Teaching NeuroImages: Rete-like middle cerebral artery

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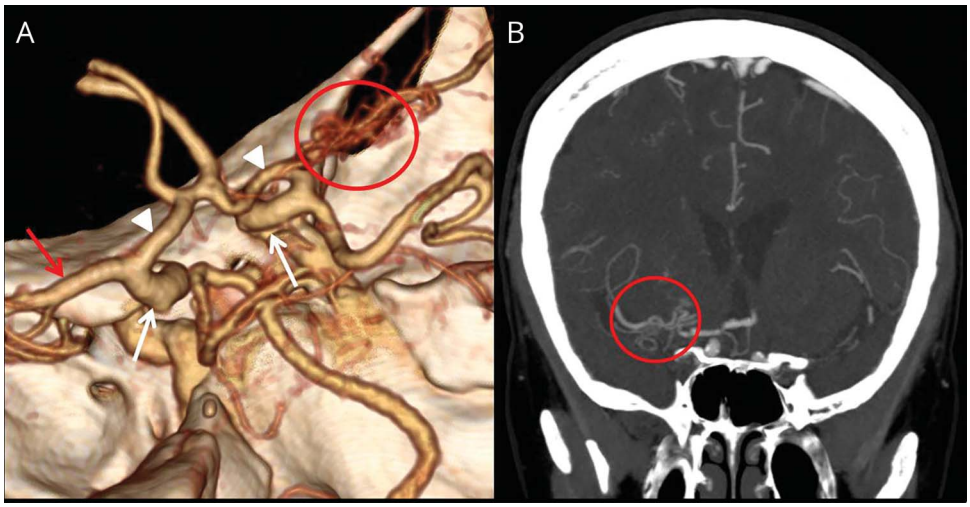
Figure CT angiography (CTA) with 3D reconstruction



(A) 3D CTA shows rete-like appearance of the right M1 segment (red circle), normal appearance and caliber of the left M1 (red arrow), bilateral supraclinoid internal carotid arteries (white arrows), and proximal A1 segments (white arrowheads) in a 72-year-old patient, ruling out moyamoya syndrome. (B) Coronal CTA shows plexiform appearance of the right M1 segment (red circle) with distal reestablishment of normal caliber middle cerebral artery typical of rete-like middle cerebral artery.

A 72-year-old woman underwent neuroimaging for evaluation of bilateral vertex headaches. Brain MRI was unremarkable but intracranial magnetic resonance angiography and CT angiography (figure) revealed unilateral, plexiform appearance of the proximal right middle cerebral artery (MCA). The constellation of imaging findings in absence of clinical correlates is consistent with a rete anomaly of the MCA (previously referred to as unfused or twig-like MCA).[1] Unilateral involvement, exclusive involvement of proximal MCA, and otherwise normal intracranial vasculature ruled out moyamoya syndrome. The etiopathology of rete MCA anomaly is unknown. Recognition of rete anomaly is important to differentiate it from other vascular diseases and avoid unnecessary treatment.

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Disclosure

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Appendix Authors

Name	Location	Role	Contributions
Elisa Colombo, MD	Mayo Clinic, Rochester, MN	Author	Drafted the manuscript for intellectual content
Waleed Brinjikji, MD	Mayo Clinic, Rochester, MN	Author	Revised the manuscript for intellectual content
James Klaas, MD	Mayo Clinic, Rochester, MN	Author	Revised the manuscript for intellectual content
Giuseppe Lanzino, MD	Mayo Clinic, Rochester, MN	Author	Interpreted data, revised the manuscript for intellectual content

Reference

1. Cho KC, Kim JJ, Jang CK, Hong CK, Joo JY, Kim YB. Rete middle cerebral artery anomalies: a unifying name, case series, and literature review. J Neurosurg Epub 2018 Aug 3.