the angiography suite for mechanical thrombectomy after a CT angiogram brain confirmed a right MCA proximal anterior division M2 segment occlusion.

Collateral circulation plays a relevant role in neurovascular pathologies with ischemic compromise. The fundamental objective is to achieve arterial revascularization to achieve the restoration of anterograde perfusion in the ischemic territories. The cerebrovascular disease of ischemic etiology leads to the loss of large neuronal populations due to the abrupt blood supply. The disruption of physiological mechanisms ultimately leads to the development of the ischemic cascade. culminating in neuronal death. The collateral circulation system consists of the vascular network through which blood flow is partially maintained after the primary vascular structures present some type of obstruction. Parenchymogram is a fundamental tool in the evaluation of collaterality and allows us to know the alteration of its integrity after an ischemic vascular event and the response to endovascular treatment.




A) Lateral view, the pre-intervention image demonstrates no opacification of the majority of the MCA territory. Collaterals were noted to be limited on subsequent images.
B) Lateral view, the post-intervention image demonstrates complete TICI-3 recanalization of the occlusion.
C) Lateral view, heavily windowed capillary phase 'parenchymogram' delineates the dominant anatomic disposition of the anterior relative to the posterior division in this patient. Post-intervention NIHSS 0.